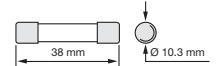




E 90 fuse-disconnectors

E 90 series fuse-disconnectors are designed for connecting and disconnecting circuits under load, providing protection against short circuits and overloads. The case is made of self-extinguishing thermoplastic material resistant to high temperatures (all materials are UL listed) while the contact clips are in silver plated copper.

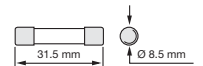
E 90 fuse-disconnectors can be sealed or padlocked to ensure operator safety during maintenance. Versions with blown fuse indicator allow to check whether the fuse is still working correctly or not. For easy and quick installation E 90 range is fully compatible with connecting bars, terminals and caps of S 200 MCBs



E 90 fuse-disconnectors for 10.3 x 38 mm fuses (AC-22B)

| Poles | Rated current In | Modules | Order details Type code | Order code | Bbn 8012542 EAN | Price 1 piece | Price group | Weight 1 piece kg | Pack unit pc. |
|-------|------------------|---------|----------------------------|-----------------|-----------------------|------------------|----------------|-------------------------|---------------------|
| 1 | 32 | 1 | E 91/32 | 2CSM200923R1801 | 009238 | | | 0.061 | 6 |
| 1 | 32 | 1 | E 91/32s | 2CSM202483R1801 | 024835 | | | 0.062 | 6 |
| 1+N | 32 | 2 | E 91N/32 | 2CSM200893R1801 | 008934 | | | 0.130 | 3 |
| 2 | 32 | 2 | E 92/32 | 2CSM200883R1801 | 008835 | | | 0.122 | 3 |
| 3 | 32 | 3 | E 93/32 | 2CSM204753R1801 | 047537 | | | 0.183 | 2 |
| 3+N | 32 | 4 | E 93N/32 | 2CSM204733R1801 | 047339 | | | 0.252 | 1 |
| 4 | 32 | 4 | E 94/32 | 2CSM204723R1801 | 047230 | | | 0.244 | 1 |
| N | 32 | - | E 9N | 2CSM277953R1801 | 779537 | | | 0.069 | 6 |

s: version with blown fuse indicator light



E 90 fuse-disconnectors for 8.5 x 31.5 mm fuses (AC-22B)

| | | | | | | | | | |
|---|----|---|-----------------|-----------------|---------------|--|--|-------|---|
| 1 | 20 | 1 | E 91/20 | 2CSM200983R1801 | 009832 | | | 0.061 | 6 |
| 1 | 20 | 1 | E 91/20s | 2CSM202423R1801 | 024231 | | | 0.062 | 6 |
| 2 | 20 | 2 | E 92/20 | 2CSM200953R1801 | 009535 | | | 0.122 | 3 |
| 3 | 20 | 3 | E 93/20 | 2CSM200943R1801 | 009436 | | | 0.183 | 2 |
| N | 20 | - | E 9N | 2CSM277953R1801 | 779537 | | | 0.069 | 6 |

s: version with blown fuse indicator light

Technical features

| Type | E 90/20 | E 90/32 |
|-------------------|---------|-----------|
| Fuse | 8 x 32 | 10 x 38 |
| Kind of current | | AC / DC |
| Rated frequency | [Hz] | = / 50-60 |
| Rated current | [A] 20 | 32 |
| Tightening torque | [Nm] | PZ2 2-2.5 |
| Protection degree | | IP20 |
| Padlocked (open) | | ■ |
| Sealed (closed) | | ■ |

IEC 60947-3

| | | | |
|----------------------------|--------|-----------------|-----|
| Rated operational voltage | [V] | 400 | 690 |
| Utilization category | | AC-22B / DC-20B | |
| Power consumption per pole | aM [W] | 0.9 | 1.2 |
| | gG [W] | 2.5 | 3.0 |

IEC 60269-1

| | | | |
|------------------|-----|-----|-----|
| Rated voltage AC | [V] | 400 | 690 |
| Rated voltage DC | [V] | 400 | 690 |

IEC 60269-2

| | | | |
|---------------------------------|-----|---------------|-----|
| Fuse system | | F | |
| Rated voltage AC | [V] | 400 | 690 |
| Rated voltage DC | [V] | 250 | 440 |
| Minimum rated breaking capacity | | 50 AC – 25 DC | |

IEC 60269-3

| | | |
|------------------|-----|-----|
| Fuse system | | B |
| Rated voltage AC | [V] | 400 |

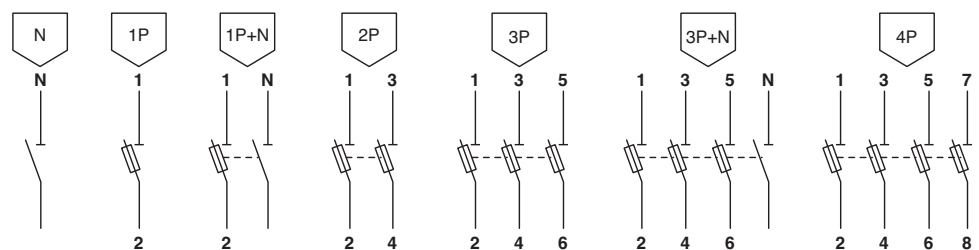
Materials

| | | |
|----------------------|----------------|-------------------------------------|
| Plastic parts | Case: | Material PA 6 +30% glass fibre |
| | | Self extinguishing class: V2 (UL94) |
| | | Temperature resistance: 130 °C |
| | Opening handle | Material PA 66 +25% glass fibre |
| | | Self-extinguishing class V0 (UL94) |
| | | Temperature resistance: 140 °C |
| Metal parts | Clips | Silver plated copper |
| | Clip spring | Stainless steel |
| | Terminals | Galvanized steel |

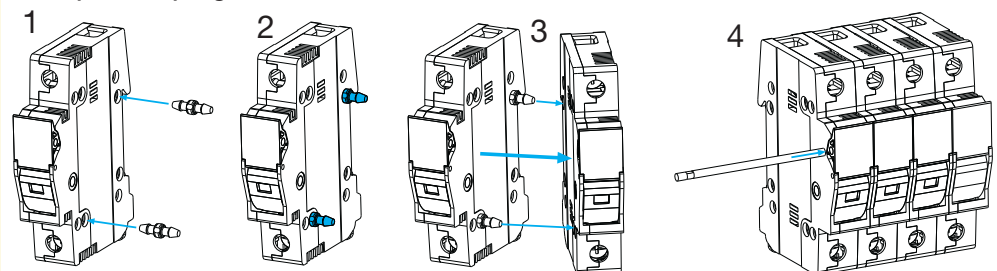
Utilization category

| Current type | Utilization category | Typical applications |
|----------------------------|------------------------|---|
| Alternating current | AC-20A - AC-20B | Connecting and disconnecting under no load (in this case the devices must be marked "Do not disconnect under load") |
| | AC-21A - AC-21B | Switching of resistive loads, including moderate overloads |
| | AC-22A - AC-22B | Switching of mixed resistive/inductive loads, including moderate overloads |
| | AC-23A - AC-23B | Switching of motors and other highly inductive loads |
| Direct current | DC-20A - DC-20B | Connecting and disconnecting under no load (in this case the devices must be marked "Do not disconnect under load") |
| | DC-21A - DC-21B | Switching of resistive loads, including moderate overloads |
| | DC-22A - DC-22B | Switching of mixed resistive / inductive loads, including moderate overloads |
| | DC-23A - DC-23B | Switching of motors or other highly inductive loads |
| | Suffix A | Frequent use |
| | Suffix B | Infrequent use |

Electrical symbols



Multi-pole coupling

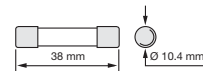


5



E 90 range class CC fuseholders are appropriate to protect against overloads and short circuits. They are designed for use with class CC cartridge fuses and they are available in 1P, 1P+N, 2P, 3P, 3P+N, 4P and N poles. Fuseholders can be safely locked in open position and sealed in closed position. E 90 range assure maximum protection against direct contacts thanks to IP20 finger-safe protection degree. They are the ideal solution in industrial and process control systems, automated systems, industrial systems and individual control circuits. Versions with blown fuse indicator allow to check whether the fuse is still working correctly or not.

E 90 for class CC cartridge fuses



| Poles | Rated current In | Modules | Order details Type code | Order code | Bbn 8012542 EAN | Price 1 piece | Price group | Weight 1 piece kg | Pack unit pc. |
|-------|---------------------|---------|----------------------------|-----------------|-----------------------|------------------|----------------|-------------------------|---------------------|
| 1 | 30 | 1 | E 91/30 | 2CSM205833R1801 | 058335 | | | 0,061 | 6 |
| 1 | 30 | 1 | E 91/30s | 2CSM251533R1801 | 515333 | | | 0,062 | 6 |
| 1+N | 30 | 2 | E 91N/30 | 2CSM200693R1801 | 006930 | | | 0,13 | 3 |
| 2 | 30 | 2 | E 92/30 | 2CSM202443R1801 | 024439 | | | 0,122 | 3 |
| 3 | 30 | 3 | E 93/30 | 2CSM200683R1801 | 006831 | | | 0,183 | 2 |
| 3+N | 30 | 4 | E 93N/30 | 2CSM202433R1801 | 024330 | | | 0,252 | 1 |
| 4 | 30 | 4 | E 94/30 | 2CSM200673R1801 | 006732 | | | 0,244 | 1 |
| N | 30 | 1 | E 9N | 2CSM277953R1801 | 779537 | | | 0,069 | 6 |

s: version with blown fuse indicator light

Accessories for E 90 disconnector fuseholders

| Order details Type code | Order code | Bbn 8012542 EAN | Price 1 piece | Price group | Weight 1 piece kg | Pack unit pc. |
|----------------------------|-----------------|-----------------------|------------------|----------------|-------------------------|---------------------|
| E 90/ACP | 2CSM205823R1801 | 058236 | | | 0,050 | 1 |

Technical features

| | | | 30A |
|--------------------------|----------|--|-------------|
| Rated voltage Un | [V] | | 600 AC/DC |
| Rated current In | [A] | | 30 |
| Rated frequency | [Hz] | | 50/60 |
| Fuse dimensions | [mm] | | 10,4 x 38,1 |
| Tightening torque | [lib-in] | | 18-22 |
| Rated temperature | [°C] | | 75 |
| Sealability | | | ■ |
| Lockability | | | ■ |
| Marking | | | UL CSA |
| Standards | | | UL 512 |



E 90h fuse holders

E 90h fuse holders are suitable for protection against overloads and short circuits. Available in a single module 1P+N version and in a three-module 3P+N version, they are designed for use with gG and aM cylindrical fuse links. The body is made from self-extinguishing material resistant to high temperatures, while the contact clips are in silver-plated copper. E 90h fuse holders can be sealed or padlocked to assure operator safety during maintenance. Versions with blown fuse indicator allow to check whether the fuse is still working correctly or not.

E 90h fuse holders for 10.3 x 38 mm fuses (AC-20B)



| Poles | Rated current In | Modules | Order details Type code | Order code | Bbn 8012542 EAN | Price 1 piece | Price group | Weight 1 piece kg | Pack unit pc. |
|-------|---------------------|---------|----------------------------|-----------------|-----------------------|------------------|----------------|-------------------------|---------------------|
| 1+N | 32 | 1 | E 91hN/32 | 2CSM200913R1801 | 009139 | | | 0.070 | 6 |
| 1+N | 32 | 1 | E 91hN/32s | 2CSM206573R1801 | 065739 | | | 0.071 | 6 |
| 3+N | 32 | 3 | E 93hN/32 | 2CSM204743R1801 | 047438 | | | 0.192 | 2 |

s: version with blown fuse indicator light

E 90h fuse holders for 8.5 x 31.5 mm fuses (AC-20B)



| Poles | Rated current In | Modules | Order details Type code | Order code | Bbn 8012542 EAN | Price 1 piece | Price group | Weight 1 piece kg | Pack unit pc. |
|-------|---------------------|---------|----------------------------|-----------------|-----------------------|------------------|----------------|-------------------------|---------------------|
| 1+N | 20 | 1 | E 91hN/20 | 2CSM200963R1801 | 009634 | | | 0.070 | 6 |
| 1+N | 20 | 1 | E 91hN/20s | 2CSM200703R1801 | 007036 | | | 0.071 | 6 |
| 3+N | 20 | 3 | E 93hN/20 | 2CSM200933R1801 | 009337 | | | 0.192 | 2 |

s: version with blown fuse indicator light

Accessories for E90 fuse disconnectors and for E 90h fuse holders series

| Accessories | Order code | Bbn | Price | Weight | Pack unit |
|-------------|------------|-----------------|-----------------|---------------|-----------|
| - | - | E 90/ACP | 2CSM205823R1801 | 058236 | 0.118 1 |

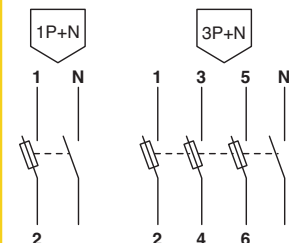
Fuse indicator LED



Technical features

| Type | E 90h/20 | E 90h/32 |
|----------------------------|----------|-----------|
| Fuse | 8 x 32 | 10 x 38 |
| Kind of current | | AC / DC |
| Rated frequency | [Hz] | = / 50-60 |
| Rated current | [A] | 20 |
| Power consumption per pole | aM [W] | 0.9 |
| | gG [W] | 2.5 |
| Tightening torque | [Nm] | PZ2 2-2.5 |
| Protection degree | | IP20 |
| Padlocked (open) | | ■ |
| Sealed (closed) | | ■ |

Electrical symbols



IEC 60269-1

| | | | |
|------------------|-----|-----|-----|
| Rated voltage AC | [V] | 400 | 690 |
| Rated voltage DC | [V] | 400 | 690 |

IEC 60269-2

| | | | |
|---------------------------------|-----|---------------|-----|
| Fuse system | | F | |
| Rated voltage AC | [V] | 400 | 690 |
| Rated voltage DC | [V] | 250 | 440 |
| Minimum rated breaking capacity | | 50 AC – 25 DC | |

IEC 60269-3

| | | | |
|------------------|-----|-----|--|
| Fuse system | | B | |
| Rated voltage AC | [V] | 400 | |

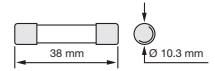


E 90 PV fuse-disconnectors

E 90 PV series fuse-disconnectors, designed for operating voltages of 1000 V d.c. with utilization category DC-20B, are particularly suited for protection against overcurrents of photovoltaic systems.

The single-pole or two-pole E 90 PV disconnectors for 10.3 x 38 mm cylindrical fuse links offer a reliable, compact and affordable solution for photovoltaic installations. Versions with blown fuse indicator allow to check whether the fuse is still working correctly or not.

E 90 PV fuse-disconnectors for 10.3 x 38 mm fuses (DC-20B)

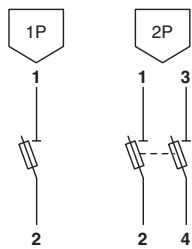


| Poles | Rated current In | Modules | Order details Type code | Order code | Bbn 8012542 EAN | Price 1 piece | Price group | Weight 1 piece kg | Pack unit pc. |
|-------|------------------|---------|----------------------------|-----------------|-----------------------|------------------|-------------|-------------------------|------------------|
| 1 | 32 | 1 | E 91/32 PV | 2CSM204713R1801 | 047131 | | | 0,061 | 6 |
| 1 | 32 | 1 | E 91/32 PVs | 2CSM204693R1801 | 046936 | | | 0,062 | 6 |
| 2 | 32 | 2 | E 92/32 PV | 2CSM204703R1801 | 047032 | | | 0,122 | 3 |

s: version with blown fuse indicator light

5

Electrical symbols



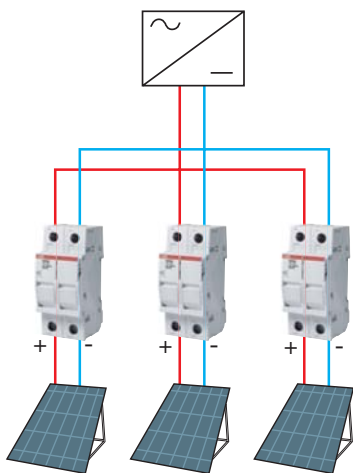
Technical features

| Type | E 90/32 PV | |
|-------------------|-------------------|-----------|
| Fuse | 10 x 38 | |
| Kind of current | DC | |
| Rated frequency | [Hz] | = / 50-60 |
| Rated Current | [A] | 32 |
| Tightening Torque | [Nm] | PZ2 2-2.5 |
| Protection degree | IP20 | |
| Padlocked (open) | ■ | |
| Sealed (closed) | ■ | |

IEC 60947-3

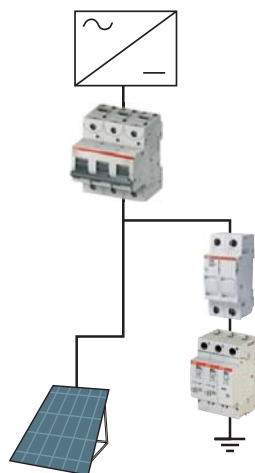
| | | |
|----------------------------|--------|------|
| Rated operational voltage | [V] | 1000 |
| Utilization category | DC-20B | |
| Power consumption per pole | aM [W] | 1.2 |
| | gG [W] | 3.0 |

Application example of fuse disconnectors in photovoltaic system



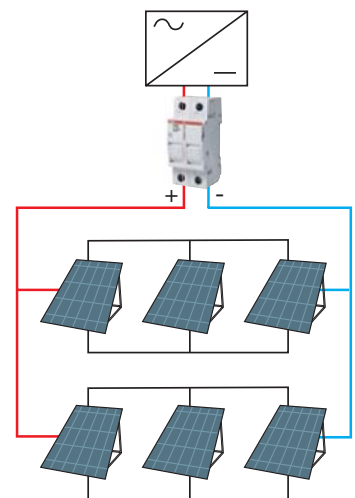
Lines protection

E 90 PV fuse-disconnectors allow overload protection of each line, thus preventing damage of critical plant components.



OVR Surge Protective Device protection

E 90 PV fuse-disconnectors can be installed in field enclosure as back-up protection of Surge Protective Device.



Inverter protection

In small photovoltaic plants, inverter protection against overload and short-circuit is possible by means of E 90 PV.