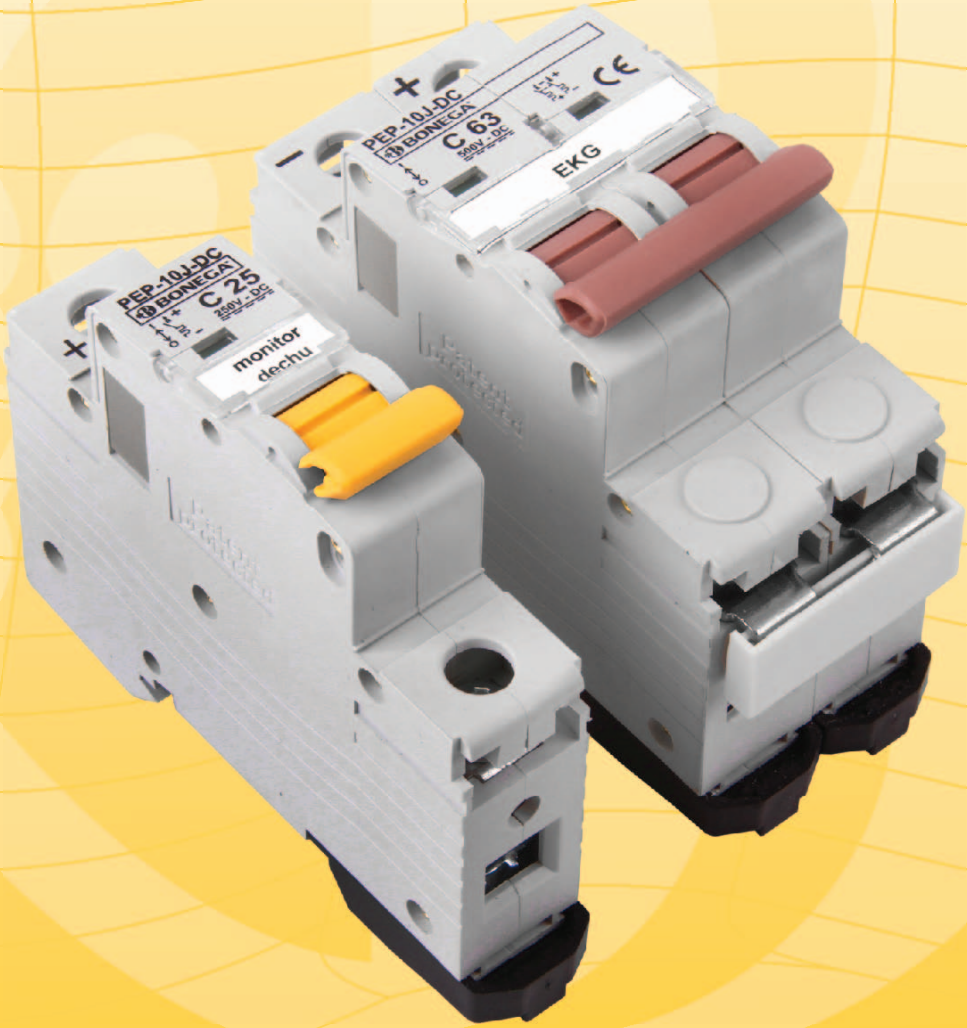
BONEGA®

Modular DIN-Rail products and accessories



www.bonega.cz

Technical support

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BONEGA®

Contents

ABOUT THE COMPANY

The BONEGA company was founded in 1992 in the Czech Republic by two partners. It is still a solely Czech owned company.

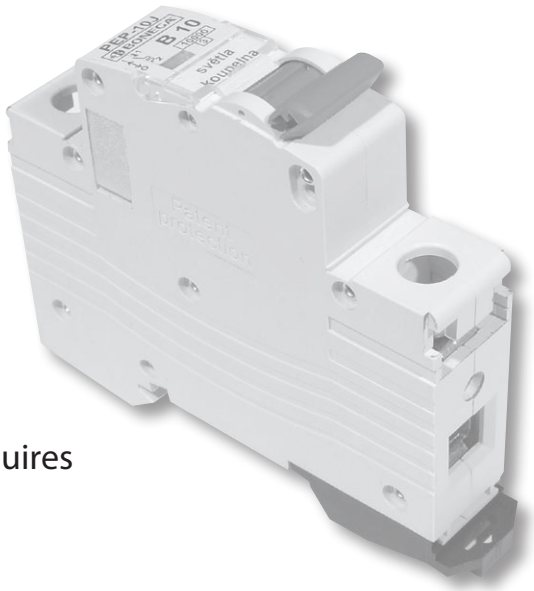
We develop, manufacture and sell high-quality wiring accessories. Every year, our development team announces several new and unique products, which are highly appreciated by professionals and end-consumers.

The highest quality

- We use the newest theoretical and practical findings in our development.
- Our products are full of unique patented ideas, improving technical properties and reliability.
- We use high-quality materials and manufacturing systems.
- Each product will undergo a several step inspection.
- We are the first in the Czech Republic to offer a 3 year guarantee.

Fast and reliable service

- Fast response to special customer requirements
- Technical support



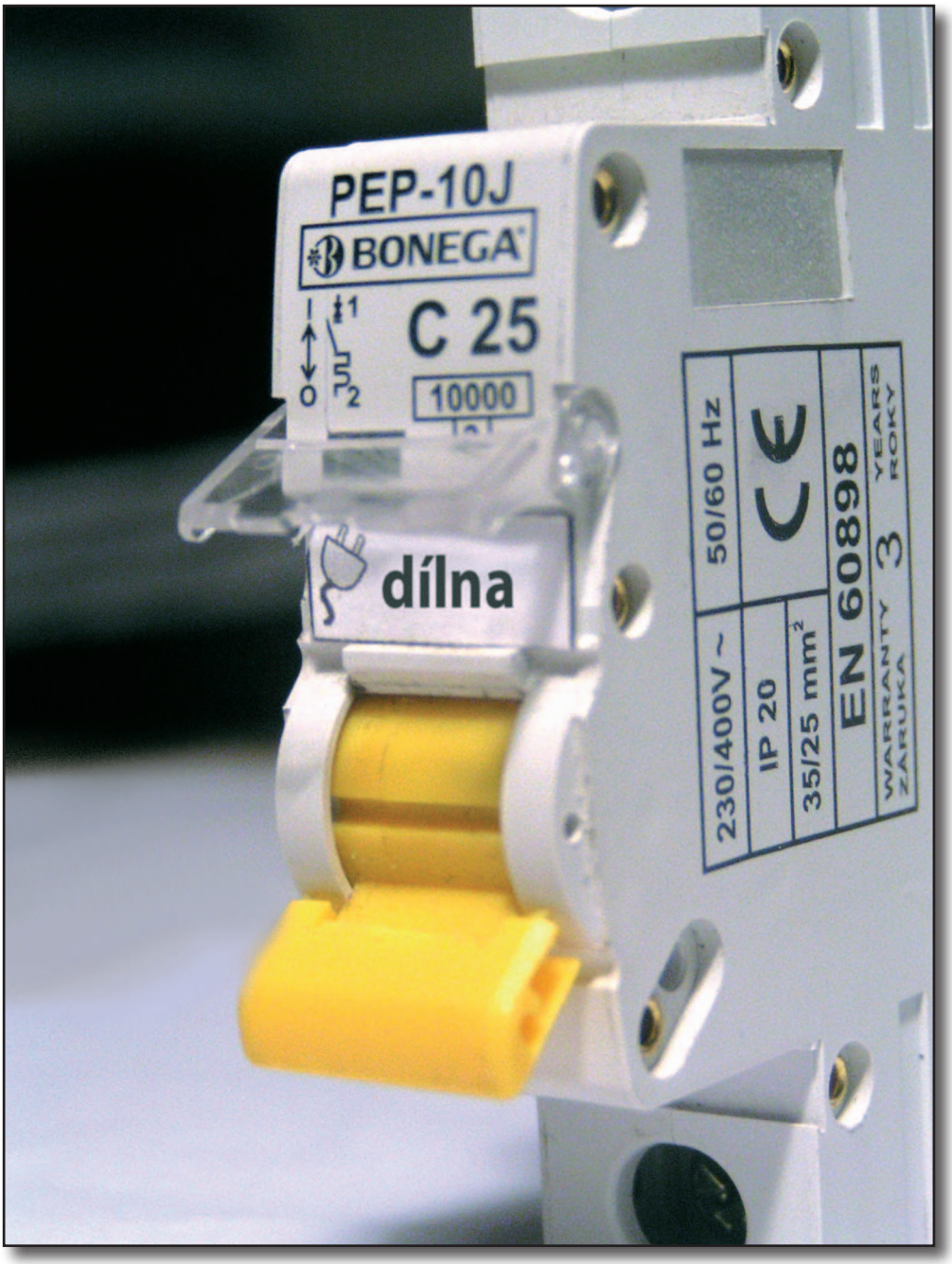
Detailed information

- Very detailed information available on our website, without having to register
- We attend international exhibitions
- We gladly answer even highly expert customer enquires

Price strategy

- Individual approach
- Excellent value for money

„Our goal is to constantly improve the efficiency and technical properties of our products.“



Unique PEP series design

with self-adhesive user labels located under clear hinged windows

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA® PEP-6J (6 KA, 1-63 A)

(rupturing capacity 6 kA)

up to 63 A, class B, C, D

„Brings safety and protection of circuits to a new level.“

BONEGA PEP Miniature Circuit Breakers (MCB) belong to the quickest, safest and most reliable MCBs in the world.

This is only possible thanks to their exceptional technical parameters. Their unique design and construction is patented.

3 years warranty

2 Czech patents

1 ZLATÝ VÝROBEK VELETRHU BAEL

2005 ZLATÝ AMPÉR
1. místo v soutěži o nejlepší exponát

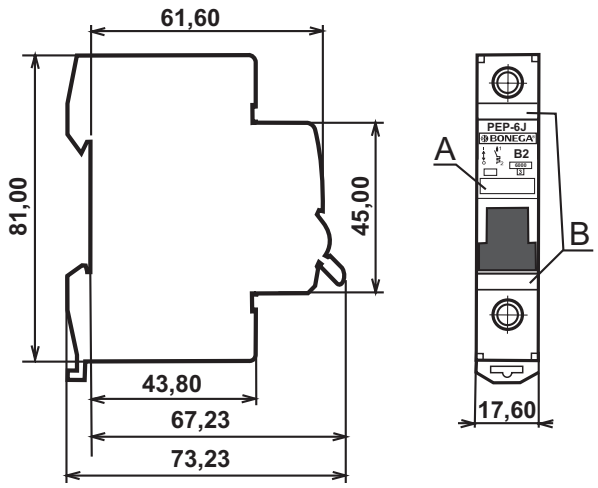
CERTIFICATES

CB TEST

CE

Detailed information including diagrams and oscillograms can be found on [www.bonega.cz.](http://www.bonega.cz)

The height of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
The height of the upper supporting section of the terminal, from the DIN strip is 19 mm.



Its exceptionally small size (especially a size of only 81 mm) counts as one of the smallest in the world.

- the total depth from the DIN rail holder, incl. lever in its off position, is 72.23 mm
- the total depth from the DIN strip, incl. lever in its off position, is 67.23 mm
- total depth from the DIN strip up to the surface is 61.6 mm
- total depth from the DIN strip up to the terminal surface is 43.8 mm
- total height of the body is 81 mm + protruding DIN rail holder in its working position: 5.2 mm
- the height of the controlling part is 45 mm
- the depth of the upper supporting section of the terminal, from the DIN strip is 19.0 mm.
- The depth of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
- module width
  - 1P: 17.6 mm
  - 2P: 35.2 mm
  - 3P: 52.8 mm
  - 4P: 70.4 mm
- top user label (A):
  - 1P: width 15.4 × height 6.2 × depth 0.3 mm
  - 2P: width 33.1 × height 6.2 × depth 0.3 mm
  - 3P: width 50.6 × height 6.2 × depth 0.3 mm
  - 4P: width 68.4 × height 6.2 × depth 0.3 mm
- bottom and top installation label (B) width 17.6 × height 4.8 × depth 0.5 mm

This means that there is more available space for leading and connecting conductors in the switchboard. This feature is highly appreciated when using these Miniature Circuit Breakers (MCB) in small plastic apartment switchboards.

SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	from 3 to 5 ms, at maximum load under 10 kA rupturing capacity (practically as fast as classic fuse tripping speeds)
Rupturing capacity (nominal short-circuit and operating) pursuant to CSN EN 60898 at 230/400V AC, up to a value of the nominal current and class:	for PEP 6J – 6 kA (nominal short-circuit and operating) up to 63A in class B, C, D (see CB test report for details) MCB PEP-6J are also short-circuit tested at 600V, where a minimum rupturing capacity of at least 3kA must be reached (for USA, Canada and special applications)
Power limiting class:	3 up to 63A of nominal current in class D
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase faults:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the MCB (higher operator protection):	IP 20 for the MCB itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in MCBs - its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions

MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
MCB fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness, b) on a flat surface using two screws c) the MCB has an arresting mechanism located on the bottom side of the MCB to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	MCBs can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 2× (8.2 × 7.8 mm) = **63 mm²** • standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3,4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the MCB (it is generally recommended to connect the MCBs using a fork busbar from the top, to a separate screw terminal, because this prevents the switch from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the MCB can be written on, or a prior prepared label can be used) the label is located under a clear hinged window, dimensions: • 1P: width 15.4 × height 6.2 × depth 0.3 mm • 2P: width 33.1 × height 6.2 × depth 0.3 mm • 3P: width 50.6 × height 6.2 × depth 0.3 mm • 4P: width 68.4 × height 6.2 × depth 0.3 mm material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz

Mounting label:	on the front side, in two places = good visibility even when MCBs are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 17.6 × height 4.8 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz.
Housing strength:	9 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints
APPLICATION PARAMETERS	
1 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
2 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
3 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
4 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
1 pole + switch (1P+N) – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
3 pole + switch (1P+N) – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
Offered in the following class:	B, C, D (K, S, Z in preparation) with fixed settings
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.) D (or M), used to also be „-----". The short-circuit tripping speed can be set to 10 In through 20 In. It is especially used to protect electrical circuits with devices, which do cause high current surges (transformers, 2 pole motors, motors with heavy starts, circuits with large inductance, etc.) We are preparing these class: K – The short-circuit tripping speed can be set to 8 In through 12 In S – The short-circuit tripping speed can be set to 13 In through 17 In Z – The short-circuit tripping speed can be set to 2 In through 3 In
Nominal voltage:	1 P (pole) ~ 230/400 V 50/60 Hz 3 P (pole) ~ 400 V 50/60 Hz
Max. pre-inserted fuse	100 A gG (>10 kA)
Accessories:	signalization contacts, under voltage releases, over voltage releases
Ambient temperature:	- 30°C to +60°C (- 5 °C to +40 °C pursuant to CSN EN 60898)
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Concurrent connection of all phases by multi-module elements (suitable for motor starts)	yes
Operating at 110 V AC:	yes
Complies with utility companies requirements for disassembly resistance	yes
Complies with utility companies requirements for 3 pole designs to not be able to switch-on MCB without a phase:	yes

Using a pin busbar, connectible with other MCBs with a 10 kA breaking capacity (possible small bending of strip)	suitable for ABB S 201 M, BONEGA-EV-6J, CHINT NB1-63, MERLIN GERIN C60H multi 9, SEZ RI61, with slight bend of pin busbar contact with Doepke DLS5, FELTEN, GEYER EC 110 BB, MOELLER PL7, with longer contacts even with OEZ LSN
Using a fork busbar, connectible with other MCBs with a 10 kA breaking capacity (possible small bending of strip)	suitable for BONEGA-PEP-10J, CHINT NB1-63, SEZ RI61 and with bent fork contacts with Doepke DLS5, FELTEN, GEYER EC 110 BB, MOELLER PL7
Using a pin busbar, connectible with other MCBs with a 6 kA breaking capacity (possible small bending of strip)	suitable for Miniature Circuit Breakers (MCB) BONEGA EV-6J, SEZ PRe61, with bent pin busbar contact with FELTEN, KANIA C45, LEGRAND 032 68, MERLIN GERIN Domae, MOELLER PL6, SCHRACK BF098110, and with longer contacts even with OEZ LSE, SIEMENS 5SX21
Using a fork busbar, connectible with other MCBs with a 6 kA breaking capacity (possible small bending of strip)	suitable for Miniature Circuit Breakers (MCB) BONEGA EV-6J, SEZ PRe61 and with bent fork contacts with HAGER MC 110A, LEGRAND 032 68 MERLIN GERIN Domae, FELTEN, MOELLER PL6
OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20.000 cycles (on and off)
Mechanical working life:	>= 20.000 cycles (on and off)
Manufactured pursuant to standards:	CSN EN 60898
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
Awards:	Gold AMPER 2005 and BAEL 2005
Valid patents (amount):	yes (2)
Description – patent 1:	extinguishing chamber
Description – patent 2:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the MCB is a protected industrial design
Delivery time on working days:	within 48 hours

COLOUR LEVERS:				
For a better overview in switchboards, we standardly supply MCBs with nominal current values that have colour coded levers, in compliance with the liners of plug-type fuses.	0.2 A – 1.6 A	black	16 A	grey
	2 A	pink	20 A	blue
	4 A	brown	25 A	yellow
	6 A	green	32 A	purple
	8 A	light-green	40 A	black
	10 A	red	50 A	white
	13 A	sand-brown	63 A	copper-brown
May also be supplied with only black levers.				

PLANNING SPECIFICATIONS

Nominal current Miniature Circuit Breakers (MCB) (A)	Internal resistance (mOhm)	Power loss (W)	Maximum loop impedance (Ohm)			Thermal correction of nominal currents				
			Char. B	Char. C	Char. D	Ambient temp. 20°C	Ambient temp. 30°C	Ambient temp. 40°C	Ambient temp. 50°C	Ambient temperature 60°C
1	1215.69	1.24	46.20	25.70	14.40	1.05	1	0.95	0.90	0.85
2	343.28	1.38	21.60	12.02	6.73	2.08	2	1.92	1.84	1.74
3	128.09	1.15	16.90	9.40	5.26	3.18	3	2.82	2.61	2.37
4	105.53	1.68	10.68	5.94	3.33	4.24	4	3.76	3.52	3.24
6	29.22	1.08	7.14	3.97	2.22	6.24	6	5.76	5.52	5.30
10	14.49	1.55	3.87	2.15	1.21	10.60	10	9.30	8.60	7.80
16	10.00	2.56	2.24	1.25	0.70	16.80	16	15.20	14.20	13.30
20	8.02	3.32	1.55	0.86	0.48	21.00	20	19.00	17.80	16.80
25	3.11	2.00	2.43	1.35	0.76	26.20	25	23.70	22.20	20.70
32	3.05	3.17	1.27	0.71	0.40	33.50	32	30.40	28.40	27.50
40	2.16	3.40	0.60	0.33	0.19	42.00	40	38.00	35.60	33.20
50	1.65	4.20	0.71	0.39	0.22	52.50	50	47.40	44.00	40.50
63	1.68	6.30	0.47	0.26	0.15	66.20	63	58.00	54.20	49.20

Thermal protection – cut-off class up to 63 A; time-current

#	Type	Testing current	Initial condition	Periods of tripping and non-tripping limits	Measured result	Notes
a	B,C,D	1,13 I_n	cold*	$t \geq 1$ h ($I_n \leq 63$ A)	may not trip	
b	B,C,D	1,45 I_n	immediately after test *a*	$t < 1$ h ($I_n \leq 63$ A)	must trip	Continuously increasing current for 5 s
c	B,C,D	2,55 I_n	cold*	1s < t < 60 s ($I_n \leq 32$ A) 1s < t < 120 s ($I_n > 32$ A)	must trip	
d	B C D	3 I_n 5 I_n 10 I_n	cold*	$t \geq 0{,}1$ s	may not trip	Current reached by switching-on auxiliary switch
e	B C D	5 I_n 10 I_n 20 I_n	cold*	$t < 0{,}1$ s	must trip	Current reached by switching-on auxiliary switch

* the term „cold“ means without previous load, at a referential calibrated temperature

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 6J		
Order code	**Description**	**Pieces/box**
Single module (6 kA), class: B		
02-1001B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 1A	12
02-1002B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 2A	12
02-1003B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 3A	12
02-1004B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 4A	12
02-1006B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 6A	12
02-1008B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 8A	12
02-1010B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 10A	12
02-1013B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 13A	12
02-1015B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 15A	12
02-1016B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 16A	12
02-1020B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 20A	12
02-1023B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 23A	12
02-1025B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 25A	12
02-1032B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 32A	12
02-1040B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 40A	12
02-1050B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 50A	12
02-1063B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P B 63A	12
Single module (6 kA), class: C		
02-1001C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 1A	12
02-1002C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 2A	12
02-1003C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 3A	12
02-1004C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 4A	12
02-1006C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 6A	12
02-1008C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 8A	12
02-1010C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 10A	12
02-1013C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 13A	12
02-1015C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 15A	12
02-1016C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 16A	12
02-1020C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 20A	12
02-1023C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 23A	12
02-1025C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 25A	12
02-1032C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 32A	12
02-1040C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 40A	12
02-1050C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 50A	12
02-1063C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P C 63A	12
Single module (6 kA), class: D		
02-1001D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 1A	12
02-1002D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 2A	12
02-1003D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 3A	12
02-1004D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 4A	12
02-1006D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 6A	12
02-1008D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 8A	12
02-1010D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 10A	12
02-1013D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 13A	12
02-1015D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 15A	12
02-1016D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 16A	12
02-1020D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 20A	12
02-1023D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 23A	12
02-1025D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 25A	12
02-1032D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 32A	12
02-1040D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 40A	12
02-1050D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 50A	12
02-1063D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P D 63A	12

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 6J		
Order code	**Description**	**Pieces/box**
Two module (6 kA), class: B		
02-2001B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 1A	6
02-2002B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 2A	6
02-2003B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 3A	6
02-2004B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 4A	6
02-2006B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 6A	6
02-2008B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 8A	6
02-2010B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 10A	6
02-2013B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 13A	6
02-2015B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 15A	6
02-2016B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 16A	6
02-2020B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 20A	6
02-2023B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 23A	6
02-2025B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 25A	6
02-2032B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 32A	6
02-2040B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 40A	6
02-2050B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 50A	6
02-2063B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P B 63A	6
Two module (6 kA), class: C		
02-2001C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 1A	6
02-2002C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 2A	6
02-2003C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 3A	6
02-2004C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 4A	6
02-2006C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 6A	6
02-2008C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 8A	6
02-2010C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 10A	6
02-2013C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 13A	6
02-2015C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 15A	6
02-2016C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 16A	6
02-2020C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 20A	6
02-2023C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 23A	6
02-2025C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 25A	6
02-2032C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 32A	6
02-2040C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 40A	6
02-2050C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 50A	6
02-2063C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P C 63A	6
Two module (6 kA), class: D		
02-2001D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 1A	6
02-2002D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 2A	6
02-2003D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 3A	6
02-2004D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 4A	6
02-2006D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 6A	6
02-2008D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 8A	6
02-2010D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 10A	6
02-2013D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 13A	6
02-2015D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 15A	6
02-2016D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 16A	6
02-2020D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 20A	6
02-2023D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 23A	6
02-2025D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 25A	6
02-2032D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 32A	6
02-2040D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 40A	6
02-2050D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 50A	6
02-2063D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 2P D 63A	6

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 6J		
Order code	**Description**	**Pieces/box**
Three module (6 kA), class: B		
02-3001B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 1A	4
02-3002B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 2A	4
02-3003B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 3A	4
02-3004B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 4A	4
02-3006B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 6A	4
02-3008B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 8A	4
02-3010B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 10A	4
02-3013B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 13A	4
02-3015B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 15A	4
02-3016B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 16A	4
02-3020B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 20A	4
02-3023B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 23A	4
02-3025B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 25A	4
02-3032B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 32A	4
02-3040B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 40A	4
02-3050B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 50A	4
02-3063B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P B 63A	4
Three module (6 kA), class: C		
02-3001C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 1A	4
02-3002C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 2A	4
02-3003C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 3A	4
02-3004C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 4A	4
02-3006C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 6A	4
02-3008C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 8A	4
02-3010C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 10A	4
02-3013C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 13A	4
02-3015C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 15A	4
02-3016C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 16A	4
02-3020C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 20A	4
02-3023C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 23A	4
02-3025C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 25A	4
02-3032C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 32A	4
02-3040C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 40A	4
02-3050C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 50A	4
02-3063C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P C 63A	4
Three module (6 kA), class: D		
02-3001D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 1A	4
02-3002D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 2A	4
02-3003D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 3A	4
02-3004D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 4A	4
02-3006D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 6A	4
02-3008D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 8A	4
02-3010D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 10A	4
02-3013D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 13A	4
02-3015D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 15A	4
02-3016D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 16A	4
02-3020D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 20A	4
02-3023D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 23A	4
02-3025D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 25A	4
02-3032D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 32A	4
02-3040D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 40A	4
02-3050D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 50A	4
02-3063D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P D 63A	4

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 6J		
Order code	**Description**	**Pieces/box**
	Four module (6 kA), class: B	
02-4001B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 1A	3
02-4002B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 2A	3
02-4003B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 3A	3
02-4004B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 4A	3
02-4006B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 6A	3
02-4008B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 8A	3
02-4010B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 10A	3
02-4013B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 13A	3
02-4015B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 15A	3
02-4016B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 16A	3
02-4020B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 20A	3
02-4023B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 23A	3
02-4025B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 25A	3
02-4032B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 32A	3
02-4040B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 40A	3
02-4050B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 50A	3
02-4063B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P B 63A	3
	Four module (6 kA), class: C	
02-4001C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 1A	3
02-4002C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 2A	3
02-4003C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 3A	3
02-4004C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 4A	3
02-4006C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 6A	3
02-4008C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 8A	3
02-4010C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 10A	3
02-4013C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 13A	3
02-4015C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 15A	3
02-4016C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 16A	3
02-4020C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 20A	3
02-4023C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 23A	3
02-4025C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 25A	3
02-4032C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 32A	3
02-4040C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 40A	3
02-4050C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 50A	3
02-4063C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P C 63A	3
	Four module (6 kA), class: D	
02-4001D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 1A	3
02-4002D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 2A	3
02-4003D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 3A	3
02-4004D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 4A	3
02-4006D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 6A	3
02-4008D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 8A	3
02-4010D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 10A	3
02-4013D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 13A	3
02-4015D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 15A	3
02-4016D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 16A	3
02-4020D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 20A	3
02-4023D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 23A	3
02-4025D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 25A	3
02-4032D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 32A	3
02-4040D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 40A	3
02-4050D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 50A	3
02-4063D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 4P D 63A	3

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 6J		
Order code	**Description**	**Pieces/box**
Two module 1P+ N (6 kA), class B		
02-1N01B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 1A	6
02-1N02B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 2A	6
02-1N03B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 3A	6
02-1N04B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 4A	6
02-1N06B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 6A	6
02-1N08B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 8A	6
02-1N10B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 10A	6
02-1N13B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 13A	6
02-1N15B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 15A	6
02-1N16B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 16A	6
02-1N20B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 20A	6
02-1N23B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 23A	6
02-1N25B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 25A	6
02-1N32B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 32A	6
02-1N40B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 40A	6
02-1N50B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 50A	6
02-1N63B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N B 63A	6
Two module 1P+ N (6 kA), class C		
02-1N01C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 1A	6
02-1N02C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 2A	6
02-1N03C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 3A	6
02-1N04C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 4A	6
02-1N06C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 6A	6
02-1N08C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 8A	6
02-1N10C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 10A	6
02-1N13C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 13A	6
02-1N15C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 15A	6
02-1N16C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 16A	6
02-1N20C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 20A	6
02-1N23C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 23A	6
02-1N25C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 25A	6
02-1N32C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 32A	6
02-1N40C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 40A	6
02-1N50C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 50A	6
02-1N63C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N C 63A	6
Two module 1P+ N (6 kA), class D		
02-1N01D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 1A	6
02-1N02D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 2A	6
02-1N03D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 3A	6
02-1N04D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 4A	6
02-1N06D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 6A	6
02-1N08D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 8A	6
02-1N10D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 10A	6
02-1N13D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 13A	6
02-1N15D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 15A	6
02-1N16D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 16A	6
02-1N20D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 20A	6
02-1N23D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 23A	6
02-1N25D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 25A	6
02-1N32D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 32A	6
02-1N40D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 40A	6
02-1N50D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 50A	6
02-1N63D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 1P+N D 63A	6

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 6J		
Order code	**Description**	**Pieces/box**
Four module 1P+ N (6 kA), class B		
02-3N01B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 1A	3
02-3N02B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 2A	3
02-3N03B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 3A	3
02-3N04B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 4A	3
02-3N06B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 6A	3
02-3N08B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 8A	3
02-3N10B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 10A	3
02-3N13B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 13A	3
02-3N15B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 15A	3
02-3N16B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 16A	3
02-3N20B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 20A	3
02-3N23B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 23A	3
02-3N25B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 25A	3
02-3N32B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 32A	3
02-3N40B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 40A	3
02-3N50B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 50A	3
02-3N63B-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N B 63A	3
Four module 1P+ N (6 kA), class C		
02-3N01C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 1A	3
02-3N02C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 2A	3
02-3N03C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 3A	3
02-3N04C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 4A	3
02-3N06C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 6A	3
02-3N08C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 8A	3
02-3N10C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 10A	3
02-3N13C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 13A	3
02-3N15C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 15A	3
02-3N16C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 16A	3
02-3N20C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 20A	3
02-3N23C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 23A	3
02-3N25C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 25A	3
02-3N32C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 32A	3
02-3N40C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 40A	3
02-3N50C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 50A	3
02-3N63C-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N C 63A	3
Four module 1P+ N (6 kA), class D		
02-3N01D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 1A	3
02-3N02D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 2A	3
02-3N03D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 3A	3
02-3N04D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 4A	3
02-3N06D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 6A	3
02-3N08D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 8A	3
02-3N10D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 10A	3
02-3N13D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 13A	3
02-3N15D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 15A	3
02-3N16D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 16A	3
02-3N20D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 20A	3
02-3N23D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 23A	3
02-3N25D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 25A	3
02-3N32D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 32A	3
02-3N40D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 40A	3
02-3N50D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 50A	3
02-3N63D-PEP-6J	Miniature Circuit Breakers (MCB) BONEGA® PEP-6J (6 kA) 3P+N D 63A	3

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA® PEP-10J (10 KA)

(rupturing capacity 10 kA)

up to 63 A, class B,C,D

„Brings safety and protection of circuits to a new level.“

BONEGA PEP Miniature Circuit Breakers (MCB) belong to the quickest, safest and most reliable MCBs in the world.

This is only possible thanks to their exceptional technical parameters. Their unique design and construction is patented.

3 roky záruka

2 Czech patents

ZLATÝ VÝROBEK VELETRHU BAEL

2005 ZLATÝ AMPÉR
1. místo v soutěži o nejlepší exponát

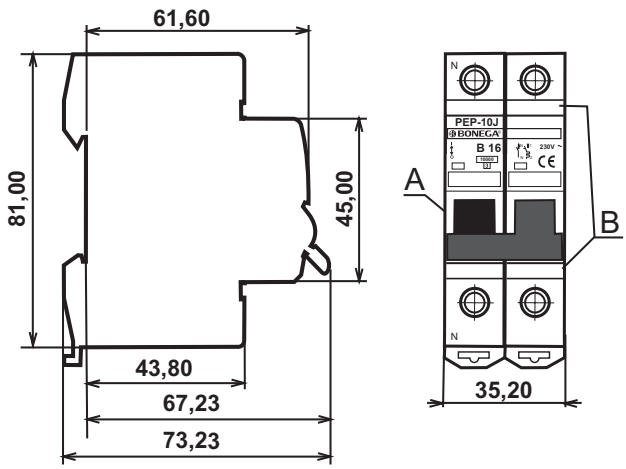
CERTIFICATES

CB TEST

CE

Detailed information including diagrams and oscillograms can be found on [www.bonega.cz.](http://www.bonega.cz)

The height of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
The height of the upper supporting section of the terminal, from the DIN strip is 19 mm.



Its exceptionally small size (especially a size of only 81 mm) counts as one of the smallest in the world.

- the total depth from the DIN rail holder, incl. lever in its off position, is 72.23 mm
- the total depth from the DIN strip, incl. lever in its off position, is 67.23 mm
- total depth from the DIN strip up to the surface is 61.6 mm
- total depth from the DIN strip up to the terminal surface is 43.8 mm
- total height of the body is 81 mm + protruding DIN rail holder in its working position: 5.2 mm
- the height of the controlling part is 45 mm
- the depth of the upper supporting section of the terminal, from the DIN strip is 19.0 mm.
- The depth of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
- module width
    - 1P: 17.6 mm
    - 2P: 35.2 mm
    - 3P: 52.8 mm
    - 4P: 70.4 mm
- top user label (A):
    - 1P: width 15.4 × height 6.2 × depth 0.3 mm
    - 2P: width 33.1 × height 6.2 × depth 0.3 mm
    - 3P: width 50.6 × height 6.2 × depth 0.3 mm
    - 4P: width 68.4 × height 6.2 × depth 0.3 mm
- bottom and top installation label (B) width 17.6 × height 4.8 × depth 0.5 mm

This means that there is more available space for leading and connecting conductors in the switchboard. This feature is highly appreciated when using these Miniature Circuit Breakers (MCB) in small plastic apartment switchboards.

SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	from 3 to 5 ms, at maximum load under 10 kA rupturing capacity (practically as fast as classic fuse tripping speeds)
Rupturing capacity (nominal short-circuit and operating) pursuant to CSN EN 60898 at 230/400V AC, up to a value of the nominal current and class:	for PEP 10J – 10 kA (nominal short-circuit and operating) up to 63A in class B, C, D (see CB test report for details) MCB PEP-10J are also short-circuit tested at 600V, where a minimum rupturing capacity of at least 3kA must be reached (for USA, Canada and special applications)
Power limiting class:	3 up to 63A of nominal current in class D
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase faults:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the MCB (higher operator protection):	IP 20 for the MCB itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in MCBs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions

MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
MCB fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions)for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the MCB has an arresting mechanism located on the bottom side of the MCB to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	MCBs can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 2× (8.2 × 7.8 mm) = **63 mm²** • standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3.4 mm** • the terminal is manufactured from a **single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the MCB (it is generally recommended to connect the MCBs using a fork busbar from the top, to a separate screw terminal, because this prevents the MCB from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the MCB can be written on, or a prior prepared label can be used) the label is located under a clear hinged window, dimensions: • 1P: width 15.4 × height 6.2 × depth 0.3 mm • 2P: width 33.1 × height 6.2 × depth 0.3 mm • 3P: width 50.6 × height 6.2 × depth 0.3 mm • 4P: width 68.4 × height 6.2 × depth 0.3 mm mm material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz

Mounting label:	on the front side, in two places = good visibility even when MCBs are placed in various heights (by the screw holes), bottom and top mounting labels have these dimensions: width 17,6 × height 4,8 × depth 0,5 mm prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz.
Housing strength:	9 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints
APPLICATION PARAMETERS	
1 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
2 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
3 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
4 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
1 pole + switch (1P+N) – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
3 pole + switch (1P+N) – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
Offered in the following class:	B, C, D, Z (K, S) with fixed settings
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.) D (or M), used to also be „-----". The short-circuit tripping speed can be set to 10 In through 20 In. It is especially used to protect electrical circuits with devices, which do cause high current surges (transformers, 2 pole motors, motors with heavy starts, circuits with large inductance, etc.) We are preparing these class: K - The short-circuit tripping speed can be set to 8 In through 12 In S - The short-circuit tripping speed can be set to 13 In through 17 Z - The short-circuit tripping speed can be set to 2 In through 3 In
Nominal voltage:	1 P (pole) ~ 230/400 V 50/60 Hz 3 P (pole) ~ 400 V 50/60 Hz
Max. pre-inserted fuse	100 A gG (>10 kA)
Accessories:	signalization contacts, under voltage releases, over voltage releases
Ambient temperature:	- 30°C to +60°C (- 5 °C to +40 °C pursuant to CSN EN 60898)
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Concurrent connection of all phases by multi-module elements (suitable for motor starts)	yes
Operating at 110 V AC:	yes
Complies with utility companies requirements for disassembly resistance	yes
Complies with utility companies requirements for 3 pole designs to not be able to switch-on MCB without a phase:	yes

Using a pin busbar, connectible with other MCBs with a 10 kA breaking capacity (possible small bending of strip)	suitable for ABB S 201 M, BONEGA-EV-6J, CHINT NB1-63, MERLIN GERIN C60H multi 9, SEZ RI61, with slight bend of pin busbar contact with Doepke DLS5, FELTEN, GEYER EC 110 BB, MOELLER PL7, with longer contacts even with OEZ LSN
Using a fork busbar, connectible with other MCBs with a 10 kA breaking capacity (possible small bending of strip)	suitable for BONEGA-EV-6J, CHINT NB1-63, SEZ RI61 and with bent fork contacts with Doepke DLS5, FELTEN, GEYER EC 110 BB, MOELLER PL7
Using a pin busbar, connectible with other MCBs with a 6 kA breaking capacity (possible small bending of strip)	suitable for Miniature Circuit Breakers (MCB) BONEGA EV-6J, SEZ PRe61, with bent pin busbar contact with FELTEN, KANIA C45, LEGRAND 032 68, MERLIN GERIN Domae, MOELLER PL6, SCHRACK BF098110, and with longer contacts even with OEZ LSE, SIEMENS 5SX21
Using a fork busbar, connectible with other MCBs with a 6 kA breaking capacity (possible small bending of strip)	suitable for Miniature Circuit Breakers (MCB) BONEGA EV-6J, SEZ PRe61 and with bent fork contacts with HAGER MC 110A, LEGRAND 032 68 MERLIN GERIN Domae, FELTEN, MOELLER PL6
OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Heat reduction:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 20 000 cycles (on and off)
Manufactured pursuant to standards:	Contacts:
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
Awards:	Gold AMPER 2005 and BAEL 2005
Valid patents (amount):	yes (2)
Description – patent 1:	extinguishing chamber
Description – patent 2:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the MCB is a protected industrial design
Delivery time on working days:	within 48 hours

COLOUR LEVERS:				
For a better overview in switchboards, we standardly supply MCBs with nominal current values that have colour coded levers, in compliance with the liners of plug-type fuses.	0.2 A – 1.6 A	black	16 A	grey
	2 A	pink	20 A	blue
	4 A	brown	25 A	yellow
	6 A	green	32 A	purple
	8 A	light-green	40 A	black
	10 A	red	50 A	white
	13 A	sand-brown	63 A	copper-brown
May also be supplied with only black levers.				

PLANNING SPECIFICATIONS

Nominal current Miniature Circuit Breakers (MCB) (A)	Internal resistance (mOhm)	Power loss (W)	Maximum loop impedance (Ohm)			Thermal correction of nominal currents				
			Char. B	Char. C	Char. D	Ambient temp. 20°C	Ambient temp. 30°C	Ambient temp. 40°C	Ambient temp. 50°C	Ambient temperature 60°C
1	1215.69	1.24	46.20	25.70	14.40	1.05	1	0.95	0.90	0.85
2	343.28	1.38	21.60	12.02	6.73	2.08	2	1.92	1.84	1.74
3	128.09	1.15	16.90	9.40	5.26	3.18	3	2.82	2.61	2.37
4	105.53	1.68	10.68	5.94	3.33	4.24	4	3.76	3.52	3.24
6	29.22	1.08	7.14	3.97	2.22	6.24	6	5.76	5.52	5.30
10	14.49	1.55	3.87	2.15	1.21	10.60	10	9.30	8.60	7.80
16	10.00	2.56	2.24	1.25	0.70	16.80	16	15.20	14.20	13.30
20	8.02	3.32	1.55	0.86	0.48	21.00	20	19.00	17.80	16.80
25	3.11	2.00	2.43	1.35	0.76	26.20	25	23.70	22.20	20.70
32	3.05	3.17	1.27	0.71	0.40	33.50	32	30.40	28.40	27.50
40	2.16	3.40	0.60	0.33	0.19	42.00	40	38.00	35.60	33.20
50	1.65	4.20	0.71	0.39	0.22	52.50	50	47.40	44.00	40.50
63	1.68	6.30	0.47	0.26	0.15	66.20	63	58.00	54.20	49.20

Thermal protection – cut-off class up to 63 A; time-current

#	Type	Testing current	Initial condition	Periods of tripping and non-tripping limits	Measured result	Notes
a	B,C,D	1,13 I_n	cold*	$t \geq 1$ h ($I_n \leq 63$ A)	may not trip	
b	B,C,D	1,45 I_n	immediately after test *a*	$t < 1$ h ($I_n \leq 63$ A)	must trip	Continuously increasing current for 5 s
c	B,C,D	2,55 I_n	cold*	1s < t < 60 s ($I_n \leq 32$ A) 1s < t < 120 s ($I_n > 32$ A)	must trip	
d	B C D	3 I_n 5 I_n 10 I_n	cold*	$t \geq 0,1$ s	may not trip	Current reached by switching-on auxiliary switch
e	B C D	5 I_n 10 I_n 20 I_n	cold*	$t < 0,1$ s	must trip	Current reached by switching-on auxiliary switch

* the term „cold“ means without previous load, at a referential calibrated temperature

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J		
Order code	**Description**	**Pieces/box**
Single module, class: B		
03-1001B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 1A	12
03-1002B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 2A	12
03-1003B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 3A	12
03-1004B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 4A	12
03-1006B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 6A	12
03-1008B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 8A	12
03-1010B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 10A	12
03-1013B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 13A	12
03-1015B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 15A	12
03-1016B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 16A	12
03-1020B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 20A	12
03-1023B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 23A	12
03-1025B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 25A	12
03-1032B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 32A	12
03-1040B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 40A	12
03-1050B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 50A	12
03-1063B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P B 63A	12
Single module, class: C		
03-1001C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 1A	12
03-1002C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 2A	12
03-1003C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 3A	12
03-1004C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 4A	12
03-1006C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 6A	12
03-1008C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 8A	12
03-1010C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 10A	12
03-1013C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 13A	12
03-1015C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 15A	12
03-1016C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 16A	12
03-1020C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 20A	12
03-1023C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 23A	12
03-1025C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 25A	12
03-1032C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 32A	12
03-1040C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 40A	12
03-1050C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 50A	12
03-1063C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P C 63A	12
Single module, class: D		
03-1001D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 1A	12
03-1002D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 2A	12
03-1003D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 3A	12
03-1004D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 4A	12
03-1006D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 6A	12
03-1008D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 8A	12
03-1010D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 10A	12
03-1013D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 13A	12
03-1015D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 15A	12
03-1016D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 16A	12
03-1020D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 20A	12
03-1023D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 23A	12
03-1025D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 25A	12
03-1032D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 32A	12
03-1040D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 40A	12
03-1050D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 50A	12
03-1063D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P D 63A	12

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J		
Order code	**Description**	**Pieces/box**
Single module, class: Z		
03-1001Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 1A	12
03-1002Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 2A	12
03-1003Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 3A	12
03-1004Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 4A	12
03-1006Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 6A	12
03-1008Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 8A	12
03-1010Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 10A	12
03-1013Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 13A	12
03-1015Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 15A	12
03-1016Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 16A	12
03-1020Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 20A	12
03-1023Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 23A	12
03-1025Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 25A	12
03-1032Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 32A	12
03-1040Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 40A	12
03-1050Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 50A	12
03-1063Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P Z 63A	12
Two module, class: B		
03-2001B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 1A	6
03-2002B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 2A	6
03-2003B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 3A	6
03-2004B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 4A	6
03-2006B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 6A	6
03-2008B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 8A	6
03-2010B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 10A	6
03-2013B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 13A	6
03-2015B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 15A	6
03-2016B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 16A	6
03-2020B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 20A	6
03-2023B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 23A	6
03-2025B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 25A	6
03-2032B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 32A	6
03-2040B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 40A	6
03-2050B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 50A	6
03-2063B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P B 63A	6
Two module, class: C		
03-2001C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 1A	6
03-2002C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 2A	6
03-2003C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 3A	6
03-2004C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 4A	6
03-2006C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 6A	6
03-2008C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 8A	6
03-2010C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 10A	6
03-2013C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 13A	6
03-2015C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 15A	6
03-2016C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 16A	6
03-2020C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 20A	6
03-2023C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 23A	6
03-2025C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 25A	6
03-2032C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 32A	6
03-2040C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 40A	6
03-2050C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 50A	6
03-2063C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P C 63A	6

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J		
Order code	**Description**	**Pieces/box**
Two module, class: D		
03-2001D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 1A	6
03-2002D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 2A	6
03-2003D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 3A	6
03-2004D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 4A	6
03-2006D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 6A	6
03-2008D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 8A	6
03-2010D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 10A	6
03-2013D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 13A	6
03-2015D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 15A	6
03-2016D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 16A	6
03-2020D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 20A	6
03-2023D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 23A	6
03-2025D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 25A	6
03-2032D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 32A	6
03-2040D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 40A	6
03-2050D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 50A	6
03-2063D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P D 63A	6
Two module, class: Z		
03-2001Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 1A	6
03-2002Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 2A	6
03-2003Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 3A	6
03-2004Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 4A	6
03-2006Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 6A	6
03-2008Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 8A	6
03-2010Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 10A	6
03-2013Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 13A	6
03-2015Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 15A	6
03-2016Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 16A	6
03-2020Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 20A	6
03-2023Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 23A	6
03-2025Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 25A	6
03-2032Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 32A	6
03-2040Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 40A	6
03-2050Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 50A	6
03-2063Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 2P Z 63A	6
Three module (10 kA), class: B		
03-3001B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 1A	4
03-3002B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 2A	4
03-3003B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 3A	4
03-3004B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 4A	4
03-3006B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 6A	4
03-3008B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 8A	4
03-3010B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 10A	4
03-3013B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 13A	4
03-3015B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 15A	4
03-3016B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 16A	4
03-3020B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 20A	4
03-3023B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 23A	4
03-3025B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 25A	4
03-3032B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 32A	4
03-3040B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 40A	4
03-3050B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 50A	4
03-3063B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P B 63A	4

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J		
Order code	**Description**	**Pieces/box**
Three module (10 kA), class: C		
03-3001C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 1A	4
03-3002C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 2A	4
03-3003C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 3A	4
03-3004C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 4A	4
03-3006C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 6A	4
03-3008C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 8A	4
03-3010C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 10A	4
03-3013C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 13A	4
03-3015C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 15A	4
03-3016C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 16A	4
03-3020C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 20A	4
03-3023C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 23A	4
03-3025C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 25A	4
03-3032C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 32A	4
03-3040C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 40A	4
03-3050C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 50A	4
03-3063C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P C 63A	4
Three module (10 kA), class: D		
03-3001D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 1A	4
03-3002D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 2A	4
03-3003D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 3A	4
03-3004D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 4A	4
03-3006D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 6A	4
03-3008D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 8A	4
03-3010D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 10A	4
03-3013D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 13A	4
03-3015D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 15A	4
03-3016D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 16A	4
03-3020D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 20A	4
03-3023D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 23A	4
03-3025D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 25A	4
03-3032D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 32A	4
03-3040D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 40A	4
03-3050D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 50A	4
03-3063D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P D 63A	4
Three module (10 kA), class: Z		
03-3001Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 1A	4
03-3002Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 2A	4
03-3003Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 3A	4
03-3004Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 4A	4
03-3006Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 6A	4
03-3008Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 8A	4
03-3010Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 10A	4
03-3013Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 13A	4
03-3015Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 15A	4
03-3016Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 16A	4
03-3020Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 20A	4
03-3023Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 23A	4
03-3025Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 25A	4
03-3032Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 32A	4
03-3040Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 40A	4
03-3050Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 50A	4
03-3063Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P Z 63A	4

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J		
Order code	**Description**	**Pieces/box**
Four module (10 kA), class: B		
03-4001B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 1A	3
03-4002B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 2A	3
03-4003B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 3A	3
03-4004B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 4A	3
03-4006B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 6A	3
03-4008B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 8A	3
03-4010B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 10A	3
03-4013B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 13A	3
03-4015B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 15A	3
03-4016B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 16A	3
03-4020B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 20A	3
03-4023B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 23A	3
03-4025B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 25A	3
03-4032B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 32A	3
03-4040B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 40A	3
03-4050B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 50A	3
03-4063B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P B 63A	3
Four module (10 kA), class: C		
03-4001C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 1A	3
03-4002C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 2A	3
03-4003C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 3A	3
03-4004C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 4A	3
03-4006C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 6A	3
03-4008C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 8A	3
03-4010C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 10A	3
03-4013C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 13A	3
03-4015C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 15A	3
03-4016C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 16A	3
03-4020C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 20A	3
03-4023C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 23A	3
03-4025C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 25A	3
03-4032C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 32A	3
03-4040C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 40A	3
03-4050C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 50A	3
03-4063C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P C 63A	3
Four module (10 kA), class: D		
03-4001D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 1A	3
03-4002D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 2A	3
03-4003D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 3A	3
03-4004D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 4A	3
03-4006D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 6A	3
03-4008D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 8A	3
03-4010D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 10A	3
03-4013D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 13A	3
03-4015D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 15A	3
03-4016D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 16A	3
03-4020D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 20A	3
03-4023D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 23A	3
03-4025D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 25A	3
03-4032D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 32A	3
03-4040D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 40A	3
03-4050D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 50A	3
03-4063D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P D 63A	3

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J		
Order code	**Description**	**Pieces/box**
Four module (10 kA), class: Z		
03-4001Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 1A	3
03-4002Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 2A	3
03-4003Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 3A	3
03-4004Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 4A	3
03-4006Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 6A	3
03-4008Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 8A	3
03-4010Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 10A	3
03-4013Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 13A	3
03-4015Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 15A	3
03-4016Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 16A	3
03-4020Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 20A	3
03-4023Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 23A	3
03-4025Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 25A	3
03-4032Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 32A	3
03-4040Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 40A	3
03-4050Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 50A	3
03-4063Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 4P Z 63A	3
Two module 1P+ N (10 kA), class B		
03-1N01B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 1A	6
03-1N02B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 2A	6
03-1N03B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 3A	6
03-1N04B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 4A	6
03-1N06B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 6A	6
03-1N08B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 8A	6
03-1N10B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 10A	6
03-1N13B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 13A	6
03-1N15B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 15A	6
03-1N16B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 16A	6
03-1N20B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 20A	6
03-1N23B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 23A	6
03-1N25B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 25A	6
03-1N32B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 32A	6
03-1N40B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 40A	6
03-1N50B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 50A	6
03-1N63B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N B 63A	6
Two module 1P+ N (10 kA), class C		
03-1N01C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 1A	6
03-1N02C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 2A	6
03-1N03C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 3A	6
03-1N04C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 4A	6
03-1N06C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 6A	6
03-1N08C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 8A	6
03-1N10C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 10A	6
03-1N13C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 13A	6
03-1N15C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 15A	6
03-1N16C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 16A	6
03-1N20C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 20A	6
03-1N23C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 23A	6
03-1N25C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 25A	6
03-1N32C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 32A	6
03-1N40C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 40A	6
03-1N50C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 50A	6
03-1N63C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N C 63A	6

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J		
Order code	**Description**	**Pieces/box**
Two module 1P+ N (10 kA), class D		
03-1N01D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 1A	6
03-1N02D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 2A	6
03-1N03D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 3A	6
03-1N04D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 4A	6
03-1N06D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 6A	6
03-1N08D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 8A	6
03-1N10D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 10A	6
03-1N13D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 13A	6
03-1N15D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 15A	6
03-1N16D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 16A	6
03-1N20D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 20A	6
03-1N23D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 23A	6
03-1N25D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 25A	6
03-1N32D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 32A	6
03-1N40D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 40A	6
03-1N50D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 50A	6
03-1N63D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N D 63A	6
Two module 1P+ N (10 kA), class Z		
03-1N01Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 1A	6
03-1N02Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 2A	6
03-1N03Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 3A	6
03-1N04Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 4A	6
03-1N06Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 6A	6
03-1N08Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 8A	6
03-1N10Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 10A	6
03-1N13Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 13A	6
03-1N15Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 15A	6
03-1N16Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 16A	6
03-1N20Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 20A	6
03-1N23Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 23A	6
03-1N25Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 25A	6
03-1N32Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 32A	6
03-1N40Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 40A	6
03-1N50Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 50A	6
03-1N63Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 1P+N Z 63A	6
Four module 1P+ N (10 kA), class B		
03-3N01B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 1A	3
03-3N02B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 2A	3
03-3N03B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 3A	3
03-3N04B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 4A	3
03-3N06B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 6A	3
03-3N08B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 8A	3
03-3N10B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 10A	3
03-3N13B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 13A	3
03-3N15B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 15A	3
03-3N16B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 16A	3
03-3N20B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 20A	3
03-3N23B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 23A	3
03-3N25B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 25A	3
03-3N32B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 32A	3
03-3N40B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 40A	3
03-3N50B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 50A	3
03-3N63B-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N B 63A	3

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J		
Order code	**Description**	**Pieces/box**
Four module 1P+ N (10 kA), class C		
03-3N01C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 1A	3
03-3N02C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 2A	3
03-3N03C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 3A	3
03-3N04C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 4A	3
03-3N06C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 6A	3
03-3N08C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 8A	3
03-3N10C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 10A	3
03-3N13C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 13A	3
03-3N15C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 15A	3
03-3N16C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 16A	3
03-3N20C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 20A	3
03-3N23C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 23A	3
03-3N25C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 25A	3
03-3N32C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 32A	3
03-3N40C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 40A	3
03-3N50C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 50A	3
03-3N63C-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N C 63A	3
Four module 1P+ N (10 kA), class D		
03-3N01D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 1A	3
03-3N02D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 2A	3
03-3N03D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 3A	3
03-3N04D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 4A	3
03-3N06D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 6A	3
03-3N08D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 8A	3
03-3N10D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 10A	3
03-3N13D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 13A	3
03-3N15D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 15A	3
03-3N16D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 16A	3
03-3N20D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 20A	3
03-3N23D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 23A	3
03-3N25D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 25A	3
03-3N32D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 32A	3
03-3N40D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 40A	3
03-3N50D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 50A	3
03-3N63D-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N D 63A	3
Four module 1P+ N (10 kA), class Z		
03-3N01Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 1A	3
03-3N02Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 2A	3
03-3N03Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 3A	3
03-3N04Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 4A	3
03-3N06Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 6A	3
03-3N08Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 8A	3
03-3N10Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 10A	3
03-3N13Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 13A	3
03-3N15Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 15A	3
03-3N16Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 16A	3
03-3N20Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 20A	3
03-3N23Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 23A	3
03-3N25Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 25A	3
03-3N32Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 32A	3
03-3N40Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 40A	3
03-3N50Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 50A	3
03-3N63Z-PEP-10J	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J (10 kA) 3P+N Z 63A	3

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA® PEP-15J (15 KA, 1-63 A)

(rupturing capacity 15 kA)

up to 63 A, class B,C,D

„Brings safety and protection of circuits to a new level.“

BONEGA PEP Miniature Circuit Breakers (MCB) belong to the quickest, safest and most reliable MCBs in the world.

This is only possible thanks to their exceptional technical parameters. Their unique design and construction is patented.

3 roky záruka

2 Czech patents

1 ZLATÝ VÝROBEK VELETRHU BAEL

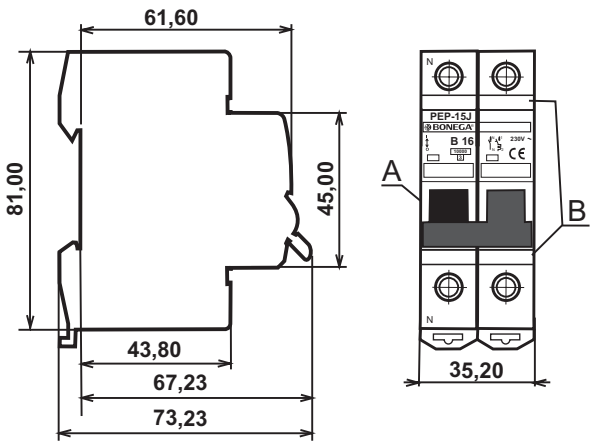
CERTIFICATES

CB TEST

CE

Detailed information including diagrams and oscillograms can be found on [www.bonega.cz.](http://www.bonega.cz)

The height of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
The height of the upper supporting section of the terminal, from the DIN strip is 19 mm.



Its exceptionally small size (especially a size of only 81 mm) counts as one of the smallest in the world.

- the total depth from the DIN rail holder, incl. lever in its off position, is 72.23 mm
- the total depth from the DIN strip, incl. lever in its off position, is 67.23 mm
- total depth from the DIN strip up to the surface is 61.6 mm
- total depth from the DIN strip up to the terminal surface is 43.8 mm
- total height of the body is 81 mm + protruding DIN rail holder in its working position: 5.2 mm
- the height of the controlling part is 45 mm
- the depth of the upper supporting section of the terminal, from the DIN strip is 19.0 mm.
- The depth of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
- module width
    - 1P: 17.6 mm
    - 2P: 35.2 mm
    - 3P: 52.8 mm
    - 4P: 70.4 mm
- top user label (A):
    - 1P: width 15.4 × height 6.2 × depth 0.3 mm
    - 2P: width 33.1 × height 6.2 × depth 0.3 mm
    - 3P: width 50.6 × height 6.2 × depth 0.3 mm
    - 4P: width 68.4 × height 6.2 × depth 0.3 mm
- bottom and top installation label (B) width 17.6 × height 4.8 × depth 0.5 mm

This means that there is more available space for leading and connecting conductors in the switchboard. This feature is highly appreciated when using these Miniature Circuit Breakers (MCB) in small plastic apartment switchboards.

SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	from 3 to 5 ms, at maximum load under 15 kA rupturing capacity (practically as fast as classic fuse tripping speeds)
Rupturing capacity (nominal short-circuit and operating) pursuant to CSN EN 60898 at 230/400V AC, up to a value of the nominal currentand class:	for PEP 15J – 15 kA
Power limiting class:	3 up to 63A of nominal current in class D
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase faults:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the MCB (higher operator protection):	IP 20 for the MCB itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in MCBs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions

MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
MCB fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness, b) on a flat surface using two screws c) the MCB has an arresting mechanism located on the bottom side of the MCB to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	MCBs can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 2× (8.2 × 7.8 mm) = **63 mm²** • standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3.4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the MCB (it is generally recommended to connect the MCBs using a fork busbar from the top, to a separate screw terminal, because this prevents the switch from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the MCB can be written on, or a prior prepared label can be used) the label is located under a clear hinged window, dimensions: • 1P: width 15.4 × height 6.2 × depth 0.3 mm • 2P: width 33.1 × height 6.2 × depth 0.3 mm • 3P: width 50.6 × height 6.2 × depth 0.3 mm • 4P: width 68.4 × height 6.2 × depth 0.3 mm mm material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz

Mounting label:	on the front side, in two places = good visibility even when MCBs are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 17.6 × height 4.8 × depth 0.5 mm prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz.
Housing strength:	9 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints
APPLICATION PARAMETERS	
1 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
2 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
3 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
4 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
1 pole + switch (1P+N) – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C and D)
3 pole + switch (1P+N) – nominal currents In	1, 2, 3, 4, 6, 8,10, 13, 15, 16, 20, 25, 32, 40, 50, 63 A (class B, C and D)
Offered in the following class:	B, C, D (K, S, Z in preparation) with fixed settings
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.) D (or M), used to also be „-----". The short-circuit tripping speed can be set to 10 In through 20 In. It is especially used to protect electrical circuits with devices, which do cause high current surges (transformers, 2 pole motors, motors with heavy starts, circuits with large inductance, etc.) We are preparing these class: K – The short-circuit tripping speed can be set to 8 In through 12 In S – The short-circuit tripping speed can be set to 13 In through 17 In Z – The short-circuit tripping speed can be set to 2 In through 3 In
Nominal voltage:	1 P (pole) ~ 230/400 V 50/60 Hz 3 P (pole) ~ 400 V 50/60 Hz
Max. pre-inserted fuse	100 A gG (>10 kA)
Accessories:	signalization contacts, under voltage releases, over voltage releases
Ambient temperature:	- 30°C to +60°C (- 5 °C to +40 °C pursuant to CSN EN 60898)
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Concurrent connection of all phases by multi-module elements (suitable for motor starts)	yes
Operating at 110 V AC:	yes
Complies with utility companies requirements for disassembly resistance	yes
Complies with utility companies requirements for 3 pole designs to not be able to switch-on MCB without a phase:	yes

Using a pin busbar, connectible with other MCBs with a 10 kA breaking capacity (possible small bending of strip)	suitable for ABB S 201 M, BONEGA-EV-6J, CHINT NB1-63, MERLIN GERIN C60H multi 9, SEZ RI61, with slight bend of pin busbar contact with Doepke DLS5, FELTEN, GEYER EC 110 BB, MOELLER PL7, with longer contacts even with OEZ LSN
Using a fork busbar, connectible with other MCBs with a 10 kA breaking capacity (possible small bending of strip)	suitable for BONEGA-EV-6J, CHINT NB1-63, SEZ RI61 and with bent fork contacts with Doepke DLS5, FELTEN, GEYER EC 110 BB, MOELLER PL7
Using a pin busbar, connectible with other MCBs with a 6 kA breaking capacity (possible small bending of strip)	suitable for Miniature Circuit Breakers (MCB) BONEGA EV-6J, SEZ PRe61, with bent pin busbar contact with FELTEN, KANIA C45, LEGRAND 032 68, MERLIN GERIN Domae, MOELLER PL6, SCHRACK BF098110, and with longer contacts even with OEZ LSE, SIEMENS 5SX21
Using a fork busbar, connectible with other MCBs with a 6 kA breaking capacity (possible small bending of strip)	suitable for Miniature Circuit Breakers (MCB) BONEGA EV-6J, SEZ PRe61 and with bent fork contacts with HAGER MC 110A, LEGRAND 032 68 MERLIN GERIN Domae, FELTEN, MOELLER PL6
OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 20 000 cycles (on and off)
Manufactured pursuant to standards:	CSN EN 60947
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
Awards:	Gold AMPER 2005 and BAEL 2005
Valid patents (amount):	yes (2)
Description – patent 1:	extinguishing chamber
Description – patent 2:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the MCB is a protected industrial design
Delivery time on working days:	within 48 hours

COLOUR LEVERS:				
For a better overview in switchboards, we standardly supply MCBs with nominal current values that have colour coded levers, in compliance with the liners of plug-type fuses.	0.2 A – 1.6 A	black	16 A	grey
	2 A	pink	20 A	blue
	4 A	brown	25 A	yellow
	6 A	green	32 A	purple
	8 A	light-green	40 A	black
	10 A	red	50 A	white
	13 A	sand-brown	63 A	copper-brown
May also be supplied with only black levers.				

PLANNING SPECIFICATIONS

Nominal current Miniature Circuit Breakers (MCB) (A)	Internal resistance (mOhm)	Power loss (W)	Maximum loop impedance (Ohm)			Thermal correction of nominal currents				
			Char. B	Char. C	Char. D	Ambient temp. 20°C	Ambient temp. 30°C	Ambient temp. 40°C	Ambient temp. 50°C	Ambient temperature 60°C
1	1215.69	1.24	46.20	25.70	14.40	1.05	1	0.95	0.90	0.85
2	343.28	1.38	21.60	12.02	6.73	2.08	2	1.92	1.84	1.74
3	128.09	1.15	16.90	9.40	5.26	3.18	3	2.82	2.61	2.37
4	105.53	1.68	10.68	5.94	3.33	4.24	4	3.76	3.52	3.24
6	29.22	1.08	7.14	3.97	2.22	6.24	6	5.76	5.52	5.30
10	14.49	1.55	3.87	2.15	1.21	10.60	10	9.30	8.60	7.80
16	10.00	2.56	2.24	1.25	0.70	16.80	16	15.20	14.20	13.30
20	8.02	3.32	1.55	0.86	0.48	21.00	20	19.00	17.80	16.80
25	3.11	2.00	2.43	1.35	0.76	26.20	25	23.70	22.20	20.70
32	3.05	3.17	1.27	0.71	0.40	33.50	32	30.40	28.40	27.50
40	2.16	3.40	0.60	0.33	0.19	42.00	40	38.00	35.60	33.20
50	1.65	4.20	0.71	0.39	0.22	52.50	50	47.40	44.00	40.50
63	1.68	6.30	0.47	0.26	0.15	66.20	63	58.00	54.20	49.20

Thermal protection – cut-off class up to 63 A; time-current

#	Type	Testing current	Initial condition	Periods of tripping and non-tripping limits	Measured result	Notes
a	B,C,D	1,13 I_n	cold*	$t \geq 1$ h ($I_n \leq 63$ A)	may not trip	
b	B,C,D	1,45 I_n	immediately after test *a*	$t < 1$ h ($I_n \leq 63$ A)	must trip	Continuously increasing current for 5 s
c	B,C,D	2,55 I_n	cold*	1s < t < 60 s ($I_n \leq 32$ A) 1s < t < 120 s ($I_n > 32$ A)	must trip	
d	B C D	3 I_n 5 I_n 10 I_n	cold*	$t \geq 0,1$ s	may not trip	Current reached by switching-on auxiliary switch
e	B C D	5 I_n 10 I_n 20 I_n	cold*	$t < 0,1$ s	must trip	Current reached by switching-on auxiliary switch

* the term „cold“ means without previous load, at a referential calibrated temperature

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 15J		
Order code	**Description**	**Pieces/box**
Single module (15 kA), class: B		
21-1001B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 1A	12
21-1002B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 2A	12
21-1003B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 3A	12
21-1004B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 4A	12
21-1006B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 6A	12
21-1008B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 8A	12
21-1010B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 10A	12
21-1013B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 13A	12
21-1015B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 15A	12
21-1016B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 16A	12
21-1020B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 20A	12
21-1023B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 23A	12
21-1025B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 25A	12
21-1032B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 32A	12
21-1040B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 40A	12
21-1050B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 50A	12
21-1063B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P B 63A	12
Single module (15 kA), class: C		
21-1001C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 1A	12
21-1002C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 2A	12
21-1003C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 3A	12
21-1004C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 4A	12
21-1006C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 6A	12
21-1008C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 8A	12
21-1010C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 10A	12
21-1013C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 13A	12
21-1015C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 15A	12
21-1016C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 16A	12
21-1020C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 20A	12
21-1023C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 23A	12
21-1025C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 25A	12
21-1032C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 32A	12
21-1040C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 40A	12
21-1050C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 50A	12
21-1063C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P C 63A	12
Single module (15 kA), class: D		
21-1001D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 1A	12
21-1002D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 2A	12
21-1003D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 3A	12
21-1004D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 4A	12
21-1006D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 6A	12
21-1008D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 8A	12
21-1010D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 10A	12
21-1013D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 13A	12
21-1015D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 15A	12
21-1016D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 16A	12
21-1020D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 20A	12
21-1023D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 23A	12
21-1025D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 25A	12
21-1032D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 32A	12
21-1040D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 40A	12
21-1050D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 50A	12
21-1063D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P D 63A	12

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 15J		
Order code	**Description**	**Pieces/box**
Two module (15 kA), class: B		
21-2001B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 1A	6
21-2002B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 2A	6
21-2003B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 3A	6
21-2004B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 4A	6
21-2006B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 6A	6
21-2008B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 8A	6
21-2010B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 10A	6
21-2013B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 13A	6
21-2015B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 15A	6
21-2016B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 16A	6
21-2020B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 20A	6
21-2023B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 23A	6
21-2025B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 25A	6
21-2032B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 32A	6
21-2040B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 40A	6
21-2050B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 50A	6
21-2063B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P B 63A	6
Two module (15 kA), class: C		
21-2001C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 1A	6
21-2002C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 2A	6
21-2003C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 3A	6
21-2004C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 4A	6
21-2006C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 6A	6
21-2008C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 8A	6
21-2010C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 10A	6
21-2013C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 13A	6
21-2015C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 15A	6
21-2016C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 16A	6
21-2020C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 20A	6
21-2023C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 23A	6
21-2025C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 25A	6
21-2032C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 32A	6
21-2040C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 40A	6
21-2050C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 50A	6
21-2063C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P C 63A	6
Two module (15 kA), class: D		
21-2001D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 1A	6
21-2002D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 2A	6
21-2003D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 3A	6
21-2004D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 4A	6
21-2006D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 6A	6
21-2008D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 8A	6
21-2010D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 10A	6
21-2013D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 13A	6
21-2015D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 15A	6
21-2016D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 16A	6
21-2020D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 20A	6
21-2023D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 23A	6
21-2025D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 25A	6
21-2032D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 32A	6
21-2040D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 40A	6
21-2050D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 50A	6
03-2063D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 2P D 63A	6

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 15J		
Order code	**Description**	**Pieces/box**
Three module (15 kA), class: B		
21-3001B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 1A	4
21-3002B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 2A	4
21-3003B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 3A	4
21-3004B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 4A	4
21-3006B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 6A	4
21-3008B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 8A	4
21-3010B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 10A	4
21-3013B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 13A	4
21-3015B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 15A	4
21-3016B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 16A	4
21-3020B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 20A	4
21-3023B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 23A	4
21-3025B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 25A	4
21-3032B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 32A	4
21-3040B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 40A	4
21-3050B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 50A	4
21-3063B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P B 63A	4
Three module (15 kA), class: C		
21-3001C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 1A	4
21-3002C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 2A	4
21-3003C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 3A	4
21-3004C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 4A	4
21-3006C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 6A	4
21-3008C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 8A	4
21-3010C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 10A	4
21-3013C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 13A	4
21-3015C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 15A	4
21-3016C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 16A	4
21-3020C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 20A	4
21-3023C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 23A	4
21-3025C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 25A	4
21-3032C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 32A	4
21-3040C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 40A	4
21-3050C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 50A	4
21-3063C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P C 63A	4
Three module (15 kA), class: D		
21-3001D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 1A	4
21-3002D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 2A	4
21-3003D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 3A	4
21-3004D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 4A	4
21-3006D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 6A	4
21-3008D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 8A	4
21-3010D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 10A	4
21-3013D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 13A	4
21-3015D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 15A	4
21-3016D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 16A	4
21-3020D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 20A	4
21-3023D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 23A	4
21-3025D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 25A	4
21-3032D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 32A	4
21-3040D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 40A	4
21-3050D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 50A	4
21-3063D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P D 63A	4

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 15J		
Order code	**Description**	**Pieces/box**
Four module (15 kA), class: B		
21-4001B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 1A	3
21-4002B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 2A	3
21-4003B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 3A	3
21-4004B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 4A	3
21-4006B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 6A	3
21-4008B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 8A	3
21-4010B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 10A	3
21-4013B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 13A	3
21-4015B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 15A	3
21-4016B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 16A	3
21-4020B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 20A	3
21-4023B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 23A	3
21-4025B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 25A	3
21-4032B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 32A	3
21-4040B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 40A	3
21-4050B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 50A	3
21-4063B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P B 63A	3
Four module (15 kA), class: C		
21-4001C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 1A	3
21-4002C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 2A	3
21-4003C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 3A	3
21-4004C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 4A	3
21-4006C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 6A	3
21-4008C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 8A	3
21-4010C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 10A	3
21-4013C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 13A	3
21-4015C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 15A	3
21-4016C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 16A	3
21-4020C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 20A	3
21-4023C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 23A	3
21-4025C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 25A	3
21-4032C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 32A	3
21-4040C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 40A	3
21-4050C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 50A	3
21-4063C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P C 63A	3
Four module (15 kA), class: D		
21-4001D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 1A	3
21-4002D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 2A	3
21-4003D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 3A	3
21-4004D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 4A	3
21-4006D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 6A	3
21-4008D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 8A	3
21-4010D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 10A	3
21-4013D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 13A	3
21-4015D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 15A	3
21-4016D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 16A	3
21-4020D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 20A	3
21-4023D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 23A	3
21-4025D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 25A	3
21-4032D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 32A	3
21-4040D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 40A	3
21-4050D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 50A	3
21-4063D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 4P D 63A	3

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 15J		
Order code	**Description**	**Pieces/box**
Two module + N (15 kA), class B		
21-1N01B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 1A	6
21-1N02B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 2A	6
21-1N03B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 3A	6
21-1N04B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 4A	6
21-1N06B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 6A	6
21-1N08B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 8A	6
21-1N10B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 10A	6
21-1N13B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 13A	6
21-1N15B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 15A	6
21-1N16B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 16A	6
21-1N20B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 20A	6
21-1N23B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 23A	6
21-1N25B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 25A	6
21-1N32B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 32A	6
21-1N40B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 40A	6
21-1N50B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 50A	6
21-1N63B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N B 63A	6
Two module + N (15 kA), class C		
21-1N01C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 1A	6
21-1N02C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 2A	6
21-1N03C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 3A	6
21-1N04C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 4A	6
21-1N06C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 6A	6
21-1N08C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 8A	6
21-1N10C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 10A	6
21-1N13C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 13A	6
21-1N15C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 15A	6
21-1N16C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 16A	6
21-1N20C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 20A	6
21-1N23C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 23A	6
21-1N25C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 25A	6
21-1N32C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 32A	6
21-1N40C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 40A	6
21-1N50C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 50A	6
21-1N63C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N C 63A	6
Two module design + N (15 kA), class D		
21-1N01D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 1A	6
21-1N02D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 2A	6
21-1N03D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 3A	6
21-1N04D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 4A	6
21-1N06D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 6A	6
21-1N08D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 8A	6
21-1N10D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 10A	6
21-1N13D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 13A	6
21-1N15D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 15A	6
21-1N16D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 16A	6
21-1N20D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 20A	6
21-1N23D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 23A	6
21-1N25D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 25A	6
21-1N32D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 32A	6
21-1N40D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 40A	6
21-1N50D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 50A	6
21-1N63D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 1P+N D 63A	6

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 15J		
Order code	**Description**	**Pieces/box**
Four module 3P + N (15 kA), class B		
21-3N01B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 1A	3
21-3N02B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 2A	3
21-3N03B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 3A	3
21-3N04B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 4A	3
21-3N06B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 6A	3
21-3N08B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 8A	3
21-3N10B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 10A	3
21-3N13B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 13A	3
21-3N15B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 15A	3
21-3N16B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 16A	3
21-3N20B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 20A	3
21-3N23B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 23A	3
21-3N25B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 25A	3
21-3N32B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 32A	3
21-3N40B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 40A	3
21-3N50B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 50A	3
21-3N63B-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N B 63A	3
Four module 3P+ N (15 kA), class C		
21-3N01C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 1A	3
21-3N02C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 2A	3
21-3N03C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 3A	3
21-3N04C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 4A	3
21-3N06C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 6A	3
21-3N08C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 8A	3
21-3N10C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 10A	3
21-3N13C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 13A	3
21-3N15C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 15A	3
21-3N16C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 16A	3
21-3N20C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 20A	3
21-3N23C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 23A	3
21-3N25C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 25A	3
21-3N32C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 32A	3
21-3N40C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 40A	3
21-3N50C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 50A	3
21-3N63C-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N C 63A	3
Four module 3P + N (15 kA), class D		
21-3N01D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 1A	3
21-3N02D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 2A	3
21-3N03D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 3A	3
21-3N04D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 4A	3
21-3N06D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 6A	3
21-3N08D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 8A	3
21-3N10D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 10A	3
21-3N13D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 13A	3
21-3N15D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 15A	3
21-3N16D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 16A	3
21-3N20D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 20A	3
21-3N23D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 23A	3
21-3N25D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 25A	3
21-3N32D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 32A	3
21-3N40D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 40A	3
21-3N50D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 50A	3
21-3N63D-PEP-15J	Miniature Circuit Breakers (MCB) BONEGA® PEP-15J (15 kA) 3P+N D 63A	3

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA® PEP-30J (30 KA)

(rupturing capacity 30 kA)

up to 125 A, class B,C

„Brings safety and protection of circuits to a new level.“

BONEGA PEP Miniature Circuit Breakers (MCB) belong to the quickest, safest and most reliable MCBs in the world.

This is only possible thanks to their exceptional technical parameters. Their unique design and construction is patented.

3 years warranty

2 Czech patents

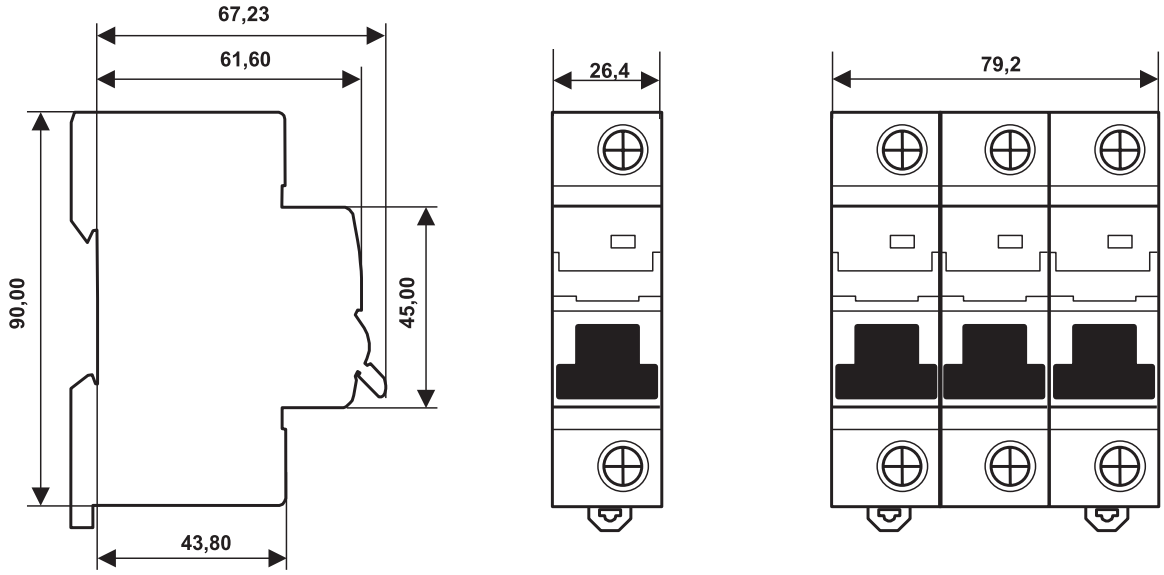
CERTIFICATES

CB TEST

CE

Detailed information including diagrams and oscillograms can be found on [www.bonega.cz.](http://www.bonega.cz)

Dimensions



Exceptionally small size:

- especially a height of only 90 mm
- module width
    - 1P: 26.4 mm
    - 2P: 52.8 mm
    - 3P: 79.2 mm
    - 4P: 105.6 mm
- the total depth from the DIN rail holder, incl. lever in its off • position, is 73.23 mm
- the total depth from the DIN strip, incl. lever in its off position, is 67.23 mm
- total depth from the DIN strip up to the surface is 61.6 mm
- total depth from the DIN strip up to the terminal surface is 43.8 mm
- total height of the body is 90 mm + protruding DIN rail holder in its working position: 6.8 mm
- the height of the controlling part is 45 mm
- the depth of the upper supporting section of the terminal, from the DIN strip is 19.0 mm.
- the depth of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
- top user label (A):
    - 1P: width 23 × height 6.2 × depth 0.3 mm
    - 2P: width 23 × height 6.2 × depth 0.3 mm
    - 3P: width 23 × height 6.2 × depth 0.3 mm
    - 4P: width 23 × height 6.2 × depth 0.3 mm
- bottom and top installation label (B) width 26 × height 4.8 × depth 0.5 mm

This means that there is more available space for leading and connecting conductors in the switchboard.

SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	from 6 to 10 ms, at maximum load under 30 kA rupturing capacity (practically as fast as classic fuse tripping speeds)
Rupturing capacity (nominal short-circuit and operating) pursuant to CSN EN 60947 at 230/400V AC, up to a value of the nominal current and class:	for In = 20A up to 100A Icn 30 kA in class B, C for In = 125A Icn 25 kA in class B, C
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase faults:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the MCB (higher operator protection)	IP 20 for the MCB itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in MCBs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions
MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
MCB fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness, b) on a flat surface using two screws c) the MCB has an arresting mechanism located on the bottom side of the MCB to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	MCBs can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross-section (width × height): 2× (10 × 10 mm) = **100 mm²** • standard connectivity: 70 mm² solid conductor, 50 mm² stranded conductor • length of screw thread in u-clamp terminal is **3.4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to attach **two pin busbars** • thanks to silver-plating, it is possible to attach Cu (copper) conductors, but also Al (aluminium) conductors
Terminal protection:	• located on **both the top and the bottom** of the MCB (it is generally recommended to connect the MCBs using a fork busbar from the top, to a separate screw terminal, because this prevents the switch from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20

Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the MCB can be written on, or a prior prepared label can be used) the label is located under a clear hinged window, dimensions: • 1P: width 24 × height 6.2 × depth 0.3 mm • 2P: width 24 × height 6.2 × depth 0.3 mm • 3P: width 24 × height 6.2 × depth 0.3 mm • 4P: width 24 × height 6.2 × depth 0.3 mm material: self-adhesive or standard office paper, optional prewritten labels, that can be applied by the user, are freely available for download (in DOC) from www.bonega.cz.
Mounting label:	on the front side, in two places = good visibility even when MCBs are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 26.4 × height 4.8 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz.
Housing strength:	6 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints
Housing strength:	9 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints
APPLICATION PARAMETERS	
1 pole – nominal currents In	20, 25, 32, 40, 50, 63, 80, 100, 125 A (class B, C)
2 pole – nominal currents In	20, 25, 32, 40, 50, 63, 80, 100, 125 A (class B, C)
3 pole – nominal currents In	20, 25, 32, 40, 50, 63, 80, 100, 125 A (class B, C)
4 pole – nominal currents In	20, 25, 32, 40, 50, 63, 80, 100, 125 A (class B, C)
1 pole + N (disconnected „neutral") – nominal currents In	20, 25, 32, 40, 50, 63, 80, 100, 125 A (class B, C) complies with requirements to connect „neutral" before the phase and disconnect after it (improves safety)
3 pole + N (disconnected „neutral") – nominal currents In	20, 25, 32, 40, 50, 63, 80, 100, 125 A (class B, C) complies with requirements to connect „neutral" before the phases and disconnect after it (improves safety)
Offered in the following class:	B,C
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It isespecially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.)
Nominal voltage:	1 P (pole) ~ 230/400 V 50/60 Hz 3 P (pole) ~ 400 V 50/60 Hz
Max. pre-inserted fuse:	150 A gG (>30 kA)
Accessories:	signalization contacts, under voltage releases, over voltage releases
Ambient temperature:	- 30° C to +60° C (- 5° C to +40° C pursuant to CSN EN 60898)
Calibration temperature:	+30°C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes

Concurrent connection of all phases by multi-module elements (suitable for motor starts)	yes		
Operating at 110 V AC:	yes		
Complies with utility companies requirements for disassembly resistance	yes		
Complies with utility companies requirements for 3 pole designs to not be able to switch-on MCB without a phase:	yes		
On/off levers:	for an good overview in switchboards, we standardly supply MCBs with nominal current values that have colour coded levers, in compliance with the liners of plug-type fuses.		
	20 A		**blue**
	25 A		**yellow**
	32 A		**purple**
	40 A		**black**
	50 A		**white**
	63 A		**copper-brown**
	80 A		**silver**
	100 A		**red**
	125 A		**yellow**
	May also be supplied with only black levers.		**black**
OPERATING PARAMETERS			
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)		
Testing:	each device, during manufacturing		
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)		
Mechanical working life:	>= 20 000 cycles (on and off)		
Electrical working life:	>= 20 000 cycles (on and off)		
Manufactured pursuant to standards:	CSN EN 60947		
Warranty	**3 YEARS**		
USER AND COMMERCIAL PARAMETERS			
Fault signalization	lever middle position		
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims		
Valid patents (amount):	yes (2)		
Description – patent 1:	extinguishing chamber		
Description – patent 2:	tripping mechanism		
Storage temperature:	– 40°C up to + 85°C		
Industrial protection:	the MCB is a protected industrial design		
Delivery time on working days:	within 48 hours		

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 30J		
Order code	**Description**	**Pieces/box**
	1.5 pole (30 kA), class: B	
20-1020B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P B 20A	1
20-1025B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P B 25A	1
20-1032B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P B 32A	1
20-1040B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P B 40A	1
20-1050B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P B 50A	1
20-1063B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P B 63A	1
20-1080B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P B 80A	1
20-10100B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P B 100A	1
20-10125B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 1P B 125A	1
	1.5 pole (30 kA), class: C	
20-1020C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P C 20A	1
20-1025C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P C 25A	1
20-1032C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P C 32A	1
20-1040C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P C 40A	1
20-1050C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P C 50A	1
20-1063C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P C 63A	1
20-1080C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P C 80A	1
20-10100C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P C 100A	1
20-10125C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 1P C 125A	1
	2× 1.5 pole (30 kA), class: B	
20-2020B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P B 20A	1
20-2025B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P B 25A	1
20-2032B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P B 32A	1
20-2040B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P B 40A	1
20-2050B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P B 50A	1
20-2063B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P B 63A	1
20-2080B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P B 80A	1
20-20100B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P B 100A	1
20-20125B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 2P B 125A	1
	2× 1.5 pole (30 kA), class: C	
20-2020C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P C 20A	1
20-2025C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P C 25A	1
20-2032C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P C 32A	1
20-2040C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P C 40A	1
20-2050C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P C 50A	1
20-2063C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P C 63A	1
20-2080C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P C 80A	1
20-20100C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 2P C 100A	1
20-20125C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 2P C 125A	1
	3× 1.5 pole (30 kA), class: B	
20-3020B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P B 20A	1
20-3025B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P B 25A	1
20-3032B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P B 32A	1
20-3040B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P B 40A	1
20-3050B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P B 50A	1
20-3063B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P B 63A	1
20-3080B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P B 80A	1
20-30100B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P B 100A	1
20-30125B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 3P B 125A	1

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 30J		
Order code	**Description**	**Pieces/box**
3× 1.5 pole (30 kA), class: C		
20-3020C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P C 20A	1
20-3025C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P C 25A	1
20-3032C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P C 32A	1
20-3040C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P C 40A	1
20-3050C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P C 50A	1
20-3063C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P C 63A	1
20-3080C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P C 80A	1
20-30100C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P C 100A	1
20-30125C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 3P C 125A	1
4× 1.5 pole (30 kA), class: B		
20-4020B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P B 20A	1
20-4025B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P B 25A	1
20-4032B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P B 32A	1
20-4040B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P B 40A	1
20-4050B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P B 50A	1
20-4063B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P B 63A	1
20-4080B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P B 80A	1
20-40100B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P B 100A	1
20-40125B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 4P B 125A	1
4× 1.5 pole (30 kA), class: C		
20-4020C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P C 20A	1
20-4025C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P C 25A	1
20-4032C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P C 32A	1
20-4040C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P C 40A	1
20-4050C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P C 50A	1
20-4063C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P C 63A	1
20-4080C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P C 80A	1
20-40100C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 4P C 100A	1
20-40125C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 4P C 125A	1
2× 1.5 module design, 1P + N (30 kA), class B		
20-1N20B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N B 20A	1
20-1N25B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N B 25A	1
20-1N32B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N B 32A	1
20-1N40B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N B 40A	1
20-1N50B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N B 50A	1
20-1N63B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N B 63A	1
20-1N80B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N B 80A	1
20-1N100B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N B 100A	1
20-1N125B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 1P+N B 125A	1
2× 1.5 module design, 1P + N (30 kA), class C		
20-1N20C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N C 20A	1
20-1N25C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N C 25A	1
20-1N32C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N C 32A	1
20-1N40C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N C 40A	1
20-1N50C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N C 50A	1
20-1N63C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N C 63A	1
20-1N80C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N C 80A	1
20-1N100C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 1P+N C 100A	1
20-1N125C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 1P+N C 125A	1

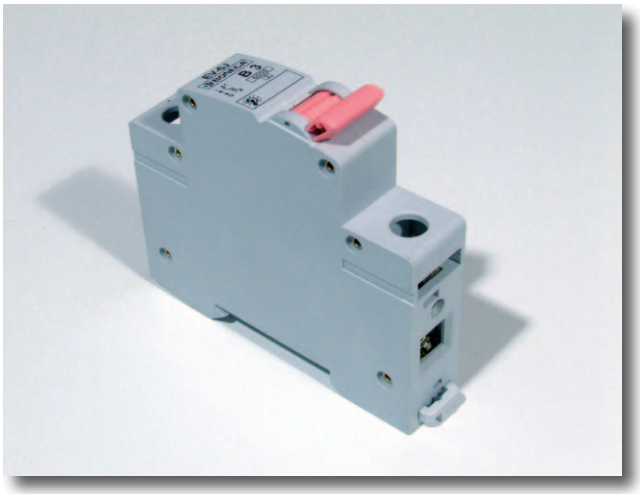
MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 30J		
Order code	**Description**	**Pieces/box**
4× 1.5 module design, 1P + N (30 kA), class B		
20-3N20B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N B 20A	1
20-3N25B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N B 25A	1
20-3N32B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N B 32A	1
20-3N40B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N B 40A	1
20-3N50B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N B 50A	1
20-3N63B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N B 63A	1
20-3N80B-PEP-3 0J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N B 80A	1
20-3N100B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N B 100A	1
20-3N125B-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 3P+N B 125A	1
4× 1.5 module design, 1P + N (30 kA), class C		
20-3N20C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N C 20A	1
20-3N25C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N C 25A	1
20-3N32C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N C 32A	1
20-3N40C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N C 40A	1
20-3N50C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N C 50A	1
20-3N63C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N C 63A	1
20-3N80C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N C 80A	1
20-3N100C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (30 kA) 3P+N C 100A	1
20-3N125C-PEP-30J	Miniature Circuit Breakers (MCB) BONEGA® PEP-30J (25 kA) 3P+N C 125A	1

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA® EV-6J (6 KA)

(rupturing capacity 6 kA)

up to 40 A, class B,C

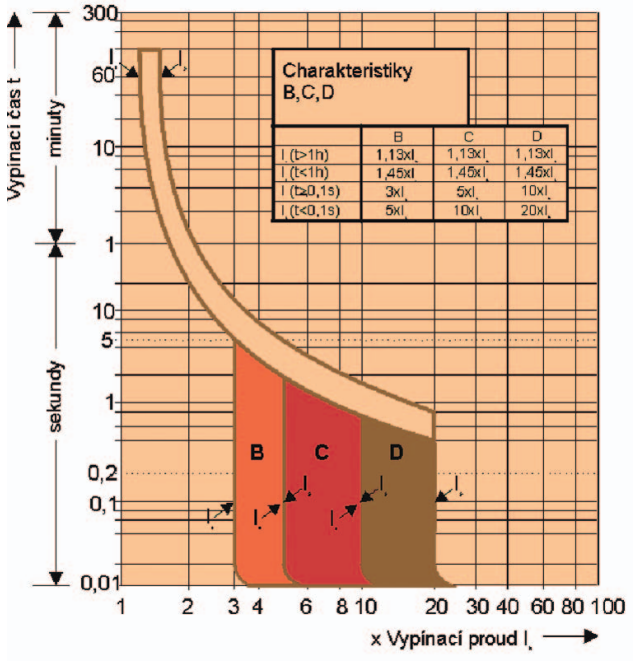
„Economic series“



3 years warranty

CERTIFICATES

CE



	B	C	D
I (t>1h)	1,13xI	1,13xI	1,13xI
I (t<1h)	1,45xI	1,45xI	1,45xI
I (t≥0,1s)	3xI	5xI	10xI
I (t<0,1s)	5xI	10xI	20xI

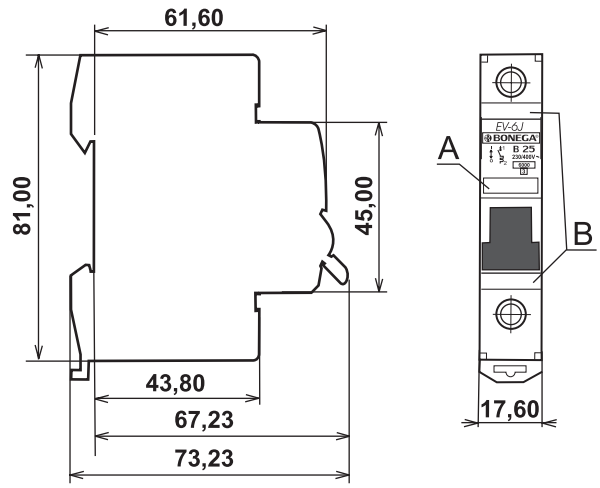
Legend:

I1, I2 : Overload protection (thermal tripping)

I4, I5 : Short-circuit protection (electromagnetic tripping)

Detailed information including diagrams and oscillograms can be found on [www.bonega.cz.](http://www.bonega.cz)

The height of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
The height of the upper supporting section of the terminal, from the DIN strip is 19 mm.



Its exceptionally small size (especially a size of only 81 mm) counts as one of the smallest in the world:

- the total depth from the DIN rail holder, incl. lever in its off position, is 72.23 mm
- the total depth from the DIN strip, incl. lever in its off position, is 67.23 mm
- total depth from the DIN strip up to the surface is 61.6 mm
- total depth from the DIN strip up to the terminal surface is 43.8 mm
- total height of the body is 81 mm + protruding DIN rail holder in its working position: 5.2 mm
- the height of the controlling part is 45 mm
- the depth of the upper supporting section of the terminal, from the DIN strip is 19.0 mm.
- the depth of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
- module width 17.6 mm
- top user label (A): width 15.4 x height 5.4 mm
- bottom and top installation label (B) width 17.6 x height 5.7 mm

This means that there is more available space for leading and connecting conductors in the switchboard. This feature is highly appreciated when using these Miniature Circuit Breakers (MCB) in small plastic apartment switchboards.

SAFETY PARAMETERS	
Rupturing capacity pursuant to CSN EN 60898 at 230/400V AC	6 kA (nominal short-circuit and operating) up to 40A of the nominal current, class C
Resistance to phase-to-phase short-circuits:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the the MCB (higher operator protection)	IP 20 for the MCB itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in MCBs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions
MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
MCB fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the MCB has an arresting mechanism located on the bottom side of the MCB to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	MCBs can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism

Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 2× (8.2 × 7.8 mm) = **63 mm²** • standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3,4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the MCB (it is generally recommended to connect the MCBs using a fork busbar from the top, to a separate screw terminal, because this prevents the MCB from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the MCB can be written on, or a prior prepared self-adhesive label can be used)
Mounting label:	on the front side, in two places = good visibility even when MCBs are placed in various heights (by the screw holes)
Housing strength:	6 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints
APPLICATION PARAMETERS	
1 pole – nominal currents In	1, 2, 3, 4, 6, 10, 13, 15, 16, 20, 25, 32, 40 (class B, C)
3 pole – nominal currents In	1, 2, 3, 4, 6, 10, 13, 15, 16, 20, 25, 32, 40 (class B, C)
Offered in the following class:	B, C with fixed settings
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.)
Nominal voltage:	1 P (pole) ~ 230/400 V 50/60 Hz 3 P (pole) ~ 400 V 50/60 Hz
Max. pre-inserted fuse	40 A gG (>6 kA)
Ambient temperature:	- 30°C to +60°C (- 5 °C to +40 °C pursuant to CSN EN 60898)
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)

Operational at 50 and 60 Hz:	yes
Complies with utility companies requirements for disassembly resistance	yes
Complies with utility companies requirements for 3 pole designs to not be able to switch-on MCB without a phase	yes
Using a pin busbar, connectible with other MCBs (rupturing capacity 10 kA) (possible small bending of strip)	suitable for ABB S 201 M, BONEGA-EV-10J, CHINT NB1-63, MERLIN GERIN C60H multi 9, SEZ RI61, with slight bend of pin busbar contact with Doepke DLS5, FELTEN, GEYER EC 110 BB, MOELLER PL7, with longer contacts even with OEZ LSN
Using a fork busbar connectible with other MCBs (rupturing capacity 10 kA) (possible small bending of strip)	suitable for BONEGA-PEP-10J, CHINT NB1-63, SEZ RI61 and with bent fork contacts with Doepke DLS5, FELTEN, GEYER EC 110 BB, MOELLER PL7
Using a pin busbar, connectible with other MCBs with a 6 kA breaking capacity (possible small bending of strip)	suitable for Miniature Circuit Breakers (MCB) BONEGA PEP-6J, SEZ PRe61, with bent pin busbar contact with, FELTEN, KANIA C45, LEGRAND 032 68, MERLIN GERIN Domae, MOELLER PL6, SCHRACK BF098110, and with longer contacts even with OEZ LSE, SIEMENS 5SX21
Using a fork busbar connectible with other MCBs with a 6 kA breaking capacity (possible small bending of strip)	suitable for Miniature Circuit Breakers (MCB) BONEGA PEP-6J, SEZ PRe61 and with bent fork contacts with HAGER MC 110A, LEGRAND 032 68, MERLIN GERIN Domae, FELTEN, MOELLER PL6
OPERATING PARAMETERS	
Testing:	each device, during manufacturing
Mechanical working life:	>= 8 000 cycles (on and off)
Electrical working life:	>= 6 000 cycles (on and off)
Manufactured pursuant to standards:	CSN EN 60898
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Storage temperature:	– 40°C up to + 85°C
Delivery time on working days:	within 48 hours

COLOUR LEVERS:				
For a better overview in switchboards, we standardly supply MCBs with nominal current values that have colour coded levers, in compliance with the liners of plug-type fuses.	0.2 A – 1.6 A	**black**	16 A	**grey**
	2 A	**pink**	20 A	**blue**
	4 A	**brown**	25 A	**yellow**
	6 A	**green**	32 A	**purple**
	8 A	**light-green**	40 A	**black**
	10 A	**red**	50 A	**white**
	13 A	**sand-brown**	63 A	**copper-brown**
May also be supplied with only black levers.				

PLANNING SPECIFICATIONS										
Nominal current Miniature Circuit Breakers (MCB) (A)	Internal resistance (mOhm)	Power loss (W)	Maximum loop impedance (Ohm)			Thermal correction of nominal currents				
			Char. B	Char. C	Char. D	Ambient temp. 20°C	Ambient temp. 30°C	Ambient temp. 40°C	Ambient temp. 50°C	Ambient temperature 60°C
1	1215.69	1.24	46.20	25.70	14.40	1.05	1	0.95	0.90	0.85
2	343.28	1.38	21.60	12.02	6.73	2.08	2	1.92	1.84	1.74
3	128.09	1.15	16.90	9.40	5.26	3.18	3	2.82	2.61	2.37
4	105.53	1.68	10.68	5.94	3.33	4.24	4	3.76	3.52	3.24
6	29.22	1.08	7.14	3.97	2.22	6.24	6	5.76	5.52	5.30
10	14.49	1.55	3.87	2.15	1.21	10.60	10	9.30	8.60	7.80
16	10.00	2.56	2.24	1.25	0.70	16.80	16	15.20	14.20	13.30
20	8.02	3.32	1.55	0.86	0.48	21.00	20	19.00	17.80	16.80
25	3.11	2.00	2.43	1.35	0.76	26.20	25	23.70	22.20	20.70
32	3.05	3.17	1.27	0.71	0.40	33.50	32	30.40	28.40	27.50
40	2.16	3.40	0.60	0.33	0.19	42.00	40	38.00	35.60	33.20

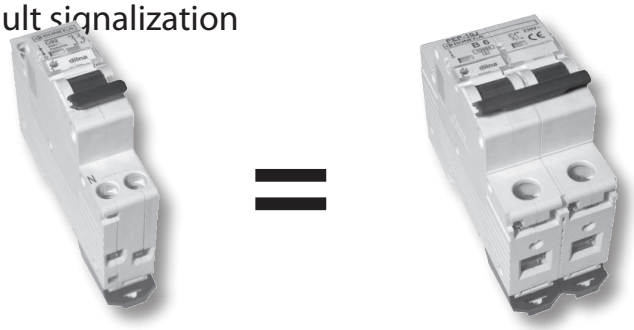
MINIATURE CIRCUIT BREAKERS (MCB) BONEGA EV- 6J		
Order code	**Description**	**Pieces/box**
	Single module, class: B	
01-101202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 1A	12
01-102202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 2A	12
01-103202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 3A	12
01-104202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 4A	12
01-106202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 6A	12
01-110202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 10A	12
01-113202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 13A	12
01-115202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 15A	12
01-116202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 16A	12
01-120202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 20A	12
01-125202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 25A	12
01-132202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 32A	12
01-140202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P B 40A	12
	Three module, class: B	
01-301202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 1A	4
01-302202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 2A	4
01-303202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 3A	4
01-304202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 4A	4
01-306202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 6A	4
01-310202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 10A	4
01-313202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 13A	4
01-315202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 15A	4
01-316202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 16A	4
01-320202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 20A	4
01-325202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 25A	4
01-332202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 32A	4
01-340202B EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P B 40A	4
	Single module, class: C	
01-101202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 1A	12
01-102202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 2A	12
01-103202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 3A	12
01-104202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 4A	12
01-106202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 6A	12
01-110202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 10A	12
01-113202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 13A	12
01-115202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 15A	12
01-116202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 16A	12
01-120202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 20A	12
01-125202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 25A	12
01-132202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 32A	12
01-140202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 1P C 40A	12
	Three module, class: C	
01-301202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 1A	4
01-302202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 2A	4
01-303202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 3A	4
01-304202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 4A	4
01-306202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 6A	4
01-310202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 10A	4
01-313202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 13A	4
01-315202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 15A	4
01-316202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 16A	4
01-320202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 20A	4
01-325202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 25A	4
01-332202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 32A	4
01-340202C EV	Miniature Circuit Breakers (MCB) BONEGA® EV-6J (6 kA) 3P C 40A	4

Single module Miniature Circuit Breakers (MCB) with „N“ conductor disconnecter BONEGA PEP-6DPN (6 kA, 6-32 A)

(rupturing capacity 6 kA)

up to 32 A, class B,C

with fault signalization



D P N **1 P + N**

3 years warranty

2 Czech patents

- The DPN BONEGA PEP Miniature Circuit Breakers (MCB) has increased the world's maximum rupturing capacity from 4.5 to 6 kA (pursuant to CSN EN 60898).
- They are replacing the currently used two module devices 1P+N, saving room in the switchboard. They can also be installed into smaller switchboard boxes.
- These devices preserve the features of worldwide unique BONEGA PEP Miniature Circuit Breakers (MCB) – e.g. fault signalization, quick installation, high reliability and much more.
- The DPN is a more economic option then two module devices.

20 06

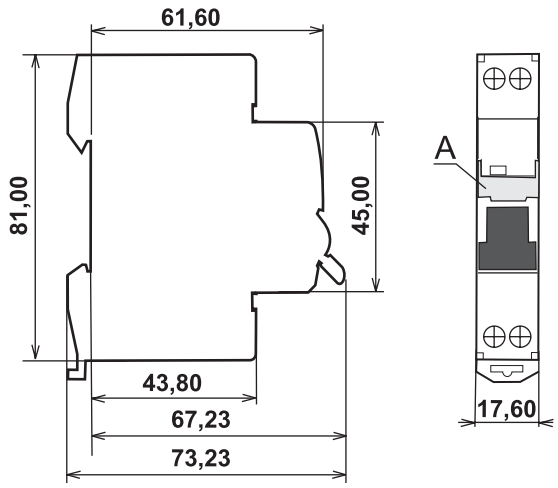
ZLATÝ AMPÉR

ONE OF 27 NOMINATED PRODUCTS FROM A TOTAL OF 738 EXHIBITIONERS

CERTIFICATES

KEMA

CE



A – user label directly on DPN housing

The height of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
The height of the upper supporting section of the terminal, from the DIN strip is 19 mm.

Its exceptionally small size (especially a size of only 81 mm) counts as one of the smallest in the world.

- the total depth from the DIN rail holder, incl. lever in its off position, is 72.23 mm
- the total depth from the DIN strip, incl. lever in its off position, is 67.23 mm
- total depth from the DIN strip up to the surface is 61.6 mm
- total depth from the DIN strip up to the terminal surface is 43.8 mm
- total height of the body is 81 mm + protruding DIN rail holder in its working position: 5.2 mm
- the height of the controlling part is 45 mm
- the depth of the upper supporting section of the terminal, from the DIN strip is 19.0 mm.
- the depth of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
- module width
    - 1P: 17.6 mm
    - 2P: 35.2 mm
    - 3P: 52.8 mm
    - 4P: 70.4 mm
- top user label (A):
    - 1P: width 15.4 × height 6.2 × depth 0.3 mm
    - 2P: width 33.1 × height 6.2 × depth 0.3 mm
    - 3P: width 50.6 × height 6.2 × depth 0.3 mm
    - 4P: width 68.4 × height 6.2 × depth 0.3 mm
- bottom and top installation label (B) width 17.6 × height 4.8 × depth 0.5 mm

This means that there is more available space for leading and connecting conductors in the switchboard. This feature is highly appreciated when using these Miniature Circuit Breakers (MCB) in small plastic apartment switchboards.

SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	under 10 ms, at maximum load under 6 kA rupturing capacity
Rupturing capacity (nominal short-circuit and operating) pursuant to CSN EN 60898 at 230/400V AC, up to a value of the nominal current and class:	for PEP 6DPN – 6 kA (nominal short-circuit and operating) up to 40 A in class B, C
Power limiting class:	3 up to 32 A of nominal current in class B, C
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
All side protection level for the MCB (higher operator protection):	IP 20 for the MCB itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in MCBs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions

MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
MCB fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the MCB has an arresting mechanism located on the bottom side of the MCB to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	MCBs can be pulled out of a row of mutually interconnected devices, by a pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 4× (5.1 × 6.5 mm) = **33 mm²** • standard connectivity: 16 mm² solid conductor, 11 mm² stranded conductor • length of screw thread in u-clamp terminal is **2 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	2 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the MCB can be written on, or a prior prepared label can be used) the label is located under a clear hinged window, dimensions: • 1P: width 15.4 × height 6.2 × depth 0.3 mm material: standard office paper or self-adhesive labels, prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when MCBs are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 17.6 × height 4.8 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz.
Housing strength:	9 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints
APPLICATION PARAMETERS	
1 pole – nominal currents In	4, 6, 8, 10, 13, 16, 20, 25, 32 A (class B, C)
Offered in the following class:	B, C
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.)
Nominal voltage:	1 P (pole) ~ 230/400 V 50/60 Hz

Max. pre-inserted fuse against short-circuits:	63 A gG (>6 kA)
Accessories:	signalization contacts, under voltage releases, over voltage releases
Ambient temperature:	- 30°C to +60°C (- 5 °C to +40 °C pursuant to CSN EN 60898)
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Operating power:	0-230 V AC
Complies with utility companies requirements for disassembly resistance:	yes

OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 8 000 cycles (on and off)
Manufactured pursuant to standards:	CSN EN 60898
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
Awards:	one of 27 nominated products at Zlatý AMPER 2006
Valid patents (amount):	yes (2)
Description – patent 1:	extinguishing chamber
Description – patent 2:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the MCB is a protected industrial design
Delivery time on working days:	within 48 hours

COLOUR LEVERS:				
For a better overview in switchboards, we standardly supply MCBs with nominal current values that have colour coded levers, in compliance with the liners of plug-type fuses.	0.2 A – 1.6 A	black	13 A	sand-brown
	2 A	pink	16 A	grey
	4 A	brown	20 A	blue
	6 A	green	25 A	yellow
	8 A	light-green	32 A	purple
	10 A	red		

PLANNING SPECIFICATIONS										
Nominal current Miniature Circuit Breakers (MCB) (A)	Internal resistance (mOhm)	Power loss (W)	Maximum loop impedance (Ohm)			Thermal correction of nominal currents				
			Char. B	Char. C	Char. D	Ambient temp. 20°C	Ambient temp. 30°C	Ambient temp. 40°C	Ambient temp. 50°C	Ambient temperature 60°C
1	1215.69	1.24	46.20	25.70	14.40	1.05	1	0.95	0.90	0.85
2	343.28	1.38	21.60	12.02	6.73	2.08	2	1.92	1.84	1.74
3	128.09	1.15	16.90	9.40	5.26	3.18	3	2.82	2.61	2.37
4	105.53	1.68	10.68	5.94	3.33	4.24	4	3.76	3.52	3.24
6	29.22	1.08	7.14	3.97	2.22	6.24	6	5.76	5.52	5.30
10	14.49	1.55	3.87	2.15	1.21	10.60	10	9.30	8.60	7.80
16	10.00	2.56	2.24	1.25	0.70	16.80	16	15.20	14.20	13.30
20	8.02	3.32	1.55	0.86	0.48	21.00	20	19.00	17.80	16.80
25	3.11	2.00	2.43	1.35	0.76	26.20	25	23.70	22.20	20.70
32	3.05	3.17	1.27	0.71	0.40	33.50	32	30.40	28.40	27.50

Thermal protection – cut-off class up to 63 A; time-current						
#	Type	Testing current	Initial condition	Periods of tripping and non-tripping limits	Measured result	Notes
a	B,C,D	1,13 I_n	cold*	$t \geq 1$ h ($I_n \leq 63$ A)	may not trip	
b	B,C,D	1,45 I_n	immediately after test *a*	$t < 1$ h ($I_n \leq 63$ A)	must trip	Continuously increasing current for 5 s
c	B,C,D	2,55 I_n	cold*	1s < t < 60 s ($I_n \leq 32$ A) 1s < t < 120 s ($I_n > 32$ A)	must trip	
d	B C D	3 I_n 5 I_n 10 I_n	cold*	$t \geq 0{,}1$ s	may not trip	Current reached by switching-on auxiliary switch
e	B C D	5 I_n 10 I_n 20 I_n	cold*	$t < 0{,}1$ s	must trip	Current reached by switching-on auxiliary switch

* the term „cold“ means without previous load, at a referential calibrated temperature

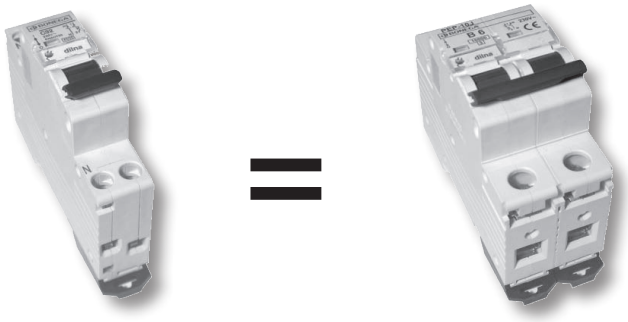
MINIATURE CIRCUIT BREAKERS (MCB) DPN BONEGA PEP		
Order code	Description	Pieces/box
One module design of DPN MCB, class B		
19-104B-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) B 4A	12
19-106B-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) B 6A	12
19-108B-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) B 8A	12
19-110B-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) B 10A	12
19-113B-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) B 13A	12
19-116B-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) B 16A	12
19-120B-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) B 20A	12
19-125B-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) B 25A	12
19-132B-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) B 32A	12
One module design of DPN MCB, class C		
19-104C-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) C 4A	12
19-106C-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) C 6A	12
19-108C-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) C 8A	12
19-110C-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) C 10A	12
19-113C-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) C 13A	12
19-116C-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) C 16A	12
19-120C-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) C 20A	12
19-125C-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) C 25A	12
19-132C-PEP-6DPN	Miniature Circuit Breakers (MCB) DPN BONEGA® PEP-6DPN (6 kA) C 32A	12

Single module Miniature Circuit Breakers (MCB) for protecting separated networks BONEGA PEP-6DPC (6 kA, 6-32 A)

(rupturing capacity 6 kA)

up to 32 A, class B,C

with fault signalization

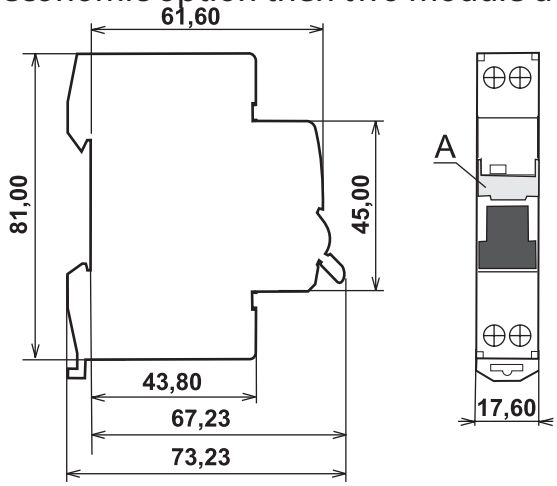


DPC = 2P MCB

3 years warranty

2 Czech patents

- Used to secure separated networks (without ⏚), e.g. behind a transformer, etc.
- It can be used to replace two module Miniature Circuit Breakers (MCB) and save room in switchboards.
- These devices preserve the features of worldwide unique BONEGA PEP Miniature Circuit Breakers (MCB) – e.g. fault signalization, quick installation, high reliability and much more.
- The DPC is a more economic option then two module devices.



A – user label directly on DPC housing

The height of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm. The height of the upper supporting section of the terminal, from the DIN strip is 19 mm.

Its exceptionally small size (especially a size of only 81 mm) counts as one of the smallest in the world.

- the total depth from the DIN rail holder, incl. lever in its off position, is 72.23 mm
- the total depth from the DIN strip, incl. lever in its off position, is 67.23 mm
- total depth from the DIN strip up to the surface is 61.6 mm
- total depth from the DIN strip up to the terminal surface is 43.8 mm
- total height of the body is 81 mm + protruding DIN rail holder in its working position: 5.2 mm
- the height of the controlling part is 45 mm
- the depth of the upper supporting section of the terminal, from the DIN strip is 19.0 mm.
- the depth of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
- module width
    - 1P: 17.6 mm
    - 2P: 35.2 mm
    - 3P: 52.8 mm
    - 4P: 70.4 mm
- top user label (A):
    - 1P: width 15.4 × height 6.2 × depth 0.3 mm
    - 2P: width 33.1 × height 6.2 × depth 0.3 mm
    - 3P: width 50.6 × height 6.2 × depth 0.3 mm
    - 4P: width 68.4 × height 6.2 × depth 0.3 mm
- bottom and top installation label (B) width 17.6 × height 4.8 × depth 0.5 mm

This means that there is more available space for leading and connecting conductors in the switchboard. This feature is highly appreciated when using these Miniature Circuit Breakers (MCB) in small plastic apartment switchboards.

SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	under 10 ms, at maximum load under 6 kA rupturing capacity
Rupturing capacity (nominal short-circuit and operating) pursuant to IEC 60947-2 at 230/400V AC, up to a value of the nominal current and class:	for PEP 6DPN – 6 kA (nominal short-circuit and operating) up to 40 A in class B, C
Category:	A
Ue	230 V AC
Uimp	4 kV
Ics	6 kA
Icu	6 kA
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
All side protection level for the MCB (higher operator protection):	IP 20 for the MCB itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in MCBs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions

MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
MCB fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the MCB has an arresting mechanism located on the bottom side of the MCB to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	MCBs can be pulled out of a row of mutually interconnected devices, by a pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 4× (5.1 × 6.5 mm) = **33 mm²** • standard connectivity: 16 mm² solid conductor, 11 mm² stranded conductor • length of screw thread in u-clamp terminal is **2 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	2 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the MCB can be written on, or a prior prepared label can be used) the label is located under a clear hinged window, dimensions: • 1P: width 15.4 × height 6.2 × depth 0.3 mm material: standard office paper or self-adhesive labels, prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when MCBs are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 17.6 × height 4.8 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz.
Housing strength:	9 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints
APPLICATION PARAMETERS	
1 pole – nominal currents In	4, 6, 8, 10, 13, 16, 20, 25, 32 A (class B, C)
Provedení v charakteristikách:	B, C
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.)

Nominal voltage:	1 P (pole) ~ 230/400 V 50/60 Hz
Max. pre-inserted fuse against short-circuits:	63 A gG (>6 kA)
Accessories:	signalization contacts, under voltage releases, over voltage releases
Ambient temperature:	- 30°C to +60°C (- 5 °C to +40 °C pursuant to CSN EN 60898)
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Operating power:	0-230 V AC
Complies with utility companies requirements for disassembly resistance:	yes

OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 8 000 cycles (on and off)
Manufactured pursuant to standards:	IEC 60947-2
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
Valid patents (amount):	yes (2)
Description – patent 1:	extinguishing chamber
Description – patent 2:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the MCB is a protected industrial design
Delivery time on working days:	within 48 hours

COLOUR LEVERS:				
For a better overview in switchboards, we standardly supply MCBs with nominal current values that have colour coded levers, in compliance with the liners of plug-type fuses.	0.2 A – 1.6 A	**black**	13 A	**sand-brown**
	2 A	**pink**	16 A	**grey**
	4 A	**brown**	20 A	**blue**
	6 A	**green**	25 A	**yellow**
	8 A	**light-green**	32 A	**purple**
	10 A	**red**		

PLANNING SPECIFICATIONS										
Nominal current Miniature Circuit Breakers (MCB) (A)	Internal resistance (mOhm)	Power loss (W)	Maximum loop impedance (Ohm)			Thermal correction of nominal currents				
			Char. B	Char. C	Char. D	Ambient temp. 20°C	Ambient temp. 30°C	Ambient temp. 40°C	Ambient temp. 50°C	Ambient temperature 60°C
1	1215.69	1.24	46.20	25.70	14.40	1.05	1	0.95	0.90	0.85
2	343.28	1.38	21.60	12.02	6.73	2.08	2	1.92	1.84	1.74
3	128.09	1.15	16.90	9.40	5.26	3.18	3	2.82	2.61	2.37
4	105.53	1.68	10.68	5.94	3.33	4.24	4	3.76	3.52	3.24
6	29.22	1.08	7.14	3.97	2.22	6.24	6	5.76	5.52	5.30
10	14.49	1.55	3.87	2.15	1.21	10.60	10	9.30	8.60	7.80
16	10.00	2.56	2.24	1.25	0.70	16.80	16	15.20	14.20	13.30
20	8.02	3.32	1.55	0.86	0.48	21.00	20	19.00	17.80	16.80
25	3.11	2.00	2.43	1.35	0.76	26.20	25	23.70	22.20	20.70
32	3.05	3.17	1.27	0.71	0.40	33.50	32	30.40	28.40	27.50

Thermal protection – cut-off class up to 63 A; time-current						
#	Type	Testing current	Initial condition	Periods of tripping and non-tripping limits	Measured result	Notes
a	B,C,D	1,13 I_n	cold*	$t \geq 1$ h ($I_n \leq 63$ A)	may not trip	
b	B,C,D	1,45 I_n	immediately after test *a*	$t < 1$ h ($I_n \leq 63$ A)	must trip	Continuously increasing current for 5 s
c	B,C,D	2,55 I_n	cold*	1s < t < 60 s ($I_n \leq 32$ A) 1s < t < 120 s ($I_n > 32$ A)	must trip	
d	B C D	3 I_n 5 I_n 10 I_n	cold*	$t \geq 0{,}1$ s	may not trip	Current reached by switching-on auxiliary switch
e	B C D	5 I_n 10 I_n 20 I_n	cold*	$t < 0{,}1$ s	must trip	Current reached by switching-on auxiliary switch

* the term „cold“ means without previous load, at a referential calibrated temperature

MINIATURE CIRCUIT BREAKERS (MCB) DPC BONEGA PEP		
Order code	Description	Pieces/box
One module design of DPC MCB, class B		
19-104B-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) B 4A	12
19-106B-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) B 6A	12
19-108B-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) B 8A	12
19-110B-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) B 10A	12
19-113B-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) B 13A	12
19-116B-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) B 16A	12
19-120B-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) B 20A	12
19-125B-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) B 25A	12
19-132B-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) B 32A	12
One module design of DPC MCB, class C		
19-104C-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) C 4A	12
19-106C-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) C 6A	12
19-108C-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) C 8A	12
19-110C-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) C 10A	12
19-113C-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) C 13A	12
19-116C-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) C 16A	12
19-120C-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) C 20A	12
19-125C-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) C 25A	12
19-132C-PEP-6DPC	Miniature Circuit Breakers (MCB) DPC BONEGA® PEP-6DPC (6 kA) C 32A	12

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA® PEP-10J-DC (10 KA)

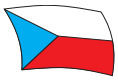
(rupturing capacity 10 kA)

up to 63 A, class B,C

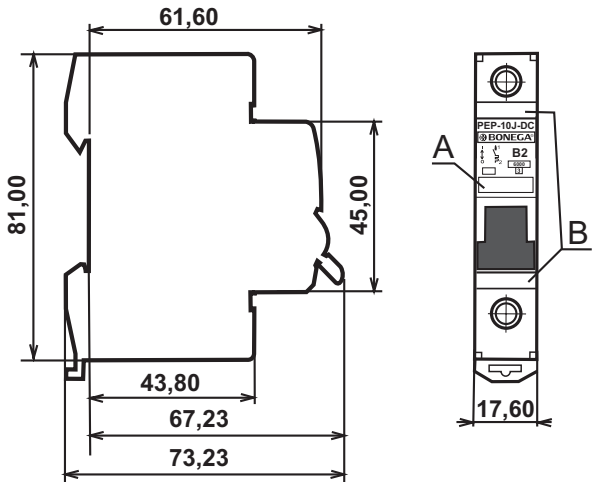
„Brings safety and protection of circuits to a new level.“

BONEGA PEP Miniature Circuit Breakers (MCB) belong to the quickest, safest and most reliable MCBs in the world.

This is only possible thanks to their exceptional technical parameters. Their unique design and construction is patented.



2 Czech patents



Detailed information including diagramsand oscillograms can be found on [www.bonega.cz.](http://www.bonega.cz)

The height of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm. The height of the upper supporting section of the terminal, from the DIN strip is 19 mm.

Its exceptionally small size (especially a size of only 81 mm) counts as one of the smallest in the world.

- the total depth from the DIN rail holder, incl. lever in its off position, is 72.23 mm
- the total depth from the DIN strip, incl. lever in its off position, is 67.23 mm
- total depth from the DIN strip up to the surface is 61.6 mm
- total depth from the DIN strip up to the terminal surface is 43.8 mm
- total height of the body is 81 mm + protruding DIN rail holder in its working position: 5.2 mm
- the height of the controlling part is 45 mm
- the depth of the upper supporting section of the terminal, from the DIN strip is 19.0 mm.
- The depth of the supporting section of the terminal for mounting a fork busbar, from the DIN strip is 33.0 mm
- module width
  - 1P: 17.6 mm
  - 2P: 35.2 mm
- top user label (A):
  - 1P: width 15.4 × height 6.2 × depth 0.3 mm
  - 2P: width 33.1 × height 6.2 × depth 0.3 mm
- bottom and top installation label (B) width 17.6 × height 4.8 × depth 0.5 mm

This means that there is more available space for leading and connecting conductors in the switchboard. This feature is highly appreciated when using these Miniature Circuit Breakers (MCB) in small plastic apartment switchboards.

SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	from 3 to 5 ms, at maximum load under 10 kA rupturing capacity (practically as fast as classic fuse tripping speeds)
Rupturing capacity (nominal short-circuit and operating), up to a value of the nominal current and class (Icn):	for PEP 10J-DC (10 kA) – nominal short-circuit and operating) up to 63A in class B, C
Power limiting class:	3 up to 63A of nominal current in class B, C
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Nominal impulse-withstand voltage (Uimp):	6,2 kV
All side protection level for the MCB (higher operator protection):	IP 20 for the MCB itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in MCBs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions

MOUNTING PARAMETERS	
Conductor connection ⊕ or ⊖:	**IT IS NECESSARY** to abide polarity
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
MCB fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the MCB has an arresting mechanism located on the bottom side of the MCB to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	MCBs can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 2× (8.2 × 7.8 mm) = **63 mm²** • Standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3,4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the MCB (it is generally recommended to connect the MCBs using a fork busbar from the top, to a separate screw terminal, because this prevents the switch from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)

Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Front user description:	area on the front side of the device (the plastic of the MCB can be written on, or a prior prepared label can be used) the label is located under a clear hinged window, dimensions: • 1P: width 15.4 × height 6.2 × depth 0.3 mm • 2P: width 33.1 × height 6.2 × depth 0.3 mm mm material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when MCBs are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 17.6 × height 4.8 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz.
Housing strength:	9 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints
APPLICATION PARAMETERS	
1 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C)
2 pole – nominal currents In	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 23, 25, 32, 40, 50, 63 A (class B, C)
Offered in the following class:	B, C
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 4 In through 6 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 8 In through 12 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.)
Nominal voltage:	1 P (pole) = 250 V DC ⎓ 2 P (pole) = 500 V DC ⎓
Max. pre-inserted fuse against short-circuits:	100 A gG (>10 kA)
Accessories:	signalization contacts, under voltage releases, over voltage releases
Ambient temperature:	- 30°C to +60°C (- 5 °C to +40 °C pursuant to CSN EN 60898)
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Simultaneous switching of all phases by multi-module elements	yes
Complies with utility companies requirements for disassembly resistance:	yes

OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 20 000 cycles (on and off)
Manufactured pursuant to standards:	ČSN EN 60947-2
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
Valid patents (amount):	yes (2)
Description – patent 1:	extinguishing chamber
Description – patent 2:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the MCB is a protected industrial design
Delivery time on working days:	within 48 hours

COLOUR LEVERS:				
For a better overview in switchboards, we standardly supply MCBs with nominal current values that have colour coded levers, in compliance with the liners of plug-type fuses.	0.2 A – 1.6 A	black	16 A	grey
	2 A	pink	20 A	blue
	4 A	brown	25 A	yellow
	6 A	green	32 A	purple
	8 A	light-green	40 A	black
	10 A	red	50 A	white
	13 A	sand-brown	63 A	copper-brown
May also be supplied with only black levers.				

PLANNING SPECIFICATIONS									
Nominal current Miniature Circuit Breakers (MCB) (A)	Internal resistance (mOhm)	Power loss (W)	Maximum loop impedance (Ohm)		Thermal correction of nominal currents				
			Char. B	Char. C	Ambient temp. 20°C	Ambient temp. 30°C	Ambient temp. 40°C	Ambient temp. 50°C	Ambient temperature 60°C
1	1215.69	1.24	46.20	25.70	1.05	1	0.95	0.90	0.85
2	343.28	1.38	21.60	12.02	2.08	2	1.92	1.84	1.74
3	128.09	1.15	16.90	9.40	3.18	3	2.82	2.61	2.37
4	105.53	1.68	10.68	5.94	4.24	4	3.76	3.52	3.24
6	29.22	1.08	7.14	3.97	6.24	6	5.76	5.52	5.30
10	14.49	1.55	3.87	2.15	10.60	10	9.30	8.60	7.80
16	10.00	2.56	2.24	1.25	16.80	16	15.20	14.20	13.30
20	8.02	3.32	1.55	0.86	21.00	20	19.00	17.80	16.80
25	3.11	2.00	2.43	1.35	26.20	25	23.70	22.20	20.70
32	3.05	3.17	1.27	0.71	33.50	32	30.40	28.40	27.50
40	2.16	3.40	0.60	0.33	42.00	40	38.00	35.60	33.20
50	1.65	4.20	0.71	0.39	52.50	50	47.40	44.00	40.50
63	1.68	6.30	0.47	0.26	66.20	63	58.00	54.20	49.20

Thermal protection – cut-off class up to 63 A; time-current						
#	Type	Testing current	Initial condition	Periods of tripping and non-tripping limits	Measured result	Notes
a	B,C	1,05 I_n	cold*	$t \geq 1$ h ($I_n \leq 63$ A) $t \geq 2$ h ($I_n > 63$ A)	may not trip	
b	B,C	1,3 I_n	immediately after test *a*	$t < 1$ h ($I_n \leq 63$ A) $t < 2$ h ($I_n > 63$ A)	must trip	Continuously increasing current for 5 s
c	B,C	2 I_n	cold*	10s < t < 60 s ($I_n \leq 63$ A) 20s < t < 120 s ($I_n > 63$ A)	must trip	
d	B C	4 I_n 8 I_n	cold*	$t \geq 0,2$ s	may not trip	Current reached by switching-on auxiliary switch
e	B C	6 I_n 12 I_n	cold*	$t < 0,2$ s	must trip	Current reached by switching-on auxiliary switch

* the term „cold“ means without previous load, at a referential calibrated temperature

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J -DC		
Order code	**Description**	**Pieces/ box**
Single module, class: B (4In up to 6In)		
30-1001B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 1A	12
30-1002B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 2A	12
30-1003B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 3A	12
30-1004B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 4A	12
30-1006B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 6A	12
30-1008B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 8A	12
30-1010B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 10A	12
30-1013B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 13A	12
30-1015B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 15A	12
30-1016B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 16A	12
30-1020B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 20A	12
30-1023B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 23A	12
30-1025B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 25A	12
30-1032B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 32A	12
30-1040B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 40A	12
30-1050B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 50A	12
30-1063B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) B 63A	12
Single module, class: C (8In to 12In)		
30-1001C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 1A	12
30-1002C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 2A	12
30-1003C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 3A	12
30-1004C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 4A	12
30-1006C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 6A	12
30-1008C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 8A	12
30-1010C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 10A	12
30-1013C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 13A	12
30-1015C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 15A	12
30-1016C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 16A	12
30-1020C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 20A	12
30-1023C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 23A	12
30-1025C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 25A	12
30-1032C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 32A	12
30-1040C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 40A	12
30-1050C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 50A	12
30-1063C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 1P (250 V DC) C 63A	12
Two module, class: B (4In up to 6In)		
30-2001B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 1A	6
30-2002B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 2A	6
30-2003B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 3A	6
30-2004B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 4A	6
30-2006B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 6A	6
30-2008B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 8A	6
30-2010B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 10A	6
30-2013B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 13A	6
30-2015B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 15A	6
30-2016B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 16A	6
30-2020B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 20A	6
30-2023B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 23A	6
30-2025B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 25A	6
30-2032B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 32A	6
30-2040B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 40A	6
30-2050B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 50A	6
30-2063B-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) B 63A	6

MINIATURE CIRCUIT BREAKERS (MCB) BONEGA PEP- 10J -DC		
Order code	**Description**	**Pieces/ box**
Two module, class: C (8In to 12In)		
30-2001C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 1A	6
30-2002C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 2A	6
30-2003C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 3A	6
30-2004C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 4A	6
30-2006C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 6A	6
30-2008C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 8A	6
30-2010C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 10A	6
30-2013C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 13A	6
30-2015C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 15A	6
30-2016C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 16A	6
30-2020C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 20A	6
30-2023C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 23A	6
30-2025C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 25A	6
30-2032C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 32A	6
30-2040C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 40A	6
30-2050C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 50A	6
30-2063C-PEP-10J-DC	Miniature Circuit Breakers (MCB) BONEGA® PEP-10J-DC (10 kA) 2P (500 V DC) C 63A	6

Residual current devices (RCD) – general information

Residual current devices (RCD) BONEGA® series PEP-10P63 up to 63A are suited for installation into electrical switchboards, mounted on 35 mm DIN rails or on flat surfaces using screws.

In a designed interconnection with other BONEGA PEP series devices, it creates an ideal combination of devices for a modern wiring system.

It is possible to connect various accessories, like voltage and low-voltage releases or auxiliary signalization contacts, etc.

They are marked with the BONEGA® logo and manufactured compliant to standards CSN EN 61008-1 (chapter 3.3.4).

They are manufactured as single phase (two modules) or as three phase (four modules). The PEP-10P63 and PEP-10P100 series (single phase and three phase) are designed as magnetic devices, so they are not dependent on mains voltage. They remain operational even after their power supply has been interrupted.

PEP-10P63e series (single phase) and PEP-10P100 series are designed as electric, so they are dependent on mains voltage. They are not operational even their power supply has been interrupted.

1. Residual current device categories, breaking speed priority:

The CSN EN 61008-1 standard divides Residual current devices (RCD) into „general use“ and „S“ types:

Table of normalized break speed values and limit inaction times:

Type	In (nominal current)	IΔn (residual current)	Normalized break speed values in ms and limit inaction times in ms with IΔn residual current and its multiples				
			IΔn	2IΔn	5IΔn	500A	
General use	any value	any value	300	150	40	40	maximum break time
S	>= 25 A	> 30 mA	500	200	150	150	maximum break time
			130	60	50	40	minimum inoperative time

As you can see in the table, the general use type only has defined maximum break times. The S type defines maximum and minimum break times. The standard tries to adapt to real life needs, where it is sometimes more suitable to install Residual current devices (RCD), which a„delayed“ reaction speed to increased residual current. Such a RCD does not react to insignificant or short impulses in the circuit. This does no unnecessarily break the circuit. However these delayed times do reflect safety requirements to reliably protect live and insulated parts.

The electronics, which control such delay are often assisted with various filters of disruptive elements. This could e.g. be unwanted direct current elements in altering current circuits. Often appliances like washing machines, LCD TVs, etc., being the pulse source. Electric companies have registered an increasing number of random reactions of general use RCDs. In most cases, the problem is not a fault of the RCD, but a new appliance that generates unwanted elements. This is why today, it is not an exception for appliance manufacturers (washing machines, etc.) to include a requirement, in their instruction manuals, to have a S type residual current device installed.

BONEGA S type Residual current devices (RCD) are designed to be independent from mains voltage, i.e. they are designed as magnetic RCDs. The time delay is provided by an electronic section, which is assisted by various filters of disruptive elements.

Type „S" BONEGA® PEP-10P63-S has an actual break time of approx. 400 ms, whereas the standard (see previous table) requires for IΔn a maximum break time of 500 ms and a minimum inaction time of 130 ms. We tried to design this residual current device to have the highest possible maximum break time (in comparison to the general use RCD). It will be very „gentle" to the circuits.

Some manufacturers continue to divide Residual current devices (RCD) as „G" devices compliant with ÖVE E 8001-1, and further on as A, R, S, U etc. devices, where types G and R have a minimum inaction time of 10 ms and types S and U have a minimum inaction time of 40 ms. In a matter of fact, this is just a more detailed categorization of the S type, compliant with standard CSN EN 61008-1.

Type „general use" (standardly known in the field as type AC ≈, compliant with the standard, requires for IΔn a maximum break time of up to 300 ms (see previous table), in practice, manufacturers stated a break time of approx. 200 ms.

The break time of magnetic Residual current devices (RCD) BONEGA series PEP-10P ranges, in comparison to this standard, as follows:

- 30 mA in the range of 6 ms to 30 ms
- 100 mA in the range of 15 ms to 40 ms
- 300 mA in the range of 15 ms to 45 ms

In terms of reaction speeds, BONEGA Residual current devices (RCD) are much more sensitive to higher residual currents, i.e. very safe.

The measured speeds of magnetic residual current device tripping depends mostly on two factors (if we omit important mechanical influences like friction of the tripping mechanism, etc.):

a) location of the sinusoid of altering current at the time a break impulse is registered

The sinusoid progress under our 50 Hz frequency is 20 ms. If the peak of the sine wave is based on a value of 40 mA and the tripping value of the RCD is set to 30 mA, and the trip impulse is located in the second half of the first (top) half-wave, then the coil will react to the impulse moment in the second (bottom) half-wave. Between this time, a period of up to 10 ms may go by. This means that such a large difference can be obtained during two successive measurements of a single residual current device !!!

b) current size, which the trip coil is able to induce

CSN EN 61 008, defining Residual current devices (RCD), clearly defines the maximum break time limits in dependence to the IN current :

for 1 × IN, time necessary to break is a maximum of 0.3 s, which is 300 ms

for 2 × IN, time necessary to break is a maximum of 0.1, which is 100 ms

.....

.....

for 5 × IN, time necessary to break is a maximum of 40 ms

This means that for a residual current device of 30 mA the following applies:

for 1× IN – 30mA = 30 mA, maximum of 300 ms

for a case of 5× IN – 30 mA = 150 mA, the maximum is 40 ms.

The standard takes into account cases of delay, as described in point a), when a maximum fivefold load is assigned a time of up to 40 ms. It takes into account induced coils in the same way, when IN may reach up to 300 ms values.

All values required by the standard, define the break speeds to be more than sufficient to protect human life or persons with increased sensitivity.

2. Residual current device categories, tripping value priority:

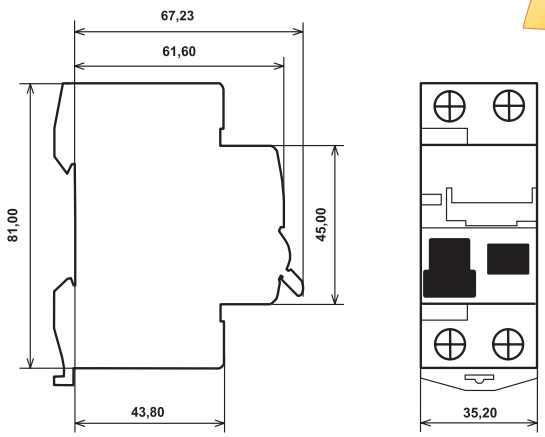
The critical current value endangering a persons life is 0.1 A (i.e. 100 mA). Some people are able to withstand even higher values than 100 mA. In such cases, the time of exposure, resistance, etc. is important. To protect human life, it is necessary to use Residual current devices (RCD) with a 30 mA value and depending on experience with various environments (humidity, temperature, etc.) we select lower values. From experience we know that if we select a 22 mA value, then during an inspection in a new, uninhabited and still humid apartment, i.e. in the switchboard (that would eventually dry itself during operation), we can measure in extreme cases even 7 mA more.

Nominal current	Tripping values should be compliant with the standard and range from 50% to 100%, i.e.	Magnetic residual current device BONEGA P-E-P
30 mA	15 mA – 30 mA	15 mA – 22 mA
100 mA	50 mA – 100 mA	55 mA – 85 mA
300 mA	150 mA – 300 mA	155 mA – 285 mA

Magnetic residual current device (operationally independent from mains voltage) BONEGA® PEP-10P63 (10 kA, 6-63 A)

3 years warranty

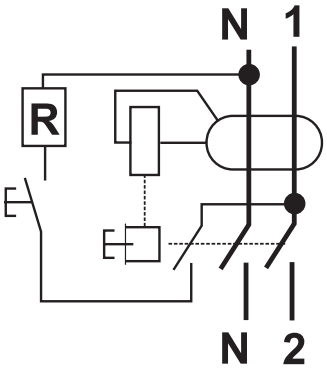
with fault signalization

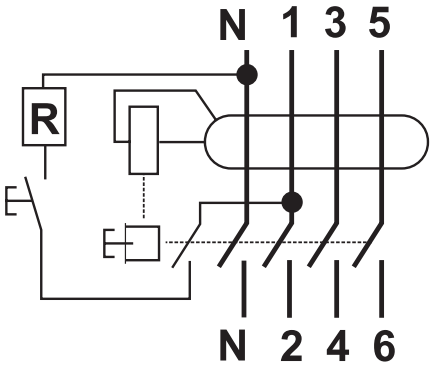


SAFETY PARAMETERS	
Nominal conditioned short-circuit resistance:	10.000 A
Max. pre-inserted fuse against short-circuits:	80 A gG
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase short-circuits:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the RCBO (higher operator protection)	IP 20 for a separate RCB (from all sides) – its design protects it against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing) IP 40 for a built-in RCBs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Disconnection of middle (neutral) conductor „N“:	yes
MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
RCBO fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the RCBO has an arresting mechanism located on the bottom side of the RCBO to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	switches can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism

Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 2× (8.2 × 7.8 mm) = **63 mm²** • Standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3,4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on both the top and the bottom of the RCD (it is generally recommended to connect the RCDs using a fork busbar from the top, to a separate screw terminal, because this prevents the RCD from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a blade (prevents forks from opening when screwed tight) • bottom part of the screw head is conical (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the RCD can be written on, or a prior prepared label can be used) the label is located under a clear hinged window dimensions: width 23 × height 6.2 × depth 0.3 mm (for 2P and 4P) material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when RCDs are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 12.7 × height 4.0 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
APPLICATION PARAMETERS	
Number of poles:	2, 4
Type:	AC, S, A
Nominal currents:	0–6, 0–10, 0–13, 0–16, 0–20, 0–25, 0–32, 0–40, 0–63 A
Nominal residual current IΔn:	30, 100, 300, 500 mA
Nominal voltage:	2P 230 V 50/60 Hz 4P 230/400 V 50/60 Hz
Accessories:	signalization contacts, under voltage releases, over voltage releases
Ambient temperature:	- 5 °C to +40 °C pursuant to CSN EN 60898
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Operating method of RCBO:	magnetic – operationally independent from mains voltage

OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 10 000 cycles (on and off)
Electrical working life:	>= 10 000 cycles (on and off)
Manufactured pursuant to standards:	CSN EN 61.008
Warranty	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
End user test:	test button, 1× every 6 months
Valid patents (amount):	yes (1)
Description – patent 1:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the RCD is a protected industrial design
Delivery time on working days:	within 48 hours





CERTIFICATES

Residual current device BONEGA PEP 10P 63 (magnetic)		
Order code	**Description**	**Pieces/box**
Two pole design, type AC		
06-2060302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 6A/ 30 mA	6
06-2061002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 6A/ 100 mA	6
06-2063002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 6A/ 300 mA	6
06-2100302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 10A/ 30 mA	6
06-2101002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 10A/ 100 mA	6
06-2103002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 10A/ 300 mA	6
06-2130302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 13A/ 30 mA	6
06-2131002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 13A/ 100 mA	6
06-2133002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 13A/ 300 mA	6
06-2160302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 16A/ 30 mA	6
06-2161002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 16A/ 100 mA	6
06-2163002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 16A/ 300 mA	6
06-2200302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 20A/ 30 mA	6
06-2201002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 20A/ 100 mA	6
06-2203002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 20A/ 300 mA	6
06-2250302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 25A/ 30 mA	6
06-2251002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 25A/ 100 mA	6
06-2253002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 25A/ 300 mA	6
06-2320302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 32A/ 30 mA	6
06-2321002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 32A/ 100 mA	6
06-2323002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 32A/ 300 mA	6
06-2400302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 40A/ 30 mA	6
06-2401002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 40A/ 100 mA	6
06-2403002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 40A/ 300 mA	6
06-2500302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 50A/ 30 mA	6
06-2501002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 50A/ 100 mA	6
06-2503002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 50A/ 300 mA	6
06-2630302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 63A/ 30 mA	6
06-2631002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 63A/ 100 mA	6
06-2633002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 2P pro 0 to 63A/ 300 mA	6

Residual current device BONEGA PEP 10P 63 (magnetic)		
Order code	**Description**	**Pieces/box**
	Two pole design, type S	
06-2251002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 2P pro 0 to 25A/ 100 mA	6
06-2401002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 2P pro 0 to 40A/ 100 mA	6
06-2631002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 2P pro 0 to 63A/ 100 mA	6
06-2253002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 2P pro 0 to 25A/ 300 mA	6
06-2403002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 2P pro 0 to 40A/ 300 mA	6
06-2633002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 2P pro 0 to 63A/ 300 mA	6
	Two pole design, type A	
06-2250302 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 2P pro 0 to 25A/ 30 mA	6
06-2400302 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 2P pro 0 to 40A/ 30 mA	6
06-2630302 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 2P pro 0 to 63A/ 30 mA	6
06-2251002 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 2P pro 0 to 25A/ 100 mA	6
06-2401002 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 2P pro 0 to 40A/ 100 mA	6
06-2631002 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 2P pro 0 to 63A/ 100 mA	6
	Four pole design, type AC	
06-4060302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 6A/ 30 mA	3
06-4061002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 6A/ 100 mA	3
06-4063002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 6A/ 300 mA	3
06-4100302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 10A/ 30 mA	3
06-4101002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 10A/ 100 mA	3
06-4103002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 10A/ 300 mA	3
06-4130302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 13A/ 30 mA	3
06-4131002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 13A/ 100 mA	3
06-4133002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 13A/ 300 mA	3
06-4160302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 16A/ 30 mA	3
06-4161002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 16A/ 100 mA	3
06-4163002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 16A/ 300 mA	3
06-4200302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 20A/ 30 mA	3
06-4201002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 20A/ 100 mA	3
06-4203002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 20A/ 300 mA	3
06-4250302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 25A/ 30 mA	3
06-4251002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 25A/ 100 mA	3
06-4253002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 25A/ 300 mA	3
06-4255002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 25A/ 500 mA	3
06-4320302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 32A/ 30 mA	3
06-4321002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 32A/ 100 mA	3
06-4323002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 32A/ 300 mA	3

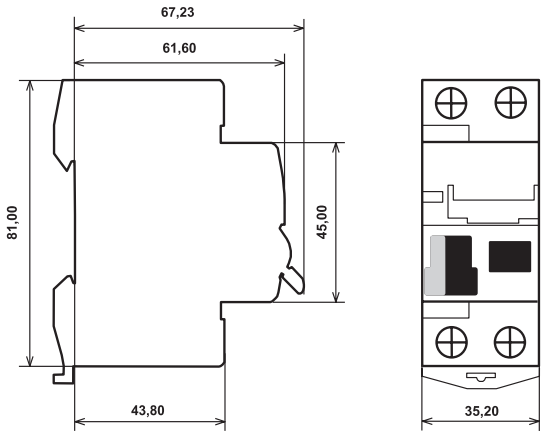
Residual current device BONEGA PEP 10P 63 (magnetic)		
Order code	**Description**	**Pieces/box**
06-4400302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 40A/ 30 mA	3
06-4401002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 40A/ 100 mA	3
06-4403002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 40A/ 300 mA	3
06-4405002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 40A/ 500 mA	3
06-4500302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 50A/ 30 mA	3
06-4501002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 50A/ 100 mA	3
06-4503002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 50A/ 300 mA	3
06-4630302 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 63A/ 30 mA	3
06-4631002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 63A/ 100 mA	3
06-4633002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 63A/ 300 mA	3
06-4635002 PEP 10P63	RCD BONEGA® PEP-10P63 (10 kA) 4P pro 0 to 63A/ 500 mA	3
	Four pole design, type S	
06-4251002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 4P pro 0 to 25A/ 100 mA	3
06-4401002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 4P pro 0 to 40A/ 100 mA	3
06-4631002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 4P pro 0 to 63A/ 100 mA	3
06-4253002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 4P pro 0 to 25A/ 300 mA	3
06-4403002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 4P pro 0 to 40A/ 300 mA	3
06-4633002 PEP 10P63-S	RCD BONEGA® PEP-10P63-S (10 kA) 4P pro 0 to 63A/ 300 mA	3
	Four pole design, type A	
06-4250302 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 4P pro 0 to 25A/ 30 mA	3
06-4400302 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 4P pro 0 to 40A/ 30 mA	3
06-4630302 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 4P pro 0 to 63A/ 30 mA	3
06-4251002 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 4P pro 0 to 25A/ 100 mA	3
06-4401002 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 4P pro 0 to 40A/ 100 mA	3
06-4631002 PEP 10P63-A	RCD BONEGA® PEP-10P63-A (10 kA) 4P pro 0 to 63A/ 100 mA	3

Electronic residual current device (operationally dependent on mains voltage) BONEGA® PEP-10P63e (10 kA, 6-63 A)

Two module design (rupturing capacity 10 kA)

with fault signalization

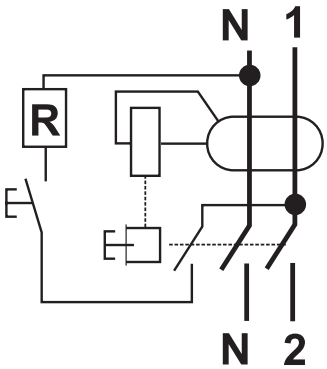
3 years warranty



SAFETY PARAMETERS	
Nominal conditioned short-circuit resistance:	10.000 A
Max. pre-inserted fuse against short-circuits:	80 A gG
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase short-circuits:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the RCBO (higher operator protection)	IP 20 for a separate RCB (from all sides) – its design protects it against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing) IP 40 for a built-in RCBs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Disconnection of middle (neutral) conductor „N“:	yes
MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
Upevnění chrániče:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the RCBO has an arresting mechanism located on the bottom side of the RCBO to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	switches can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism

Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross-section (width × height): 2× (8.2 × 7.8 mm) = **63 mm²** • Standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3,4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the RCD (it is generally recommended to connect the RCDs using a fork busbar from the top, to a separate screw terminal, because this prevents the RCD from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the RCD can be written on, or a prior prepared label can be used) the label is located under a clear hinged window dimensions: width 23 × height 6.2 × depth 0.3 mm (for 2P and 4P) material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when RCDs are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 12.7 × height 4.0 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
APPLICATION PARAMETERS	
Number of poles:	2
Type:	AC
Nominal currents:	0–6, 0–10, 0–13, 0–16, 0–20, 0–25, 0–32, 0–40, 0–63 A
Nominal residual current IΔn:	30, 100, 300 mA
Nominal voltage:	2P 230 V 50/60 Hz
Accessories:	signalization contacts, under voltage releases, over voltage releases
Ambient temperature:	- 5 °C to +40 °C pursuant to CSN EN 60898
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Operating method of RCBO:	magnetic – operationally dependent on mains voltage

OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Overvoltage protection:	yes – using a varistor MY63 10K 360 (however this protection is not equal to classic lightning protection)
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 10 000 cycles (on and off)
Electrical working life:	>= 10 000 cycles (on and off)
Manufactured pursuant to standards:	CSN EN 61.008
Warranty	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
End user test:	test button, 1× every 6 months
Valid patents (amount):	yes (1)
Description – patent 1:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the RCD is a protected industrial design
Delivery time on working days:	within 48 hours



CERTIFICATES

CE

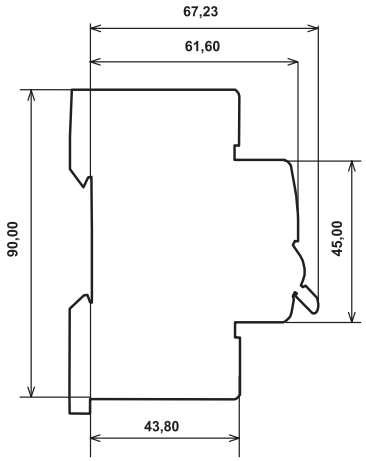
Residual current device BONEGA PEP 10P63e (electronic)		
Order code	**Description**	**Pieces/box**
	Two module design	
12-2060304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 6A/ 30 mA	6
12-2061004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 6A/ 100 mA	6
12-2063004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 6A/ 300 mA	6
12-2100304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 10A/ 30 mA	6
12-2101004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 10A/ 100 mA	6
12-2103004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 10A/ 300 mA	6
12-2130304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 13A/ 30 mA	6
12-2131004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 13A/ 100 mA	6
12-2133004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 13A/ 300 mA	6
12-2160304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 16A/ 30 mA	6
12-2161004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 16A/ 100 mA	6
12-2163004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 16A/ 300 mA	6
12-2200304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 20A/ 30 mA	6
12-2201004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 20A/ 100 mA	6
12-2203004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 20A/ 300 mA	6
12-2250304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 25A/ 30 mA	6
12-2251004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 25A/ 100 mA	6
12-2253004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 25A/ 300 mA	6
12-2320304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 32A/ 30 mA	6
12-2321004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 32A/ 100 mA	6
12-2323004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 32A/ 300 mA	6
12-2400304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 40A/ 30 mA	6
12-2401004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 40A/ 100 mA	6
12-2403004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 40A/ 300 mA	6
12-2500304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 50A/ 30 mA	6
12-2501004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 50A/ 100 mA	6
12-2503004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 50A/ 300 mA	6
12-2630304 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 63A/ 30 mA	6
12-2631004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 63A/ 100 mA	6
12-2633004 PEP 10P63e	RCD BONEGA® PEP-10P63e (10 kA) 2P pro 0 to 63A/ 300 mA	6

Magnetic residual current device (operationally independent from mains voltage) BONEGA® P E P – 10 P 100 (10 k A , 63 – 100 A)

Two module and four module design (rupturing capacity 10 kA)

3 years warranty

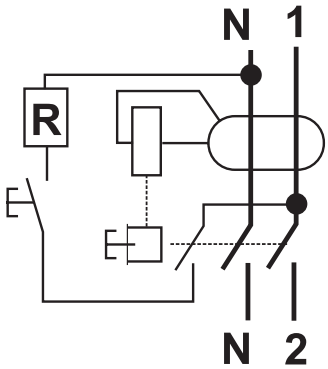
with fault signalization

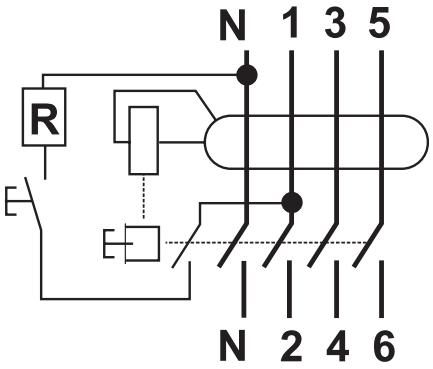


SAFETY PARAMETERS	
Nominal conditioned short-circuit resistance:	10.000 A
Max. pre-inserted fuse against short-circuits:	125 A gG (>10 kA)
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase short-circuits:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the RCBO (higher operator protection)	IP 20 for the RCD itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in RCDs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Disconnection of middle (neutral) conductor „N“:	yes
MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
RCBO fastening:	a) unique patented quick-install mechanisms (plastic rail holder) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the RCBO has an arresting mechanism located on the bottom side of the RCBO to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)

Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross-section (width × height): 2× (10 × 10 mm) = **100 mm²** • standard connectivity 70 mm² solid conductor, 50 mm² stranded conductor • length of screw thread in u-clamp terminal is **3.2 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the RCD (it is generally recommended to connect the RCDs using a fork busbar from the top, to a separate screw terminal, because this prevents the RCD from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the RCD can be written on, or a prior prewritten label can be used) the label is located under a clear hinged window dimensions: width 23 × height 6.2 × depth 0.3 mm (for 2P and 4P) material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when RCDs are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 12.7 × height 4.0 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download(in DOC format) from www.bonega.cz
APPLICATION PARAMETERS	
Number of poles:	2, 4
Type:	AC
Nominal currents:	0–63 A, 0–80 A, 0–100 A
Nominal residual current IΔn:	30, 100, 300, 500 mA
Nominal voltage:	2P 230 V 50/60 Hz 4P 230/400 V 50/60 Hz
Accessories:	signalization contacts, under voltage releases, over voltage releases, etc.
Ambient temperature:	- 5 °C to +40 °C pursuant to CSN EN 60898
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Operating method of RCBO:	magnetic – operationally independent from mains voltage

OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 10 000 cycles (on and off)
Electrical working life:	>= 10 000 cycles (on and off)
Manufactured pursuant to standards:	CSN EN 61.008
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
End user test:	test button, 1× every 6 months
Valid patents (amount):	yes (1)
Description – patent 1:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the RCD is a protected industrial design
Delivery time on working days:	within 48 hours





CERTIFICATES

CE

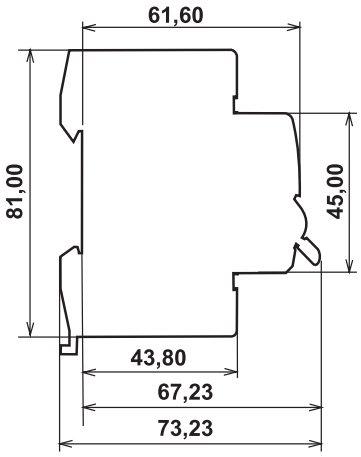
RESIDUAL CURRENT DEVICE BONEGA PEP 10P100 (MAGNETIC)		
Order code	**Description**	**Package pcs/box**
Two pole design		
26-20630303 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 2P for 0 to 63A/ 30 mA	6
26-20631003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 2P for 0 to 63A/ 100 mA	6
26-20633003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 2P for 0 to 63A/ 300 mA	6
26-20800303 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 2P for 0 to 80A/ 30 mA	6
26-20801003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 2P for 0 to 80A/ 100 mA	6
26-20803003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 2P for 0 to 80A/ 300 mA	6
26-21000303 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 2P for 0 to 100A/ 30 mA	6
26-21001003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 2P for 0 to 100A/ 100 mA	6
26-21003003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 2P for 0 to 100A/ 300 mA	6
Four pole design		
26-40630303 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 63A/ 30 mA	3
26-40631003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 63A/ 100 mA	3
26-40633003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 63A/ 300 mA	3
26-40635003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 63A/ 500 mA	3
26-40800303 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 80A/ 30 mA	3
26-40801003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 80A/ 100 mA	3
26-40803003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P pro 0 až 80A/ 300 mA	3
26-40805003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 80A/ 500 mA	3
26-41000303 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 100A/ 30 mA	3
26-41001003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 100A/ 100 mA	3
26-41003003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 100A/ 300 mA	3
26-41005003 PEP 10P100	RCD magnetic BONEGA® PEP-10P100 (10 kA) 4P for 0 to 100A/ 500 mA	3
Accessories		
25-IDPEP15	insulating plate protecting against phase-to-phase faults	4

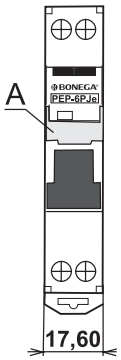
RESIDUAL CURRENT DEVICE WITH OVERCURRENT PROTECTION (1P RCBO) – COMBINED DEVICE, MCB+RCD BONEGA® PEP – 6PJE (6 KA) TO 32 A

(electronic residual current device = operationally dependent on mains voltage)

Single module design with 6 kA rupturing capacity (with disconnecting „N“ conductor)

with fault signalization





SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	from 3 to 5 ms, at maximum load under 10 kA rupturing capacity (practically as fast as classic fuse tripping speeds)
Rupturing capacity (nominal short-circuit and operating) pursuant to CSN EN 60898 at 230/400V AC, up to a value of the nominal current and class:	6 kA (short-circuit and operating) up to 32 A in class B, C, D
Power limiting class:	3 up to 32 A of nominal current in class D
Max. pre-inserted fuse against short-circuits:	80 A gG (>10 kA)
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase faults:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the RCBO (higher operator protection):	IP 20 for the RCBO itself (from all side) – its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in RCBOs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Disconnection of middle (neutral) conductor „N“:	yes

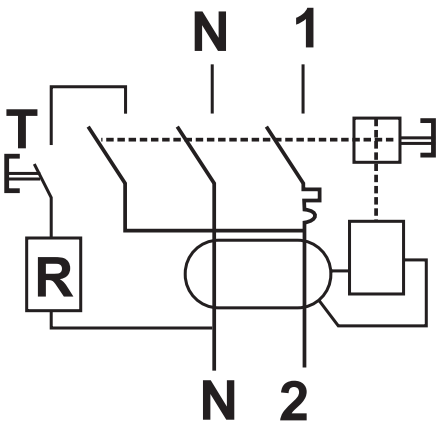
MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
Fastening:	a) unique patented quick-install mechanisms (plastic rail holder) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness, b) on a flat surface using two screws c) the RCBO has an arresting mechanism located on the bottom side of the RCBO to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	switches can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 4× (5.1 × 6.5 mm) = **33 mm²** • standard connectivity: 16 mm² solid conductor, 11 mm² stranded conductor • length of screw thread in u-clamp terminal is **2 mm** • the terminal is manufactured from **a single piece of sheet** metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	2 Nm
Current input (AC input connection):	only from the top
Front user description:	area on the front side of the device (the plastic of the RCBO can be written on, or a prior prewritten label can be used) the label is located under a clear hinged window dimensions: width 23 x height 6.2 x depth 0.3 mm (for 2P and 4P) material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when devices are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 12.7 × height 4.0 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz

APPLICATION PARAMETERS	
Number of poles:	1
Type:	AC
Nominal currents:	6, 8, 10, 13, 15, 16, 20, 25, 32
Nominal residual current IΔn:	30, 100, 300 mA
Offered in the following class:	B, C, D with fixed settings
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.) D (or M), used to also be „-----". The short-circuit tripping speed can be set to 10 In through 20 In. It is especially used to protect electrical circuits with devices, which do cause high current surges (transformers, 2 pole motors, motors with heavy starts, circuits with large inductance, etc.)
Nominal voltage:	1P 230 V 50/60 Hz
Accessories:	signalization contacts, under voltage releases, over voltage releases, etc.
Ambient temperature:	- 5 °C to +40 °C pursuant to CSN EN 60898
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Operating method of RCBO:	electronic = operationally dependent on mains voltage
OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 20 000 cycles (on and off)
Manufactured pursuant to standards:	IEC 61009-1
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
End user test:	test button, 1× every 6 months
Valid patents (amount):	yes (1)
Description – patent 1:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the device is a protected industrial design
Delivery time on working days:	within 48 hours

COMBINED DEVICE BONEGA® PEP-6PJE (6KA)		
Order code	**Description**	**Package pcs/box**
Class B, 30 mA		
23-106B0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 6A class B / 30 mA	6
23-108B0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 8A class B / 30 mA	6
23-110B0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 10A class B / 30 mA	6
23-113B0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 13A class B / 30 mA	6
23-115B0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 15A class B / 30 mA	6
23-116B0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 16A class B / 30 mA	6
23-120B0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 20A class B / 30 mA	6
23-125B0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 25A class B / 30 mA	6
23-132B0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 32A class B / 30 mA	6
Class B, 100 mA		
23-106B1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 6A class B / 100 mA	6
23-108B1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 8A class B / 100 mA	6
23-110B1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 10A class B / 100 mA	6
23-113B1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 13A class B / 100 mA	6
23-115B1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 15A class B / 100 mA	6
23-116B1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 16A class B / 100 mA	6
23-120B1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 20A class B / 100 mA	6
23-125B1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 25A class B / 100 mA	6
23-132B1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 32A class B / 100 mA	6
Class B, 300 mA		
23-106B3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 6A class B / 300 mA	6
23-108B3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 8A class B / 300 mA	6
23-110B3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 10A class B / 300 mA	6
23-113B3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 13A class B / 300 mA	6
23-115B3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 15A class B / 300 mA	6
23-116B3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 16A class B / 300 mA	6
23-120B3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 20A class B / 300 mA	6
23-106C0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 6A class C / 30 mA	6
23-108C0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 8A class C / 30 mA	6
23-110C0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 10A class C / 30 mA	6
23-113C0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 13A class C / 30 mA	6
23-115C0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 15A class C / 30 mA	6
23-116C0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 16A class C / 30 mA	6

COMBINED DEVICE BONEGA® PEP-6PJE (6KA)		
Order code	**Description**	**Package pcs/box**
23-120C0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 20A class C / 30 mA	6
23-125C0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 25A class C / 30 mA	6
23-132C0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 32A class C / 30 mA	6
Class C, 100 mA		
23-106C1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 6A class C / 100 mA	6
23-108C1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 8A class C / 100 mA	6
23-110C1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 10A class C / 100 mA	6
23-113C1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 13A class C / 100 mA	6
23-115C1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 15A class C / 100 mA	6
23-116C1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 16A class C / 100 mA	6
23-120C1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 20A class C / 100 mA	6
23-125C1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 25A class C / 100 mA	6
23-132C1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 32A class C / 100 mA	6
Class C, 300 mA		
23-106C3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 6A class C / 300 mA	6
23-108C3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 8A class C / 300 mA	6
23-110C3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 10A class C / 300 mA	6
23-113C3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 13A class C / 300 mA	6
23-115C3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 15A class C / 300 mA	6
23-116C3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 16A class C / 300 mA	6
23-120C3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 20A class C / 300 mA	6
23-125C3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 25A class C / 300 mA	6
23-132C3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 32A class C / 300 mA	6
Type D, 30 mA		
23-106D0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 6A class D / 30 mA	6
23-108D0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 8A class D / 30 mA	6
23-110D0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 10A class D / 30 mA	6
23-113D0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 13A class D / 30 mA	6
23-115D0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 15A class D / 30 mA	6
23-116D0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 16A class D / 30 mA	6
23-120D0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 20A class D / 30 mA	6
23-125D0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 25A class D / 30 mA	6
23-132D0303 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 32A class D / 30 mA	6

COMBINED DEVICE BONEGA® PEP-6PJE (6KA)		
Order code	**Description**	**Package pcs/box**
Type D, 100 mA		
23-106D1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 6A class D / 100 mA	6
23-108D1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 8A class D / 100 mA	6
23-110D1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 10A class D / 100 mA	6
23-113D1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 13A class D / 100 mA	6
23-115D1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 15A class D / 100 mA	6
23-116D1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 16A class D / 100 mA	6
23-120D1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 20A class D / 100 mA	6
23-125D1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 25A class D / 100 mA	6
23-132D1003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 32A class D / 100 mA	6
Type D, 300 mA		
23-106D3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 6A class D / 300 mA	6
23-108D3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 8A class D / 300 mA	6
23-110D3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 10A class D / 300 mA	6
23-113D3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 13A class D / 300 mA	6
23-115D3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 15A class D / 300 mA	6
23-116D3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 16A class D / 300 mA	6
23-120D3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 20A class D / 300 mA	6
23-125D3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 25A class D / 300 mA	6
23-132D3003 PEP 6PJe	1P RCBO (6 kA) BONEGA® – 32A class D / 300 mA	6



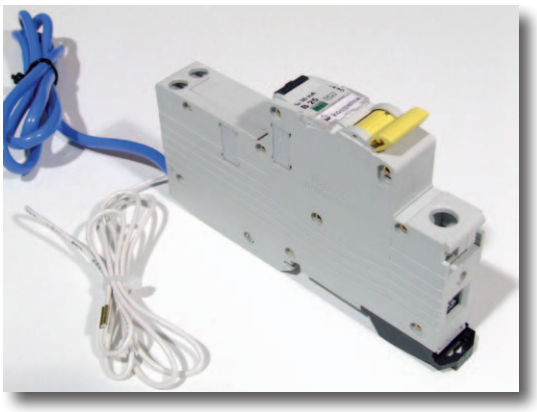
CERTIFICATES

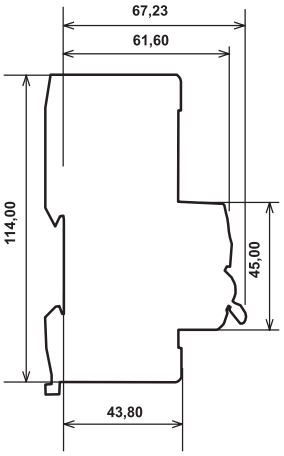
RESIDUAL CURRENT DEVICE WITH OVERCURRENT PROTECTION (1P RCBO) – COMBINED DEVICE, MCB+RCD BONEGA® PEP – 10PJE (10 KA) TO 63 A (RCBO)

(electronic residual current device = operationally dependent on mains voltage) and without disconnecting „N“ conductor)

Single module design with 10 kA rupturing capacity (atypical height, without disconnecting „N“ conductor)

with fault signalization





SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	from 3 to 5 ms, at maximum load under 10 kA rupturing capacity (practically as fast as classic fuse tripping speeds)
Rupturing capacity (nominal short-circuit and operating) pursuant to CSN EN 60898 at 230/400V AC, up to a value of the nominal current and class:	10 kA (short-circuit and operating) up to 63 A in class B, C, D
Power limiting class:	3 up to 63 A of nominal current in class D
Max. pre-inserted fuse against short-circuits:	80 A gG (>10 kA)
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase faults:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the RCBO (higher operator protection):	IP 20 for the RCBO itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in RCBOs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Disconnection of middle (neutral) conductor „N“:	no

MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
Fastening:	a) unique patented quick-install mechanisms (plastic rail holder) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness, b) on a flat surface using two screws c) the RCBO has an arresting mechanism located on the bottom side of the RCBO to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	switches can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross-section (width × height) : 1× (8.2 × 7.8 mm) = **63 mm²** + 2× (5.1 × 6.4 mm) = **32.64 mm²** • standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3.4 mm** • the terminal is manufactured from **a single piece of sheet** metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	from the bottom
Front user description:	area on the front side of the device (the plastic of the RCBO can be written on, or a prior prewritten label can be used) the label is located under a clear hinged window dimensions: width 23 0215 height 6.2 × depth 0.3 mm (for 2P and 4P) material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when devices are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 12.7× height 4.0 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Length of blue connecting „N“ conductor:	750 mm
Length of white connecting earthing conductor:	750 mm

APPLICATION PARAMETERS	
Number of poles:	1
Type:	AC
Nominal currents:	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 25, 32, 40, 50, 63
Nominal residual current IΔn:	30, 100, 300 mA
Offered in the following class:	B, C, D with fixed settings
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.) D (or M), used to also be „-----". The short-circuit tripping speed can be set to 10 In through 20 In. It is especially used to protect electrical circuits with devices, which do cause high current surges (transformers, 2 pole motors, motors with heavy starts, circuits with large inductance, etc.)
Nominal voltage:	1P 230 V 50/60 Hz
Accessories:	signalization contacts, under voltage releases, over voltage releases, etc.
Ambient temperature:	- 5 °C to +40 °C pursuant to CSN EN 60898
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Operating method of RCBO:	electronic = operationally dependent on mains voltage
OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 20 000 cycles (on and off)
Manufactured pursuant to standards:	IEC 61009-1
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
End user test:	test button, 1× every 6 months
Valid patents (amount):	yes (1)
Description – patent 1:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the device is a protected industrial design
Delivery time on working days:	within 48 hours

COMBINED DEVICE MCB+RCB BONEGA® PEP 10 RCBO		
Order code	**Description**	**Package pcs/box**
Single module design, class B, 30 mA		
27-101B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 1A class B / 30 mA	1
27-102B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 2A class B / 30 mA	1
27-103B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 3A class B / 30 mA	1
27-104B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 4A class B / 30 mA	1
27-106B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 6A class B / 30 mA	1
27-108B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 8A class B / 30 mA	1
27-110B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 10A class B / 30 mA	1
27-113B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 13A class B / 30 mA	1
27-115B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 15A class B / 30 mA	1
27-116B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 16A class B / 30 mA	1
27-120B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 20A class B / 30 mA	1
27-125B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 25A class B / 30 mA	1
27-132B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 32A class B / 30 mA	1
27-140B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 40A class B / 30 mA	1
27-150B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 50A class B / 30 mA	1
27-163B0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 63A class B / 30 mA	1
Single module design, class B, 100 mA		
27-101B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 1A class B / 100 mA	1
27-102B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 2A class B / 100 mA	1
27-103B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 3A class B / 100 mA	1
27-104B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 4A class B / 100 mA	1
27-106B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 6A class B / 100 mA	1
27-108B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 8A class B / 100 mA	1
27-110B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 10A class B / 100 mA	1
27-113B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 13A class B / 100 mA	1
27-115B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 15A class B / 100 mA	1
27-116B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 16A class B / 100 mA	1
27-120B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 20A class B / 100 mA	1
27-125B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 25A class B / 100 mA	1
27-132B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 32A class B / 100 mA	1
27-140B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 40A class B / 100 mA	1
27-150B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 50A class B / 100 mA	1
27-163B1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 63A class B / 100 mA	1

COMBINED DEVICE MCB+RCB BONEGA® PEP 10 RCBO		
Order code	**Description**	**Package pcs/box**
Single module design, class B, 300 mA		
27-101B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 1A class B / 300 mA	1
27-102B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 2A class B / 300 mA	1
27-103B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 3A class B / 300 mA	1
27-104B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 4A class B / 300 mA	1
27-106B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 6A class B / 300 mA	1
27-108B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 8A class B / 300 mA	1
27-110B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 10A class B / 300 mA	1
27-113B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 13A class B / 300 mA	1
27-115B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 15A class B / 300 mA	1
27-116B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 16A class B / 300 mA	1
27-120B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 20A class B / 300 mA	1
27-125B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 25A class B / 300 mA	1
27-132B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 32A class B / 300 mA	1
27-140B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 40A class B / 300 mA	1
27-150B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 50A class B / 300 mA	1
27-163B3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 63A class B / 300 mA	1
Single module design, class C, 30 mA		
27-101C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 1A class C / 30 mA	1
27-102C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 2A class C / 30 mA	1
27-103C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 3A class C / 30 mA	1
27-104C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 4A class C / 30 mA	1
27-106C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 6A class C / 30 mA	1
27-108C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 8A class C / 30 mA	1
27-110C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 10A class C / 30 mA	1
27-113C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 13A class C / 30 mA	1
27-115C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 15A class C / 30 mA	1
27-116C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 16A class C / 30 mA	1
27-120C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 20A class C / 30 mA	1
27-125C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 25A class C / 30 mA	1
27-132C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 32A class C / 30 mA	1
27-140C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 40A class C / 30 mA	1
27-150C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 50A class C / 30 mA	1
27-163C0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 63A class C / 30 mA	1

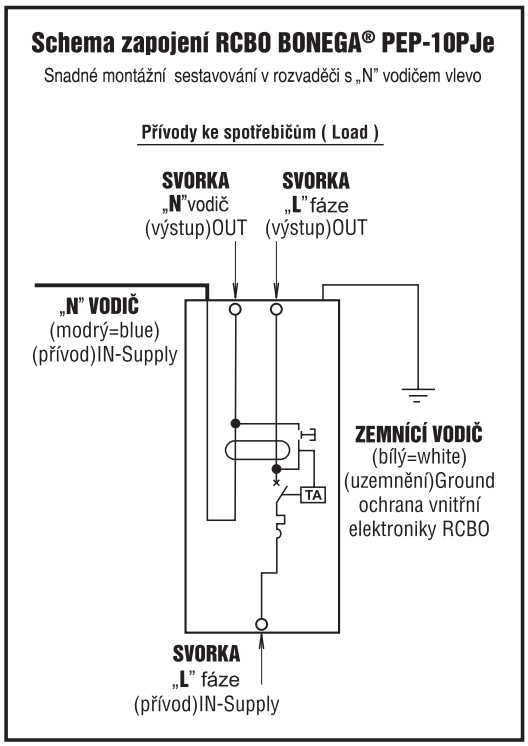
COMBINED DEVICE MCB+RCB BONEGA® PEP 10 RCBO		
Order code	**Description**	**Package pcs/box**
Single module design, class C, 100 mA		
27-101C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 1A class C / 100 mA	1
27-102C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 2A class C / 100 mA	1
27-103C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 3A class C / 100 mA	1
27-104C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 4A class C / 100 mA	1
27-106C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 6A class C / 100 mA	1
27-108C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 8A class C / 100 mA	1
27-110C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 10A class C / 100 mA	1
27-113C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 13A class C / 100 mA	1
27-115C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 15A class C / 100 mA	1
27-116C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 16A class C / 100 mA	1
27-120C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 20A class C / 100 mA	1
27-125C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 25A class C / 100 mA	1
27-132C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 32A class C / 100 mA	1
27-140C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 40A class C / 100 mA	1
27-150C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 50A class C / 100 mA	1
27-163C1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 63A class C / 100 mA	1
Single module design, class C, 300 mA		
27-101C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 1A class C / 300 mA	1
27-102C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 2A class C / 300 mA	1
27-103C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 3A class C / 300 mA	1
27-104C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 4A class C / 300 mA	1
27-106C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 6A class C / 300 mA	1
27-108C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 8A class C / 300 mA	1
27-110C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 10A class C / 300 mA	1
27-113C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 13A class C / 300 mA	1
27-115C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 15A class C / 300 mA	1
27-116C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 16A class C / 300 mA	1
27-120C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 20A class C / 300 mA	1
27-125C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 25A class C / 300 mA	1
27-132C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 32A class C / 300 mA	1
27-140C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 40A class C / 300 mA	1
27-150C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 50A class C / 300 mA	1
27-163C3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 63A class C / 300 mA	1

COMBINED DEVICE MCB+RCB BONEGA® PEP 10 RCBO		
Order code	**Description**	**Package pcs/box**
Single module design, class D, 30 mA		
27-101D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 1A class D / 30 mA	1
27-102D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 2A class D / 30 mA	1
27-103D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 3A class D / 30 mA	1
27-104D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 4A class D / 30 mA	1
27-106D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 6A class D / 30 mA	1
27-108D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 8A class D / 30 mA	1
27-110D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 10A class D / 30 mA	1
27-113D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 13A class D / 30 mA	1
27-115D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 15A class D / 30 mA	1
27-116D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 16A class D / 30 mA	1
27-120D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 20A class D / 30 mA	1
27-125D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 25A class D / 30 mA	1
27-132D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 32A class D / 30 mA	1
27-140D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 40A class D / 30 mA	1
27-150D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 50A class D / 30 mA	1
27-163D0301 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 63A class D / 30 mA	1
Single module design, class D, 100 mA		
27-101D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 1A class D / 100 mA	1
27-102D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 2A class D / 100 mA	1
27-103D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 3A class D / 100 mA	1
27-104D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 4A class D / 100 mA	1
27-106D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 6A class D / 100 mA	1
27-108D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 8A class D / 100 mA	1
27-110D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 10A class D / 100 mA	1
27-113D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 13A class D / 100 mA	1
27-115D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 15A class D / 100 mA	1
27-116D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 16A class D / 100 mA	1
27-120D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 20A class D / 100 mA	1
27-125D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 25A class D / 100 mA	1
27-132D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 32A class D / 100 mA	1
27-140D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 40A class D / 100 mA	1
27-150D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 50A class D / 100 mA	1
27-163D1001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 63A class D / 100 mA	1

COMBINED DEVICE MCB+RCB BONEGA® PEP 10 RCBO		
Order code	**Description**	**Package pcs/box**
Single module design, class D, 300 mA		
27-101D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 1A class D / 300 mA	1
27-102D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 2A class D / 300 mA	1
27-103D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 3A class D / 300 mA	1
27-104D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 4A class D / 300 mA	1
27-106D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 6A class D / 300 mA	1
27-108D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 8A class D / 300 mA	1
27-110D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 10A class D / 300 mA	1
27-113D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 13A class D / 300 mA	1
27-115D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 15A class D / 300 mA	1
27-116D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 16A class D / 300 mA	1
27-120D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 20A class D / 300 mA	1
27-125D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 25A class D / 300 mA	1
27-132D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 32A class D / 300 mA	1
27-140D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 40A class D / 300 mA	1
27-150D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 50A class D / 300 mA	1
27-163D3001 PEP 10PJe	1P RCBO (10 kA) BONEGA® – 63A class D / 300 mA	1

Schema zapojení RCBO BONEGA® PEP-10PJe

Snadné montážní sestavování v rozvaděči s „N" vodičem vlevo

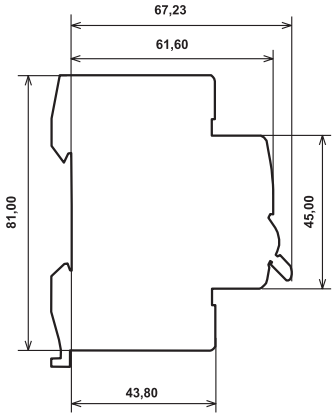


RESIDUAL CURRENT DEVICE WITH OVERCURRENT PROTECTION (2P RCBO) – COMBINED DEVICE, MCB+RCD BONEGA® PEP – 10PJ (10 KA) TO 40 A

(magnetic residual current device = operationally independent from mains voltage)

Two module design with 10 kA rupturing capacity (with disconnecting „N“ conductor)

with fault signalization



3 years warranty

SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	from 3 to 5 ms, at maximum load under 10 kA rupturing capacity (practically as fast as classic fuse tripping speeds)
Rupturing capacity (nominal short-circuit and operating) pursuant to CSN EN 60898 at 230/400V AC, up to a value of the nominal current and class:	10 kA (short-circuit and operating) up to 40 A in class B, C
Power limiting class:	3 up to 40 A of nominal current in class D
Max. pre-inserted fuse against short-circuits:	80 A gG (>10 kA)
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase faults:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the RCBO (higher operator protection):	IP 20 for the RCBO itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in RCBOs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Disconnection of middle (neutral) conductor „N“:	yes

MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
Fastening:	a) unique patented quick-install mechanisms (plastic rail holder) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness, b) on a flat surface using two screws c) the RCBO has an arresting mechanism located on the bottom side of the RCBO to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	switches can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 2× (8.2 × 7.8 mm) = **63 mm²** • standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3.4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the MCB (it is generally recommended to connect the MCBs using • a fork busbar from the top, to a separate screw terminal, because this prevents the MCB from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the RCBO can be written on, or a prior prewritten label can be used) the label is located under a clear hinged window dimensions: width 23 × height 6.2 × depth 0.3 mm (for 2P and 4P) material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when devices are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 12.7 × height 4.0 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz

APPLICATION PARAMETERS	
Number of poles:	2
Type:	AC
Nominal currents:	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 25, 32, 40
Nominal residual current IΔn:	30, 100, 300 mA
Offered in the following class:	B, C
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.)
Nominal voltage:	1P 230 V 50/60 Hz
Accessories:	signalization contacts, under voltage releases, over voltage releases, etc.
Ambient temperature:	- 5 °C to +40 °C pursuant to CSN EN 60898
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Operating method of RCBO:	magnetic = operationally independent from mains voltage
OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 20 000 cycles (on and off)
Manufactured pursuant to standards:	IEC 61009-1
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
End user test:	test button, 1× every 6 months
Valid patents (amount):	yes (1)
Description – patent 1:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the device is a protected industrial design
Delivery time on working days:	within 48 hours

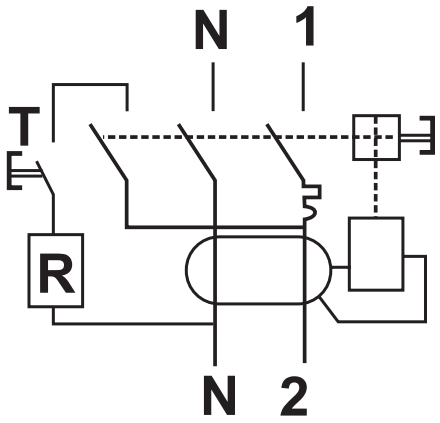
COMBINED DEVICE MCB+RCB BONEGA® PEP 10 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
Two module design, class B, 30 mA		
28-101B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 1A class B / 30 mA	6
28-102B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 2A class B / 30 mA	6
28-103B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 3A class B / 30 mA	6
28-104B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 4A class B / 30 mA	6
28-106B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 6A class B / 30 mA	6
28-108B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 8A class B / 30 mA	6
28-110B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 10A class B / 30 mA	6
28-113B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 13A class B / 30 mA	6
28-115B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 15A class B / 30 mA	6
28-116B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 16A class B / 30 mA	6
28-120B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 20A class B / 30 mA	6
28-125B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 25A class B / 30 mA	6
28-132B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 32A class B / 30 mA	6
28-140B0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 40A class B / 30 mA	6
Two module design, class B, 100 mA		
28-101B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 1A class B / 100 mA	6
28-102B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 2A class B / 100 mA	6
28-103B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 3A class B / 100 mA	6
28-104B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 4A class B / 100 mA	6
28-106B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 6A class B / 100 mA	6
28-108B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 8A class B / 100 mA	6
28-110B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 10A class B / 100 mA	6
28-113B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 13A class B / 100 mA	6
28-115B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 15A class B / 100 mA	6
28-116B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 16A class B / 100 mA	6
28-120B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 20A class B / 100 mA	6
28-125B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 25A class B / 100 mA	6
28-132B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 32A class B / 100 mA	6
28-140B1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 40A class B / 100 mA	6

COMBINED DEVICE MCB+RCB BONEGA® PEP 10 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
Two module design, class B, 300 mA		
28-101B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 1A class B / 300 mA	6
28-102B3002 PE P 10PJ	2P RCBO (10 kA) BONEGA® – 2A class B / 300 mA	6
28-103B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 3A class B / 300 mA	6
28-104B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 4A class B / 300 mA	6
28-106B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 6A class B / 300 mA	6
28-108B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 8A class B / 300 mA	6
28-110B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 10A class B / 300 mA	6
28-113B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 13A class B / 300 mA	6
28-115B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 15A class B / 300 mA	6
28-116B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 16A class B / 300 mA	6
28-120B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 20A class B / 300 mA	6
28-125B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 25A class B / 300 mA	6
28-132B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 32A class B / 300 mA	6
28-140B3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 40A class B / 300 mA	6
Two module design, class C, 30 mA		
28-101C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 1A class C / 30 mA	6
28-102C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 2A class C / 30 mA	6
28-103C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 3A class C / 30 mA	6
28-104C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 4A class C / 30 mA	6
28-106C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 6A class C / 30 mA	6
28-108C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 8A class C / 30 mA	6
28-110C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 10A class C / 30 mA	6
28-113C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 13A class C / 30 mA	6
28-115C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 15A class C / 30 mA	6
28-116C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 16A class C / 30 mA	6
28-120C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 20A class C / 30 mA	6
28-125C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 25A class C / 30 mA	6
28-132C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 32A class C / 30 mA	6
28-140C0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 40A class C / 30 mA	6
Two module design, class C, 100 mA		
28-101C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 1A class C / 100 mA	6
28-102C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 2A class C / 100 mA	6
28-103C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 3A class C / 100 mA	6

COMBINED DEVICE MCB+RCB BONEGA® PEP 10 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
28-104C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 4A class C / 100 mA	6
28-106C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 6A class C / 100 mA	6
28-108C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 8A class C / 100 mA	6
28-110C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 10A class C / 100 mA	6
28-113C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 13A class C / 100 mA	6
28-115C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 15A class C / 100 mA	6
28-116C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 16A class C / 100 mA	6
28-120C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 20A class C / 100 mA	6
28-125C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 25A class C / 100 mA	6
28-132C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 32A class C / 100 mA	6
28-140C1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 40A class C / 100 mA	6
Two module design, class C, 300 mA		
28-101C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 1A class C / 300 mA	6
28-102C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 2A class C / 300 mA	6
28-103C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 3A class C / 300 mA	6
28-104C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 4A class C / 300 mA	6
28-106C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 6A class C / 300 mA	6
28-108C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 8A class C / 300 mA	6
28-110C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 10A class C / 300 mA	6
28-113C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 13A class C / 300 mA	6
28-115C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 15A class C / 300 mA	6
28-116C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 16A class C / 300 mA	6
28-120C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 20A class C / 300 mA	6
28-125C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 25A class C / 300 mA	6
28-132C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 32A class C / 300 mA	6
28-140C3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 40A class C / 300 mA	6

COMBINED DEVICE MCB+RCB BONEGA® PEP 10 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
Two module design, class D, 30 mA		
28-101D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 1A class D / 30 mA	6
28-102D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 2A class D / 30 mA	6
28-103D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 3A class D / 30 mA	6
28-104D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 4A class D / 30 mA	6
28-106D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 6A class D / 30 mA	6
28-108D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 8A class D / 30 mA	6
28-110D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 10A class D / 30 mA	6
28-113D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 13A class D / 30 mA	6
28-115D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 15A class D / 30 mA	6
28-116D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 16A class D / 30 mA	6
28-120D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 20A class D / 30 mA	6
28-125D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 25A class D / 30 mA	6
28-132D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 32A class D / 30 mA	6
28-140D0302 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 40A class D / 30 mA	6
Two module design, class D, 100 mA		
28-101D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 1A class D / 100 mA	6
28-102D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 2A class D / 100 mA	6
28-103D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 3A class D / 100 mA	6
28-104D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 4A class D / 100 mA	6
28-106D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 6A class D / 100 mA	6
28-108D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 8A class D / 100 mA	6
28-110D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 10A class D / 100 mA	6
28-113D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 13A class D / 100 mA	6
28-115D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 15A class D / 100 mA	6
28-116D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 16A class D / 100 mA	6
28-120D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 20A class D / 100 mA	6
28-125D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 25A class D / 100 mA	6
28-132D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 32A class D / 100 mA	6
28-140D1002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 40A class D / 100 mA	6

COMBINED DEVICE MCB+RCB BONEGA® PEP 10 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
	Two module design, class D, 300 mA	
28-101D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 1A class D / 300 mA	6
28-102D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 2A class D / 300 mA	6
28-103D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 3A class D / 300 mA	6
28-104D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 4A class D / 300 mA	6
28-106D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 6A class D / 300 mA	6
28-108D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 8A class D / 300 mA	6
28-110D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 10A class D / 300 mA	6
28-113D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 13A class D / 300 mA	6
28-115D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 15A class D / 300 mA	6
28-116D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 16A class D / 300 mA	6
28-120D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 20A class D / 300 mA	6
28-125D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 25A class D / 300 mA	6
28-132D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 32A class D / 300 mA	6
28-140D3002 PEP 10PJ	2P RCBO (10 kA) BONEGA® – 40A class D / 300 mA	6

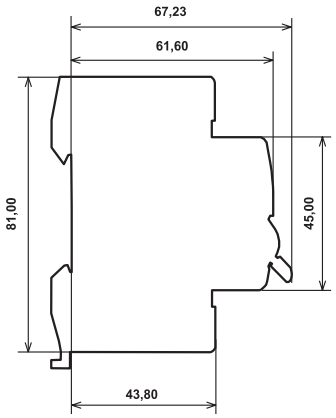


RESIDUAL CURRENT DEVICE WITH OVERCURRENT PROTECTION (2P RCBO) – COMBINED DEVICE, MCB+RCD BONEGA® PEP – 15PJ (15 KA) TO 40 A

(magnetic residual current device = operationally independent from mains voltage)

Two module design with 15 kA rupturing capacity (with disconnecting „N“ conductor)

with fault signalization



SAFETY PARAMETERS	
Switch-off speed (see oscillograms):	from 3 to 5 ms, at maximum load under 15 kA rupturing capacity (practically as fast as classic fuse tripping speeds)
Rupturing capacity (nominal short-circuit and operating) pursuant to CSN EN 60898 at 230/400V AC, up to a value of the nominal current and class:	15 kA (short-circuit and operating) up to 40 A in class B, C, D
Power limiting class:	3 up to 40 A of nominal current in class D
Max. pre-inserted fuse against short-circuits:	80 A gG (>10 kA)
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase faults:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the RCBO (higher operator protection):	IP 20 for the RCBO itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in RCBOs – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Disconnection of middle (neutral) conductor „N“:	yes

MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
Fastening:	a) unique patented quick-install mechanisms (plastic rail holder) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness, b) on a flat surface using two screws c) the RCBO has an arresting mechanism located on the bottom side of the RCBO to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	switches can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism
Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 2× (8.2 × 7.8 mm) = **63 mm²** • standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3.4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the MCB (it is generally recommended to connect the MCBs using • a fork busbar from the top, to a separate screw terminal, because this prevents the MCB from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the RCBO can be written on, or a prior prewritten label can be used) the label is located under a clear hinged window dimensions: width 23 × height 6.2 × depth 0.3 mm (for 2P and 4P) material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when devices are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 12.7 x height 4.0 x depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz

APPLICATION PARAMETERS	
Number of poles:	2
Type:	AC
Nominal currents:	1, 2, 3, 4, 6, 8, 10, 13, 15, 16, 20, 25, 32, 40
Nominal residual current IΔn:	30, 100, 300 mA
Offered in the following class:	B, C, D with fixed settings
Class:	B (or L), used to also be „V". The short-circuit tripping speed can be set to 3 In through 5 In. It is especially used to protect electrical circuits with devices, which do not cause current surges (lights or socket circuits etc.) C (or U), used to also be „K". The short-circuit tripping speed can be set to 5 In through 10 In. It is especially used to protect electrical circuits with devices, which do cause current surges (light groups, motors etc.) D (or M), used to also be „-----". The short-circuit tripping speed can be set to 10 In through 20 In. It is especially used to protect electrical circuits with devices, which do cause high current surges (transformers, 2 pole motors, motors with heavy starts, circuits with large inductance, etc.)
Nominal voltage:	1P 230 V 50/60 Hz
Accessories:	signalization contacts, under voltage releases, over voltage releases, etc.
Ambient temperature:	- 5 °C to +40 °C pursuant to CSN EN 60898
Calibration temperature:	+30 °C pursuant to CSN (customizable upon request)
Operational at 50 and 60 Hz:	yes
Operating method of RCBO:	magnetic = operationally independent from mains voltage
OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 20 000 cycles (on and off)
Manufactured pursuant to standards:	IEC 61009-1
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Fault signalization:	lever middle position
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
End user test:	test button, 1× every 6 months
Valid patents (amount):	yes (1)
Description – patent 1:	tripping mechanism
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the device is a protected industrial design
Delivery time on working days:	within 48 hours

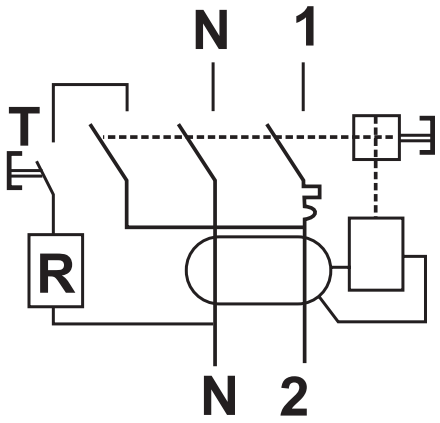
COMBINED DEVICE MCB+RCB BONEGA® PEP 15 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
Two module design, class B, 30 mA		
22-101B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 1A class B / 30 mA	6
22-102B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 2A class B / 30 mA	6
22-103B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 3A class B / 30 mA	6
22-104B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 4A class B / 30 mA	6
22-106B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 6A class B / 30 mA	6
22-108B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 8A class B / 30 mA	6
22-110B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 10A class B / 30 mA	6
22-113B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 13A class B / 30 mA	6
22-115B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 15A class B / 30 mA	6
22-116B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 16A class B / 30 mA	6
22-120B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 20A class B / 30 mA	6
22-125B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 25A class B / 30 mA	6
22-132B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 32A class B / 30 mA	6
22-140B0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 40A class B / 30 mA	6
Two module design, class B, 100 mA		
22-101B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 1A class B / 100 mA	6
22-102B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 2A class B / 100 mA	6
22-103B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 3A class B / 100 mA	6
22-104B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 4A class B / 100 mA	6
22-106B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 6A class B / 100 mA	6
22-108B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 8A class B / 100 mA	6
22-110B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 10A class B / 100 mA	6
22-113B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 13A class B / 100 mA	6
22-115B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 15A class B / 100 mA	6
22-116B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 16A class B / 100 mA	6
22-120B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 20A class B / 100 mA	6
22-125B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 25A class B / 100 mA	6
22-132B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 32A class B / 100 mA	6
22-140B1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 40A class B / 100 mA	6

COMBINED DEVICE MCB+RCB BONEGA® PEP 15 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
Two module design, class B, 300 mA		
22-101B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 1A class B / 300 mA	6
22-102B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 2A class B / 300 mA	6
22-103B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 3A class B / 300 mA	6
22-104B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 4A class B / 300 mA	6
22-106B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 6A class B / 300 mA	6
22-108B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 8A class B / 300 mA	6
22-110B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 10A class B / 300 mA	6
22-113B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 13A class B / 300 mA	6
22-115B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 15A class B / 300 mA	6
22-116B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 16A class B / 300 mA	6
22-120B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 20A class B / 300 mA	6
22-125B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 25A class B / 300 mA	6
22-132B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 32A class B / 300 mA	6
22-140B3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 40A class B / 300 mA	6
Two module design, class C, 30 mA		
22-101C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 1A class C / 30 mA	6
22-102C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 2A class C / 30 mA	6
22-103C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 3A class C / 30 mA	6
22-104C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 4A class C / 30 mA	6
22-106C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 6A class C / 30 mA	6
22-108C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 8A class C / 30 mA	6
22-110C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 10A class C / 30 mA	6
22-113C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 13A class C / 30 mA	6
22-115C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 15A class C / 30 mA	6
22-116C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 16A class C / 30 mA	6
22-120C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 20A class C / 30 mA	6
22-125C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 25A class C / 30 mA	6
22-132C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 32A class C / 30 mA	6
22-140C0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 40A class C / 30 mA	6

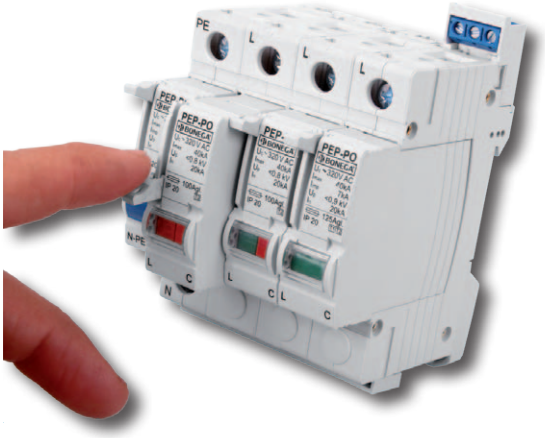
COMBINED DEVICE MCB+RCB BONEGA® PEP 15 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
Two module design, class C, 100 mA		
22-101C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 1A class C / 100 mA	6
22-102C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 2A class C / 100 mA	6
22-103C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 3A class C / 100 mA	6
22-104C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 4A class C / 100 mA	6
22-106C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 6A class C / 100 mA	6
22-108C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 8A class C / 100 mA	6
22-110C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 10A class C / 100 mA	6
22-113C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 13A class C / 100 mA	6
22-115C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 15A class C / 100 mA	6
22-116C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 16A class C / 100 mA	6
22-120C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 20A class C / 100 mA	6
22-125C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 25A class C / 100 mA	6
22-132C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 32A class C / 100 mA	6
22-140C1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 40A class C / 100 mA	6
Two module design, class C, 300 mA		
22-101C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 1A class C / 300 mA	6
22-102C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 2A class C / 300 mA	6
22-103C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 3A class C / 300 mA	6
22-104C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 4A class C / 300 mA	6
22-106C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 6A class C / 300 mA	6
22-108C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 8A class C / 300 mA	6
22-110C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 10A class C / 300 mA	6
22-113C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 13A class C / 300 mA	6
22-115C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 15A class C / 300 mA	6
22-116C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 16A class C / 300 mA	6
22-120C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 20A class C / 300 mA	6
22-125C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 25A class C / 300 mA	6
22-132C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 32A class C / 300 mA	6
22-140C3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 40A class C / 300 mA	6

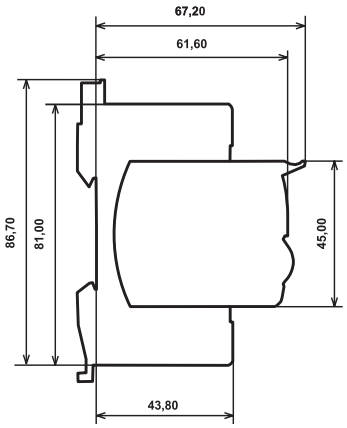
COMBINED DEVICE MCB+RCB BONEGA® PEP 15 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
Two module design, class D, 30 mA		
22-101D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 1A class D / 30 mA	6
22-102D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 2A class D / 30 mA	6
22-103D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 3A class D / 30 mA	6
22-104D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 4A class D / 30 mA	6
22-106D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 6A class D / 30 mA	6
22-108D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 8A class D / 30 mA	6
22-110D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 10A class D / 30 mA	6
22-113D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 13A class D / 30 mA	6
22-115D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 15A class D / 30 mA	6
22-116D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 16A class D / 30 mA	6
22-120D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 20A class D / 30 mA	6
22-125D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 25A class D / 30 mA	6
22-132D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 32A class D / 30 mA	6
22-140D0302 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 40A class D / 30 mA	6
Two module design, class D, 100 mA		
22-101D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 1A class D / 100 mA	6
22-102D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 2A class D / 100 mA	6
22-103D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 3A class D / 100 mA	6
22-104D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 4A class D / 100 mA	6
22-106D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 6A class D / 100 mA	6
22-108D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 8A class D / 100 mA	6
22-110D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 10A class D / 100 mA	6
22-113D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 13A class D / 100 mA	6
22-115D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 15A class D / 100 mA	6
22-116D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 16A class D / 100 mA	6
22-120D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 20A class D / 100 mA	6
22-125D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 25A class D / 100 mA	6
22-132D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 32A class D / 100 mA	6
22-140D1002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 40A class D / 100 mA	6

COMBINED DEVICE MCB+RCB BONEGA® PEP 15 PJ (2P RCBO)		
Order code	**Description**	**Package pcs/box**
Two module design, class D, 300 mA		
22-101D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 1A class D / 300 mA	6
22-102D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 2A class D / 300 mA	6
22-103D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 3A class D / 300 mA	6
22-104D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 4A class D / 300 mA	6
22-106D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 6A class D / 300 mA	6
22-108D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 8A class D / 300 mA	6
22-110D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 10A class D / 300 mA	6
22-113D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 13A class D / 300 mA	6
22-115D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 15A class D / 300 mA	6
22-116D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 16A class D / 300 mA	6
22-120D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 20A class D / 300 mA	6
22-125D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 25A class D / 300 mA	6
22-132D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 32A class D / 300 mA	6
22-140D3002 PEP 15PJ	2P RCBO (15 kA) BONEGA® – 40A class D / 300 mA	6



OVERVOLTAGE PROTECTION BONEGA® PEP-PO (VARISTOR)





Surge protectors and lightning protectors are an important safety element of every electrical installation and connected appliance. Their task is to protect against serious damage caused by overvoltage from atmospheric sources.
Surge protectors are devices that are capable of significantly limiting the effects of atmospheric surges with frequencies of several Mhz, at such point, where the value of the atmospheric surge is higher than the maximum operating voltage in the electric circuit.
This overvoltage is caused due to an atmospheric surge during a direct or indirect lightning strike.
Surge protectors transfer the impulse into the ground, decreasing its amplitude to a suitable level, which is safe for electrical circuits and installed appliances. Surge protectors are however not effective to overvoltage with operating frequencies of circuits that may arise when the operating voltage of a circuit is insufficiently regulated.

SURGE PROTECTOR CLASS I (B)
Is such a surge protection, which is able to transfer a lightning surge or a partial lightning surge after a direct lightning strike. The protection level is defined for values lower than 4kV ($U_p \leq 4kV$)

SURGE PROTECTOR CLASS II (C)
Is such a surge protection, which is able to transfer an atmospheric surge, caused by close or distant lightning strike, or overvoltage switching. The protection level is defined for values lower than 2.5kV ($U_p \leq 2,5kV$)

SURGE PROTECTOR CLASS III (D)
Is such a surge protector, which is used to protect a single appliance or group of appliances against overvoltage and is installed as close as possible to the protected appliance. The protection level is defined for values lower than 1.5kV ($U_p \leq 1,5kV$)

Benefits of varistor surge protectors BONEGA type „B+C“ (type I+II) and „C“ (type II) with replaceable varistor modules:

1. The varistor module (capsule) can easily be removed without needing any addition tools, using just one finger, thanks to a patented eccentric mechanism.
2. The suitable size of the replaceable module (without any protruding shapes), makes it possible to remove it, without having to demount the cover of the switchboard, significantly improving user comfort.
3. The optical signalization of varistor condition (protected by a transparent cover) is divided into two simple sections:
    a) the left section signalizes varistor wear: green field signals „fully functional“, which then gradually changes into a red field „partially functional“. Secondary function signalization, even in case of partial wear, is till in the green position. The functionality of the varistor is still preserved in this case, however only partially. When this conditions is registered, the capsule should be replaced in the near future.
    b) the right section signalizes varistor functional/fault: green field signals „fully functional“, after reacting to high overvoltage, it will switch to the red field, which means„fault“. In this case, both visible fields will be red.
    c) the transparent cover and the signalization itself is large, this makes checking the varistor condition quick and easy.

This is a patented and unique design, which does not confuse the users with other conditions (e.g. orange field, etc.)

4. Remote signalization:
    a) remote signalization may be connected to the frames, even subsequently, so the customer does not have to decide to purchase it all at once. In comparison to competitive products, it is not necessary to buy a new one (in case of subsequent signalization requirements).
    b) the signalization is universal for single module and multi-module designs. The modules are interconnected with a patented system. This makes it possible to significantly decrease purchase costs and does not force the customer to keep extensive stock. A single signalization unit is suitable for all types.
5. Combined terminals make it possible to attach conductors with u-clamp terminals, or using fork busbars from both sides.
6. The terminals are silver-plated and guarantee the possibility to also connect aluminium conductors.
7. When replacing varistor modules, it is not possible to accidentally change parameters. The frame has a specially shaped identification opening in its bottom part, which only allows the correct module (capsule) to be inserted. The frames are predetermined to be used with technically predefined modules. Thanks to this mechanical block, it is not possible to accidentally damage the device.
8. Even when removing the module from the frame, IP 20 protection is still preserved.
9. „N“ poles have a different colour (blue) code.

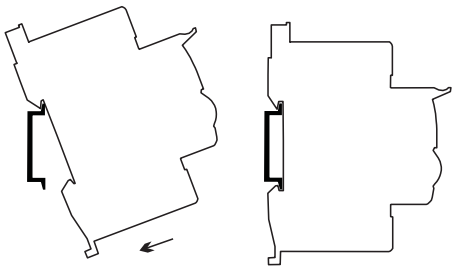
počet pólů		PEP-PO B+C / 1P	PEP-PO B+C / 2P	PEP-PO B+C / 3P	PEP-PO B+C / 4P	PEP-PO B+C / 1P+NPE	PEP-PO B+C / 3P+NPE
trvalé pracovní napětí U_c		280 V	280 V	280 V	280 V	280 V	280 V
impulzní proud I_{imp}		12,5 kA	25 kA	37,5 kA	50 kA	12,5/25 kA	37,5/50 kA
maximální svodový proud I_{max}		50 kA	100 kA	150 kA	200 kA	50 kA	150 kA
jmenovitý impulzní svodový proud I_n		30 kA	60 kA	90 kA	120 kA	30 kA	90 kA
ochranná úroveň U_p		0,9 kV	0,9 kV	0,9 kV	0,9 kV	0,9 kV	0,9 kV
maximální předjištění		160 A gL/gG	160 A gL/gG	160 A gL/gG	160 A gL/gG	160 A gL/gG	160 A gL/gG
reakční čas t_a		25 ns	25 ns	25 ns	25 ns	25 ns	25 ns
ochrana		tepelná	tepelná	tepelná	tepelná	tepelná	tepelná
dovolená teplota okolí		-40°C až +80°C	-40°C až +80°C	-40°C až +80°C	-40°C až +80°C	-40°C až +80°C	-40°C až +80°C
připojení	plný vodič	2 až 35 mm^2	2 až 35 mm^2	2 až 35 mm^2	2 až 35 mm^2	2 až 35 mm^2	2 až 35 mm^2
	slaněný vodič	2 až 25 mm^2	2 až 25 mm^2	2 až 25 mm^2	2 až 25 mm^2	2 až 25 mm^2	2 až 25 mm^2
maximální dotahovací moment svorek		4 Nm	4 Nm	4 Nm	4 Nm	4 Nm	4 Nm
počet pólů		1	2	3	4	2	4
stupeň krytí		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
norma		EN 61643-11	EN 61643-11	EN 61643-11	EN 61643-11	EN 61643-11	EN 61643-11

počet pólů		PEP-PO C / 1P	PEP-PO C / 2P	PEP-PO C / 3P	PEP-PO C / 4P	PEP-PO C / 1P+NPE	PEP-PO C / 3P+NPE
trvalé pracovní napětí U_c		320 V	320 V	320 V	320 V	320 V	320 V
maximální svodový proud I_{max}		40 kA	75 kA	110 kA	150 kA	50 kA	110 kA
jmenovitý impulzní svodový proud I_n		20 kA	40 kA	60 kA	80 kA	40 kA	60 kA
ochranná úroveň U_p		1,0 kV	1,0 kV	1,0 kV	1,0 kV	1,0 kV	1,0 kV
maximální předjištění		125 A gL/gG	125 A gL/gG	125 A gL/gG	125 A gL/gG	125 A gL/gG	125 A gL/gG
reakční čas t_a		25 ns	25 ns	25 ns	25 ns	25 ns	25 ns
ochrana		tepelná	tepelná	tepelná	tepelná	tepelná	tepelná
dovolená teplota okolí		-40°C až +80°C	-40°C až +80°C	-40°C až +80°C	-40°C až +80°C	-40°C až +80°C	-40°C až +80°C
připojení	plný vodič	2 až 35 mm^2	2 až 35 mm^2	2 až 35 mm^2	2 až 35 mm^2	2 až 35 mm^2	2 až 35 mm^2
	slaněný vodič	2 až 25 mm^2	2 až 25 mm^2	2 až 25 mm^2	2 až 25 mm^2	2 až 25 mm^2	2 až 25 mm^2
maximální dotahovací moment svorek		4 Nm	4 Nm	4 Nm	4 Nm	4 Nm	4 Nm
počet pólů		1	2	3	4	2	4
stupeň krytí		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
norma		EN 61643-11	EN 61643-11	EN 61643-11	EN 61643-11	EN 61643-11	EN 61643-11

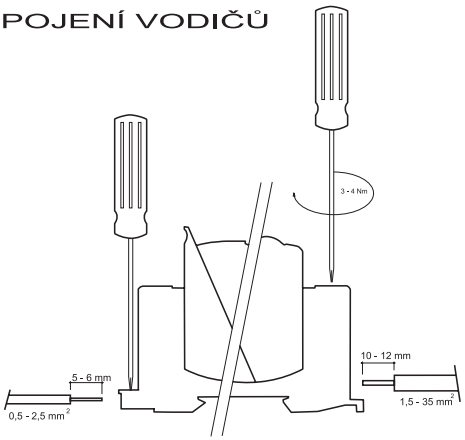
OVERVOLTAGE PROTECTION (VARISTOR)		
Order code	**Description**	**Package pcs/ box**
Surge protector varistor (complete) type „B+C“ (class I+II)		
29-1-BCV PEP-PO	Surge protector BONEGA® PEP-PO varistor 1P type B+C (class I+II)	12
29-2-BCV PEP-PO	Surge protector BONEGA® PEP-PO varistor 2P type B+C (class I+II)	6
29-3-BCV PEP-PO	Surge protector BONEGA® PEP-PO varistor 3P type B+C (class I+II)	4
29-4-BCV PEP-PO	Surge protector BONEGA® PEP-PO varistor 4P type B+C (class I+II)	3
29-1NPE-BCV PEP-PO	Surge protector BONEGA® PEP-PO varistor+spark gap 1P+NPE type B+C (class I+II)	6
29-3NPE-BCV PEP-PO	Surge protector BONEGA® PEP-PO varistor+spark gap 3P+NPE type B+C (class I+II)	3
Replaceable module (capsule) type „B+C“ (class I+II)		
29-1BCV PEP-PO-M	Replaceable module BONEGA® PEP-PO varistor 1P type B+C (class I+II)	12
Replaceable module (capsule) NPE type „B+C“ (class I+II)		
29-1NPE-BCV PEP-PO-M	Replaceable module BONEGA® PEP-PO with spark gap 1P type B+C (class I+II)	12
Basic frame of surge protectors type „B+C“ (class I+II)		
29-1-BCV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor 1P type B+C (class I+II)	12
29-2-BCV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor 2P type B+C (class I+II)	6
29-3-BCV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor 3P type B+C (class I+II)	4
29-4-BCV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor 4P type B+C (class I+II)	3
29-1NPE-BCV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor+spark gap 1P+NPE type B+C (class I+II)	6
29-3NPE-BCV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor+spark gap 3P+NPE type B+C (class I+II)	3
Surge protector varistor (complete) type „C“ (class II)		
29-1-CV PEP-PO	Surge protector BONEGA® PEP-PO varistor 1P type C (class II)	12
29-2-CV PEP-PO	Surge protector BONEGA® PEP-PO varistor 2P type C (class II)	6
29-3-CV PEP-PO	Surge protector BONEGA® PEP-PO varistor 3P type C (class II)	4
29-4-CV PEP-PO	Surge protector BONEGA® PEP-PO varistor 4P type C (class II)	3
29-1NPE-CV PEP-PO	Surge protector BONEGA® PEP-PO varistor+spark gap 1P+NPE type C (class II)	6
29-3NPE-CV PEP-PO	Surge protector BONEGA® PEP-PO varistor+spark gap 3P+NPE type C (class II)	3
Replaceable module (capsule) type „C“ (class II)		
29-1CV PEP-PO-M	Replaceable module BONEGA® PEP-PO varistor 1P type C (class II)	12
Replaceable module (capsule) NPE type „C“ (class II)		
29-1NPE-CV PEP-PO-M	Replaceable module BONEGA® PEP-PO with spark gap 1P type C (class II)	12
Basic frame of surge protectors type „C“ (class II)		
29-1-CV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor 1P type C (class II)	12
29-2-CV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor 2P type C (class II)	6
29-3-CV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor 3P type C (class II)	4
29-4-CV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor 4P type C (class II)	3
29-1NPE-CV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor+spark gap 1P+NPE type C (class II)	6
29-3NPE-CV PEP-PO-R	Basic frame of surge protector BONEGA® PEP-PO varistor+spark gap 3P+NPE type C (class II)	3
Universal auxiliary signalization contact (for all types)		
29-1-PEP-PO-PSK	Universal auxiliary signalization contact BONEGA® PEP-PO-PSK	1

OVERVOLTAGE PROTECTION
TYPE BONEGA PEP-PO

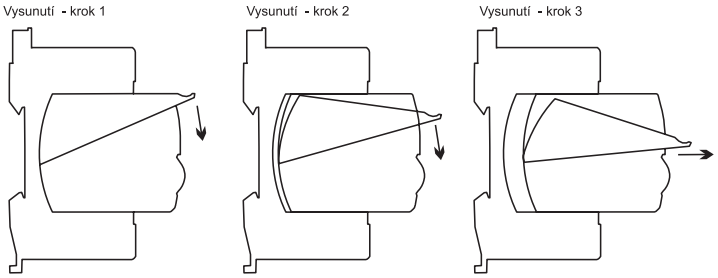
MONTÁŽ NA LIŠTU DIN

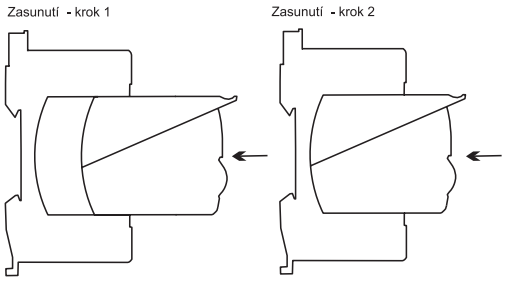


PŘIPOJENÍ VODIČŮ

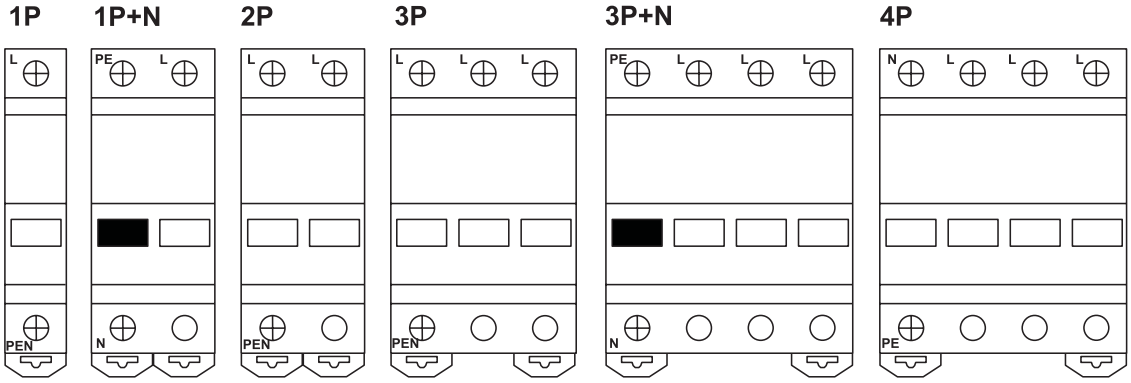


POSTUP VÝMĚNY OPOTŘEBENÝCH MODULŮ



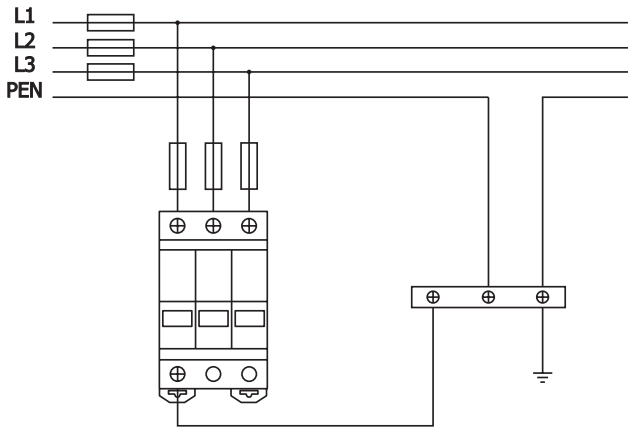


ČELNÍ POHLEDY

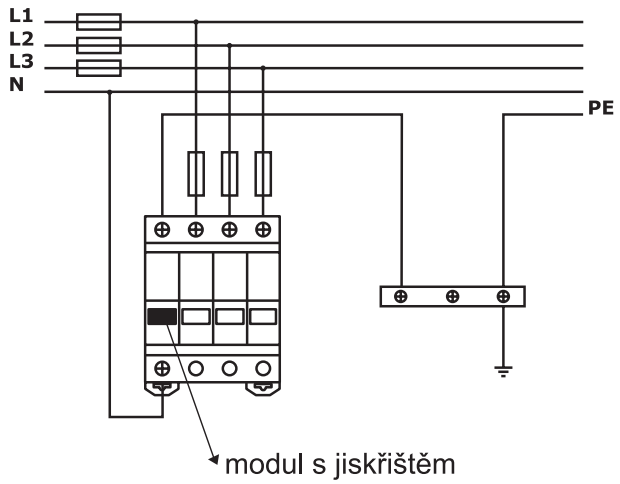


NETWORK CONNECTION DIAGRAM

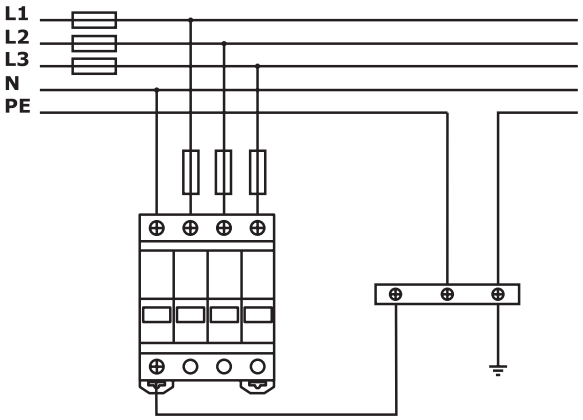
1. SÍŤ TN-C

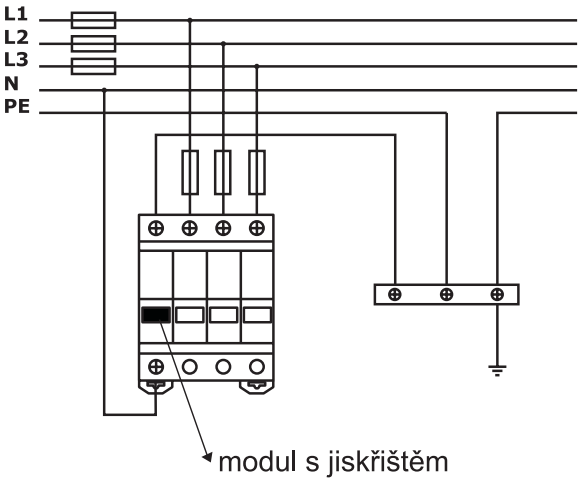


2. SÍŤ TT

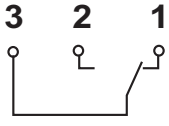


3. SÍŤ TN-S



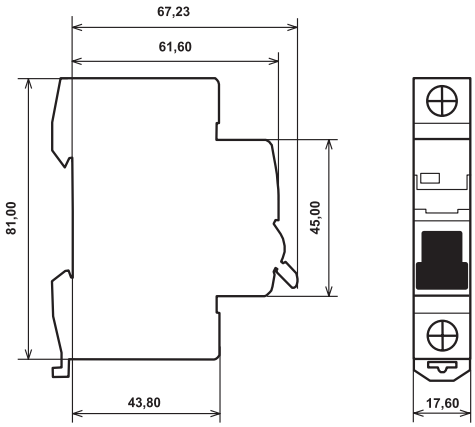


4. CONNECTION DIAGRAM OF AUXILIARY SIGNALIZATION CONTACT



230V AC (1A)

MODULE SWITCHES BONEGA® PEP-10V63 (10 K A , 6 – 63 A)



3 years warranty

SAFETY PARAMETERS	
Breaking capacity:	10.000 A
Max. pre-inserted fuse against short-circuits:	80 A gG (>10 kA)
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase faults:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the MCB (higher operator protection):	IP 20 for a separate switch (from all sides) – its design protects it against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing) IP 40 for a built-in switch – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions
Category:	AC22
MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
Removal from DIN strip:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the switch has an arresting mechanism located on the bottom side of the switch to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	switches can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism

Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross section: 2× (8.2 × 7.8 mm) = **63 mm²** • standard connectivity: 35 mm² solid conductor, 25 mm² stranded conductor • length of screw thread in u-clamp terminal is **3.4 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the switch (it is generally recommended to connect the switches using a fork busbar from the top, to a separate screw terminal, because this prevents the switch from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the switch can be written on, or a prior prepared label) the label is located under a clear hinged window dimensions: • 1P: width 15.4 × height 6.2 × depth 0.3 mm • 2P: width 33.1 × height 6.2 × depth 0.3 mm • 3P: width 50.6 × height 6.2 × depth 0.3 mm • 4P: width 68.4 × height 6.2 × depth 0.3 mm mm material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when switches are placed in various heights (by the screw holes) the bottom and top installation labels have these dimensions: width 17.6 × height 4.8 × depth 0.5 mm prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Housing strength:	9 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints

APPLICATION PARAMETERS	
1 pole – nominal currents In	up to 6, 16, 25, 32, 40, 50, 63 A
2 pole – nominal currents In	up to 16, 25, 32, 40, 50, 63 A
3 pole – nominal currents In	up to 16, 25, 32, 40, 50, 63 A
4 pole – nominal currents In	up to 16, 25, 32, 40, 50, 63 A
Nominal voltage:	1 P (pole) ~ 230/400 V 50/60 Hz 3 P (pole) ~ 230/400 V 50/60 Hz
Accessories:	signalization contacts, etc.
Ambient temperature:	- 30°C to +60°C (- 5 °C to +40 °C pursuant to CSN EN 60898)
Operational at 50 and 60 Hz:	yes
Concurrent connection of all phases by multi-module elements (suitable for motor starts)	yes
Operating at 110 V AC:	yes
Complies with utility companies requirements for disassembly resistance	yes
Complies with utility companies requirements for 3 pole designs to not be able to switch-on a switch without a phase:	yes
OPERATING PARAMETERS	
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 20 000 cycles (on and off)
Manufactured pursuant to standards:	EN 60947-3
Warranty	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the switch is a protected industrial design
Delivery time on working days:	within 48 hours

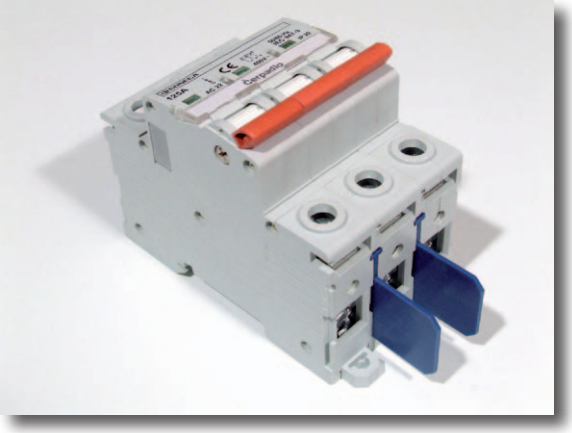
CERTIFICATES

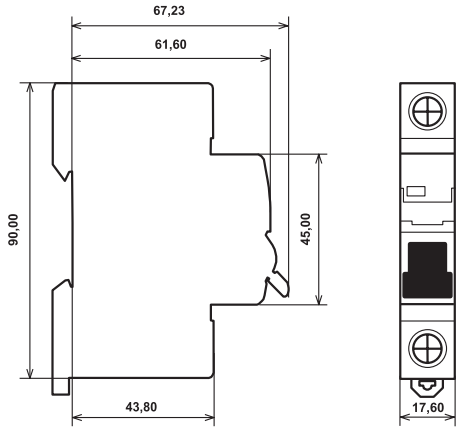
CE Ⓢ

MODULE SWITCHES BONEGA® PEP-10V63		
Order code	**Description**	**Pieces/box**
	One module design	
05-1006001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P to 6A	12
05-1016001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P to 16A	12
05-1025001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P to 25A	12
05-1032001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P to 32A	12
05-1040001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P to 40A	12
05-1050001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P to 50A	12
05-1063001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P to 63A	12
	Two module design	
05-2006001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 2P to 6A	6
05-2016001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 2P to 16A	6
05-2025001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 2P to 25A	6
05-2032001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 2P to 32A	6
05-2040001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 2P to 40A	6
05-2050001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 2P to 50A	6
05-2063001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 2P to 63A	6
	Three module design	
05-3006001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P to 6A	4
05-3016001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P to 16A	4
05-3025001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P to 25A	4
05-3032001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P to 32A	4
05-3040001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P to 40A	4
05-3050001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P to 50A	4
05-3063001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P to 63A	4
	Four module design	
05-4006001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 4P to 6A	3
05-4016001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 4P to 16A	3
05-4025001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 4P to 25A	3
05-4032001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 4P to 32A	3
05-4040001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 4P to 40A	3
05-4050001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 4P to 50A	3
05-4063001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 4P to 63A	3
	Two module design 1P + N	
05-1N06001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P+N to 6A	6
05-1N16001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P+N to 16A	6
05-1N25001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P+N to 25A	6
05-1N32001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P+N to 32A	6
05-1N40001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P+N to 40A	6
05-1N50001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P+N to 50A	6
05-1N63001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 1P+N to 63A	6
	Four module design 3P + N	
05-3N06001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P+N to 6A	3
05-3N16001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P+N to 16A	3
05-3N25001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P+N to 25A	3
05-3N32001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P+N to 32A	3
05-3N40001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P+N to 40A	3
05-3N50001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P+N to 540A	3
05-3N63001 PEP 10V63	Switch BONEGA® PEP-10V63 (10 kA) 3P+N to 63A	3

MODULE SWITCHES BONEGA® PEP-10V125 (10 K A , 63 – 125 A)

with instantaneous disconnection and connection





3 years warranty

SAFETY PARAMETERS	
Breaking capacity:	10.000 A
Max. pre-inserted fuse against short-circuits:	125 A gG (>10 kA)
Safety contact indication:	optical indication of the actual contact condition (independent on lever position) using a red / green symbol with a transparent cover
Resistance to phase-to-phase short-circuits:	protection against phase-to-phase faults of fork connections of several interconnected devices, using screw terminals, is guaranteed by using insulating dividers.
All side protection level for the switch (higher operator protection):	IP 20 for the switch itself (from all side) -its design protects its against a hazardous finger touch as well as against inserting small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard housing) IP 40 for a built-in switch – its design protects it against a hazardous finger touch or instrument touch as well as against inserting very small foreign objects; it is not protected against water leakage (water protection is to be solved with the design of the switchboard casing)
Optional lever sealing:	in both On or Off positions
Category:	AC22
MOUNTING PARAMETERS	
Operating (installation) position:	arbitrary
Mounting temperature:	- 20°C to +55°C
Switch fastening:	a) unique patented quick-install mechanisms (plastic rail holder with arresting lock in limit positions) for mounting on EN 50022 DIN strips, with a width 35 mm and variable thickness b) on a flat surface using two screws c) the switch has an arresting mechanism located on the bottom side of the switch to prevent tilting when fastening onto a DIN strip (vertical device stabilisation on the DIN strip)
Removal from DIN strip:	switches can be pulled out of a row of mutually interconnected devices, by a fork or pin busbar, without needing to remove the entire busbar (at most just bend the busbar, in case of an upper connection), thanks to a unique patented mechanism

Input u-clamp terminals and their connectivity:	with a mechanism to prevent incorrect insertion of conductors (using a locking bar that is part of the u-clamp terminal) bottom part is **U-shaped**, makes it possible to connect several conductors with different diameters, the top fixed and bottom movable part of the terminal are **cross-hatched** (stronger connection on larger transfer surfaces) • cross-section (width × height): 2× (10 × 10 mm) = **100 mm²** • standard connectivity 70 mm² solid conductor, 50 mm² stranded conductor • length of screw thread in u-clamp terminal is **3.2 mm** • the terminal is manufactured from **a single piece** of sheet metal and has a folded joint (prevents terminal from tearing) • the screw cannot fall out of the u-clamp terminal , even when screwed out • the position of the terminal makes it possible to **attach two pin busbars**
Top screw terminal:	• located on **both the top and the bottom** of the switch (it is generally recommended to connect the switches using a fork busbar from the top, to a separate screw terminal, because this prevents the RCD from heating up, due heat radiating from the busbar = does not influence the bimetal) • protected against phase-to-phase faults by plastic dividers, which can be removed, if necessary to connect a continual 1P busbar • the bottom part of the screw head has a **blade** (prevents forks from opening when screwed tight) • bottom part of the screw head is **conical** (causes the fork busbar to tighten around the shank = prevents forks from opening when screwed tight)
Terminal protection:	IP 20
Optional connection of aluminium conductors:	yes (Al/Cu)
Screw head:	combined double cross recess (so called POZIDRIV) and a transverse slot for flat-bladed screwdrivers
Max. terminal tightening torque:	4 Nm
Current input (AC input connection):	as needed from both sides (input interchangeable with output)
Front user description:	area on the front side of the device (the plastic of the switch can be written on, or a prior prewritten label can be used) the label is located under a clear hinged window dimensions: • 1P: width 15.4 × height 6.2 × depth 0.3 mm • 2P: width 33.1 × height 6.2 × depth 0.3 mm • 3P: width 50.6 × height 6.2 × depth 0.3 mm • 4P: width 68.4 × height 6.2 × depth 0.3 mm mm material: standard office paper prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Mounting label:	on the front side, in two places = good visibility even when devices are placed in various heights (by the screw holes) bottom and top mounting labels have these dimensions: width 17.6 × height 4.8 × depth 0.5 mm – prewritten labels, that can be applied by the user, are freely available for download (in DOC format) from www.bonega.cz
Housing strength:	7 rivets used even for 1P models (prevents the housing from opening) two-part housing connected using tenon joints

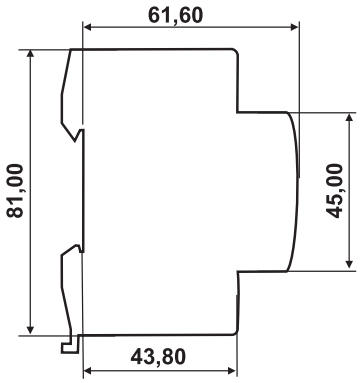
APPLICATION PARAMETERS	
1 pole – nominal currents In	up to 63, 80,100,125 A
2 pole – nominal currents In	up to 63, 80,100,125 A
3 pole – nominal currents In	up to 63, 80,100,125 A
4 pole – nominal currents In	up to 63, 80,100,125 A
Nominal voltage:	1 P (pole) ~ 230/400 V 50/60 Hz 3 P (pole) ~ 230/400 V 50/60 Hz
Accessories:	signalization contacts, etc.
Ambient temperature:	- 30°C to +60°C (- 5 °C to +40 °C pursuant to CSN EN 60898)
Operational at 50 and 60 Hz:	yes
Současné spínání všech fází u vícemodulových provedení (výhodné pro rozběh motorů)	yes
Provoz pro 110V AC:	yes
Complies with utility companies requirements for disassembly resistance	yes
Splnění požadavků rozvodných závodů u 3 pólového provedení na nemožnost sepnutí vypínače bez jedné fáze	yes
OPERATING PARAMETERS	
Contacts:	instantaneous switching of contacts prevents contact surface burns (extending the mechanical and electrical working life)
Testing:	each device, during manufacturing
Heat reduction:	**„stack effect"** ventilation through the spaces between modules (increases operating stability and reliability)
Mechanical working life:	>= 20 000 cycles (on and off)
Electrical working life:	>= 20 000 cycles (on and off)
Manufactured pursuant to standards:	EN 60947-3
Guarantee:	**3 YEARS**
USER AND COMMERCIAL PARAMETERS	
Protected contact indication:	indication of the contact state is protected by a transparent cover against external blocking, avoiding unjustified claims
Storage temperature:	– 40°C up to + 85°C
Industrial protection:	the switch is a protected industrial design
Delivery time on working days:	within 48 hours

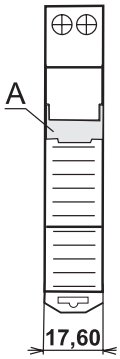
CERTIFICATES

CE Ⓢ

MODULE SWITCHES BONEGA® PEP-10V125		
Order code	**Description**	**Pieces/box**
One module design		
25-10063001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 1P to 63A	12
25-10080001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 1P to 80A	12
25-10100001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 1P to 100A	12
25-10125001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 1P to 125A	12
Two module design		
25-20063001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 2P to 63A	6
25-20080001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 2P to 80A	6
25-20100001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 2P to 100A	6
25-20125001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 2P to 125A	6
Three module design		
25-30063001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 3P to 63A	4
25-30080001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 3P to 80A	4
25-30100001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 3P to 100A	4
25-30125001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 3P to 125A	4
Four module design		
25-40063001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 4P to 63A	3
25-40080001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 4P to 80A	3
25-40100001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 4P to 100A	3
25-40125001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 4P to 125A	3
Two module design 1P + N		
25-1N063001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 1P+N to 63A	6
25-1N080001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 1P+N to 80A	6
25-1N100001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 1P+N to 100A	6
25-1N125001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 1P+N to 125A	6
Four module design 3P + N		
25-3N063001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 3P+N to 63A	3
25-3N080001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 3P+N to 80A	3
25-3N100001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 3P+N to 100A	3
25-3N125001 PEP 10V125	Module switch BONEGA® PEP-10V125 (10 kA) 3P+N to 125A	3
Accessories		
25-IDPEP15	insulating plate protecting against phase-to-phase faults	4

MODULE BELL BONEGA PEP 230Z, 24Z, 12Z, 8Z





3 years warranty

CERTIFICATES

A – user label directly on bell housing

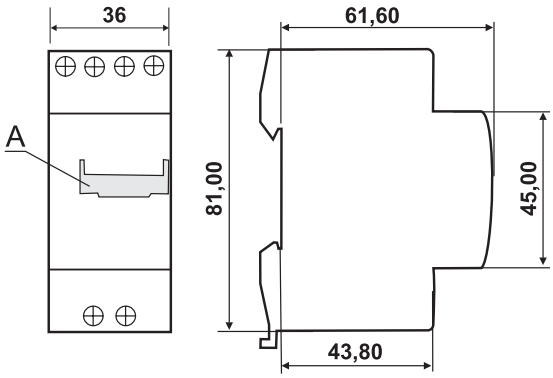
TECHNICAL DATA	
Nominal voltage Un:	230 V, 24 V, 12 V, 8 V (AC 50/60 Hz)
Nominal voltage Un:	-14% up to + 6%
Power input:	5.5 VA
Non-sparking design:	yes
Ambient sound intensity:	LA, eq = 77.9 dB(A) see measuring report
Sound intensity regulation (volume):	no
Protection:	IP 20
Input terminal:	u-clamp terminal (with locking bar) with a patented mechanism to prevent incorrect insertion of conductors; input interchangeable with output; possible to connect several conductors and busbars
Conductor connectivity (maximum cross section):	9 mm^2 solid conductor, 6 mm^2 stranded conductor
Optional connection of aluminium conductors:	yes (Al/Cu)
Manufactured pursuant to standards:	EN 61558-1:1997; EN 61558-2-8:1998

Installation

Mounted on DIN strip and flat surface using screws. The bell is equipped with a transparent hinged cover with a lockable top position (so it does not fall down, when label is written on). A two-line user text can be put into the limited slots (6.2 × 15.4 × 0.3 mm) under the cover. It is possible to write directly onto the surface.

MODULE BELL BONEGA P-E-P		
Order code	**Description**	**Pieces/box**
module bell – 230 V AC, single module design		
17-1230780R-PEP-230Z	module bell BONEGA® PEP – 230Z (without regulation) 230V AC	1
module bell – 24 V AC, single module design		
17-1024780R-PEP-24Z	module bell BONEGA® PEP – 24Z (without regulation) 24V AC	1
module bell – 12 V AC, single module design		
17-1012780R-PEP-12Z	module bell BONEGA® PEP – 12Z (without regulation) 12V AC	1
module bell – 8 V AC, single module design		
17-1008780R-PEP-8Z	module bell BONEGA® PEP – 8Z (without regulation) 8V AC	1

TRANSFORMER BONEGA PEP 24T



3 years warranty

A – user label directly on transformer housing

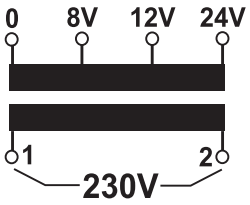
The ET 4 bell transformer is a safety, short-circuit-proof transformer with a modular design (the width is 36 mm). It is intended to be installed into apartment switchboards to supply power to standard doorbells. With its design and technical parameters, the ET 4 bell transformer complies with worldwide contemporary standards.

It is manufactured compliant to standard CSN EN 60 742.

TECHNICAL DATA	
U prim. (input voltage):	AC 230 V / 50 Hz (+6% up to -10%)
U sec. (output voltage):	8 / 12 / 24 V AC
Nominal output:	8 VA
No-load current:	16 mA
Power loss (no-load):	3.4 W
Total power loss (under nominal load):	7.3 W
Load factor:	100%
Protection:	IP 30
Short-circuit resistance:	fully resistant
Class II – double insulation:	⧈
Safety protective transformer, implicitly short-circuit resistant:	
Input terminal:	- u-clamp terminal (with locking bar) with a mechanism to prevent incorrect insertion of conductors - (input interchangeable with output) - possible to connect several conductors and busbars
Conductor connectivity (maximum cross-section):	9 mm² solid conductor, 6 mm² stranded conductor
Optional connection of aluminium conductors:	yes (Al/Cu)

Installation

Mounted on DIN strip and flat surface using screws.



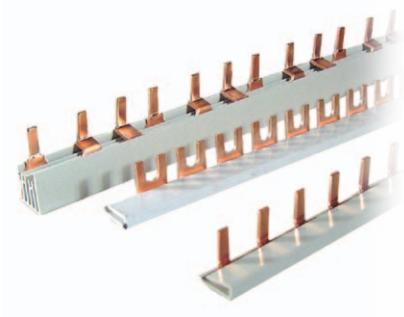
The transformer is equipped with a transparent hinged cover with a lockable top position (so it does not fall down, when label is written on). A two-line user text can be put into the limited slots (6.2 × 15.4 × 0.3 mm) under the cover. It is possible to write directly onto the surface.

CERTIFICATES

CE

MODULE TRANSFORMER BONEGA P-E-P 24T		
Order code	**Description**	**Pieces/box**
18-223081224-PEP-24T	Module transformer	1

INTERCONNECTING PIN AND FORK BUSBARS FOR MODULE DEVICES

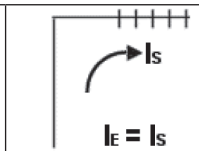
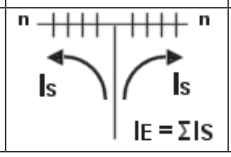


The busbars make it possible to interconnect several MCB´s, switches and RCDs. Interconnecting our BONEGA EV- 6P RCDs with the BONEGA P-E-P or BONEGA EV-6J MCB´s, it is possible to create a multi-unit device.

We supply 1, 2, 3 and 4 pole copper pin busbars with insulation as well as insulated fork busbars with 1.2.3 and 4 pole contacts.

TECHNICAL DATA	
Number of poles:	1, 2, 3, 4
Available lengths:	1 m
Load current:	see load table below
Busbar material:	copper (E-CU – F25)
Insulation material:	self-extinguishing ABS – VO (PC/ABS -Biend UL 94 – VO)
Compliant with standards:	DIN EN 60 439-1: 1994 and VDE 0660, part 500
Short-circuit resistance:	25 kA
Busbar cross-section:	16 mm^2 , 10 mm^2
Reed dimensions:	4 × 12 mm
Insulation resistance:	36kV/ mm
Mechanical resistance of insulation compliant with:	IEC 68 -2
Nominal voltage:	415 V
Operating voltage:	max. 500 V
Maximum load:	4 kV

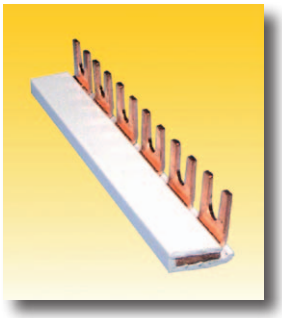
OVERVIEW OF BUSBAR AMPERE LOAD PARAMETERS

		1 busbar – single phase design / two interconnected busbars					1 busbar – 2, 3 and 4 phase design / two interconnected busbars				
busbar cross-section in mm^2		10	12	16	20	25	36	10	16	25	36
power from busbar edge, max. current Is = A		63/ 126	65/ 130	80/ 160	90/ 180	100/ 200	130/ 260	63/ 126	80/ 160	100/ 200	130/ 260
power from busbar centre, max. current Is = A		100/ 200	110/ 220	130/ 260	150/ 300	180/ 360	220/ 440	100/ 200	130/ 260	180/ 360	220/ 440

CERTIFICATES

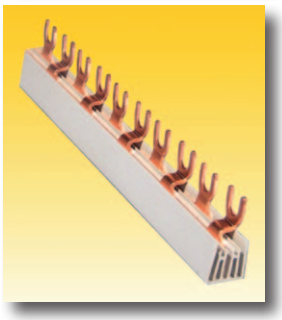
CE

1. Fork busbars



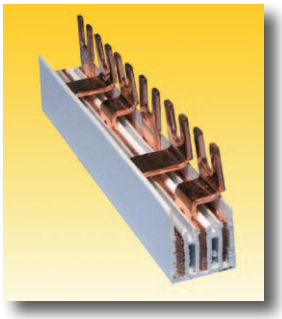
Fork single pole copper busbar

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	1	1
Load capacity:	63 / 126 A	80 / 160 A
Order code:	08-1PV10	08-1PV16
Packaging:	1 piece / box	1 piece / box
Number of contacts/1m:	57	57



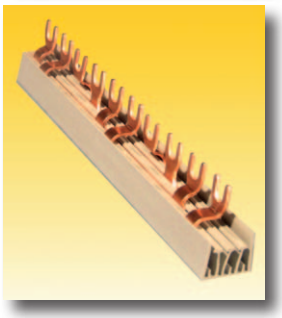
Fork two pole copper busbar

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	2	2
Load capacity:	63 / 126 A	80 / 160 A
Order code:	08-2PV10	08-2PV16
Packaging:	1 piece / box	1 piece / box
Number of contacts/1m:	56	56



Fork three pole copper busbar

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	3	3
Load capacity:	63 / 126 A	80 / 160 A
Order code:	08-3PV10	08-3PV16
Packaging:	1 piece / box	1 piece / box
Number of contacts/1m:	57	57



Fork four pole copper busbar

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	4	4
Load capacity:	63 / 126 A	80 / 160 A
Order code:	08-4PV10	08-4PV16
Packaging:	1 piece / box	1 piece / box
Number of contacts/1m:	56	56

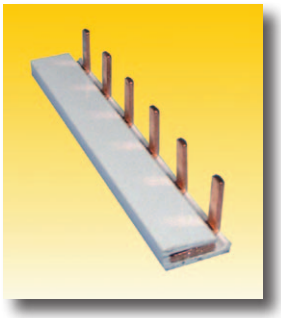
Plastic protective cover for 2.3 and 4 pole busbars

Application:	for 3 pole busbars
Order code:	08-K(2, 3, 4)P(VH)10/16
Packaging:	10 piece / box

Universal contact cover

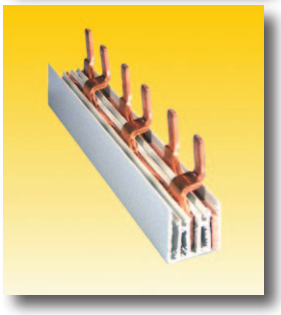
Application:	1, 2, 3, 4 pole busbars
Order code:	08-UPKK
Packaging:	5 piece / box

2. Pin busbars



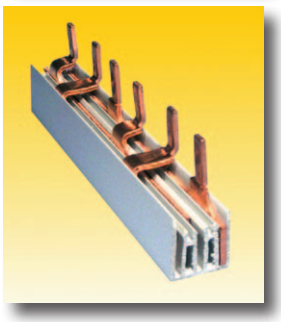
Pin single pole copper busbar

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	1	1
Load capacity:	63 / 126 A	80 / 160 A
Order code:	08-1PH10	08-1PH16
Packaging:	1 piece / box	1 piece / box
Number of contacts/1m:	57	57



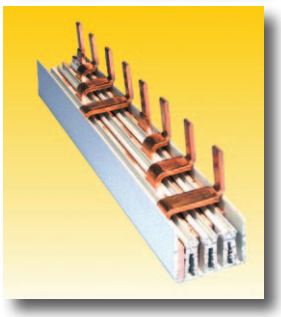
Pin two pole copper busbar

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	2	2
Load capacity:	63 / 126 A	80 / 160 A
Order code:	08-2PH10	08-2PH16
Packaging:	1 piece / box	1 piece / box
Number of contacts/1m:	56	56



Pin three pole copper busbar

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	3	3
Load capacity:	63 / 126 A	80 / 160 A
Order code:	08-3PH10	08-3PH16
Packaging:	1 piece / box	1 piece / box
Number of contacts/1m:	57	57



Pin four pole copper busbar

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	4	4
Load capacity:	63 / 126 A	80 / 160 A
Order code:	08-4PH10	08-4PH16
Packaging:	1 piece / box	1 piece / box
Number of contacts/1m:	56	56

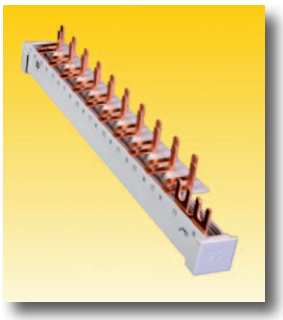
Plastic protective cover for 2.3 and 4 pole busbars

Application:	for 3 pole busbars
Order code:	08-K(2,3,4)P(VH)10/16
Packaging:	10 piece / box

Universal contact cover

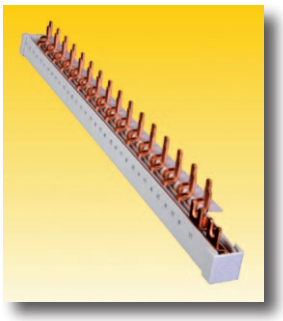
Application:	1, 2, 3, 4 pole busbars
Order code:	08-UPKK
Packaging:	5 piece / box

3. Special busbars for DPN and RCBO devices



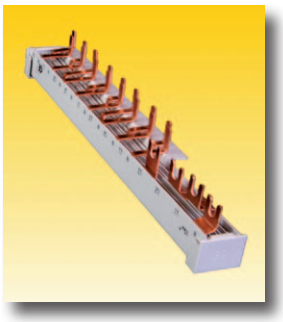
Fork busbar to connect 2P RCDs and 10 pcs of DPN or RCBOs

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	2 (L+N)	2 (L+N)
Load capacity:	63 A	80 A
Order code:	08-2P2V20H10	08-2P2V20H16
Packaging:	1 piece / box	1 piece / box
Total length:	12 modules	12 modules



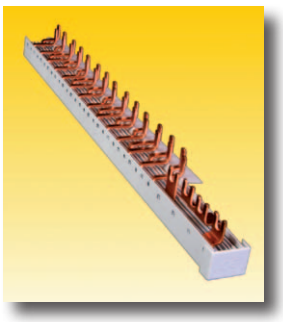
Fork busbar to connect 2P RCDs and 16 pcs of DPN or RCBOs

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	2 (L+N)	2 (L+N)
Load capacity:	63 A	80 A
Order code:	08-2P2V32H10	08-2P2V32H16
Packaging:	1 piece / box	1 piece / box
Total length:	18 modules	18 modules



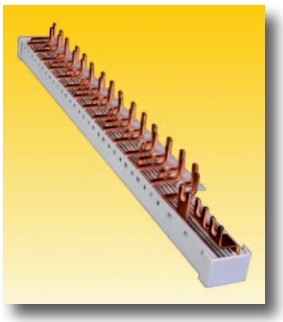
Fork busbar to connect 4P RCDs and 8 pcs of DPN or RCBOs

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	2 (L+N)	2 (L+N)
Load capacity:	63 A	80 A
Order code:	08-4P4V16H10	08-4P4V16H16
Packaging:	1 piece / box	1 piece / box
Total length:	12 modules	12 modules



Fork busbar to connect 4P RCDs and 14 pcs of DPN or RCBOs

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	4 (L1, L2, L3+N)	4 (L1, L2, L3+N)
Load capacity:	63 A	80 A
Order code:	08-4P4V28H10	08-4P4V28H16
Packaging:	1 piece / box	1 piece / box
Total length:	18 modules	18 modules



Fork busbar to connect a 3P MCB and 15 pcs of DPN or RCBOs

Properties	Busbar with 10 mm² cross-section	Busbar with 16 mm² cross-section
Number of poles:	4 (L1, L2, L3+N)	4 (L1, L2, L3+N)
Load capacity:	63 A	80 A
Order code:	08-4P3V30H10	08-4P3V30H16
Packaging:	1 piece / box	1 piece / box
Total length:	18 modules	18 modules

EXTRA TERMINALS

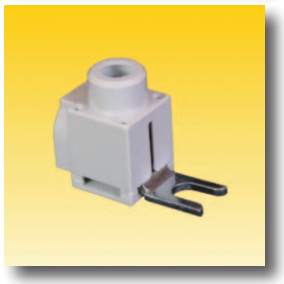
1. Extra fork terminals – white

Extra terminal with cover – lengthwise supply

Properties	white
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	11 × 10 × 1.5 mm
Order code:	24-PSV-B-111015-PO
Packaging:	1 piece / box

Extra terminal with cover – crosswise supply

Properties	white
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	11 × 10 × 1.5 mm
Order code:	24-PSV-B-111015-PR
Packaging:	1 piece / box

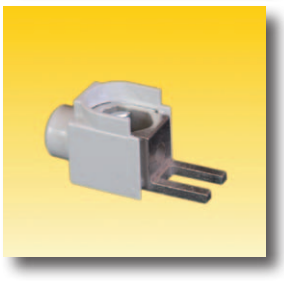


Extra terminal with cover – lengthwise supply

Properties	white
Conductor connectivity:	6–50 mm²
Load capacity:	100 A /690 V
Dimensions:	11 × 15 × 2 mm
Order code:	24-PSV-B-111520-PO
Packaging:	1 piece / box

Extra terminal with cover – crosswise supply

Properties	white
Conductor connectivity:	6–50 mm²
Load capacity:	100 A /690 V
Dimensions:	11 × 15 × 2 mm
Order code:	24-PSV-B-111520-PR
Packaging:	1 piece / box



Extra terminal with cover – supply from rear

Properties	white
Conductor connectivity:	6–50 mm²
Load capacity:	100 A /690 V
Dimensions:	11 × 15 × 2.5 mm
Order code:	24-PSV-B-111525-PZ
Packaging:	1 piece / box

2. Extra pin terminals – blue

Extra terminal with cover – lengthwise supply

Properties	blue
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	4,3 × 10 × 2 mm
Order code:	24-PSH-M-431020-PO
Packaging:	1 piece / box

Extra terminal with cover – crosswise supply

Properties	blue
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	4,3 × 10 × 2 mm
Order code:	24-PSH-M-431020-PR
Packaging:	1 piece / box

Extra terminal with cover – lengthwise supply

Properties	blue
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	6 × 32 × 2 mm
Order code:	24-PSH-M-063220-PO
Packaging:	1 piece / box

Extra terminal with cover – lengthwise supply

Properties	blue
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	4,3 × 32 × 2 mm
Order code:	24-PSH-M-433220-PO
Packaging:	1 piece / box

Extra terminal with cover – crosswise supply

Properties	blue
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	6 × 32 × 2 mm
Order code:	24-PSH-M-063220-PR
Packaging:	1 piece / box

Extra terminal with cover – crosswise supply

Properties	blue
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	4,3 × 32 × 2 mm
Order code:	24-PSH-M-433220-PR
Packaging:	1 piece / box

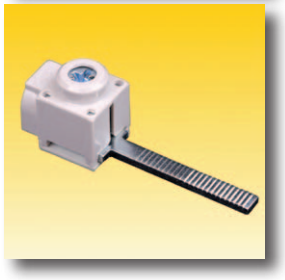
3. Extra pin terminals – white

Extra terminal with cover – lengthwise supply

Properties	white
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	4,3 × 10 × 2 mm
Order code:	24-PSH-B-431020-PO
Packaging:	1 piece / box

Extra terminal with cover – crosswise supply

Properties	white
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	4,3 × 10 × 2 mm
Order code:	24-PSH-B-431020-PR
Packaging:	1 piece / box



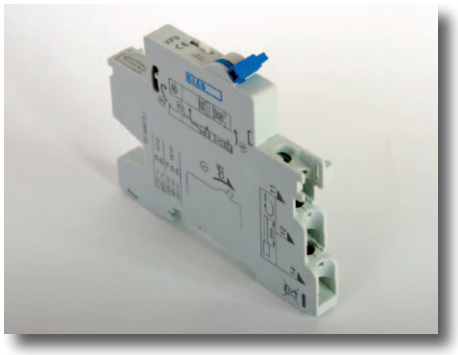
Extra terminal with cover – lengthwise supply

Properties	white
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	4,3 × 32 × 2 mm
Order code:	24-PSH-B-433220-PO
Packaging:	1 piece / box

Extra terminal with cover – crosswise supply

Properties	white
Conductor connectivity:	6–25 mm²
Load capacity:	63 A /690 V
Dimensions:	4,3 × 32 × 2 mm
Order code:	24-PSH-B-433220-PR
Packaging:	1 piece / box

AUXULIARY SIGNALIZATION CONTACT XF9 FOR MODULE DEVICES BONEGA PEP



Auxiliary (signalization) contact, type XF9:

- the width of the auxiliary contact is equal to 1/2 module = 9 mm
- it includes 1 switching contact signalling the MCB´s condition
- the switching contact, is connected to a control or signalling circuit and indicates the MCB´s position „ON“ or „OFF“.
- a testing button located on the front of the auxiliary contact serves for checking the signalling circuit without having to manipulate the MCB.

Installation: attaches to the left side of devices, tools not necessary.

AUXILIARY CONTACT (FOR REMOTE SIGNALLIZATION)		
Order code	**Description**	**Pieces/box**
07-05XF9-0-240V AC/DC	Auxiliary signalization contact XF9 (0 up to 230 V AC/DC)	1

3 years warranty

CERTIFICATES CE

AUXULIARY SIGNALIZATION CONTACT PEP-PK with outputs on, fault, off for module devices BONEGA PEP series

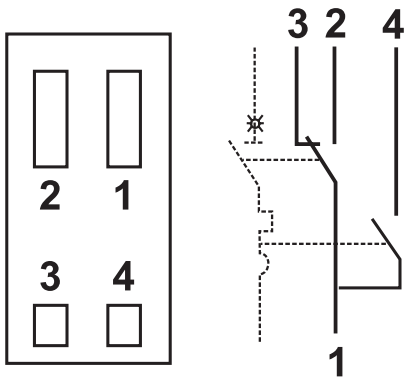
Auxiliary (signalization) contact, type PEP-PK:

- the width of the auxiliary contact is equal to 1 module = 17.8 mm
- it contains contacts signalizing MCB conditions:

  a) on
  b) fault
  c) off

- manufactured compliant with IEC 60947-5-1

Installation: attaches to the left side of devices, tools not necessary.



AUXILIARY CONTACT (FOR REMOTE SIGNALLIZATION)		
Order code	**Description**	**Pieces/box**
07-05-0-230V AC/DC PEP-PK	Auxiliary signalization contact BONEGA® PEP-PK (0 to 230 V AC/DC)	1

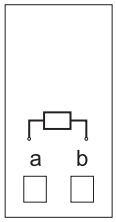
3 years warranty

CERTIFICATES CE

VOLTAGE RELEASES PEP-NVS for module devices BONEGA PEP

- width is 1 module (17.8 mm)
- makes it possible to switch off a MCB from a random location by bringing voltage to the release's coil
- manufactured compliant with IEC 60947-5

Installation: attaches to the left side of devices, tools not necessary.



Testing voltage of release (tripping):

The described example applies for 230V, however the calculated percentage rate and testing is identical with 24V, 48V, etc...

a) the voltage release (tripping) is connected to the MCB (RCD, etc.)

b) the coil of the voltage release (tripping) is connected with a voltage of 70%=161V and the MCB must trip

c) the coil of the voltage release (tripping) is connected with a voltage of 110%=253V and the MCB must trip

VOLTAGE RELEASE		
Order code	**Description**	**Pieces/box**
07-10-0-230 V AC PEP-NVS	Voltage release BONEGA® PEP-NVS (230 V AC)	1
07-10-0-48 V DC PEP-NVS	Voltage release BONEGA® PEP-NVS (48 V DC)	1
07-10-0-24 V DC PEP-NVS	Voltage release BONEGA® PEP-NVS (24 V DC)	1
07-10-0-12 V DC PEP-NVS	Voltage release BONEGA® PEP-NVS (12 V DC)	1

CERTIFICATES

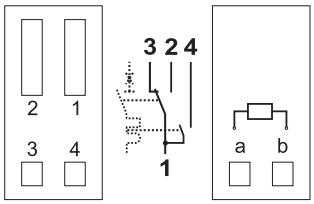
CE

3 years warranty

VOLTAGE RELEASES PEP-NVS+PK with auxiliary signalization contacts for module devices BONEGA PEP series

- width is 1 module (17.8 mm)
- makes it possible to switch off a MCB from a random location by bringing voltage to the release's coil
- signalize the condition of the device:
  a) on
  b) fault
  c) off
- manufactured compliant with IEC 60947-5-1

Installation: attaches to the left side of devices, tools not necessary.



Testing voltage of release (tripping):

The described example applies for 230V, however the calculated percentage rate and testing is identical with 24V, 48V, etc...

a) the voltage release (tripping) is connected to the MCB (RCD, etc.)

b) the coil of the voltage release (tripping) is connected with a voltage of 70%=161V and the MCB must trip

c) the coil of the voltage release (tripping) is connected with a voltage of 110%=253V and the MCB must trip

VOLTAGE RELEASE		
Order code	**Description**	**Pieces/box**
07-10-0-230 V AC PEP-NVS+PK	Voltage release with auxiliary signalization contacts BONEGA® PEP-NVS (230 V AC)	1
07-10-0-48 V DC PEP-NVS+PK	Voltage release with auxiliary signalization contacts BONEGA® PEP-NVS (48 V DC)	1
07-10-0-24 V DC PEP-NVS+PK	Voltage release with auxiliary signalization contacts BONEGA® PEP-NVS (24 V DC)	1
07-10-0-12 V DC PEP-NVS+PK	Voltage release with auxiliary signalization contacts BONEGA® PEP-NVS (12 V DC)	1

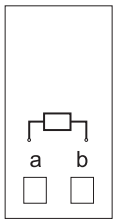
3 years warranty

CERTIFICATES CE

LOW-VOLTAGE RELEASES PEP-PVS for module devices BONEGA PEP series

- width is 1 module (17.8 mm)
- enables to automatically switch off connected devices during low-voltage
- prevents the MCB to switch on, if the low-voltage release is not powered
- manufactured compliant with IEC 60947-5

Installation: attaches to the left side of devices, tools not necessary.



Testing the low-voltage release in compliance with the standard. The described example applies for 230V, however the calculated percentage rate and testing is identical with 24V, 48V, etc...

a) the low-voltage release (tripping) is connected to the MCB (RCD, etc.)

b) the coil of the low-voltage release (tripping) is connected with a voltage of 35%=80.5V and the MCB must be prevented from switching on

c) increase the voltage to 85% = 195.5V and it must be possible to switch on the MCB

d) increase the voltage to 110% = 253V and it must be possible to switch on the MCB

e) gradually decrease voltage to 70% = 161V and the MCB may not trip

f) gradually decrease voltage to 35% = 80.5V, whereas the MCB must trip within the decreased voltage range of 70% = 161V to 35% = 80.5V

LOW-VOLTAGE RELEASE		
Order code	**Description**	**Pieces/box**
07-10-0-230 V AC PEP-PVS	Low-voltage release BONEGA® PEP-PVS (230 V AC)	1
07-10-0-48 V DC PEP-PVS	Low-voltage release BONEGA® PEP-PVS (48 V DC)	1
07-10-0-24 V DC PEP-PVS	Low-voltage release BONEGA® PEP-PVS (24 V DC)	1

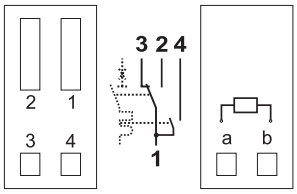
CERTIFICATES

3 years warranty

LOW-VOLTAGE RELEASES PEP-PVS with auxiliary signalization contacts for module devices BONEGA PEP series

- width is 1 module (17.8 mm)
- enables to automatically switch off connected devices during low-voltage
- prevents the MCB to switch on, if the low-voltage release is not powered
- signalize the condition of the device:
  a) on
  b) fault
  c) off
- manufactured compliant with IEC 60947-5-1

Installation: attaches to the left side of devices, tools not necessary.



Testing the low-voltage release in compliance with the standard. The described example applies for 230V, however the calculated percentage rate and testing is identical with 24V, 48V, etc...

a) the low-voltage release (tripping) is connected to the MCB (RCD, etc.)

b) the coil of the low-voltage release (tripping) is connected with a voltage of 35%=80.5V and the MCB must be prevented from switching on

c) increase the voltage to 85% = 195.5V and it must be possible to switch on the MCB

d) increase the voltage to 110% = 253V and it must be possible to switch on the MCB

e) gradually decrease voltage to 70% = 161V and the MCB may not trip

f) gradually decrease voltage to 35% = 80.5V, whereas the MCB must trip within the decreased voltage range of 70% = 161V to 35% = 80.5V

LOW-VOLTAGE RELEASE		
Order code	**Description**	**Pieces/box**
07-10-0-230 V AC PEP-PVS+PK	Low-voltage release BONEGA® PEP-PVS+PK (230 V AC)	1
07-10-0-48 V DC PEP-PVS+PK	Low-voltage release BONEGA® PEP-PVS+PK (48 V DC)	1
07-10-0-24 V DC PEP-PVS+PK	Low-voltage release BONEGA® PEP-PVS+PK (24 V DC)	1

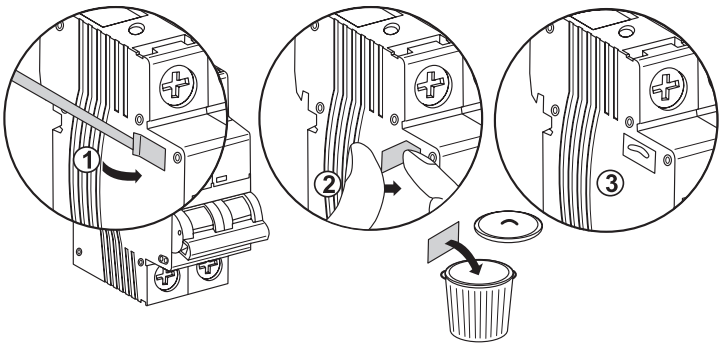
3 years warranty

CERTIFICATES CE

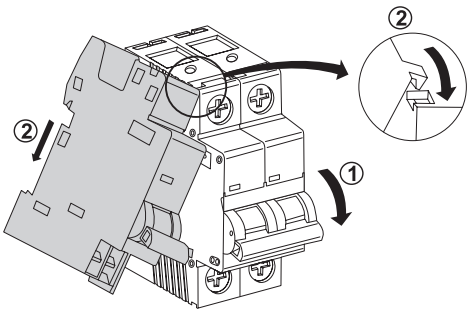
Instructions for mounting and demounting accessories

I. MOUNTING

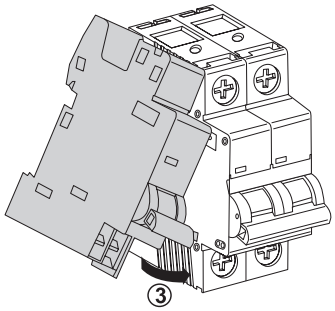
STEP 1



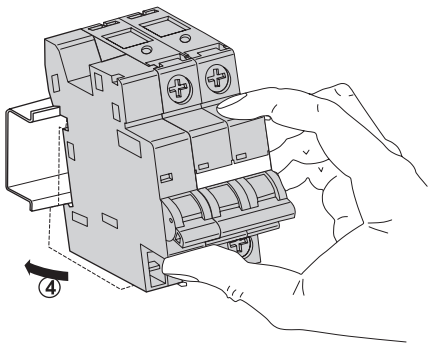
STEP 2



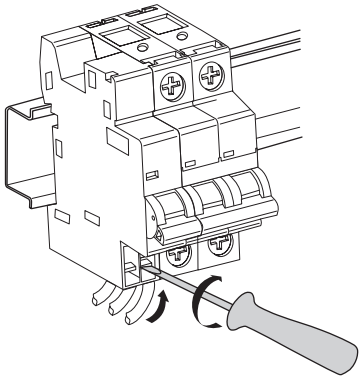
STEP 3



STEP 4

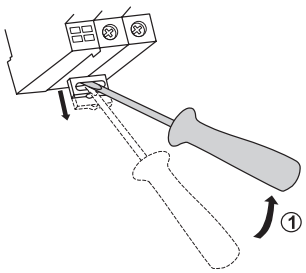


STEP 5

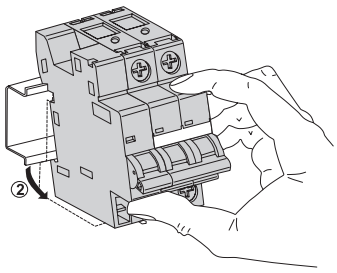


II. DEMOUNTING

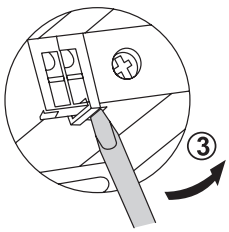
STEP 1



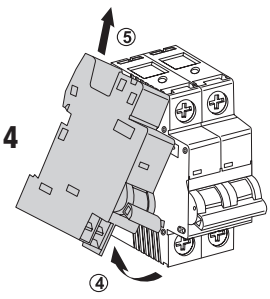
STEP 2



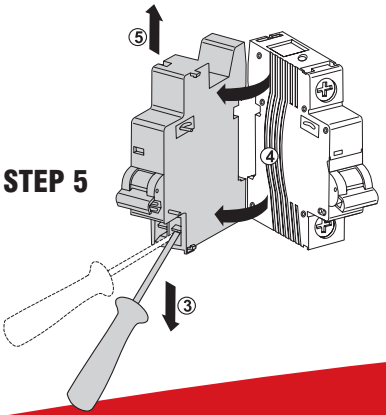
STEP 3



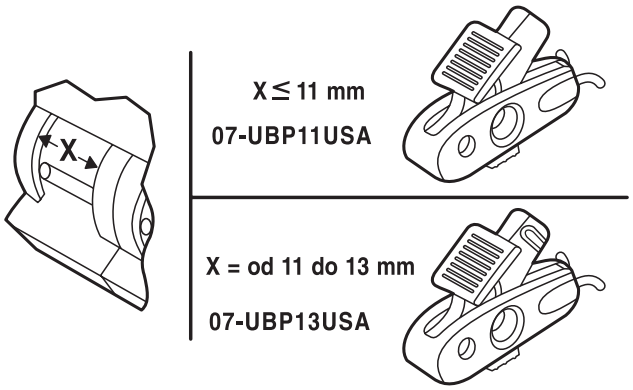
STEP 4



STEP 5



LOCKABLE LEVER BLOCKERS



LOCKABLE LEVER BLOCKERS		
Order code	**Description**	**Pieces/box**
07-UBP11USA	Lockable lever blockers for pitches < 11 mm (for all BONEGA devices)	1
07-UBP13USA	Lockable lever blockers for 11–13 mm pitches	1

NON-CONDUCTIVE, NON-MAGNETIC, SPARK-PROOF SAFETY PADLOCKS

NON-CONDUCTIVE, NON-MAGNETIC, SPARK-PROOF SAFETY PADLOCKS		
Order code	**Description**	**Pieces/box**
07-AVMJBVZ406-38-45-6,4-20R	Pad lock – various keys	1
07-AVMJBVZ406KA-38-45-6,4-20R	Pad lock – same key	1
07-AVMJBVZ406MK-38-45-6,4-20R	Pad lock – master key system	1

MODULE CONTACTOR IK

Installable module contactors are used to contact and automatically control electric appliances installed in homes, offices, shops and hospitals.

They are especially suitable for switching off lighting, pumps, air-conditions, boilers and other similar appliances. They are also suitable for connecting and disconnecting single phase and three phase electric motors. Their operation is silent.

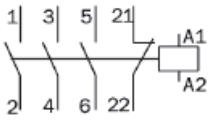
Contactors may be installed into electrical circuits on 35 mm profiled DIN strips (compliant with EN 607 15).

IKD 20, IKD 25, IKD 40 and IKD 63 contactors are DC (direct current) contactors with overvoltage protection and surge protection, which makes it possible to control AC or DC voltage.

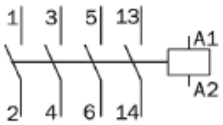
Four pole operating (switching, direct) contactor contacts may be used as primary or secondary contacts. IKA 20, IK 21 and IKA 25 are AC contactors (alternating current).

IKA/IKD 20/25 – R are special versions with a manual control mechanism (zeroing function).

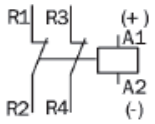
Connection diagram:



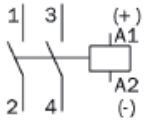
IK21-01



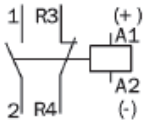
IK21-10



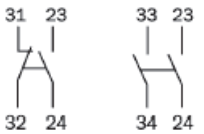
IKA20-02, IKD20-02



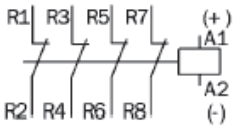
IKA20-20, IKD20-20



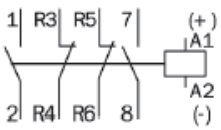
IKA20-11, IKD20-11



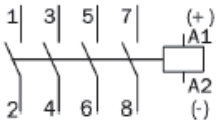
IKN-11 IKN-20



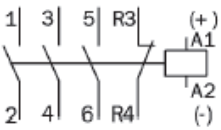
IKA25-04, IKD25-04
IK40-04



IKA25-22, IKD25-22
IK40-22, IK63-22



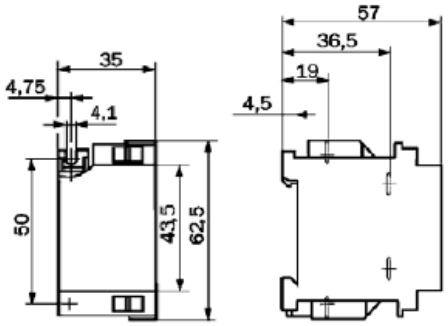
IKA25-40, IKD25-40
IK40-40, IK63-40



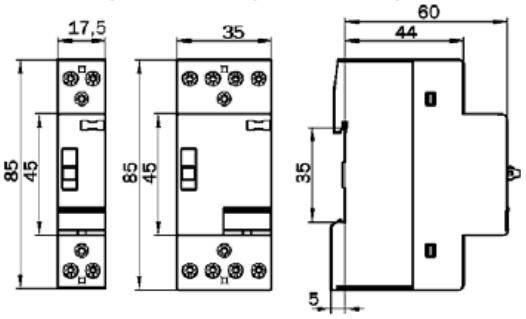
IKA25-31, IKD25-31
IK40-31, IK63-31

INSTALLATION DIAGRAM

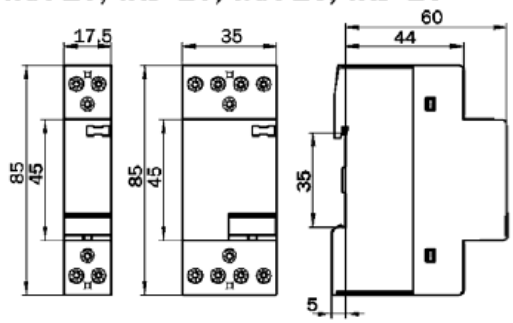
IK 21



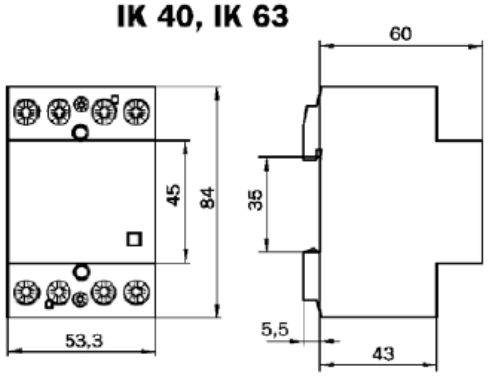
IKA 20-R, IKD 20-R, IKA 25-R, IKD 25-R



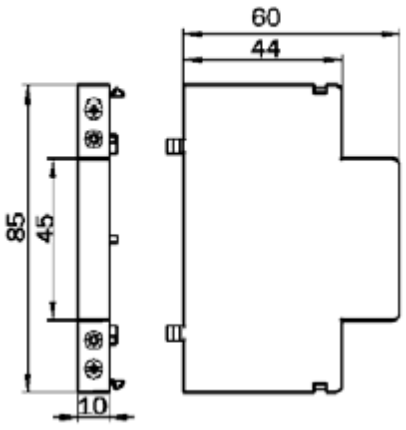
IKA 20, IKD 20, IKA 25, IKD 25



IK 40, IK 63



IKN



SEALING COVER

IKA 25, IKD 25

IKA 20, IKD 20

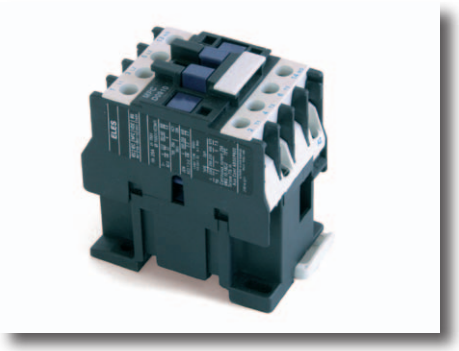
IK 40, IK 63

MODULE CONTACTORS IK	
Order code	**Description**
Mini contactor, 20 A, two module design	
15-IK21-10	IK 21-10 (connecting)
15-IK21-01	IK 21-01 (disconnecting)
Auxiliary contact for mini contactor – axial	
15-PK-IKN-11	Auxiliary contact for IK 21
Module contactor, 20 A, single module design	
15-IKA20-20	IK 20-20 (2× connecting)
15-IKA20-11	IK 20-11 (1× connecting and 1× disconnecting)
15-IKA20-02	IK 20-02 (2× disconnecting)
Mini contactor, 20 A, with manual control mechanism	
15-IKA20-20R	IK 20-20-R (2× connecting)
15-IKA20-11R	IK 20-11-R (1× connecting and 1× disconnecting)
Mini contactor, 25 A, two module design	
15-IKA25-40	IK 25-40 (4× connecting)
15-IKA25-31	IK 25-31 (3× connecting and 1× disconnecting)
15-IKA25-22	IK 25-22 (2× connecting and 2× disconnecting)
15-IKA25-04	IK 25-04 (4× disconnecting)
Mini contactor, 25 A, with manual control mechanism	
15-IKA25-40R	IK 25-40-R (2× connecting)
Mini contactor, 40 A, three module design	
15-IK40-40	IK 40-40 (4× connecting)
15-IK40-31	IK 40-31 (3× connecting and 1× disconnecting)
15-IK40-22	IK 40-22 (2× connecting and 2× disconnecting)
15-IK40-04	IK 40-04 (4× disconnecting)
Mini contactor, 63 A, three module design	
15-IK63-40	IK 63-40 (4× connecting)
15-IK63-31	IK 63-31 (3× connecting and 1× disconnecting)
15-IK63-22	IK 63-22 (2× connecting and 2× disconnecting)
a) Mini contactor, 20 A, single module design	
15-IKD20-20	IKD 20-20 (2× connecting)
15-IKD20-11	IKD 20-11 (1× connecting and 1× disconnecting)
15-IKD20-02	IKD 20-02 (2× disconnecting)
b) Mini contactor, 25 A, two module design	
15-IKD25-40	IKD 25-40 (4× connecting)
15-IKD25-31	IKD 25-31 (3× connecting and 1× disconnecting)
15-IKD25-22	IKD 25-22 (2× connecting and 2× disconnecting)
15-IKD25-04	IKD 20-02 (2× disconnecting)
Screw head covers	
15-KR-IKA/IKD 20	Screw head covers for IKA 20
15-KR-IKA/IKD 25	Screw head covers for IKA 25
15-KR-IK 40/63	Screw head covers for IKA 40, IKA 63

Technical parameters of IK module contactors

Typ						IKA20	IKD20	IK21	IKA25	IKD25	IK40	IK63	kontakt HHSLa	kontakt IKN
Všeobecně	Technická norma					IEC 947-4-1, IEC 947-5-1, IEC 1095, EN 60947-4-1, EN 60947-5-1 EN 61095, VDE 0660, VDE 0637								
	Přípustná teplota okolí				°C	-5…+55						-5…+40	-5…+55	
	Skladová teplota				°C	-30…+80								
	Ochrana proti přepětí				V	-	430	-	-	430	430	430	-	-
	Mechanická odolnost					3×10^6								
	Třída odolnosti na DIN 40 050, IEC 529 Ochrana proti dotyku VDE 0106					IP20								
	Zapojení vedle sebe				40°C	bez limitu							-	-
					55°C	bez limitu						max.3con.	-	-
Hlavní kontakty	Jmenovité izolační napětí			U_i	V	440	440	415	440	440	500	500	440	440
				U_{imp}	kV	4	4		4	4	4	4	4	4
	Jmenovitý tepelný proud			I_{th}	A	20	20	20	25	25	40	63	6	6
	AC1	Jmenovitý pracovní proud		I_e	A	20	20	20	25	25	40	63	-	-
	AC7a	Jmenovitý pracovní výkon	230V		kW	4	4	7,5	9	9	16	24	-	-
			400V			-		13	16	16	26	40	-	-
	AC3 AC7b	Jmenovitý pracovní výkon	230V		kW	$1,3_{\text{jenom pro NO}}$	$1,3_{\text{jenom pro NO}}$	1,1	2,2	2,2	5,5	8,5	-	-
			400V			-	-	2,2	4	4	11	15	-	-
	DC 1	Jmenovitý pracovní proud při: 1 pól	U_e=24V	I_e	A	20	20	20	25	25	40	63	-	-
			U_e=110V			1	1	2	2	2	4	4	-	-
			U_e=220V			0,5	0,5	0,5	0,5	0,5	0,8	0,8	-	-
		2 póly zapojeny v sérii	U_e=24V			-	20	20	-	-	40	63	-	-
			U_e=110V			3	3	4	4	4	10	10	-	-
			U_e=220V			1,5	1,5	1,5	1,5	1,5	6	6	-	-
		3 póly zapojeny v sérii	U_e=24V			-	-	20	-	-	40	63	-	-
			U_e=110V			-	-	6	6	6	30	35	-	-
			U_e=220V			-	-	2,5	2,5	2,5	20	30	-	-
		4 póly zapojeny v sérii	U_e=24V			-	-	20	25	25	40	63	-	-
			U_e=110V			-	-	6	6	6	40	63	-	-
			U_e=220V			-	-	3,5	3,5	3,5	40	63	-	-
	Elektr. životnost 230/400 V	AC1			Pracovní cikly	200000	200000	200000	200000	200000	100000	100000	-	-
		AC3				300000	300000	300000	500000	500000	150000	150000	-	-
		AC5a	Vysokotlaké plynové lampy			100000 při 32 uF	100000 při 32 uF	100000 přit 36 uF	100000 při 36 uF	100000 při 36 uF	100000 při 220 uF	100000 při 330 uF	-	-
		AC5b	Žárovkové lampy			-	-	50000 při 1,5 kW	100000 při 1,5 kW	100000 při 1,5 kW	100000 při 4 kW	100000 při 6 kW	-	-
		AC7a	Rezistenční domácí zařízení			200000	200000	200000	200000	200000	100000	100000	-	-
		AC7b	Indukční domácí zřízení			300000	300000	300000	500000	500000	150000	150000	-	-
	maximální pracovní frekvence				p.c./h	600	600	360	600	600	120	120	600	600
	náhodný výkon/ napětový tok				W	1,7	1,7	2	2,2	2,2	4	8	-	-
	zálohová pojistka				A	20	20	25	35	35	63	80	6	6

INDUSTRIAL ELES CONTACTORS



Basic technical information for ELES – MPC contactors:

especially suitable for switching asynchronous motors with short rotors, when started from idle state or when switched off during operation

TECHNICAL DATA	
Current load (A):	9 to 95
Category	AC – 3 (3 phase altering current)
Control voltage	a) AC 230 V 50/60 Hz (altering current)
	b) AC 24 V 50/60 Hz (altering current)
Design	air break (contacts work at standard air atmospheric pressures)
Mount D 09 to D 32	on DIN strips
Mount D 40 to D 95	on DIN strips as well as using screws
Mounting position	CSN EN 60 947-1
Compliant with standards	CSN EN 60 947-1
Accessories:	front auxiliary contacts LA 1, heat relay LR2, ..., etc.

NOMINAL OUTPUT OF 3 PHASE MOTORS AT AC-3					
ELES contactors	**voltage 230V**	**voltage 400V**	**voltage 480V**	**voltage 660V**	**unit -**
MPC-D 09	2.2	4	4	5.5	kW
MPC-D 12	3	5.5	5.5	7.5	kW
MPC-D 18	4	9	9	10	kW
MPC-D 25	5.5	11	11	15	kW
MPC-D 32	7.5	15	15	18.5	kW
MPC-D 40	11	18.5	18.5	30	kW
MPC-D 50	15	22	22	33	kW
MPC-D 65	18.5	30	30	37	kW
MPC-D 80	22	37	37	45	kW
MPC-D 95	27	45	45	55	kW

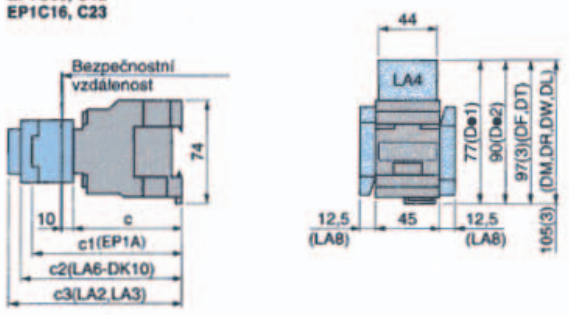
MEAN INPUT OF CONTROL CIRCUITS:									
Loaded 50 Hz / Cos φ 0,75									
MPC-D09	MPC-D12	MPC-D18	MPC-D25	MPC-D32	MPC-D40	MPC-D50	MPC-D65	MPC-D80	MPC-D95
70 VA	70 VA	70 VA	100 VA	100 VA	100 VA	250 VA	250 VA	250 VA	250 VA
Retaining 50 Hz / Cos φ 0,3									
MPC-D09	MPC-D12	MPC-D18	MPC-D25	MPC-D32	MPC-D40	MPC-D50	MPC-D65	MPC-D80	MPC-D95
8 VA	8 VA	8 VA	9 VA	9 VA	9 VA	26 VA	26 VA	26 VA	26 VA

Note:

ELES contactors are fully compatible with other ELES accessories (front mounted auxiliary contacts, heat relay) and are readily available on our market, as well as side mounted auxiliary contacts, timers, etc.

DIMENSIONS (DIAGRAMS):

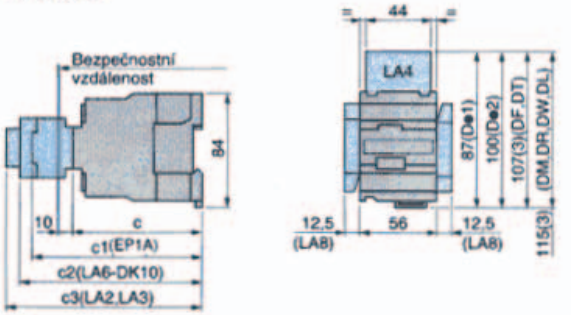
EP1C09, C12
EP1C16, C23



EP1	c	c1 (1)	c2	c3 (2)
C09, C12, C16	80	113	125	133
C23	85	118	130	138

(1) Se 2 nebo 4 kontakty.
(2) + 4 mm s plombovacím krytem.
(3) S nebo bez odrušovacích modulů.
LA4-DA1, DB1, DE1.

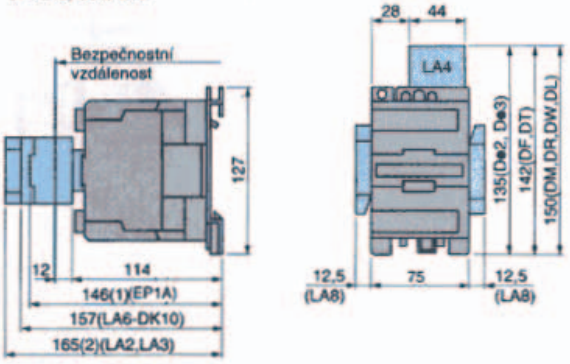
EP1C30, C38



EP1	c	c1 (1)	c2	c3 (2)
C30	93	127	138	146
C38	99	132	144	152

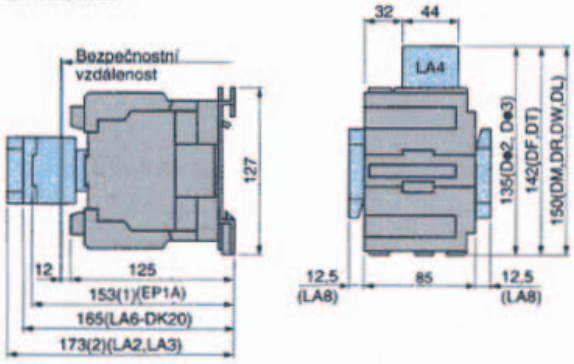
(1) Se 2 nebo 4 kontakty; 1 kontakt = 120 (LA1-DN10 nebo DN01)
(2) + 4 mm s plombovacím krytem.
(3) S nebo bez odrušovacích modulů.
LA4-DA1, DB1, DE1.

EP1C45, C60, C75



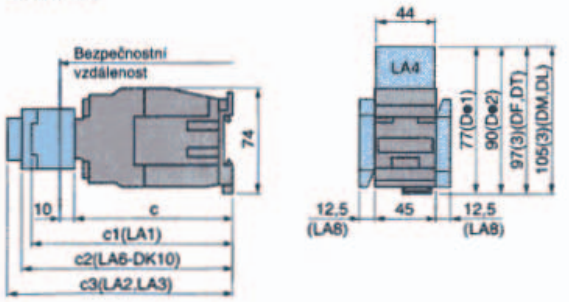
(1) Se 2 nebo 4 kontakty; 1 kontakt = 139 (LA1-DN10 nebo DN01)
(2) + 4 mm s plombovacím krytem.

EP1C85, C105



(1) Se 2 nebo 4 kontakty; 1 kontakt = 147 (LA1-DN10 nebo DN01)
(2) + 4 mm s plombovacím krytem.

EP1P09, P12
EP1P16, P23



EP1	c	c1 (1)	c2	c3 (2)
P09, P12, P16	116	148	160	168
P23	121	154	165	173

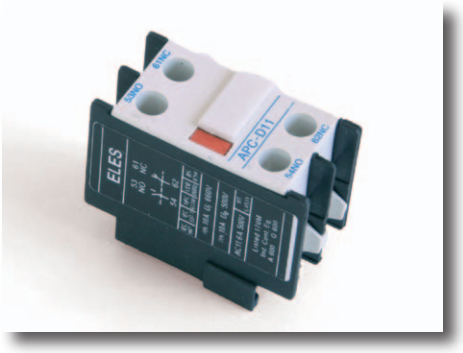
(1) Se 2 nebo 4 kontakty.
(2) + 4mm s plombovacím krytem.
(3) S nebo bez odrušovacích modulů LA4-DB1, DC1, DE1.

INDUSTRIAL ELES CONTACTORS		
Order code	**Description**	**Max. working current (A)**
control voltage AC 230 V 50/60 Hz		
09-0910230	MPC-D 0910 230V AC (S)	9
09-1210230	MPC-D 1210 230V AC (S)	12
09-1810230	MPC-D 1810 230V AC (S)	18
09-2510230	MPC-D 2510 230V AC (S)	25
09-3210230	MPC-D 3210 230V AC (S)	32
09-0901230	MPC-D 0901 230V AC (R)	9
09-1201230	MPC-D 1201 230V AC (R)	12
09-1801230	MPC-D 1801 230V AC (R)	18
09-2501230	MPC-D 2501 230V AC (R)	25
09-3201230	MPC-D 3201 230V AC (R)	32
09-4011230	MPC-D 4011 230V AC (S/R)	40
09-5011230	MPC-D 5011 230V AC (S/R)	50
09-6511230	MPC-D 6511 230V AC (S/R)	65
09-8011230	MPC-D 8011 230V AC (S/R)	80
09-9511230	MPC-D 9511 230V AC (S/R)	95
control voltage AC 48 V 50/60 Hz		
09-091048	MPC-D 0910 48V AC (S)	9
09-121048	MPC-D 1210 48V AC (S)	12
09-181048	MPC-D 1810 48V AC (S)	18
09-251048	MPC-D 2510 48V AC (S)	25
09-321048	MPC-D 3210 48V AC (S)	32
09-090148	MPC-D 0901 48V AC (R)	9
09-120148	MPC-D 1201 48V AC (R)	12
09-180148	MPC-D 1801 48V AC (R)	18
09-250148	MPC-D 2501 48V AC (R)	25
09-320148	MPC-D 3201 48V AC (R)	32
09-401148	MPC-D 4011 48V AC (S/R)	40
09-501148	MPC-D 5011 48V AC (S/R)	50
09-651148	MPC-D 6511 48V AC (S/R)	65
09-801148	MPC-D 8011 48V AC (S/R)	80
09-951148	MPC-D 9511 48V AC (S/R)	95

INDUSTRIAL ELES CONTACTORS		
Order code	**Description**	**Max. working current (A)**
control voltage AC 24 V 50/60 Hz		
09-091024	MPC-D 0910 24V AC (S)	9
09-121024	MPC-D 1210 24V AC (S)	12
09-181024	MPC-D 1810 24V AC (S)	18
09-251024	MPC-D 2510 24V AC (S)	25
09-321024	MPC-D 3210 24V AC (S)	32
09-090124	MPC-D 0901 24V AC (R)	9
09-120124	MPC-D 1201 24V AC (R)	12
09-180124	MPC-D 1801 24V AC (R)	18
09-250124	MPC-D 2501 24V AC (R)	25
09-320124	MPC-D 3201 24V AC (R)	32
09-401124	MPC-D 4011 24V AC (S/R)	40
09-501124	MPC-D 5011 24V AC (S/R)	50
09-651124	MPC-D 6511 24V AC (S/R)	65
09-801124	MPC-D 8011 24V AC (S/R)	80
09-951124	MPC-D 9511 24V AC (S/R)	95

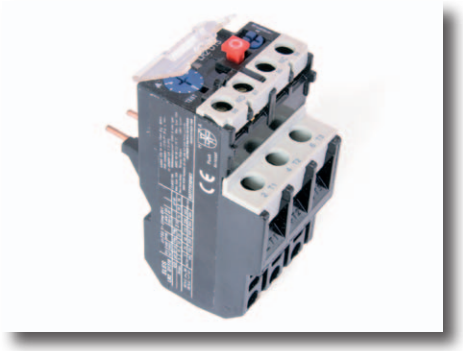
Notes:
(S) = normally open contact (marked with number 10)
(R) = normally closed contact (marked with number 01)
(S/R) = normally closed and open contact (marked with number 11)

Accessories for industrial ELES contactors



Order code	Description	Function
front mounted auxiliary contacts for ELES contactors (two contact)		
10-LA1DN-020001	LA1-DN 02 (APC-D02) 2NC 230 AC	2NC
10-LA1DN-110001	LA1-DN 11 (APC-D11) NO+NC 230 AC	NO+NC
10-LA1DN-200001	LA1-DN 20 (APC-D20) 2NO	2NO

Order code	Description	Function
front mounted auxiliary contacts for ELES contactors (four contact)		
10-LA1DN-220001	LA1-DN 22 (APC-D22) 2N0+2NC 230 AC	2NO+2NC
10-LA1DN-400001	LA1-DN 40 (APC-D40) 4N0 230 AC	4NO
10-LA1DN-040001	LA1-DN 04 (APC-D04) 4NC 230 AC	4NC
10-LA1DN-130001	LA1-DN 13 (APC-D13) 1N0+3NC 230 AC	1NO+3NC
10-LA1DN-310001	LA1-DN 31 (APC-D31) 3N0+1NC 230 AC	3NO+1NC



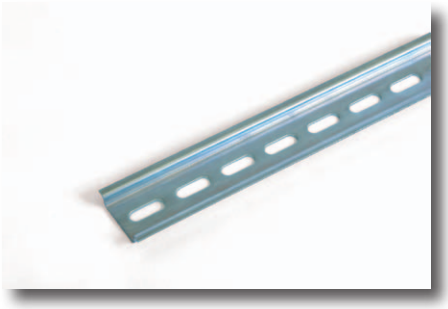
Order code	Description	Function
	heat relay for ELES contactors	
10-LR2-D1301	LR2 – D1301 (0.10–0.16A)	0.10–0.16 A
10-LR2-D1302	LR2 – D1302 (0.16–0.25A)	0.16–0.25 A
10-LR2-D1303	LR2 – D1303 (0.25–0.40A)	0.25–0.40 A
10-LR2-D1304	LR2 – D1304 (0.40–0.63A)	0.40–0.63 A
10-LR2-D1305	LR2 – D1305 (0.63–1.0A)	0.63–1.0 A
10-LR2-D1306	LR2 – D1306 (1.0 – 1.6A)	1.0 – 1.6 A
10-LR2-D13X6	LR2 – D13X6 (1.25–2.0A)	1.25–2.0 A
10-LR2-D1307	LR2 – D1307 (1.6–2.5A)	1.6–2.5 A
10-LR2-D1308	LR2 – D1308 (2.5–4.0A)	2.5–4.0 A
10-LR2-D1310	LR2 – D1310 (4.0–6.0A)	4.0–6.0 A
10-LR2-D1312	LR2 – D1312 (5.5–8.0A)	5.5–8.0 A
10-LR2-D1314	LR2 – D1314 (7.0–10.0A)	7.0–10.0 A
10-LR2-D1316	LR2 – D1316 (9.0–13.0A)	9.0–13.0 A
10-LR2-D1321	LR2 – D1321 (12.0–18.0A)	12.0–18.0 A
10-LR2-D1322	LR2 – D1322 (17.0–25.0A)	17.0–25.0 A
10-LR2-D2353	LR2 – D2353 (23.0–32.0A)	23.0–32.0 A
10-LR2-D2355	LR2 – D2355 (28.0–36.0A)	28.0–36.0 A
10-LR2-D2356	LR2 – D2356 (30.0–40.0A)	30.0–40.0 A
10-LR2-D2357	LR2 – D2357 (37.0–50.0A)	37.0–50.0 A
10-LR2-D2359	LR2 – D2359 (48.0–65.0A)	48.0–65.0 A
10-LR2-D2361	LR2 – D2361 (55.0–70.0A)	55.0–70.0 A
10-LR2-D2363	LR2 – D2363 (63.0–80.0A)	63.0–80.0 A
10-LR2-D2365	LR2 – D2365 (80.0–93.0A)	80.0–93.0 A

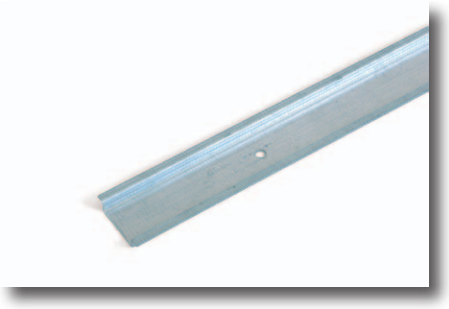
Order code	Description
Blocking coupler for ELES contactors	
10-BL050932	Blocking coupler for ELES contactors (9–32 A)
10-BL054095	Blocking coupler for ELES contactors (40–95 A)

DIN STRIPS

A specially shaped strip with exactly defined dimensions that enables to unify and easily connect electric devices onto this strip, without having to use other fasteners.

Material: cold-rolled steal, thickness 1 or 1.5 mm
Protective zinc coating: 8 microns
Compliant with standards: DIN 46277 page 1-2-3, CELENET EN 50.022 – EN 50.023 – EN 50.035.
Standardly available length: 2 m

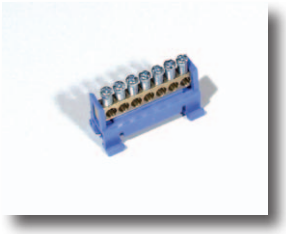




Order code	Type	Description	Thickness (mm)	weight (kg/m)	Package pcs (m)
13-0001	OM35CF	silver chrome (15 mm) with holes	1.5	0.61	2
13-0002	OM35C	silver chrome (15 mm) full	1.5	0.68	2
13-0003	OM35F	silver chrome (7.5 mm) with holes	1	0.32	2
13-0004	OM35	silver chrome (7.5 mm) full	1	0.35	2
13-0005	OM35CFT	silver chrome (15 mm) with holes, thickness 2.3 mm	2.3	0.83	2
13-0006	OM35CT	silver chrome (15 mm) full, thickness 2.3 mm	2.3	0.92	2
13-0007	OM15F/TS15F	silver chrome, C with holes	1.5	0.64	2

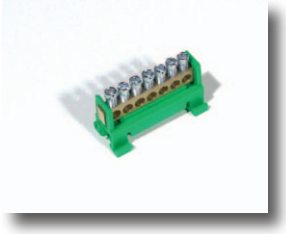
1 piece = 2 m

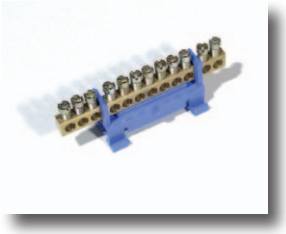
ZERON LINE ROWS, TERMINAL STRIPS



Zero line rows 7

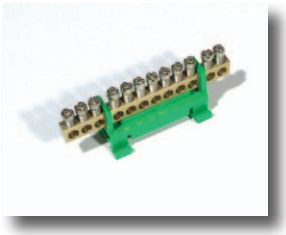
Properties	Value
Number of terminals:	7
Load capacity:	63 A
Order code:	04-NM7M (blue) 04-NM7Z (green)
Packaging:	1 ks

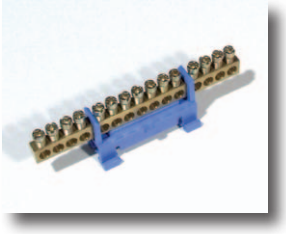




Zero line rows 12

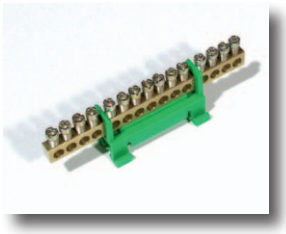
Properties	Value
Number of terminals:	12
Load capacity:	63 A
Order code:	04-NM12M (blue) 04-NM12Z (green)
Packaging:	1 ks

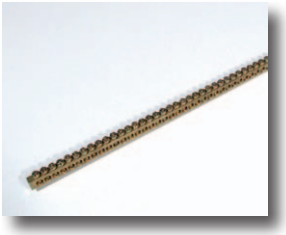




Zero line rows 15

Properties	Value
Number of terminals:	15
Load capacity:	63 A
Order code:	04-NM15M (blue) 04-NM15Z (green)
Packaging:	1 ks



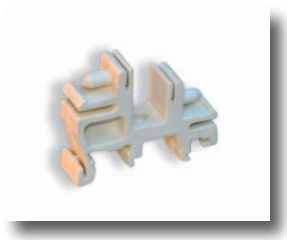


Terminal board

Properties	Value
Number of terminals:	152
Load capacity:	63 A
Order code:	04-SV152065090
Packaging:	1 ks
Length:	1 m
Cross section:	6.5 × 9 mm

Terminal board holders

Properties	Value
Description:	Terminal holder for DIN strip double terminals 6×8 mm – 8×9 mm
Order code:	04-DS-2R-DIN-6/8-8/9
Description:	Terminal holders for DIN strip, double terminals 10×10 mm
Order code:	04-DS-2R-DIN-10/10
Description:	Terminal holder for DIN strip double terminals 10×15 mm
Order code:	04-DS-2R-DIN-10/15
Description:	Terminal screwed holders
Order code:	04-DS-SROUB



SWITCHBOARD BOXES

Order code	Description
Home wall-mounted module switchboard boxes – IP42	
16-000110	SRn 6 – modular switchboard box N+PE
16-000120	SRn 8 – modular switchboard box N+PE
16-000130	SRn 12 – modular switchboard box N+PE
16-000150	SRn 18 – modular switchboard box N+PE
16-000160	SRn 24 – modular switchboard box N+PE
Home concealed switchboard box – IP 42	
16-000210	SRp 6 – modular switchboard box N+PE
16-000220	SRp 8 – modular switchboard box N+PE
16-000230	SRp 12 – modular switchboard box N+PE
16-000240	SRp 18 – modular switchboard box N+PE
16-000250	SRp 24 – modular switchboard box N+PE
Home wall-mounted 2-6 module switchboard boxes – IP42	
16-000310	RNT 2 – modular switchboard box N+PE
16-000320	RNT 4 – modular switchboard box N+PE
16-000330	RNT 6 – modular switchboard box N+PE
Home wall-mounted 2-6 module switchboard boxes, without equipment – IP42	
16-000410	RNTO 2 – modular fusebox
16-000420	RNTO 4 – modular fusebox
16-000430	RNTO 6 – modular fusebox
MCB cover, 2-5 modules – IP 30	
16-000510	RNO – 2S – MCB wall-mounted cover – 2 modules
16-000520	RNO – 3S – MCB wall-mounted cover – 3 modules
16-000530	RNO – 5S – MCB wall-mounted cover – 5 modules
Home wall-mounted FALA module switchboard boxes	
16-001120	RN 8 FALA – modular switchboard box N+PE
16-001130	RN 12 FALA – modular switchboard box N+PE
16-001140	RN 16 FALA – modular switchboard box N+PE
16-001150	RN 18 FALA – modular switchboard box N+PE
16-001160	RN 24 FALA – modular switchboard box N+PE
16-001170	RN 36 FALA – modular switchboard box N+PE
Home concealed FALA module switchboard boxes	
16-001220	RP 8 FALA – modular switchboard box N+PE
16-001230	RP 12 FALA – modular switchboard box N+PE
16-001235	RP 16 FALA – modular switchboard box N+PE
16-001240	RP 18 FALA – modular switchboard box N+PE
16-001250	RP 24 FALA – modular switchboard box N+PE
16-001260	RP 36 FALA – modular switchboard box N+PE

These switchboards are available in two designs with a smoked or white cover, both for the same price. When making your order, please specify which cover colour you require for each switchboard type.

PROTECTION TYPES (IP) AND THEIR PROPERTIES

The protection types describe the protection of electrical equipment against water, hazardous touch or inserting foreign objects. The following table described the meaning of the first and second number in the IP label.

PROTECTION TYPES (IP) AND THEIR PROTPERTIES		
First number in the IP label	**IP protection level**	
	against hazardous touch	**inserting foreign objects**
IP 0x	without protection	without protection
IP 1x	palms	large
IP 2x	finger	small
IP 3x	tools	small
IP 4x	tools	very small
IP 5x	any tool	dust – partially
IP 6x	any tool	dust – fully
Second number in the IP label	**IP protection against water**	
IP x0	without protection	
IP x1	without protection	
IP x2	dripping at an angle of 15°	
IP x3	water spray (rain)	
IP x4	splash water	
IP x5	water jet from random direction	
IP x6	strong water jet	
IP x7	temporary immersion	
IP x8	permanent immersion under pressure	

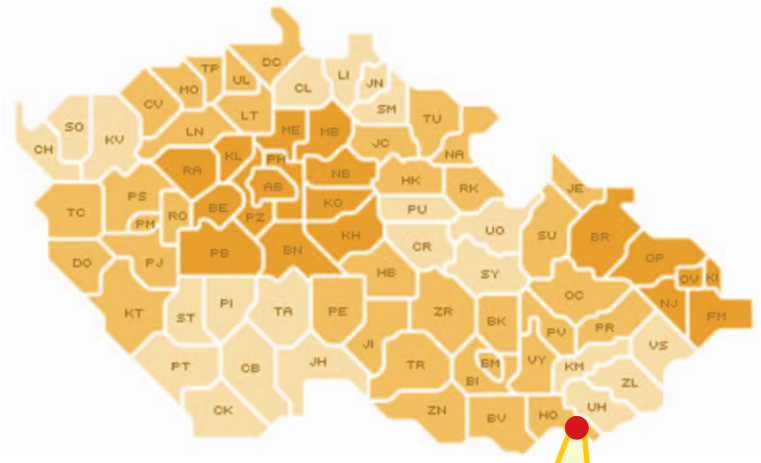
Conversion tables between protection levels and brands

IPx6	
IPx7	
IPx3	
IPx4	
IPx5	
IP5x	
IP6x	

COMMENTS

We are preparing switchboard assembly sets, where the electrical switchboards can be designed and mounted as needed by the construction conditions, by the installation company itself. The available electrical switchboards will already have finished type certificates.

SALES CONTACTS



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