

Combination arrester

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Combined lightning and surge protection for low-voltage consumer installations and electronics

The PU I+II COMBI combined surge protection incorporates triggered PU 1 TSG class I sparkover gaps, class II varistor arresters PU x C and cross-connections. This setup protects low-voltage consumer installations and electronic devices against surge protection, both those caused by atmospheric discharges (lightning) and those caused by switching operations (transients). The PU COMBI complies with the requirements of IEC 61643-1 (Feb 1998). The PU R COMBI also has a remote signalling function achieved via a floating contact.

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Electrical connection

The PU COMBI surge protection device is connected with lines as short as possible between the phase conductors (L1, L2, L3), or the neutral conductor (N), and the earth of the consumer installation. Unprotected lines (e.g. to meters) and protected lines must not be routed together.

The PU COMBI can be supplied for a 4-conductor system with three phases plus PEN conductor, and also for a 5-conductor system with three phases plus N-PE arrester.

Checking operation, maintenance and approvals

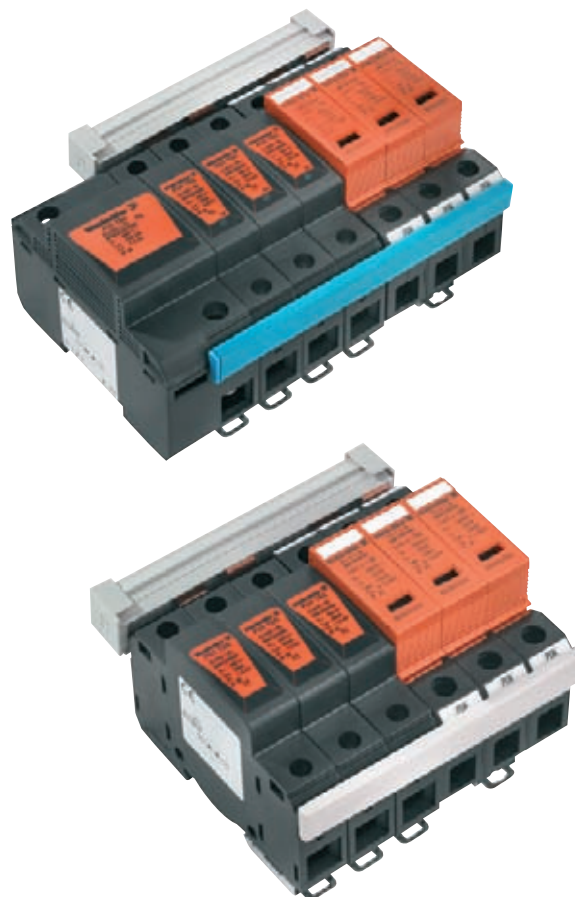
A visual check is necessary to ensure that the PU COMBI surge protection components are operating correctly. This visual check is easy because the arrester is fitted with a thermal disconnecter. If this has been tripped and protection is no longer provided, the flag in the status window changes from green to red. A tripped arrester is easily replaced by a qualified technician without having to disconnect any wiring. The top section of the varistor is coded according to voltage. Therefore, it is not possible to plug in a different, i.e. wrong, replacement varistor.

The cross-section of the earth line must be at least 10 mm² or half the cross-sectional area of the phase conductor. The fuse protection (max. 125 A gL) for the PU modules is chosen depending on the line cross-section and the type of wiring.

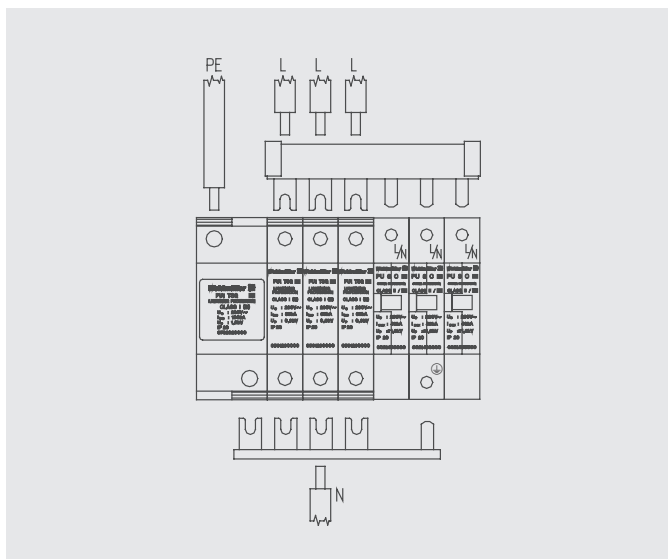
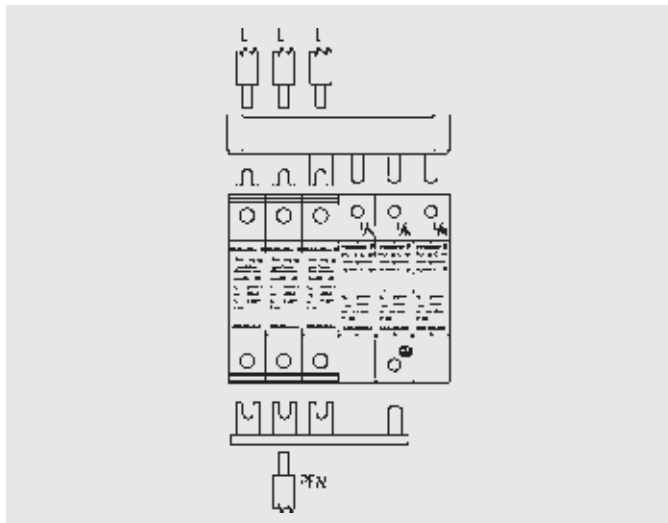
The connection is designed to IEC 947-7-1 for the following cross-sections:

solid wire:	10 ... 35 mm ²
stranded wire:	10 ... 25 mm ²
flexible:	10 ... 25 mm ²

The operating temperature range is
-40 °C ... +60 °C



Combi-arrester connection diagram



Dimensions

Type	length x width x height
PU Combi I+II 4-conductor system	90 x 65 x 110 mm
PU R Combi I+II 4-conductor system	90 x 65 x 110 mm
PU Combi I+II 5-conductor system	90 x 65 x 148 mm
PU R Combi I+II 5-conductor system	90 x 65 x 148 mm

Surge protection for low-voltage supplies

Combi-arrester for 4-wire systems

The surge protection combination consists of the class I triggered sparkover gap PU 1 TSG for protecting the phase to N of an N-PE sparkover gap and the class II PU 3 C. The arresters are interconnected via 16 mm² cross connection system.

The connection to the power line is made at the PU 1 TSG.

- Suitable for lightning protection classes I, II, III, IV.

PU/R COMBI I+II 4 Wire

Use in building systems



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Technical data

Technical data

Rated voltage (AC)
max. continuous voltage, U_c (AC)
Requirements class to IEC 61643-1
Lightning test voltage I imp (10/350 μs)

Specific energy, per path
Short-circuit current extinction without back-up fuse
Short-circuit strength with max. back-up fuse
Response time
Fuse, max.
Protection level Up (typical)
Optical function indicator
Signalling contact
Ambient temperature (operational)
Storage temperature
Approvals

230 V
280 V
I+II (combination arrester)
35 kA with 17.5 As charge

64 kJ/Ω
3 kA / 50 Hz
25 kA_{eff}
sym/ asym: ≤ 100 ns
125 A gL
900 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU R COMBI
-40 ... 60°C
-40 ... 80°C
n.a.

Dimensions

Clamping range (rating- / min. / max.) mm²
Length x width x height mm

without telecomm. contact with telecomm. contact

35 / 6 / 10 35 / 6 / 10
91 x 110 x 65 90 x 110 x 65

Note

Ordering data

Version

without telecomm. contact
with telecomm. contact

Type	Qty.	Order No.
PU COMBI I+II 4 Wire	1	8729960000
PU R COMBI I+II 4 Wire	1	8729970000

Note

Accessories

Note

Set: PU II 3 (R), PU 1 TSG, bridges (jumpers)

Combi-arrester for 5-wire systems

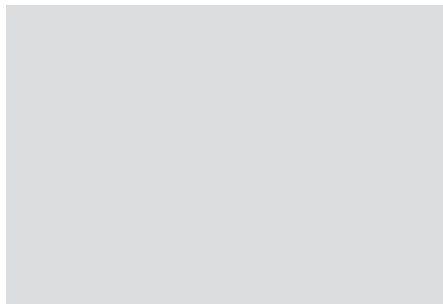
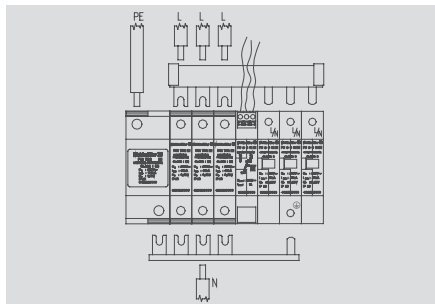
The surge protection combination consists of the class I triggered sparkover gap PU 1 TSG for protecting the phase to N of an N-PE sparkover gap and the class II PU 3 C. The arresters are interconnected via 16 mm² cross connection system.

The connection to the power line is made at the PU 1 TSG.

- Suitable for lightning protection classes I, II, III, IV.

PU/R COMBI I+II 5 Wire

Use in building systems



Technical data

Technical data

Rated voltage (AC)
 max. continuous voltage, U_c (AC)
 Requirements class to IEC 61643-1
 Lightning test voltage I imp (10/350 μs)

 Specific energy, per path
 Short-circuit current extinction without back-up fuse
 Short-circuit strength with max. back-up fuse
 Response time
 Fuse, max.
 Protection level Up (typical)
 Optical function indicator
 Signalling contact
 Ambient temperature (operational)
 Storage temperature
 Approvals

230 V
 280 V
 I+II (combination arrester)
 35 kA with 17.5 As charge
 50 kA with 25 As charge
 64 kJ/Ω
 3 kA
 25 kA_{eff}
 sym/ asym: ≤ 100 ns
 125 A gL
 1500 V
 green = OK; red = arrester faulty, replace
 250 V 1A 1CO at PU R COMBI
 -40 ... 60°C
 -40 ... 80°C
 n.a.

Dimensions

Clamping range (rating- / min. / max.) mm²
 Length x width x height mm

without telecomm. contact	with telecomm. contact
35 / 6 / 10	35 / 6 / 10
90 x 148 x 65	91 x 148 x 65

Note

Ordering data

Version

without telecomm. contact
 with telecomm. contact

Type	Qty.	Order No.
PU COMBI I+II 5 Wire	1	8729950000
PU R COMBI I+II 5 Wire	1	8729930000

Note

Accessories

Note

Set: PU II 3 (R), PU 1 TSG, bridges (jumpers)