

Surge protection

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Surge protection overview

PU I Series



Class I + II plug-in arrester for lightning protection equipotential bonding, suitable for lightning protection Classes III and IV

PU BC/PU BCR



Pluggable Class I+II arrester for lightning potential equalisation. Suitable for lightning protection classes III and II

PU 1 TSG



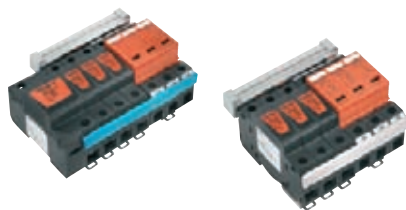
Encapsulated Class I lightning arresters up to 35/50/100 kA (10/350 µs). Width 17.5 mm for use in main distribution boards 230 V

PU 1 TSG+



Class I lightning arresters up to 50 kA (10/350 µs) per unit with triggered sparkover gap for industrial main distribution boards, 330 V und 440 V

Combination arrester



Combination arrester for 4-conductor systems and 5-conductor systems

PU II Series



Class II surge arrester with Varistors for main and sub-distribution boards (also with remote signalling contact)

PU III Series



Class III surge arrester single-phase with gas discharge tube and varistor for equipment protection, slimline design, with remote signalling contact

PU D/PU 3D



Class II surge arrester, single-phase with gas discharge tube and varistor for equipment protection, with remote signalling contact

PU D ZS



Socket outlet protection also with protection of ISDN or analogue lines

Wavefilter

Mains filter 3/6/10 A with screw connection for 230 V devices or power supplies

MCZ-Series

Instrumentation and control engineering surge protection for binary and analogue signals, slimline design (6 mm) with tension clamp connection and mounting rail contact

LPU

Instrumentation and control engineering surge protection for binary and analogue signals, pluggable with screw connection (connection variants and testing feature)

DKU-SERIES

Instrumentation and control engineering surge protection for binary and analogue signals, slimline design (6/8 mm) with screw connection

EGU series

Two-stage instrumentation and control engineering surge protection for binary signals with integrated fuse 5 x 20 mm and screw connection

RSU 6/10 A

Three-stage surge protection for analogue signals with high current consumption or for power supplies in instrumentation and control systems

RS485

Surge protection for the RS 485 data interface in protected housing with T-junction option and optional earthing via gas discharge tube

JACKPAC®

Single and three-stage surge protection in IP67: for protection of binary switching signals up to 24 V or for analogue measuring circuits with 0...20 mA or 0...10 V

Other

Data surge protection for Coax-RS232/RS485- as well as for telecommunication applications

Product quick selection, power supplies

Class I

Combination arresters – class I

Product	Version	Rated Uc	Discharge capacity Iimp (10/350)	Protection level Up	Follow current suppression capability Ifi	Tele- communication contact	Max. backup fuse A gl/gG	Overall width	Order No.
PU Combi 4 wire	4-pole	260 V	100 kA	1.5 kV	3 kA		125	6 module	8729960000
PU R Combi 4 wire	4-pole	260 V	100 kA	1.5 kV	3 kA	1 W	125	7 module	8729970000
PU Combi 5 wire	5-pole	260 V	100 kA	1.5 kV	3 kA		125	8 module	8729950000
PU R Combi 5 wire	5-pole	260 V	100 kA	1.5 kV	3 kA	1 W	125	9 module	8729930000
PU BC 16 kA	single-pole	280 V	16 kA	< 1.3 kV	no system follow current		160	2 module	8805440000
PU BCR 16 kA	single-pole	280 V	16 kA	< 1.3 kV	no system follow current	1 W	160	3 module	8805450000

Lightning arresters – class I sparkover gaps (intermediate meter area)

Product	Version	Rated voltage Uc	Discharge capacity Iimp (10/350)	Protection level Up	Follow current suppression capability Ifi	blow-out/ encapsulated	Max. backup fuse A gl/gG	Overall width	Order No.
PU 1 TSG 35 kA/0.9 kV	single-pole	260 V	35 kA	900 V	3 kA	encapsulated	125	1 module	8561260000
PU 1 TSG+ 50 kA/0.9 kV	single-pole	330 V	50 kA	900 V	50 kA	blow-out	250	2 module	8561220000
PU 1 TSG+ 50 kA/1.5 kV	single-pole	440 V	50 kA	1.5 kV	50 kA	blow-out	250	2 module	8561250000

N-PE lightning arresters – class I sparkover gaps (intermediate meter area)

Product	Version	Rated voltage Uc	Discharge capacity Iimp (10/350)	Protection level Up	Follow current suppression capability Ifi	blow-out / encapsulated	Max. backup fuse A gl/gG	Overall width	Order No.
PU 1 TSG 50 kA/1.5 kV	single-pole	260 V	50 kA	1.5 kV	500 A	encapsulated	125	1 module	8561230000
PU 1 TSG 100 kA/1.5 kV	single-pole	260 V	100 kA	1.5 kV	100 A	encapsulated	125	2 module	8762020000

Lightning arresters – class I high-power varistors (after meter)

Product	Version	Rated voltage Uc	Discharge capacity Iimp (10/350)	Protection level Up	Follow current suppression capability Ifi	Protection level at Ip	Max. backup fuse A gl/gG	Overall width	Order No.
PU BC 16kA	single-pole	280 V	16 kA	2 kV	60 kA	< 1.3 kV	160	2 module	8805440000
PU BC R 16kA	single-pole	280 V	16 kA	2 kV	60 kA	< 1.3 kV	160	3 module	8805450000
PU I 3 280 V/12.5 kA	3-pole	280 V	12.5 kA	1.3 kV	50 kA	< 1.3 kV	125	3 module	8858990000
PU I 3 R 280 V/12.5 kA	3-pole	280 V	12.5 kA	1.3 kV	50 kA	< 1.3 kV	125	3 module	8859010000
PU I 4 280 V/12.5 kA	4-pole	280 V	12.5 kA	1.3 kV	50 kA	< 1.3 kV	125	4 module	8859000000
PU I 4 R 280 V/12.5 kA	4-pole	280 V	12.5 kA	1.3 kV	50 kA	< 1.3 kV	125	4 module	8859020000

Product quick selection, power supplies

Class II

Surge arrester - class II

Product	Version	Rated voltage	Rated discharge current In (8/20)	Protection level Up (typ.)	Max. discharge current I _{max} (8/20)	Max. backup fuse	Tele-communication contact	Overall width	Order No.
		U _c				A gl/gG			
PU II 1 280V/40kA	single-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		1 module	8859690000
PU II 1 R 280V/40kA	single-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	1 module	8859700000
PU II 1+1 280V/40kA	2-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		2 module	8859730000
PU II 1+1R 280V/40kA	2-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	2 module	8859740000
PU II 2 280V/40kA	2-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		2 module	8859680000
PU II 2 R 280V/40kA	2-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	2 module	8859670000
PU II 3 280V/40kA	3-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		3 module	8859630000
PU II 3 R 280V/40kA	3-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	3 module	8859650000
PU II 4 280V/40kA	4-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		4 module	8859640000
PU II 4 R 280V/40kA	4-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	4 module	8859660000
PU II 3+1 280V/40kA	4-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		4 module	8859710000
PU II 3+1R 280V/40kA	4-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	4 module	8859720000
PU II 3 LCF 280V/40kA	3-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		3 module	8859760000
PU II 3 R LCF 280V/40kA	3-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	3 module	8859780000
PU II 4 LCF 280V/40kA	4-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		3 module	8859770000
PU II 4 R LCF 280V/40kA	4-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	4 module	8859790000
PU II 3 EWS 280V/40kA	3-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		3 module	8859800000
PU II 3 R EWS 280V/40kA	3-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	3 module	8859820000
PU II 4 EWS 280V/40kA	4-pole,separable	280 V	20 kA	1.4 kV	40 kA	125		4 module	8859810000
PU II 4 R EWS 280V/40kA	4-pole,separable	280 V	20 kA	1.4 kV	40 kA	125	1 W	4 module	8859830000
PU II 0 280V/40kA	spare plug	280 V	20 kA	1.4 kV	40 kA	125			8859750000
PU II 0 N-PE 280V/40kA	spare plug	280 V							8871940000
PU II 1 75V/40kA	single-pole,separable	75 V	20 kA	0.7 kV	40 kA	125		1 module	8860150000
PU II 1 R 75V/40kA	single-pole,separable	75 V	20 kA	0.7 kV	40 kA	125	1 W	1 module	8860160000
PU II 2 75V/40kA	2-pole,separable	75 V	20 kA	0.7 kV	40 kA	125		2 module	8860130000
PU II 2 R 75V/40kA	2-pole,separable	75 V	20 kA	0.7 kV	40 kA	125	1 W	2 module	8860140000
PU II 0 75V/40kA	spare plug	75 V	20 kA	0.7 kV	40 kA	125			8871950000
PU II 1 130V/40kA	single-pole,separable	130 V	20 kA	0.8 kV	40 kA	125		1 module	8859950000
PU II 1 R 130V/40kA	single-pole,separable	130 V	20 kA	0.8 kV	40 kA	125	1 W	1 module	8859960000
PU II 2 130V/40kA	2-pole,separable	130 V	20 kA	0.8 kV	40 kA	125		2 module	8859970000
PU II 2 R 130V/40kA	2-pole,separable	130 V	20 kA	0.8 kV	40 kA	125	1 W	2 module	8859980000
PU II 3 130V/40kA	3-pole,separable	130 V	20 kA	0.8 kV	40 kA	125		3 module	8859990000
PU II 3 R 130V/40kA	3-pole,separable	130 V	20 kA	0.8 kV	40 kA	125	1 W	3 module	8860000000
PU II 4 130V/40kA	4-pole,separable	130 V	20 kA	0.8 kV	40 kA	125		4 module	8860010000
PU II 4 R 130V/40kA	4-pole,separable	130 V	20 kA	0.8 kV	40 kA	125	1 W	4 module	8860020000
PU II 0 130V/40kA	spare plug	130 V	20 kA	0.8 kV	40 kA	125			8860030000
PU II 3 385V/40kA	3-pole,separable	385 V	20 kA	1.8 kV	40 kA	125		3 module	8859840000
PU II 3 R 385V/40kA	3-pole,separable	385 V	20 kA	1.8 kV	40 kA	125	1 W	3 module	8859850000
PU II 4 385V/40kA	4-pole,separable	385 V	20 kA	1.8 kV	40 kA	125		4 module	8859860000
PU II 4 R 385V/40kA	4-pole,separable	385 V	20 kA	1.8 kV	40 kA	125	1 W	4 module	8859870000
PU II 3+1 385V/40kA	4-pole,separable	385 V	20 kA	1.8 kV	40 kA	125		4 module	8859880000
PU II 3+1R 385V/40kA	4-pole,separable	385 V	20 kA	1.8 kV	40 kA	125	1 W	4 module	8859890000
PU II 0 385V/40kA	spare plug	385 V	20 kA	1.8 kV	40 kA	125			

Surge arrester - class II

Product	Version	Rated voltage	Rated discharge current In (8/20)	Protection level Up (typ.)	Max. discharge current I _{max} (8/20)	Max. backup fuse	Tele-communication contact	Overall width	Order No.
		U _c				A gl/gG			
PU II 1 550V/40kA	single-pole,separable	550 V	20 kA	2.6 kV	40 kA	125		1 module	8860040000
PU II 1 R 550V/40kA	single-pole,separable	550 V	20 kA	2.6 kV	40 kA	125	1 W	1 module	8860050000
PU II 2 550V/40kA	2-pole,separable	550 V	20 kA	2.6 kV	40 kA	125		2 module	8860100000
PU II 2 R 550V/40kA	2-pole,separable	550 V	20 kA	2.6 kV	40 kA	125	1 W	2 module	8860110000
PU II 3 550V/40kA	3-pole,separable	550 V	20 kA	2.6 kV	40 kA	125		3 module	8860080000
PU II 3 R 550V/40kA	3-pole,separable	550 V	20 kA	2.6 kV	40 kA	125	1 W	3 module	8860090000
PU II 4 550V/40kA	4-pole,separable	550 V	20 kA	2.6 kV	40 kA	125		4 module	8860060000
PU II 4 R 550V/40kA	4-pole,separable	550 V	20 kA	2.6 kV	40 kA	125	1 W	4 module	8860070000
PU II 2+1 550V/40kA	3-pole,separable	550 V	20 kA	2.6 kV	40 kA	125		3 module	8882340000
PU II 2+1R 550V/40kA	3-pole,separable	550 V	20 kA	2.6 kV	40 kA	125	1 W	3 module	8882350000
PU II 0 550V/40kA	spare plug	550 V	20 kA	2.6 kV	40 kA	125			8860120000

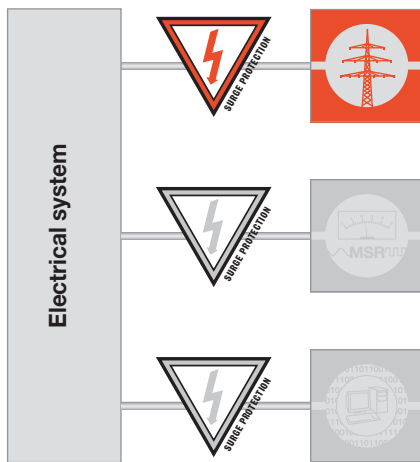
Product quick selection, power supplies

Class III

Surge arrester - class III

Product	Version	Rated voltage Uc	Rated discharge current In (8/20)	Protection level Up (typ.)	Max. discharge current I _{max} (8/20)	Max. backup fuse A gl/gG	Tele-communication contact	Overall width	Order No.
PU III R 12V/4kV	single-pole, DIN rail	15 V	2 kA	0.2 kV	7 kA	16	1 W	1 module	8883740000
PU III R 24V/4kV	single-pole, DIN rail	30 V	2 kA	0.3 kV	7 kA	16	1 W	1 module	8860360000
PU III R 48V/4kV	single-pole, DIN rail	60 V	2 kA	0.3 kV	6.5 kA	16	1 W	1 module	8860350000
PU III R 120V/6kV	single-pole, DIN rail	130 V	3 kA	0.7 kV	5 kA	16	1 W	1 module	8860340000
PU III R 230V/6kV	single-pole, DIN rail	280 V	3 kA	1.3 kV	5 kA	16	1 W	1 module	8860330000
PU D 115 V	2-pole, DIN rail	130 V	2.5 kA	0.48 kV	7 kA	16	1 W	3 module	8472100000
PU D 230 V	2-pole, DIN rail	275 V	2.5 kA	0.85 kV	7 kA	16	1 W	3 module	8411930000
PU D 230/400V	4-pole, DIN rail	275 V	6.5 Ka	0.85 kV	18 kA	16	1 W	3 module	8509130000
PO DS 230 V	2-pole, for device mounting	275 V	2.5 kA	1.5 kV	5 kA	16			8581830000
PO DAS 230 V	2-pole, for device mounting with audible signal	275 V	2.5 kA	1.5 kV	5 kA	16	audible signal		8581840000
PU D ZS 230V/16A	power socket adapter	275 V		1.5 kV	5 kA	16			8697580000
PU D ZS analogue	power socket adapter	275 V		1.5 kV	5 kA	16			8697600000
PU D ZS S0	power socket adapter	275 V		1.5 kV	5 kA	16			8697560000
PU D ZS UK0	power socket adapter	275 V		1.5 kV	5 kA	16			8697570000
PU D ZS TV/R	power socket adapter	275 V		1.5 kV	5 kA	16			8779230000

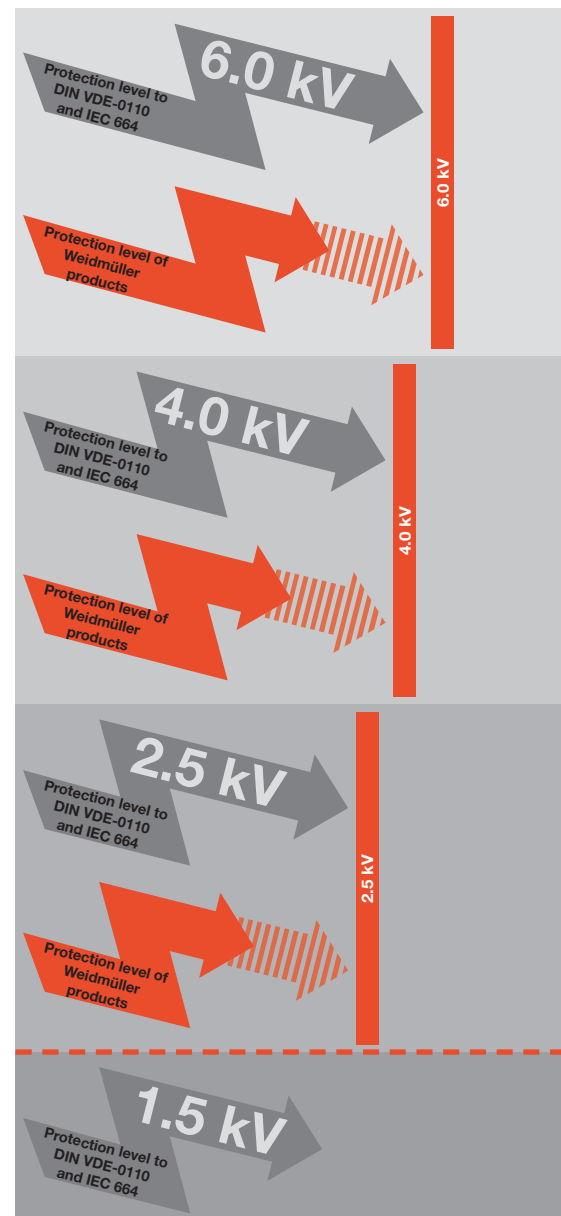
Surge protection class I with spark gap



Weidmüller surge protection products from the PU 1 series (Class I), PU 1 TSG, PU II series (Class II), PU III series and POD (Class III) effectively reduce the surge protection even below the limits prescribed by the insulation coordination according to DIN VDE 0110. This means that the entire system is subjected to less interference.

The coordination of the arresters is achieved by technical means. This means that decoupling between classes I, II and III is **not** necessary.

Design surge voltage



Class I



Class II

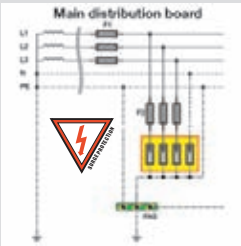


Class III



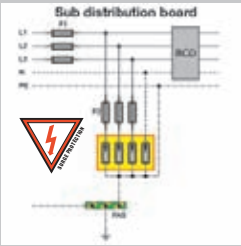
for insulation coordination to IEC 664 and DIN VDE 0110

Surge arresters Class I



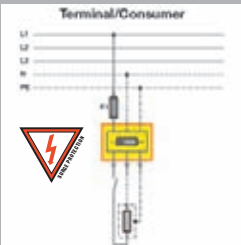
Lightning arrester/combi-arrester varistor-based on and enclosed 50/200 kA	PU I / PU BC	Page F.13
Sparkover gaps, triggered and enclosed, 35/50 kA	PU 1 TSG	Page F.16
Sparkover gaps, triggered 50 kA	PU 1 TSG+	Page F.18
Sparkover gaps, triggered and enclosed 100 kA	PU 1 TSG 100 kA	Page F.17
Combined surge protection	PU COMBI I + II	Page F.22
Replacement arrester, dependent on rated voltages	PU I 0 series	

Surge arresters Class II



Varistor arresters up to 160 kA for diverse voltages	PU II series	Page F.26
Varistor arresters up to 160 kA for diverse voltages, with signalling contact	PU II R series	Page F.26
Replacement varistor to suit rated voltage	PU 0 II series	Page F.26

Surge arresters Class III



Single-phase arresters for diverse voltages, with signalling contact	PU III series	Page F.45
Three-phase arresters with signalling contact	PU 3 D	Page F.49
Schuko plug-in surge protector	PU D ZS	Page F.51

Class I

Lightning and surge protection for Class I with varistor technology: PU I

Weidmüller's PU I Series features Class I surge protection with varistor technology, and a discharge current capability of 12.5 kA (10/350 μ s). The pluggable, self-monitoring surge arresters are optionally available as 1-, 3- or 4-pole versions – with or without a remote signalling contact. PU I devices can be rotated 180° and thus simplify installation to RCDs with cross-connectors. Their ability to rotate allows you to implement PE connections over short distances.

The advantages for you:

- Rotate 180° and remote signalling function
- Suitable for various types of mains voltages (TN/TT)
- Tested in compliance with IEC 61643-1 and EN 61643-11
- Convenient installation in sub-distribution boards and electrical cabinets
- Designed for use in buildings which comply with the lightning protection zones III/IV
- Very low residual voltage (<1.3 kV), thus also suitable as Class II surge protection

Lightning conductors with sparkover gap for lightning protection or equipotential bonding providing Surge protection class I

According to the requirements of class B (DIN VDE 0675 part 6, draft: Nov. 1989/A1: Mar 1996) and class I to IEC 61643-1 (Jan 2002), the lightning conductor at the transfer from interface 0 to 1 (to IEC 1312-1) is used as the lightning protection providing equipotential bonding. In combination with several lightning protectors, the surge protection is used in the mains forms TN, TT and IT. When lightning strikes, the triggered air gap protector provides the necessary equipotential bonding between the building lightning protection and the earthing system of the power supply. The use of a sparkover gap satisfies the inspection requirements for class I surge protection systems according to the VDEW (Association of German Power Stations) directive (1st ed., 1998).



Electrical connection for building installation

The PU 1 TSG 35 kA class I lightning arrester is connected between the phase conductors (L1, L2, L3) and N/PE. A Weidmüller PU 1 TS G 50 kA is used to provide the N-PE sparkover gap. The lines for this should be kept as short as possible. The triggered and non-blowout PU 1 TSG devices can be clipped to TS 35 rails in electrical cabinets or distribution boards. The maximum permissible operating voltage U_c is 260 V AC. Decoupling from downstream class II (C) arresters is unnecessary because triggered sparkover gaps with a low sparkover voltage are used.

Please follow the installation instructions.

Electrical connection for industrial installations

The PU 1 TSG+ 50 kA/330 V or 440 V class I lightning arrester is connected between the phase conductors (L1, L2, L3) and N/PE. A Weidmüller PU 1 TSG 50 kA is used to provide the N-PE sparkover gap. The lines for this should be kept as short as possible.

The triggered and blowout PU 1 TSG+ 50 kA devices can be clipped to TS 35 rails in electrical cabinets or distribution boards. Owing to the emissions given off when the sparkover gap is tripped, a safety clearance of min. 100 mm must be maintained between this and any current-conducting components.

Coordination

The maximum permissible operating voltage U_c is 330 or 440 V AC. Decoupling from downstream class II (C) arresters is unnecessary because triggered sparkover gaps with a low sparkover voltage are used.

Important: for U_c 330 V, PU II is used with 280 V and for U_c 440 V, the PU II with 550 V.

Please follow the installation instructions.

Checking operation, maintenance and approvals

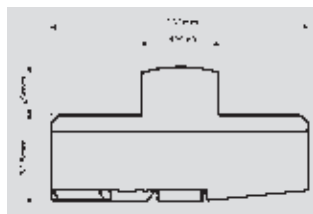
A visual check is necessary to ensure that PU 1 TSG and PU 1 TSG+ surge protection components are operating correctly. Besides signalling a mains power failure, the LED illuminates above 120 V AC to indicate the failure of the firing electronics. It is advisable to check frequently during stormy weather. The use of triggered sparkover gaps achieves a very low protection level of < 1.5 kV with high discharge currents. Depending on the cross-section of the line, the PU 1 TSG must be protected with a fuse of max. 125 A gL, the PU 1 TSG+ max. 250 A gL.

The connection is designed for the following cross-sections:

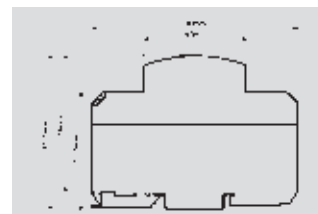
- solid wire: 10 ... 35 mm²
- stranded wire: 10 ... 25 mm²

The operating temperature range is –40 °C ... +85 °C.

The PU 1 TSG lightning arresters have UL and KEMA approval and are hence suitable for use worldwide.



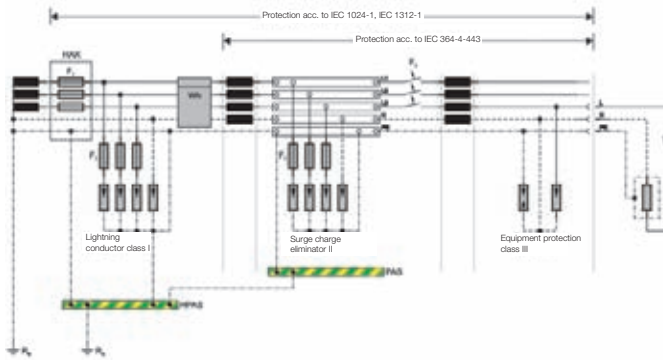
Dimensions PU 1 TSG+
Overall width 36 mm



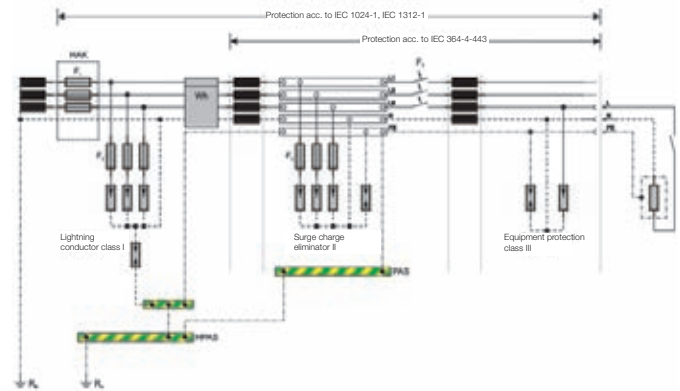
Dimensions PU 1 TSG
Overall width 18 mm

Surge protection for low-voltage supplies

Protection in the TN-S-system

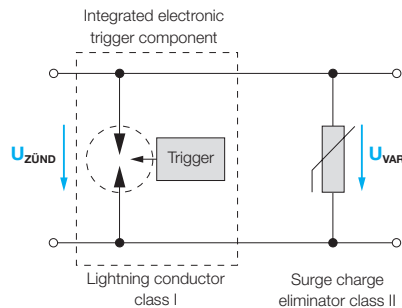
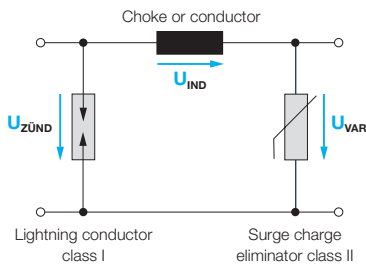


Protection in the TT-system



In contrast to conventional sparkover gaps, the Weidmüller PU 1 TSG+ and PU 1 TSG sparkover gaps operate with electronic triggering. This fires the sparkover gap at such an early point that the downstream class II (PU II series) arresters are relieved. Decoupling from downstream class II (C) arresters is unnecessary because triggered sparkover gaps with a low sparkover voltage are used.

The PU 1 TSG+ and PU 1 TSG differ in terms of the follow current extinction. The PU 1 TSG+ distributes the arc drop voltage over several chambers. As soon as the total arc drop voltage exceeds the mains voltage flowing, the follow current is extinguished. In the PU 1 TSG the follow current extinction takes place at the next current zero of the mains voltage.



Accessories for PU BC / BCR

N-PE Arrestor
Cross-connection for 3 units PU BC
Cross-connection for 4 units PU BC
Cross-connection for 3 units PU BCR
Cross-connection for 4 units PU BCR
Cross-connection for 3 units PU BC+PU1TSG
Cross-connection for 3 units PU BCR+PU1TSG
Cross-connection for 1 unit PU BC/R+PU1TSG

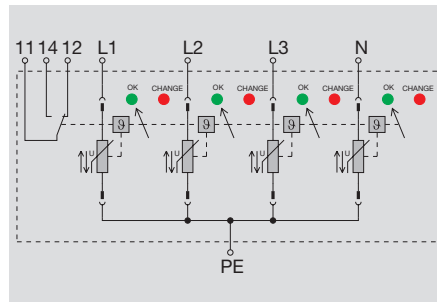
Type	Qty.	Order No.
PU1TSG	1	8561230000
QB 36-3	1	8816090000
QB 36-4	1	8816100000
QB 54-3	1	8821720000
QB 54-4	1	8821710000
QB 36-3+1	1	8858360000
QB 54-3+1	1	8858340000
QB 36-1+1	1	8858350000

Class I + II lightning arrester

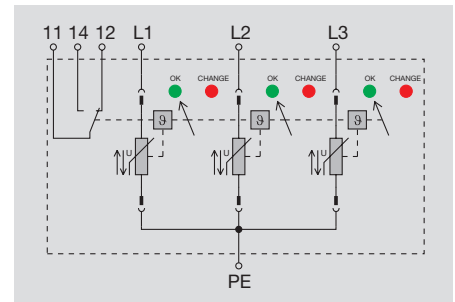
Combi-arrester

- Class I + II plug-in arrester for lightning protection equipotential bonding
- Suitable for lightning protection classes III and IV
- High discharge current with 12.5 kA (10/350 µs)
- Low residual voltage from <1.3 kV, thus also can be used for Class II surge protection
- High-power varistor, non-blow-out arrester
- No decoupling to class II and III arresters necessary
- Follow current need not be taken into account

PU I 4/R 280V/12,5kA



PU I 3/R 280V/12,5kA



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)
 Charge, typical
 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 U_p (typical)
 Optical function indicator
 Signalling contact
 Tightening torque range
 Discharge current, max. (8/20 µs)
 Rated discharge current per path (8/20 µs)
 Temporary surge - U_{TOV}
 Design
 Ambient temperature (operational)
 Storage temperature
 Approvals

230 V
 280 V
 I+II (combination arrester)
 12.5 kA
 6 As
 45 kJ/Ω
 6 As
 25 kA_{eff}
 ≤ 25 ns
 160 A gL
 < 1300 V
 green = OK; red = arrester faulty, replace
 250 V 1A 1CO at PU I 4 R
 2.5 Nm...3 Nm
 50 kA
 30 kA
 335 V
 4 unit widths; installation housing
 -40 ... 70°C
 -40 ... 70°C
 CE; ÖVE

230 V
 280 V
 I+II (combination arrester)
 12.5 kA
 6 As
 45 kJ/Ω
 6 As
 25 kA_{eff}
 ≤ 25 ns
 160 A gL
 < 1300 V
 green = OK; red = arrester faulty, replace
 250 V 1A 1CO at PU I 3 R
 2.5 Nm...3 Nm
 50 kA
 30 kA
 335 V
 3 unit widths; installation housing
 -40 ... 70°C
 -40 ... 70°C
 CE; ÖVE

Dimensions

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

25 / 4 / 25
 90 x 72 x 64

25 / 4 / 25
 90 x 54 x 64

Note

Ordering data

Version

Type	Qty.	Order No.
PU I 4 280V/12,5kA	1	8859000000
PU I 4 R 280V/12,5kA	1	8859020000

Type	Qty.	Order No.
PU I 3 280V/12,5kA	1	8858990000
PU I 3 R 280V/12,5kA	1	8859010000

Note

Additional rated voltages on request

Additional rated voltages on request

Accessories

Note

Pluggable replacement arrester, PU I 0 280 V/12.5kA - 8859120000

Pluggable replacement arrester, PU I 0 280 V/12.5kA - 8859120000

Surge protection for low-voltage supplies

Class I + II lightning arrester

Combi-arrester

- Class I + II plug-in arrester for lightning protection equipotential bonding
- Suitable for lightning protection classes III and IV
- High discharge current with 12.5 kA (10/350 µs)
- Low residual voltage from <1.3 kV, thus also can be used for Class II surge protection
- High-power varistor, non-blow-out arrester
- No decoupling to class II and III arresters necessary
- Follow current need not be taken into account

PU I 2/R 280V/12,5kA

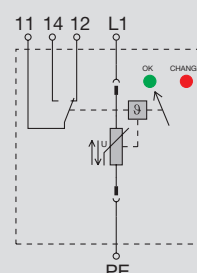
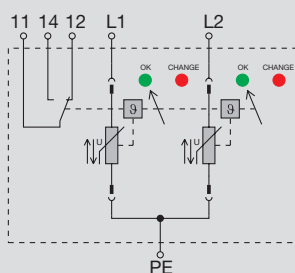


n

PU I 1/R 280V/12,5kA



n



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)
 Charge, typical
 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 U_p (typical)
 Optical function indicator
 Signalling contact
 Tightening torque range
 Discharge current, max. (8/20 µs)
 Rated discharge current per path (8/20 µs)
 Temporary surge - U_{TOV}
 Design
 Ambient temperature (operational)
 Storage temperature
 Approvals

230 V
 280 V
 I+II (combination arrester)
 12.5 kA
 6 As
 45 kJ/Ω
 6 As
 25 kA_{eff}
 ≤ 25 ns
 160 A gL
 < 1300 V
 green = OK; red = arrester faulty, replace
 250 V 1 A 1CO at PU I 2 R
 2.5 Nm...3 Nm
 50 kA
 30 kA
 335 V
 2 unit widths; Installation housing
 -40 ... 70°C
 -40 ... 70°C
 CE; ÖVE

230 V
 280 V
 I+II (combination arrester)
 12.5 kA
 6 As
 45 kJ/Ω
 6 As
 25 kA_{eff}
 ≤ 25 ns
 160 A gL
 < 1300 V
 green = OK; red = arrester faulty, replace
 250 V 1 A 1CO at PU I 1 R
 2.5 Nm...3 Nm
 50 kA
 30 kA
 335 V
 1 unit width; Installation housing
 -40 ... 70°C
 -40 ... 70°C
 CE; ÖVE

Dimensions

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

25 / 4 / 25
 90 x 36 x 64

25 / 4 / 25
 90 x 18 x 64

Note

Ordering data

Version

Type	Qty.	Order No.
PU I 2 280V/12,5kA	1	8859040000
PU I 2 R 280V/12,5kA	1	8859030000

Type	Qty.	Order No.
PU I 1 280V/12,5kA	1	8859050000
PU I 1 R 280V/12,5kA	1	8859060000

Note

Additional rated voltages on request

Additional rated voltages on request

Accessories

Note

Pluggable replacement arrester, PU I 0 280 V/12.5kA - 8859120000

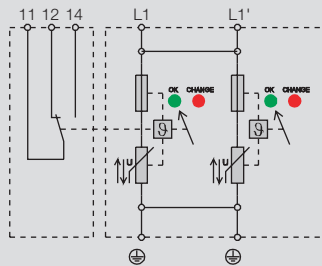
Pluggable replacement arrester, PU I 0 280 V/12.5kA - 8859120000

Class I + II lightning arrester

- Class I + II plug-in arrester for lightning protection equipotential bonding
- Suitable for lightning protection classes II, III and IV
- High discharge current of 16 kA (10/350 μ s) according to requirements of the VDE 0100-534 standard
- Low residual voltage from <1.3 kV, thus also can be used for Class II surge protection
- two pluggable high-power varistors with redundant functioning
- High-power varistor, non-blow-out arrester
- No decoupling to class II and III arresters necessary

PU BC/BCR 16 kA / 280 V

Can be used in all net-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 μ s)
 Charge, typical
 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 U_p (typical)
 Optical function indicator
 Signalling contact
 Tightening torque range
 Discharge current, max. (8/20 μ s)
 Rated discharge current per path (8/20 μ s)
 Temporary surge - U_{TOV}
 Design
 Ambient temperature (operational)
 Storage temperature
 Approvals

230 V
 280 V
 I+II (combination arrester)
 16 kA
 64 kJ/ Ω
 25 kA_{eff}
 ≤ 25 ns
 160 A gL
 1300 V
 green = OK; red = arrester faulty, replace
 250 V 1A 1CO at PU BCR
 4.5 Nm
 60 kA
 335 V
 Installation housing
 -40 ... 60°C
 -40 ... 80°C
 CE; ÖVE

Dimensions

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

Note

without telecomm. contact with telecomm. contact

10 / 6 / 50 10 / 6 / 50
 90 x 36 x 61 90 x 54 x 61

Ordering data

Version

without telecomm. contact
 with telecomm. contact

Type	Qty.	Order No.
PU BC 16kA/280V	1	8805440000
PU BCR 16kA/280V	1	8805450000

Note

Accessories

Note

Plug-in spare arrester PU 0 BC 280 V: 8805470000
 Cross-connectors see F.12

Surge protection for low-voltage supplies

Klasse I lightning arrester

- encapsulated version
- no decoupling necessary thanks to trigger electronics
- Suitable for lightning protection classes I, II, III, IV.

PU 1 TSG 35 kA / 0,9 kV-260 V

for use in building systems (L-N/PE)



n

PU 1 TSG 50 kA / 1,5 kV-260 V

for use in building systems (N-PE)



n

F

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 μ s)
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
Ambient temperature (operational)
Storage temperature
Approvals

230 V
260 V
Class I
35 kA with 17.5 As charge
305 kJ/ Ω
3 kA / 50 Hz
25 kA_{eff}
 $\leq 1 \mu$ s
125 A gL
900 V
green LED
-40 ... 85°C
-40 ... 85°C
cURus;File E198315;KEMA

230 V
260 V
Class I
50 kA with 25 As charge
625 kJ/ Ω
500 A / 50 Hz
25 kA_{eff}
 $\leq 1 \mu$ s
125 A gL
1500 V
no
-40 ... 85°C
-40 ... 85°C
cURus;File E198315;KEMA

Dimensions

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

35 / 10 / 35
91 x 18 x 63

35 / 10 / 35
91 x 18 x 63

Note

Ordering data

Version

without telecomm. contact

Type	Qty.	Order No.
PU 1 TSG 35kA / 0,9kV	1	8561260000

Type	Qty.	Order No.
PU 1 TSG 50kA / 1,5kV	1	8561230000

Note

Cross-connection QB 18-4 order No. 8619440000
Cross-connection QB 18-6 order No. 8619450000

Cross-connection QB 18-4 order No. 8619440000
Cross-connection QB 18-6 order No. 8619450000

Accessories

Note

Designation BZ18, PE PE PE PE PE, Order No. 8619470000
Designation BZ18, L1 L2 L3 N PE, order No. 8619460000

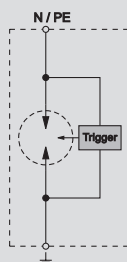
Designation BZ18, PE PE PE PE PE, Order No. 8619470000
Designation BZ18, L1 L2 L3 N PE, order No. 8619460000

Klasse I lightning arrester

- encapsulated version
- no decoupling necessary thanks to trigger electronics
- Suitable as N-PE arrester
- Suitable for lightning protection classes I, II, III, IV.

PU 1 TSG+ 100 kA / 1,5 kV-260 V

for use as N-PE arrester

**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 μ s)
 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
 Ambient temperature (operational)
 Storage temperature
 Approvals

230 V
 260 V
 Class I
 100 kA with 50 As charge
 2500 kJ/ Ω
 100 A 260 V/50 Hz
 $\leq 1 \mu$ s
 100 A gL
 1500 V
 no
 -40 ... 85°C
 -40 ... 85°C
 cURus;File E198315;KEMA

Dimensions

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

50 / 6 / 50
 90 x 36 x 63

Note**Ordering data****Version**

without telecomm. contact

Type	Qty.	Order No.
PU 1 TSG 100kA/1,5 kV	1	8762020000

Note

Cross-connection QB 18-4 order No. 8619440000
 Cross-connection QB 18-6 order No. 8619450000

Accessories**Note**

Designation BZ18, PE PE PE PE PE, Order No. 8619470000
 Designation BZ18, L1 L2 L3 N PE, order No. 8619460000

Surge protection for low-voltage supplies

Klasse I lightning arrester

- Blow-out version
- no decoupling necessary thanks to trigger electronics
- suitable for networks with high short-circuit currents
- Suitable for lightning protection classes I, II, III, IV.

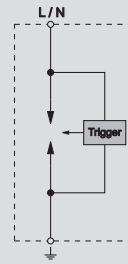
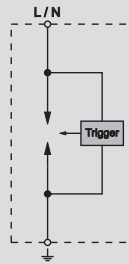
PU 1 TSG+ 50 kA / 0.9 kV-330 V

for use in industrial systems



PU 1 TSG+ 50 kA / 1.5 kV-440 V

for use in industrial 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 μ s)
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
Ambient temperature (operational)
Storage temperature
Approvals

330 V
330 V
Class I
50 kA with 25 As charge
625 kJ/ Ω
50 kA / 50 Hz
25 kA_{eff}
 ≤ 150 ns
250 A gL
900 V
green LED
-40 ... 85°C
-40 ... 85°C
cURus;File E198315;KEMA

440 V
440 V
Class I
50 kA with 25 As charge
625 kJ/ Ω
50 kA / 50 Hz
25 kA_{eff}
 ≤ 150 ns
250 A gL
1500 V
green LED
-40 ... 85°C
-40 ... 85°C
cURus;File E198315;KEMA

Dimensions

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

35 / 10 / 35
150 x 35 x 80

35 / 10 / 35
150 x 35 x 80

Note

Ordering data

Version

without telecomm. contact

Type	Qty.	Order No.
PU1 TSG Plus 330 VAC 0,9kV	1	8561220000

Type	Qty.	Order No.
PU1 TSG Plus 440 VAC 1,5kV	1	8561250000

Note

QB 36-3 cross-connection, order no. 8816090000
QB 36-4 cross-connection, order no. 8816100000

QB 36-3 cross-connection, order no. 8816090000
QB 36-4 cross-connection, order no. 8816100000

Accessories

Note

Designation BZ18, PE PE PE PE PE, Order No. 8619470000
Designation BZ18, L1 L2 L3 N PE, order No. 8619460000

Designation BZ18, PE PE PE PE PE, Order No. 8619470000
Designation BZ18, L1 L2 L3 N PE, order No. 8619460000

Combination arrester

Combination arrester

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.

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

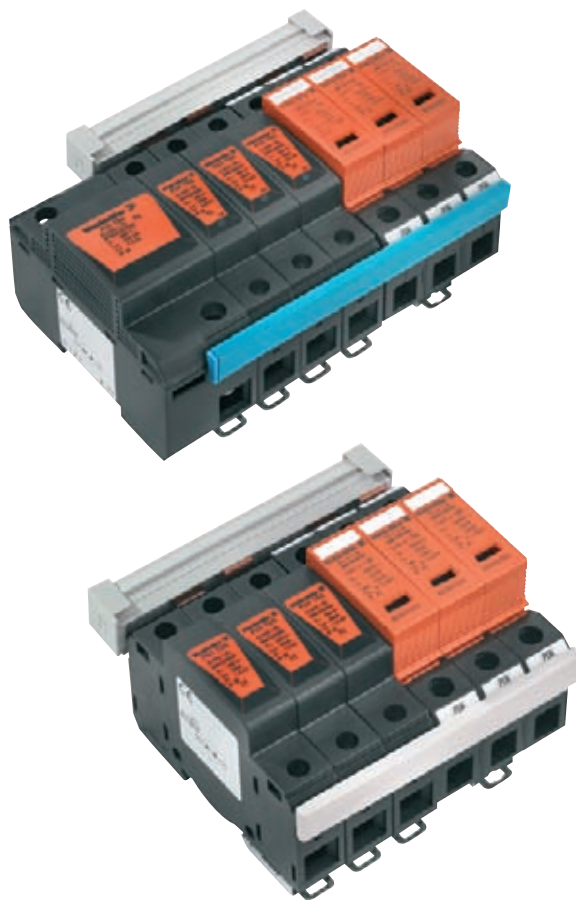
A visual check is necessary to ensure that the PU COMBI surge protection components are operating correctly. This visual check is easy because the arrester is fitted with a thermal disconnecter. If this has been tripped and protection is no longer provided, the flag in the status window changes from 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.

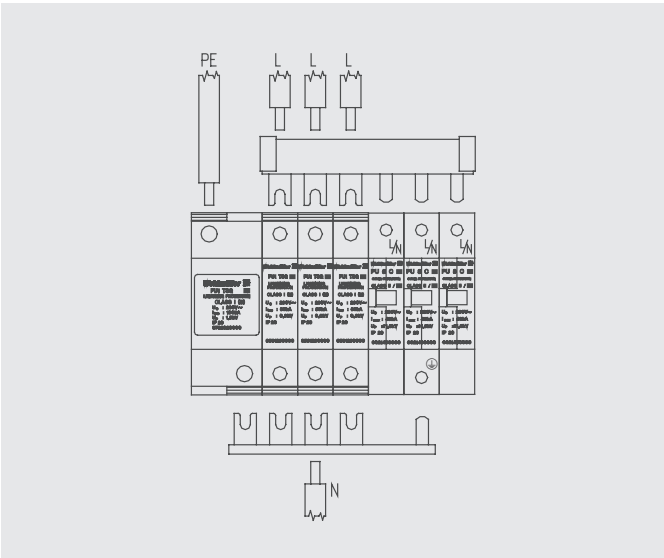
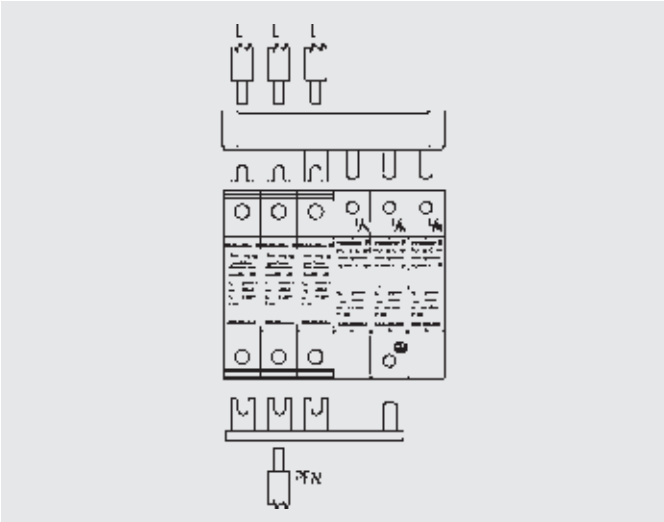
The connection is designed to IEC 947-7-1 for the following cross-sections:

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.

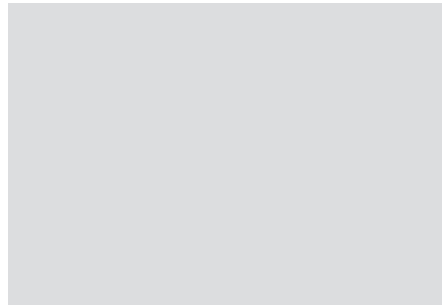
- Suitable for lightning protection classes I, II, III, IV.

PU/R COMBI I+II 4 Wire

Use in building systems



n



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 μ s)

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 U_p (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_{off}
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

Note

without telecomm. contact with telecomm. contact

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

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

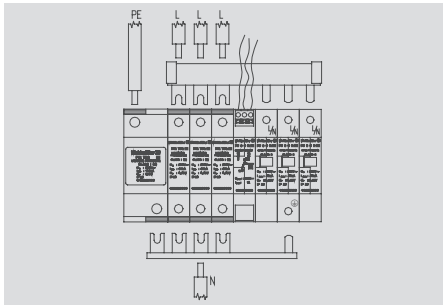
The surge protection combination consists of the class I triggered sparkover gap PU 1 TSG for protecting the phase to N of an N-PE sparkover gap and the class II PU 3 C. The arresters are interconnected via 16 mm² cross connection system.

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)	230 V
max. continuous voltage, Uc (AC)	280 V
Requirements class to IEC 61643-1	I+II (combination arrester)
Lightning test voltage I imp (10/350 µs)	35 kA with 17.5 As charge
	50 kA with 25 As charge
	64 kJ/Ω
Specific energy, per path	3 kA
Short-circuit current extinction without back-up fuse	25 kA _{off}
Short-circuit strength with max. back-up fuse	sym/ asym: ≤ 100 ns
Response time	125 A gL
Fuse, max.	1500 V
Protection level Up (typical)	green = OK; red = arrester faulty, replace
Optical function indicator	250 V 1A 1CO at PU R COMBI
Signalling contact	-40 ... 60°C
Ambient temperature (operational)	-40 ... 80°C
Storage temperature	n.a.
Approvals	

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

Ordering data

Version	
	without telecomm. contact
	with telecomm. contact
Note	

Accessories

Note	
------	--

	without telecomm. contact	with telecomm. contact
	35 / 6 / 10	35 / 6 / 10
	90 x 148 x 65	91 x 148 x 65
Type		
PU COMBI I+II 5 Wire	Qty. 1	Order No. 8729950000
PU R COMBI I+II 5 Wire	Qty. 1	Order No. 8729930000
Note		

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

Surge protection for low-voltage consumer installations and electronics

Surge protection of class II

The Weidmüller PU II series surge protection protects low-voltage consumer installations and electronic devices against voltage surges that arise through, for example, atmospheric discharge (lightning) or switching activities (transients).

The PU II series satisfies the requirements of class II to IEC 61643-1 (March 2005); type 2 to EN 61643-11 and class C to DIN VDE0675 pt 6 (Nov 1989) A1 (Feb 1996)/A2 (Oct 1996)

Electrical connection

F

Connect the PU II surge protection between the phase conductors (L1, L2, L3) or, as the case may be, the neutral conductor (N) and earth of the consumer installation. The connecting conductors should be kept as short as possible. Ensure that unprotected conductors (e.g. wires to the meter) are not run parallel to protected wires.

The universal “3+1” circuit for TN or TT systems is available from the Weidmüller product range.

The PU II surge protection device is available as a 2, 3 or 4-pole compact module, the PE connections of the discs being already internally connected to each other.

We can supply the following voltage rating versions:

U_n : 60 V AC = U_c : 75 V

U_n : 115/230 V AC = U_c : 130 V

U_n : 230/400 V AC = U_c : 280 V

U_n : 400/690 V AC = U_c : 385 V

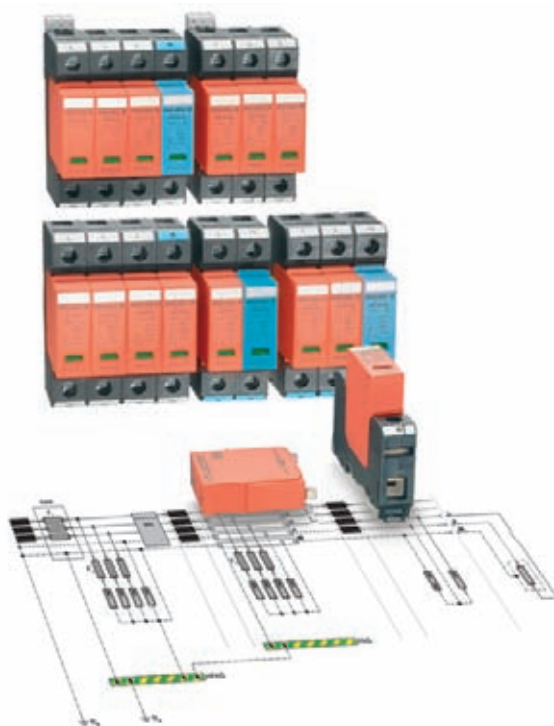
U_n : 470/600 V AC = U_c : 550 V

as well as for the 3+1 circuit and special types for IT networks.

The PU II series offers a choice of voltage ($U_n < U_c$) and number of arresters to satisfy the various power systems. The national regulations and safety information must be observed, see IEC60364-5-53 or DIN VDE 0100 pt 534.

Functional checks, maintenance and approvals

PU II surge modules can be checked visually by the user. The visual check is simple to perform because the arrester is provided with a thermal disconnecter. If this has responded, i.e. is no longer providing protection, the flag in the status window changes from green to red.



A non-functioning arrester can be replaced by a qualified technician without having to disconnect any wiring. The plug-in top sections of varistors are coded according to voltage. This means it is not possible to plug in the wrong replacement varistor.

EWS system

The EWS system has a yellow indicator in the sight window in addition to the green and red indicators. This is a wear indicator that shows if the varistor has aged as a result of energy loads. This is also indicated via the optional telecommunication contact. Replacement of the plug-in arrester is recommended.

LCF function

The leakage current free protection circuit (LCF function) is achieved by connecting the varistor and sparkover gap in series. This protection circuit is needed in the case of an insulation monitoring device, for example.

Connection

The cross-section of the earthing conductor must be at least 10 mm² or half the cross-section of the phase conductors. The fuse for PU II modules is selected on the basis of conductor cross-section and type of routing. A maximum of 125 A gG/gL is permitted.

PU II series arresters from Weidmüller are suitable for the following cross-sections:
solid conductor: 4 ... 35 mm²
stranded conductor: 4... 25 mm²
flexible conductor: 4 ... 25 mm²
The operating temperature range is –40 °C ... +80 °C.

RCD

When installing the PU II series in the direction of power flow after a residual-current circuit-breaker (RCD), the surge current withstand strength must be taken into account. For measuring insulation in the installation, the plug-in insert must be removed and reinserted after measurement is completed.

V-form connection

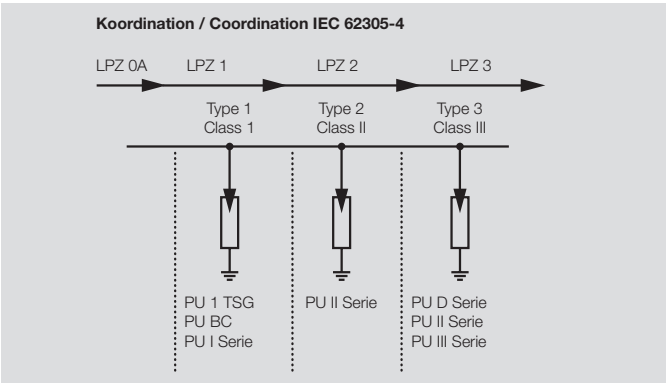
When using cross-connections from the RCD or fuses to the PU II, a V-form wiring arrangement can be used.

Telecommunication contact

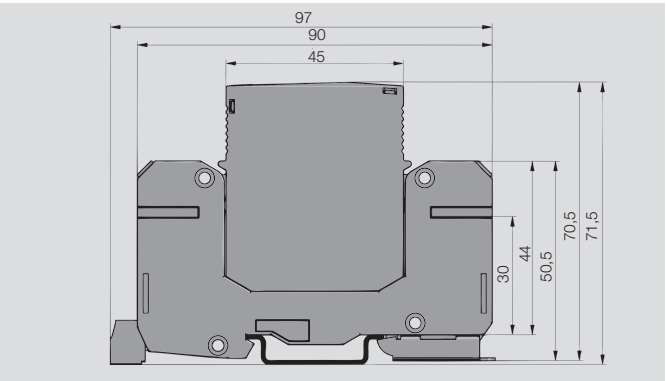
All modules of the PU II series are optionally available with telecommunication contact. This potential-free contact should be connected as a change-over contact via a screw / plug-in connection. The electrical data of the contact are: 250 V AC/1 A or 24 V DC/0.1 A.

Coordination with other arresters

The PU II series can be installed with the following Weidmüller surge protection devices without decoupling.



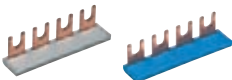
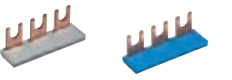
Dimensional drawing PU-II series



Overall width

- PU II, single-pole 18 mm
- PU II, two-pole 36 mm
- PU II, three-pole 54 mm
- PU II, four-pole 72 mm

Accessories

Type		grey	blue
	QB 18-4 insulated	8877520000	8877510000
	QB 18-3 insulated	8877500000	8877530000
	QB 18-2 insulated	8877540000	8877550000

Surge protection for low-voltage supplies

Class II with varistors

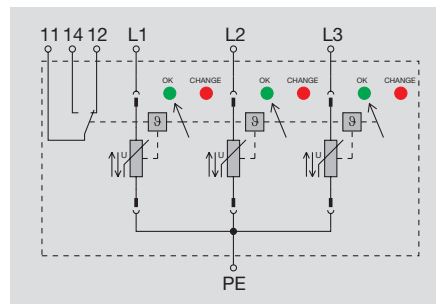
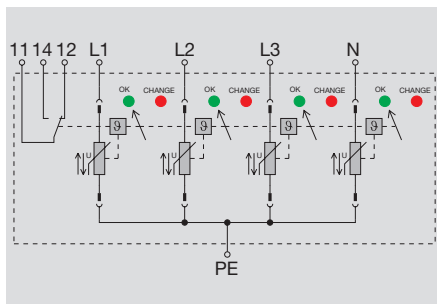
Surge protection of class II
with U_c : 280 V

- plug-in varistor top section
- coded voltage level, var. voltg.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function
- coordination between class I with U_p : < 900 V

PU II 4/R 280 V / 40 kA



PU II 3/R 280 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

230 V / 400 V
280 V
350 V
Class II *
20 kA
40 kA
150 kA
 ≤ 25 ns
125 A gL
< 1450 V
< 850 V
335 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 4 R
4 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

230 V / 400 V
280 V
350 V
Class II *
20 kA
40 kA
110 kA
 ≤ 25 ns
125 A gL
< 1450 V
< 850 V
335 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 3 R
3 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 72 x 64 97 x 72 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 54 x 64 97 x 54 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Note

Type	Qty.	Order No.
PU II 4 280V/40kA	1	8859640000
PU II 4 R 280V/40kA	1	8859660000

Type	Qty.	Order No.
PU II 3 280V/40kA	1	8859630000
PU II 3 R 280V/40kA	1	8859650000

Accessories

Note

Plug-in spare arrester PU II 0 280V / 40kA - 8859750000

Plug-in spare arrester PU II 0 280V / 40kA - 8859750000

Class II with varistors

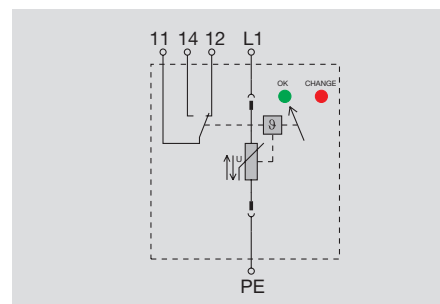
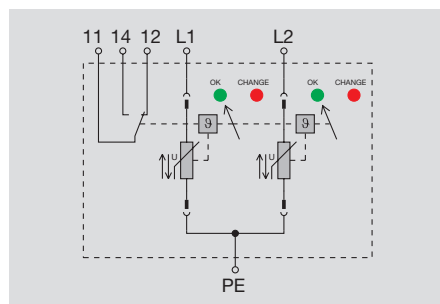
Surge protection of class II
with U_c : 280 V

- plug-in varistor top section
- coded voltage level, var. volts.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function
- coordination between class I with U_p : < 900 V

PU II 2/R 280 V / 40 kA



PU II 1/R 280 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

230 V
280 V
350 V
Class II *
20 kA
40 kA
75 kA
 ≤ 25 ns
125 A gL
< 1450 V
< 850 V
335 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 2 R
2 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

230 V
280 V
350 V
Class II *
20 kA
40 kA
40 kA
 ≤ 25 ns
125 A gL
< 1450 V
< 850 V
335 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 1 R
1 unit width; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 36 x 64 97 x 36 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 18 x 64 97 x 18 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Type	Qty.	Order No.
PU II 2 280V/40kA	1	8859680000
PU II 2 R 280V/40kA	1	8859670000

Type	Qty.	Order No.
PU II 1 280V/40kA	1	8859690000
PU II 1 R 280V/40kA	1	8859700000

Note

Accessories

Note

Plug-in spare arrester PU II 0 280V / 40kA - 8859750000

Plug-in spare arrester PU II 0 280V / 40kA - 8859750000

Surge protection for low-voltage supplies

Class II with varistors

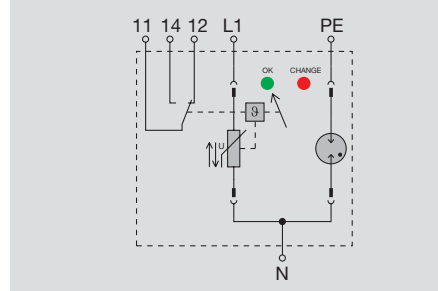
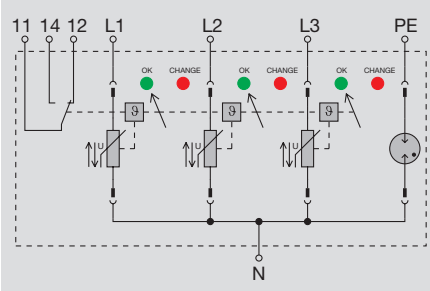
Surge protection of class II
with U_c : 280 V

- 3+1 surge protection, suitable for TN and TT systems
- plug-in varistor top part
- coded voltage level
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function
- coordination between class I with U_p : < 900 V

PU II 3+1/R 280 V / 40 kA



PU II 1+1/R 280 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Maximum continuous voltage, U_c (N-PE)
Limiting leakage current per path 8/20 μ s (N-PE)
Protection level for I_n (N-PE)
Protection level at I_n (Up)
Protection level at 5 kA (Up)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

230 V / 400 V
280 V
350 V
Class II *
20 kA
40 kA
150 kA
 ≤ 25 ns
125 A gL
260 V
40 kA
< 1350 V
< 1450 V
< 850 V
335 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 3+1 R
4 unit widths; installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

230 V
280 V
350 V
Class II *
20 kA
40 kA
75 kA
 ≤ 25 ns
125 A gL
260 V
40 kA
< 1350 V
< 1450 V
< 850 V
335 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 1+1 R
2 unit widths; installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 72 x 64 97 x 72 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 36 x 64 97 x 36 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Type	Qty.	Order No.
PU II 3+1 280V/40kA	1	8859710000
PU II 3+1R 280V/40kA	1	8859720000

Type	Qty.	Order No.
PU II 1+1 280V/40kA	1	8859730000
PU II 1+1R 280V/40kA	1	8859740000

Note

Accessories

Note

Plug-in spare arrester PU II 0 280V / 40kA - 8859750000
Plug-in spare arrester PU II 0 N-PE 280V / 40kA - 8871940000

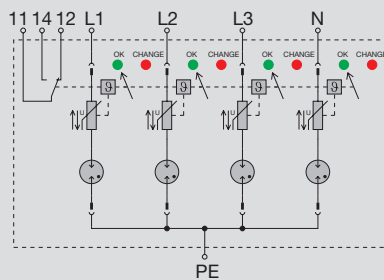
Plug-in spare arrester PU II 0 280V / 40kA - 8859750000
Plug-in spare arrester PU II 0 N-PE 280V / 40kA - 8871940000

Class II with varistors

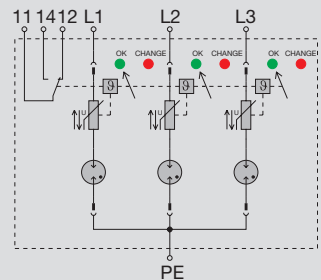
Surge protection of class II
with U_c : 280 V

- plug-in varistor top section
- coded voltage level, var. volts.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function
- coordination between class I with U_p : < 900 V
- leakage current free design for installation before meter

PU II 4 LCF/R LCF 280 V / 40 kA



PU II 3 LCF/R LCF 280 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

230 V / 400 V

280 V

350 V

Class II *

20 kA

20 kA

80 kA

 ≤ 25 ns

125 A gL

< 2500 V

< 850 V

335 V

green = OK; red = arrester faulty, replace

250 V 1A 1CO at PU II 4 R

4 unit widths; Installation housing

-40 ... 80°C

-40 ... 85°C

CE, ÖVE, cURus in preparation

230 V / 400 V

280 V

350 V

Class II *

20 kA

20 kA

60 kA

 ≤ 25 ns

125 A gL

< 2500 V

< 850 V

335 V

green = OK; red = arrester faulty, replace

250 V 1A 1CO at PU II 3 R

3 unit widths; Installation housing

-40 ... 80°C

-40 ... 85°C

CE, ÖVE, cURus in preparation

Dimensions

Clamping range (rating- / min. / max.)

mm²

Length x width x height

mm

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25

25 / 4 / 25

90 x 72 x 64

97 x 72 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25

25 / 4 / 25

90 x 54 x 64

97 x 54 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact

with telecomm. contact

Type

PU II 4 LCF 280V/20kA

Qty.

1

Order No.

8859770000

PU II 4 R LCF 280V/20kA

1

8859790000

Type

PU II 3 LCF 280V/20kA

Qty.

1

Order No.

8859760000

PU II 3 R LCF 280V/20kA

1

8859780000

Note

Accessories

Note

Plug-in spare arrester PU II 0 LCF 280V/40kA - 888934000

Plug-in spare arrester PU II 0 LCF 280V/40kA - 888934000

Surge protection for low-voltage supplies

Class II with varistors

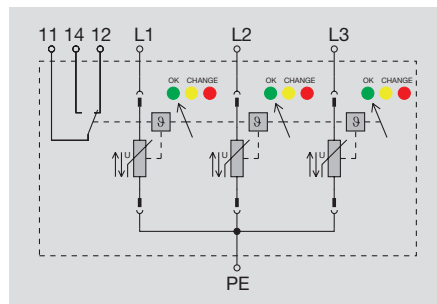
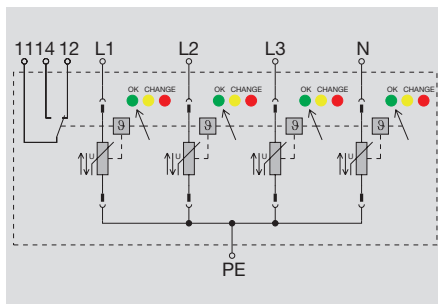
Surge protection of class II
with U_c : 280 V

- failure warning through yellow LED
- plug-in varistor top section
- coded voltage level
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function
- coordination between class I with U_p : < 900 V

PU II 4 EWS/R EWS 280 V / 40 kA



PU II 3 EWS/R EWS 280 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

230 V / 400 V
280 V
350 V
Class II *
20 kA
40 kA
150 kA
 ≤ 25 ns
125 A gL
< 1450 V
< 850 V
335 V
green = ok, yellow = warning, red = arrester faulty, replace
250 V 1A 1CO at PU II 4 R
4 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

230 V / 400 V
280 V
350 V
Class II *
20 kA
40 kA
110 kA
 ≤ 25 ns
125 A gL
< 1450 V
< 850 V
335 V
green = ok, yellow = warning, red = arrester faulty, replace
250 V 1A 1CO at PU II 3 R
3 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 72 x 64 97 x 72 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 54 x 64 97 x 54 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Type	Qty.	Order No.
PU II 4 EWS 280V/40kA	1	8859810000
PU II 4 R EWS 280V/40kA	1	8859830000

Type	Qty.	Order No.
PU II 3 EWS 280V/40kA	1	8859800000
PU II 3 R EWS 280V/40kA	1	8859820000

Note

Accessories

Note

Plug-in spare arrester PU II 0 EWS 280V/40kA - 8889350000

Plug-in spare arrester PU II 0 EWS 280V/40kA - 8889350000

Surge protection for low-voltage supplies

Class II with varistors

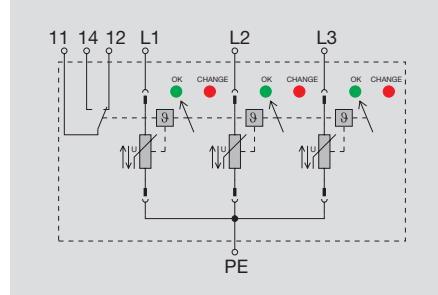
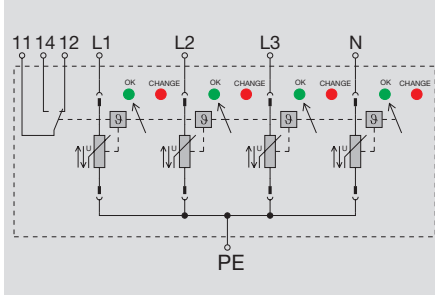
Surge protection of class II
with U_c : 385 V

- plug-in varistor top section
- coded voltage level, var. volts.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function

PU II 4/R 385 V / 40 kA



PU II 3/R 385 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

385 V / 660 V
385 V
500 V
Class II *
20 kA
40 kA
150 kA
 ≤ 25 ns
125 A gL
< 1800 V
< 1300 V
400 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 4 R
4 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

385 V / 660 V
385 V
500 V
Class II *
20 kA
40 kA
110 kA
 ≤ 25 ns
125 A gL
< 1800 V
< 1300 V
400 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 3 R
3 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 72 x 64 97 x 72 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 54 x 64 97 x 54 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Type	Qty.	Order No.
PU II 4 385V/40kA	1	8859860000
PU II 4 R 385V/40kA	1	8859870000

Type	Qty.	Order No.
PU II 3 385V/40kA	1	8859840000
PU II 3 R 385V/40kA	1	8859850000

Note

Accessories

Note

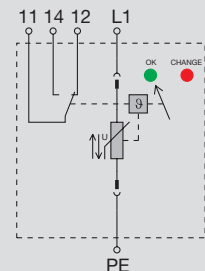
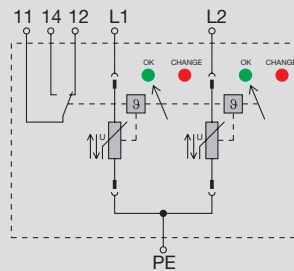
Plug-in spare arrester PU II 0 385V / 40kA - 8859940000

Plug-in spare arrester PU II 0 385V / 40kA - 8859940000

Class II with varistors

Surge protection of class II
with U_c : 385 V

- plug-in varistor top section
- coded voltage level, var. volts.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function

PU II 2/R 385 V / 40 kA**PU II 1/R 385 V / 40 kA****Technical data****Technical data**

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

385 V
385 V
500 V
Class II *
20 kA
40 kA
75 kA
 ≤ 25 ns
125 A gL
 < 1800 V
 < 1300 V
400 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 2 R
2 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

385 V
385 V
500 V
Class II *
20 kA
40 kA
40 kA
 ≤ 25 ns
125 A gL
 < 1800 V
 < 1300 V
400 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 1 R
1 unit width; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note**without telecomm. contact with telecomm. contact**

25 / 4 / 25 25 / 4 / 25
90 x 36 x 64 97 x 36 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 18 x 64 97 x 18 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data**Version**

without telecomm. contact
with telecomm. contact

Type	Qty.	Order No.
PU II 2 385V/40kA	1	8859900000
PU II 2R 385V/40kA	1	8859910000

Type	Qty.	Order No.
PU II 1 385V/40kA	1	8859920000
PU II 1 R 385V/40kA	1	8859930000

Note**Accessories****Note**

Plug-in spare arrester PU II 0 385V / 40kA - 8859940000

Plug-in spare arrester PU II 0 385V / 40kA - 8859940000

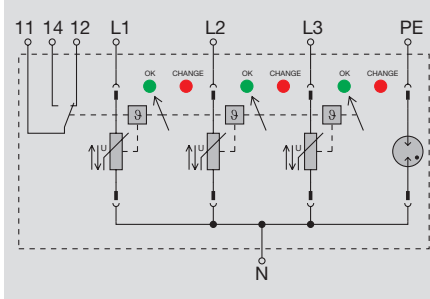
Surge protection for low-voltage supplies

Class II with varistors

Surge protection of class II
with U_c : 385 V

- plug-in varistor top section
- coded voltage level, var. volts.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function

PU II 3+1/R 385 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level for I_n (N-PE)
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

385 V / 660 V
385 V
500 V
Class II *
20 kA
40 kA
110 kA
 ≤ 25 ns
125 A gL
< 1350 V
< 1800 V
< 1300 V
400 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 3+1 R
4 unit widths; installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 72 x 64 97 x 72 x 64

Note

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Type	Qty.	Order No.
PU II 3+1 385V/40kA	1	8859880000
PU II 3+1R 385V/40kA	1	8859890000

Note

Accessories

Note

Plug-in spare arrester PU II 0 385V / 40kA - 8859940000
Plug-in spare arrester PU II 0 N-PE 280V / 40kA - 8871940000

Surge protection for low-voltage supplies

Class II with varistors

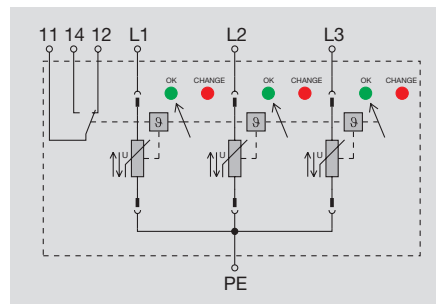
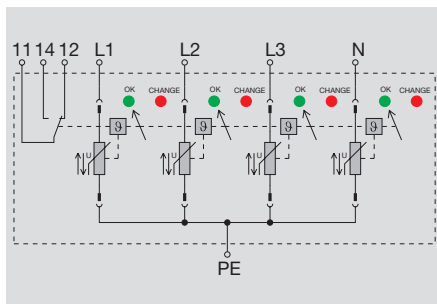
Surge protection of class II
with U_c : 130 V

- plug-in varistor top section
- coded voltage level, var. volts.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function

PU II 4/R 130 V / 40 kA



PU II 3/R 130 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

120 V / 230 V
130 V
170 V
Class II *
20 kA
40 kA
150 kA
 ≤ 25 ns
125 A gL
< 850 V
< 500 V
150 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 4 R
4 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

120 V / 230 V
130 V
170 V
Class II *
20 kA
40 kA
110 kA
 ≤ 25 ns
125 A gL
< 850 V
< 500 V
150 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 3 R
3 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 72 x 64 97 x 72 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 54 x 64 97 x 54 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Note

Type	Qty.	Order No.
PU II 4 130V/40kA	1	8860010000
PU II 4 R 130V/40kA	1	8860020000

Type	Qty.	Order No.
PU II 3 130V/40kA	1	8859990000
PU II 3 R 130V/40kA	1	8860000000

Accessories

Note

Plug-in spare arrester PU II 0 130V / 40kA - 8860030000

Plug-in spare arrester PU II 0 130V / 40kA - 8860030000

Class II with varistors

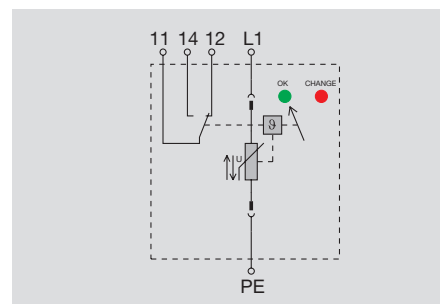
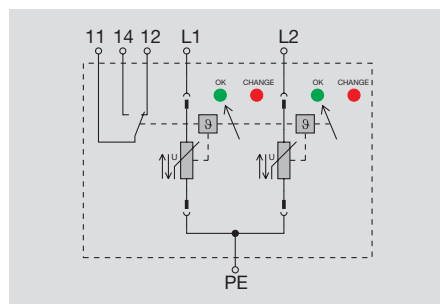
Surge protection of class II
with U_c : 130 V

- plug-in varistor top section
- coded voltage level, var. volts.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function

PU II 2/R 130 V / 40 kA



PU II 1/R 130 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

120 V
130 V
170 V
Class II *
20 kA
40 kA
75 kA
 ≤ 25 ns
125 A gL
< 850 V
< 500 V
150 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 2 R
2 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

120 V
130 V
170 V
Class II *
20 kA
40 kA
40 kA
 ≤ 25 ns
125 A gL
< 850 V
< 500 V
150 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 1 R
1 unit width; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 36 x 64 97 x 36 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 18 x 64 97 x 18 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Note

Type	Qty.	Order No.
PU II 2 130V/40kA	1	8859970000
PU II 2 R 130V/40kA	1	8859980000

Type	Qty.	Order No.
PU II 1 130V/40kA	1	8859950000
PU II 1 R 130V/40kA	1	8859960000

Accessories

Note

Plug-in spare arrester PU II 0 130V / 40kA - 8860030000

Plug-in spare arrester PU II 0 130V / 40kA - 8860030000

Surge protection for low-voltage supplies

Class II with varistors

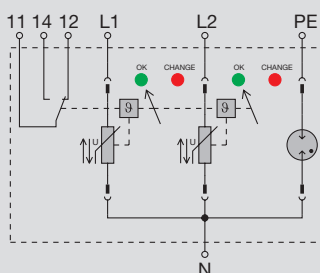
Surge protection of class II

with U_c : 550 V

for photovoltaic applications

- plug-in varistor top section
- Coded voltage levels, diverse voltage
- high energy absorption with short time to sparkover
- insert can be rotated through 180°
- no follow current
- installed in Insta distributor
- thermal protection
- coordination between class I with U_p : <1.5 kV

PU II 2+1/R 550 V / 40 kA



Technical data

Technical data

PV voltage to IEC 60364-7-712
 max. continuous voltage, DC [(L+/L-) → PE]
 Nominal voltage
 max. continuous voltage, U_c (AC)
 max. continuous voltage, U_c (DC)
 Requirements class to IEC 61643-1
 Rated discharge current (8/20 μ s)
 Limiting discharge current (8/20 μ s)
 Discharge current, max. (8/20 μ s)
 Response time
 Fuse, max.
 Protection level at I_n (U_p)
 Protection level at 5 kA (U_p)
 Temporary surge - U_{TOV}
 Optical function indicator
 Signalling contact
 Design
 Ambient temperature (operational)
 Storage temperature
 Approvals

≤ 1000 V
 900 V AC / 1200 V DC
 550 V
 550 V
 745 V
 Class II *
 20 kA
 40 kA
 40 kA
 ≤ 25 ns
 125 A gL
 < 2650 V
 < 1700 V
 550 V
 green = OK; red = arrester faulty, replace
 250 V 1A 1CO at PU II 2+1 R
 3 unit widths; installation housing
 -40 ... 80°C
 -40 ... 85°C
 CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
 90 x 54 x 58 99 x 54 x 58

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
 with telecomm. contact

Type	Qty.	Order No.
PU II 2+1 550V/40kA	1	8882340000
PU II 2+1R 550V/40kA	1	8882350000

Note

Accessories

Note

Plug-in spare arrester PU II 0 550V / 40kA - 8860120000
 Plug-in spare arrester PU II 0 N-PE 280V / 40kA - 8871940000

Surge protection for low-voltage supplies

Class II with varistors

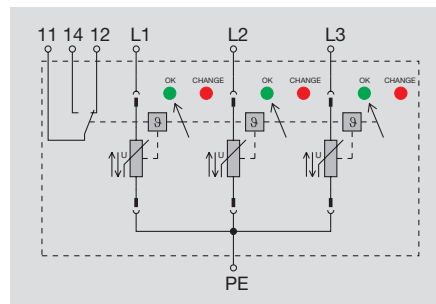
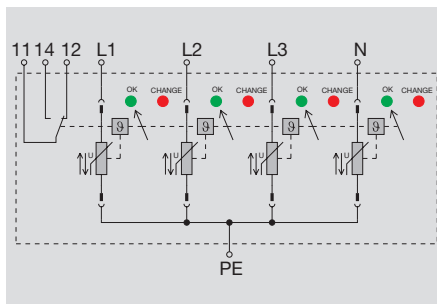
Surge protection of class II
with U_c : 550 V

- plug-in varistor top section
- coded voltage level, var. voltds.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function
- coordination between class I with U_p : <1.5 kV

PU II 4/R 550 V / 40 kA



PU II 3/R 550 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

470 V / 690 V
550 V
745 V
Class II *
20 kA
40 kA
150 kA
 ≤ 25 ns
125 A gL
< 2650 V
< 1700 V
550 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 4 R
4 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

470 V / 690 V
550 V
745 V
Class II *
20 kA
40 kA
110 kA
 ≤ 25 ns
125 A gL
< 2650 V
< 1700 V
550 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 3 R
3 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 72 x 64 97 x 72 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 54 x 64 97 x 54 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Note

Type	Qty.	Order No.
PU II 4 550V/40kA	1	8860060000
PU II 4 R 550V/40kA	1	8860070000

Type	Qty.	Order No.
PU II 3 550V/40kA	1	8860080000
PU II 3 R 550V/40kA	1	8860090000

Accessories

Note

Plug-in spare arrester PU II 0 550V / 40kA - 8860120000

Plug-in spare arrester PU II 0 550V / 40kA - 8860120000

Class II with varistors

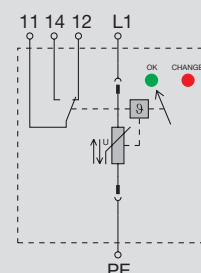
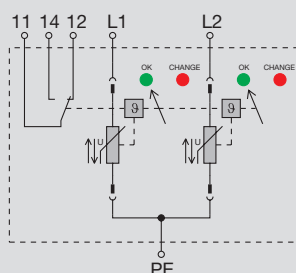
Surge protection of class II
with U_c : 550 V

- plug-in varistor top section
- coded voltage level, var. volts.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function
- coordination between class I with U_p : <1.5 kV

PU II 2/R 550 V / 40 kA



PU II 1/R 550 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

470 V
550 V
745 V
Class II *
20 kA
40 kA
75 kA
 ≤ 25 ns
125 A gL
< 2650 V
< 1700 V
550 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 2 R
2 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

470 V
550 V
745 V
Class II *
20 kA
40 kA
40 kA
 ≤ 25 ns
125 A gL
< 2650 V
< 1700 V
550 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 1 R
1 unit width; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 36 x 64 97 x 36 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 18 x 64 97 x 18 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Type	Qty.	Order No.
PU II 2 550V/40kA	1	8860100000
PU II 2 R 550V/40kA	1	8860110000

Type	Qty.	Order No.
PU II 1 550V/40kA	1	8860040000
PU II 1 R 550V/40kA	1	8860050000

Note

Accessories

Note

Plug-in spare arrester PU II 0 550V / 40kA - 8860120000

Plug-in spare arrester PU II 0 550V / 40kA - 8860120000

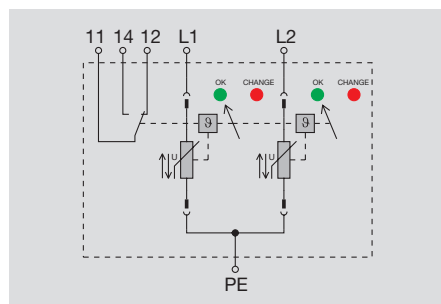
Surge protection for low-voltage supplies

Class II with varistors

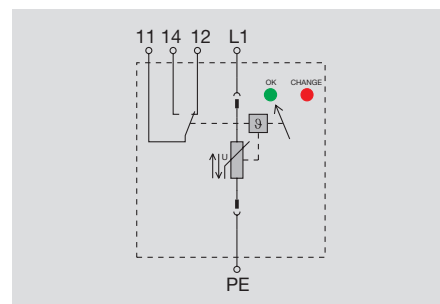
Surge protection of class II
with U_c : 75 V

- plug-in varistor top section
- coded voltage level, var. volts.
- high energy absorption with short response time
- 180° rotatable insert
- no follow current
- installation in Insta distributor
- thermal safety function

PU II 2/R 75 V / 40 kA



PU II 1/R 75 V / 40 kA



Technical data

Technical data

Nominal voltage
max. continuous voltage, U_c (AC)
max. continuous voltage, U_c (DC)
Requirements class to IEC 61643-1
Rated discharge current (8/20 μ s)
Limiting discharge current (8/20 μ s)
Discharge current, max. (8/20 μ s)
Response time
Fuse, max.
Protection level at I_n (U_p)
Protection level at 5 kA (U_p)
Temporary surge - U_{TOV}
Optical function indicator
Signalling contact
Design
Ambient temperature (operational)
Storage temperature
Approvals

60 V
75 V
100 V
Class II *
20 kA
40 kA
75 kA
 ≤ 25 ns
125 A gL
 < 700 V
 < 300 V
75 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 2 R
2 unit widths; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

60 V
75 V
100 V
Class II *
20 kA
40 kA
40 kA
 ≤ 25 ns
125 A gL
 < 700 V
 < 300 V
75 V
green = OK; red = arrester faulty, replace
250 V 1A 1CO at PU II 1 R
1 unit width; Installation housing
-40 ... 80°C
-40 ... 85°C
CE, ÖVE, cURus in preparation

Dimensions

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

Note

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 36 x 64 97 x 36 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

without telecomm. contact with telecomm. contact

25 / 4 / 25 25 / 4 / 25
90 x 18 x 64 97 x 18 x 64

* This product also fulfils the requirements for Class III with U_{oc} : 6 kV

Ordering data

Version

without telecomm. contact
with telecomm. contact

Type	Qty.	Order No.
PU II 2 75V/40kA	1	8860130000
PU II 2 R 75V/40kA	1	8860140000

Type	Qty.	Order No.
PU II 1 75V/40kA	1	8860150000
PU II 1 R 75V/40kA	1	8860160000

Note

Accessories

Note

Plug-in spare arrester PU II 0 75V / 40kA - 8879950000

Plug-in spare arrester PU II 0 75V / 40kA - 8879950000

Class III with varistors

Low-voltage consumer installations, small distribution units and electronics

Surge protection module of class III (D-arresters)

Our surge protection modules PU III and PU D protect low-voltage consumer installations and electronic devices from voltage surges that occur through atmospheric discharge (lightning) or switching activities (transients).

Both PU III and PU D can be installed in small or storey distribution boards.

The PU III satisfies the requirements of IEC 61643-1.

The PU D satisfies the requirements of DIN VDE 0675, part 6, class C, Nov 1989, part 6, A2 (Oct 1996) and IEC 61643-1 (Feb 1998).

Functional check and maintenance

Varistors can exhibit high temperatures as a result of ageing. In low-voltage systems, this can result in fire. The integrated temperature monitoring device automatically disconnects the varistor from the power supply. This disconnection is indicated by the warning lamp being extinguished. Types PU III and PU DS also have a built-in switching contact for signalling.

The back-up fuse you install depends on the conductor cross-section and type of routing. For PU III or PU D arresters, the maximum power rating is 16 A.

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

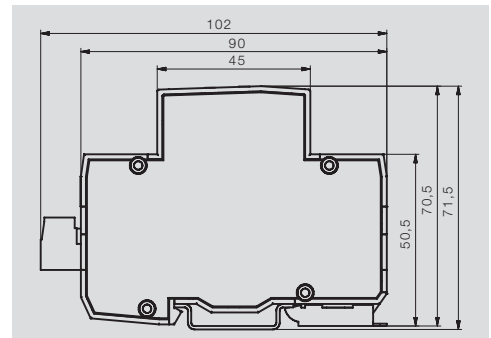
solid conductor: 0.5...2.5 mm²

flexible conductor: 0.5...2.5 mm²



Dimensioned drawing PU III

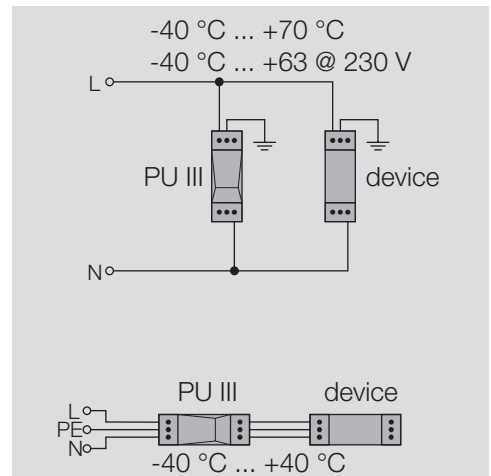
Overall width
18 mm



Electrical connection

The PU III or PU D surge protection device is installed after the PU II arrester and before the device / consumer to be protected. It can protect electrical circuits of up to 16 A.

An installation can be done in a consumer unit for an electrical circuit that protects monitors, for example.



The standard implementation for operating the PU III products is a series connection to the end device. Under this operational mode, the protective device can carry a continuous load of 16 A. For higher demands, the parallel circuitry is used.

Class III with varistors

Class III surge protection

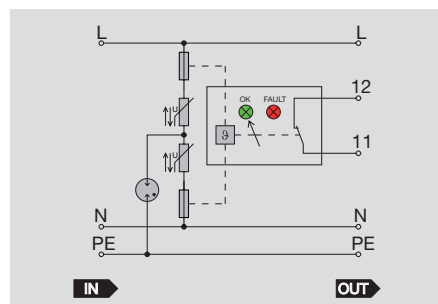
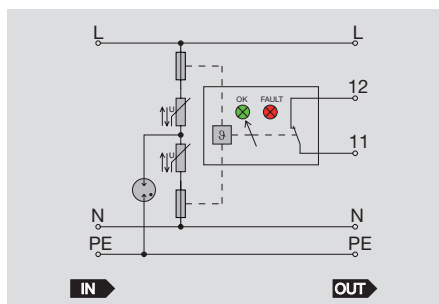
- suitable for protecting terminals
- installed in the vicinity of the equipment to be protected
- with remote signalling contact

PU III R 230 V/6 kV

Use as device protection

**PU III R 120 V/6 kV**

Use as device protection

**Technical data****Technical data**

Rated voltage (AC)
 Rated voltage (DC)
 max. continuous voltage, U_c (AC)
 max. continuous voltage, U_c (DC)
 Requirements class to IEC 61643-1
 Combined pulse U_{oc}
 Rated discharge current per path (8/20 μ s)
 Response time
 Fuse, max.
 Protection level Up L - N
 Protection level Up L (PE) - N
 Protection level Up at nominal discharge current (8/20 μ s) per path
 Optical function indicator
 Signalling contact
 Design
 Ambient temperature (operational)
 Storage temperature
 Approvals

230 V
 260 V
 Class III
 6 kV
 3 kA
 ≤ 150 ns
 16 A
 ≤ 1200 V
 ≤ 1800 V
 < 1300 V
 green LED = OK
 250 V 1A 1CO
 1 unit width; Installation housing
 -40 ... 40°C (Dependent on application)
 -40 ... 40°C
 CE; cULus in preparation

120 V
 180 V
 150 V
 200 V
 Class III
 6 kV
 3 kA
 ≤ 150 ns
 16 A
 ≤ 650 V
 ≤ 1500 V
 < 700 V
 green LED = OK
 250 V 1A 1CO
 1 unit width; Installation housing
 -40 ... 40°C (Dependent on application)
 -40 ... 40°C
 CE; cULus in preparation

Dimensions

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

Note**Screw connection**

2.5 / 0.5 / 2.5
 102 x 18 x 71.5

Screw connection

2.5 / 0.5 / 2.5
 102 x 18 x 71.5

Ordering data

Type	Qty.	Order No.
PU III R 230V/6kV	1	8860330000

Type	Qty.	Order No.
PU III R 120V/6kV	1	8860340000

Note**Accessories****Note**

Surge protection for low-voltage supplies

Class III with varistors

Class III surge protection

- suitable for protecting terminals
- installed in the vicinity of the equipment to be protected
- with remote signalling contact

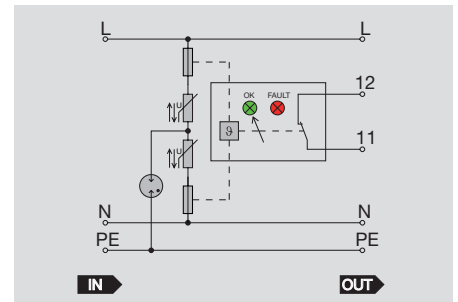
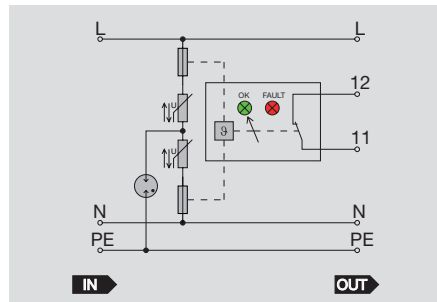
PU III R 48 V/4 kV

Use as device protection



PU III R 24 V/4 kV

Use as device protection



Technical data

Technical data

Rated voltage (AC)	48 V
Rated voltage (DC)	80 V
max. continuous voltage, U _c (AC)	60 V
max. continuous voltage, U _c (DC)	85 V
Requirements class to IEC 61643-1	Class III
Combined pulse U _{oc}	4 kV
Rated discharge current per path (8/20 μs)	2 kA
Response time	≤ 150 ns
Fuse, max.	16 A
Protection level Up L - N	≤ 550 V
Protection level Up L (PE) - N	≤ 850 V
Protection level Up at nominal discharge current (8/20 μs) per path	< 300 V
Optical function indicator	green LED = OK
Signalling contact	250 V 1A 1CO
Design	1 unit width; Installation housing
Ambient temperature (operational)	-40 ... 40°C (Dependent on application)
Storage temperature	-40 ... 40°C
Approvals	CE; cULus in preparation

Rated voltage (AC)	24 V
Rated voltage (DC)	38 V
max. continuous voltage, U _c (AC)	32 V
max. continuous voltage, U _c (DC)	38 V
Requirements class to IEC 61643-1	Class III
Combined pulse U _{oc}	4 kV
Rated discharge current per path (8/20 μs)	2 kA
Response time	≤ 150 ns
Fuse, max.	16 A
Protection level Up L - N	≤ 550 V
Protection level Up L (PE) - N	≤ 850 V
Protection level Up at nominal discharge current (8/20 μs) per path	< 300 V
Optical function indicator	green LED = OK
Signalling contact	250 V 1A 1CO
Design	1 unit width; Installation housing
Ambient temperature (operational)	-40 ... 40°C (Dependent on application)
Storage temperature	-40 ... 40°C
Approvals	CE; cULus in preparation

Rated voltage (AC)	24 V
Rated voltage (DC)	38 V
max. continuous voltage, U _c (AC)	32 V
max. continuous voltage, U _c (DC)	38 V
Requirements class to IEC 61643-1	Class III
Combined pulse U _{oc}	4 kV
Rated discharge current per path (8/20 μs)	2 kA
Response time	≤ 150 ns
Fuse, max.	16 A
Protection level Up L - N	≤ 550 V
Protection level Up L (PE) - N	≤ 850 V
Protection level Up at nominal discharge current (8/20 μs) per path	< 300 V
Optical function indicator	green LED = OK
Signalling contact	250 V 1A 1CO
Design	1 unit width; Installation housing
Ambient temperature (operational)	-40 ... 40°C (Dependent on application)
Storage temperature	-40 ... 40°C
Approvals	CE; cULus in preparation

Dimensions

Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm

Note

Screw connection

2.5 / 0.5 / 2.5
102 x 18 x 71.5

Screw connection

2.5 / 0.5 / 2.5
102 x 18 x 71.5

Ordering data

Type	Qty.	Order No.
PU III R 48V/4kV	1	8860350000

Type	Qty.	Order No.
PU III R 24V/4kV	1	8860360000

Note

Accessories

Note

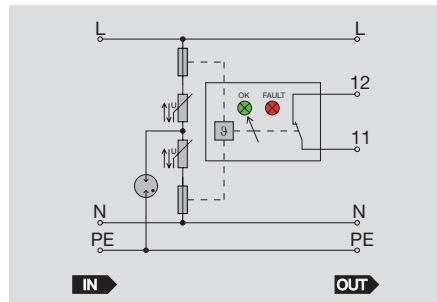
Class III with varistors

Class III surge protection

- suitable for protecting terminals
- installed in the vicinity of the equipment to be protected
- with remote signalling contact

PU III R 12 V/4 kV

Use as device protection



Technical data

Technical data

Rated voltage (AC)	12 V
Rated voltage (DC)	14 V
max. continuous voltage, U_c (AC)	20 V
max. continuous voltage, U_c (DC)	18 V
Requirements class to IEC 61643-1	Class III
Combined pulse U_{oc}	3 kV
Rated discharge current per path (8/20 μ s)	2 kA
Response time	≤ 150 ns
Fuse, max.	16 A
Protection level Up L - N	≤ 550 V
Protection level Up L (PE) - N	≤ 850 V
Protection level Up at nominal discharge current (8/20 μ s) per path	< 200 V
Optical function indicator	green LED = OK
Signalling contact	250 V 1A 1CO
Design	1 unit width; Installation housing
Ambient temperature (operational)	-40 ... 40°C (Dependent on application)
Storage temperature	-40 ... 40°C
Approvals	CE; cULus in preparation

Dimensions

Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm

Note

Screw connection

2.5 / 0.5 / 2.5
102 x 18 x 71.5

Ordering data

Type	Qty.	Order No.
PU III R 12V/4kV	1	8883740000

Note

Accessories

Note

Surge protection for low-voltage supplies

Class III with varistors

Class III surge protection

- suitable for protecting terminals
- installed in the vicinity of the equipment to be protected
- with remote signalling contact

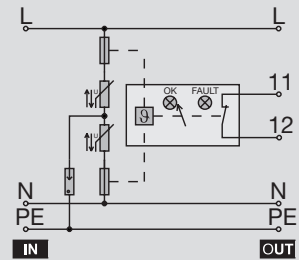
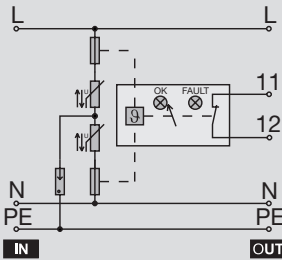
PU D 230 V AC 16 A

Use as device protector



PU D 115 V AC 16 A

Use as device protector



Technical data

Technical data

Rated voltage (AC)
 Rated voltage (DC)
 max. continuous voltage, U_c (AC)
 max. continuous voltage, U_c (DC)
 Requirements class to IEC 61643-1
 Combined pulse U_{oc}
 Rated discharge current per path (8/20 μ s)
 Discharge current, max. (8/20 μ s)
 Response time
 Fuse, max.
 Protection level U_p (typical)
 Optical function indicator
 Signalling contact
 Design
 Ambient temperature (operational)
 Storage temperature
 Approvals

230 V
 275 V
 Class III
 4 kV
 2.5 kA
 7 kA
 ≤ 150 ns
 16 A
 850 V
 green LED = OK; red LED = fault
 250 V 1 A 1 NC
 Installation housing
 -25 ... 55°C
 -40 ... 55°C
 CE

115 V
 130 V
 Class III
 4 kV
 2.5 kA
 7 kA
 ≤ 150 ns
 16 A
 480 V
 green LED = OK; red LED = fault
 250 V 1 A 1 NC
 Installation housing
 -25 ... 55°C
 -40 ... 55°C
 CE

Dimensions

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

Note

Screw connection

2.5 / 0.5 / 2.5
 91 x 54 x 61

Screw connection

2.5 / 0.5 / 2.5
 91 x 54 x 61

Ordering data

Type	Qty.	Order No.
PU D 230V 16A	1	8411930000

Type	Qty.	Order No.
PU D 115Vac 16A	1	8472100000

Note

Accessories

Note

Class III with varistors

Class III surge protection

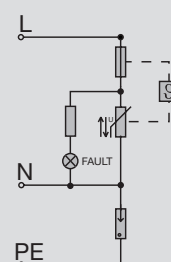
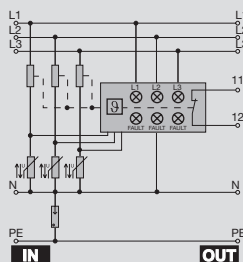
- suitable for protecting terminals
- installed in the vicinity of the equipment to be protected
- with remote signalling contact

PU 3 D 230 V / 400 V AC 16 A

Use as device protector

**PO D S / AS 230 V 16 A**

Use as device protector

**Technical data****Technical data**

Rated voltage (AC)
 Rated voltage (DC)
 max. continuous voltage, U_c (AC)
 max. continuous voltage, U_c (DC)
 Requirements class to IEC 61643-1
 Combined pulse U_{oc}
 Rated discharge current per path (8/20 μ s)
 Discharge current, max. (8/20 μ s)
 Response time
 Fuse, max.
 Protection level U_p (typical)
 Optical function indicator
 Signalling contact
 Design
 Ambient temperature (operational)
 Storage temperature
 Approvals

230 V
 275 V
 Class III
 4 kV
 6.5 kA
 18 kA
 ≤ 150 ns
 16 A
 850 V
 green LED = OK; red LED = fault
 250 V 1 A 1 NC
 Installation housing
 -25 ... 55°C
 -40 ... 55°C
 CE

230 V
 275 V
 Class III
 4 kV
 2.5 kA
 5 kA
 sym/ asym: ≤ 100 ns
 16 A
 1500 V
 green LED
 Miscellaneous
 -25 ... 55°C
 -40 ... 60°C
 CE

Dimensions

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

Note**Screw connection**

2.5 / 0.5 / 2.5
 91 x 54 x 61

with audible signal**Without audible signal**

20 x 34 x 41

12 x 34 x 41

Ordering data

Type	Qty.	Order No.
PU 3D 230V/400Vac 16A	1	8509130000

Type	Qty.	Order No.
PO D AS	1	8581830000
PO D S	1	8581840000

Note

PO D AS with audible signal

Accessories**Note**

Class III adapter plug

PU D ZS pluggable surge protection

Class III surge protection

The PU D ZS pluggable surge protection device provides protection against transient overvoltages for equipment plugged into earthed power sockets. The pluggable surge protection with its earthed power socket is designed for 230 V/16 A, fulfils the requirements of class III to IEC 61643-1 and is used in conjunction with class II, the PU C protection.

The PU D ZS is fitted with components to monitor varistor temperature. In the event of an excessive temperature rise due to pulses from the mains supply, these disconnect the unit. The integral red warning lamp indicates that protection is no longer provided. The PU D ZS must then be replaced.

PU D ZS analogue surge protection device

Besides standard telephones, an analogue installation can also be used to transmit data services such as fault signalling systems and Internet. Because, in addition to telephones, other devices such as fax machines and modems are connected to the analogue line, the risk of damage due to transient interference phenomena such as voltage surges is greater. To provide protection against these overvoltages, a combined

surge protection device for analogue lines and mains voltages is incorporated. The basic version of this power socket adapter is protected by a two-stage surge protection device using a gas discharge tube and fast-acting suppression diodes.

The gas discharge tube diverts a large amount of electrical energy; the suppression diodes ensure a low residual voltage.

PU D ZS digital surge protection device

This power socket adapter is available for Uko and So interfaces.

To provide protection against these voltage surges, a combined surge protection device for digital lines and mains voltage is incorporated. The basic version of this power socket adapter is protected by a two-stage surge protection device using a gas discharge tube and fast-acting suppression diodes.

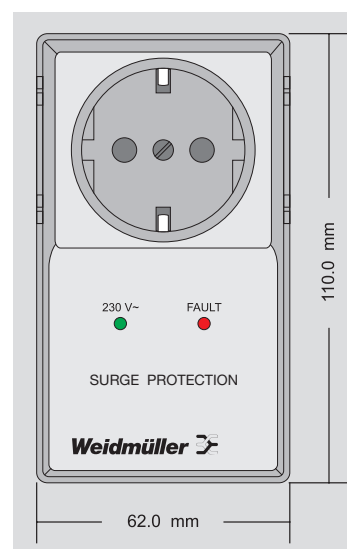
The gas discharge tube diverts a large amount of electrical energy; the suppression diodes ensure a low residual voltage. In the case of the PU D ZS with RJ45 sockets, a connecting cable with RJ45 plugs at both ends is included with the product.

The PU D ZS TV is for protection of radios or TVs, for example. The device protects both the power supplies and the antenna connection.

The PU D ZS Cat.6 can protect Ethernet connections of both category 5 and category 6.



Dimensions PU D ZS



Class III adapter plug

Class III surge protection

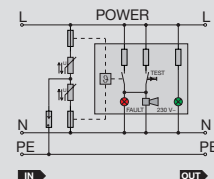
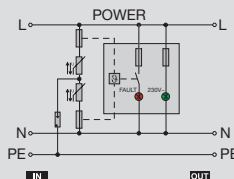
- With visual status display
- Suitable for earthed (grounded) socket outlets

PU D ZS



PU D ZS AS

With additional acoustic signal



Technical data

Rated voltage (AC)
max. continuous voltage, U_c (AC)
Operating current, I_{max}
to DIN VDE 0675-6
Requirements class to IEC 61643-1
Combined pulse U_{oc}

230 V
275 V
16 A
Requirements class D
Class III
4 kV

230 V
275 V
16 A
Requirements class D
Class III
4 kV

Discharge current, max. (8/20 μ s)
Fuse, max.
Response time
Protection level on output side sym., input 8/20 μ s, typ.
Protection level on output side unsym., input 8/20 μ s, typ.
Leakage current at Un
Optical function indicator
Pollution severity

5 kA
16 A
 ≤ 150 ns
600 V
1500 V
1 μ A
green LED = OK; red LED = fault
2

5 kA
16 A
 ≤ 150 ns
600 V
1500 V
1 μ A
green LED = OK; red LED = fault
2

Surge category
Ambient temperature (operational)
Storage temperature

III
0 ... 60°C
-25 ... 85°C

III
0 ... 60°C
-25 ... 85°C

General data

Input voltage, max.
Rated current I_n , max.
Standard signal
Rated discharge current (8/20 μ s)
Total current
Response time, typical
Resistance per path
Cut-off frequency f_g , 600 Ω system
Transistor output, positive-switching
Residual voltage at output for input pulse of 1 kV/ μ s
Residual voltage at output for 8/20 μ s and input pulse of 5kA

Dimensions

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

Schuko

110 x 62 x 48

Schuko

110 x 62 x 48

Note

Ordering data

Version without telecomm. contact

Type	Qty.	Order No.
PU D ZS 230V~ 16A	1	8697580000

Type	Qty.	Order No.
PU D ZS AS	1	8750640000

Note

Accessories

Note

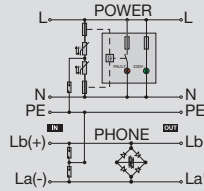
Surge protection for low-voltage supplies

Class III adapter plug

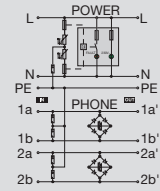
Class III surge protection

- with visual function indicator
- suitable for earthed power sockets
- PU D ZS AS with additional audible alarm

PU D ZS

PU D ZS Uk₀ 230 V 16 A

PU D ZS

PU D ZS S₀ 230 V 16 A

Technical data

Rated voltage (AC)
max. continuous voltage, U_c (AC)
Operating current, I_{max}
to DIN VDE 0675-6
Requirements class to IEC 61643-1
Combined pulse U_{oc}

Discharge current, max. (8/20 μs)
Fuse, max.
Response time
Protection level on output side sym., input 8/20 μs, typ.
Protection level on output side unsym., input 8/20 μs, typ.
Leakage current at Un
Optical function indicator
Pollution severity

Surge category
Ambient temperature (operational)
Storage temperature

General data

Input voltage, max.
Rated current I_n, max.
Standard signal
Rated discharge current (8/20 μs)
Total current
Response time, typical
Resistance per path
Cut-off frequency f_g, 600 Ω system
Transistor output, positive-switching
Residual voltage at output for input pulse of 1 kV/μs
Residual voltage at output for 8/20 μs and input pulse of 5 kA

Dimensions

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

Note

230 V
275 V
16 A
Requirements class D
Class III
4 kV

5 kA
16 A
≤ 150 ns
600 V
1500 V
1 μA
green LED = OK; red LED = fault
2

III
0 ... 60°C
-25 ... 85°C

190 V DC
0.45 A
ISDN telephone signal RJ45/RJ11/12
4 kA
10 A
< 5 ns
1.1 Ω
80 MHz

a/b ≤ 270V a-b/PE ≤ 270V
a/b ≤ 100V a-b/PE ≤ 100V

Schuko

110 x 62 x 48
Including Cable, RJ 11/12 both ends

230 V
275 V
16 A
Requirements class D
Class III
4 kV

5 kA
16 A
≤ 150 ns
600 V
1500 V
1 μA
green LED = OK; red LED = fault
2

III
0 ... 60°C
-25 ... 85°C

190 V
0.45 A
ISDN telephone signal RJ45/RJ11/12
4 kA
10 A
< 5 ns
1.1 Ω
80 MHz

a/b ≤ 270V a-b/PE ≤ 270V
a/b ≤ 100V a-b/PE ≤ 100V

Schuko

110 x 62 x 48
Including Cable, RJ 11/12 both ends

Ordering data

Version
without telecomm. contact

Note

Type	Qty.	Order No.
PU D ZS Uko 230V 16A	1	8697570000

Type	Qty.	Order No.
PU D ZS 230V~ 16A / ISDN So	1	8697560000

Accessories

Note
Conductor, RJ 45 at both ends, order No. 8697590000

Conductor, RJ 45 at both ends, order No. 8697590000

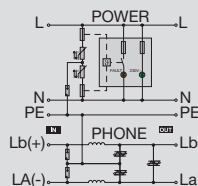
Class III adapter plug

Class III surge protection

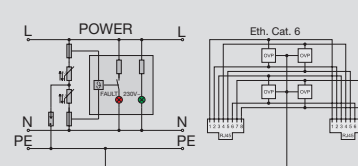
- with visual function indicator
- suitable for earthed power sockets

PU D ZS

PU D ZS analog 230 V 16 A

**PU D ZS**

PU D ZS Cat.6

**Technical data**

Rated voltage (AC)	230 V
max. continuous voltage, U_c (AC)	275 V
Operating current, I_{max}	16 A
to DIN VDE 0675-6	Requirements class D
Requirements class to IEC 61643-1	Class III
Combined pulse U_{oc}	4 kV
Discharge current, max. (8/20 μ s)	5 kA
Fuse, max.	16 A
Response time	≤ 150 ns
Protection level on output side sym., input 8/20 μ s, typ.	600 V
Protection level on output side unsym., input 8/20 μ s, typ.	1500 V
Leakage current at Un	1 μ A
Optical function indicator	green LED = OK; red LED = fault
Pollution severity	2
Surge category	III
Ambient temperature (operational)	0 ... 60°C
Storage temperature	-25 ... 85°C
General data	
Input voltage, max.	190 V DC
Rated current I_n , max.	0.45 A
Standard signal	Analogue telephone signal RJ45/RJ11/12
Rated discharge current (8/20 μ s)	4 kA
Total current	10 A
Response time, typical	< 5 ns
Resistance per path	1.1 Ω
Cut-off frequency f_g , 600 Ω system	2 MHz
Transistor output, positive-switching	
Residual voltage at output for input pulse of 1 kV/ μ s	a/b ≤ 270 V a-b/PE ≤ 270 V
Residual voltage at output for 8/20 μ s and input pulse of 5 kA	a/b ≤ 100 V a-b/PE ≤ 100 V

Dimensions	
Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm
Note	

Ordering data

Version	
	without telecomm. contact

Note	
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Accessories

Note	
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Schuko	
	110 x 62 x 48
	Including Cable, RJ 11/12 both ends

Type	Qty.	Order No.
PU D ZS 230V~ 16A / analog a/b	1	8697600000

Note	
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Conductor, RJ45 on both sides, order No. 8697590000	
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Schuko	
	110 x 63 x 48
	Length of Cat.6 cable: 0.75 m + 2.20 m

Type	Qty.	Order No.
PU D ZS CAT.6	1	8805530000

Note	
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Surge protection for low-voltage supplies

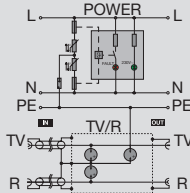
Class III adapter plug

Class III surge protection
for signals up to 1 GHz (radio/TV)

- with visual function indicator
- protection for Ethernet Cat.6
- suitable for earthed power sockets

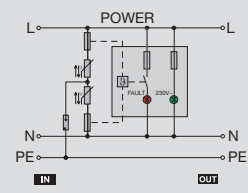
PU D ZS

PU D ZS TV / R 230 V 16 A



PU D ZS

For French applications



Technical data

Rated voltage (AC)
max. continuous voltage, U_c (AC)
Operating current, I_{max}
to DIN VDE 0675-6
Requirements class to IEC 61643-1
Combined pulse U_{oc}

Discharge current, max. (8/20 μ s)
Fuse, max.
Response time
Protection level on output side sym., input 8/20 μ s, typ.
Protection level on output side unsym., input 8/20 μ s, typ.
Leakage current at Un
Optical function indicator
Pollution severity

Surge category
Ambient temperature (operational)
Storage temperature

General data

Input voltage, max.
Rated current I_n , max.
Standard signal
Rated discharge current (8/20 μ s)
Total current
Response time, typical
Resistance per path
Cut-off frequency f_g , 600 Ω system
Transistor output, positive-switching
Residual voltage at output for input pulse of 1 kV/ μ s
Residual voltage at output for 8/20 μ s and input pulse of 5 kA

Dimensions

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

Note

230 V
275 V
16 A
Requirements class D
Class III
4 kV

5 kA
16 A
 ≤ 150 ns
600 V
1500 V
1 μ A
green LED = OK; red LED = fault
2

III
0 ... 60°C
-25 ... 85°C

70 V
1.5 A
TV/R terrestrial and cable
5 kA

< 100 ns
1.1 Ω
1 GHz / 75 Ω

600 V
800 V

Schuko

110 x 62 x 48
Length of coaxial cable: approx. 35 cm

230 V
275 V
16 A

Class III
4 kV

5 kA
16 A
 ≤ 150 ns
600 V
1500 V
1 μ A
green LED = OK; red LED = fault
2

III
0 ... 60°C
-25 ... 85°C

110 x 63 x 48

Ordering data

Version
without telecomm. contact

Note

Type	Qty.	Order No.
PU D ZS TV/R	1	8779230000

Type	Qty.	Order No.
PU D ZS F	1	8750650000

Accessories

Note

Surge protection mains filter

WAVEFILTERS for simple radio interference suppression in the control cabinet

The WAVEFILTER series eliminates the time-consuming work of screwing in mains filters. These filters are simply clipped on to the TS35 rail and connected to the device requiring suppression. The two-stage WAVEFILTER with overall width 22.5 mm in 1 A, 3 A, 6 A and 10 A versions offers high attenuation.

The WAVEFILTER with current-compensating choke is ideal for applications in drive technology and control/automation systems, e.g. for suppressing continuous interference types such as “noise” or “ripple” caused by interfering radiation from other systems, or interference from frequency converters and switch-mode power supplies. A short, low-ohm mass connection is required for the WAVEFILTER to function perfectly. We recommend earthing all devices directly with the largest possible cross-section to a central earthing point in the control cabinet.

Interference signals

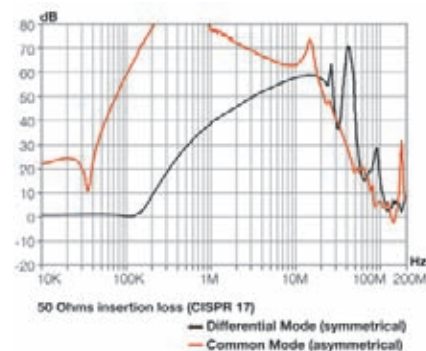
We distinguish between two types of induced transient and continuous interference signals: symmetrical (differential mode) and asymmetrical (common mode). The symmetrical interference signals generate a voltage between the signal leads of the system. The asymmetrical interference voltages occur between the signal leads and earth.

The WAVEFILTER is suitable for attenuating both kinds of interference signal. In addition, WAVEFILTER 10 A also has an earthing conductor choke. This earthing conductor choke supports both attenuation on the earthing conductor for the filter and additional attenuation of asymmetrical interference voltages.

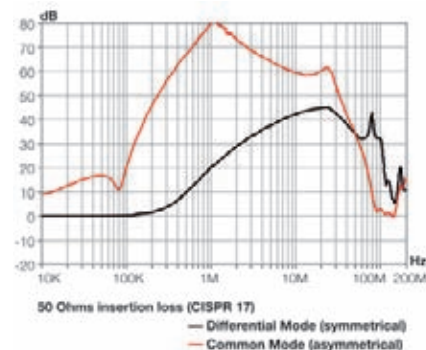
The WAVEFILTER have cULus approval.

Insertion loss

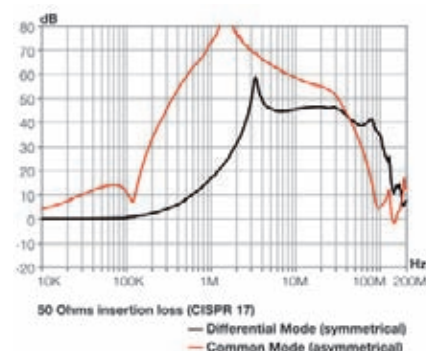
1 A WAVEFILTER



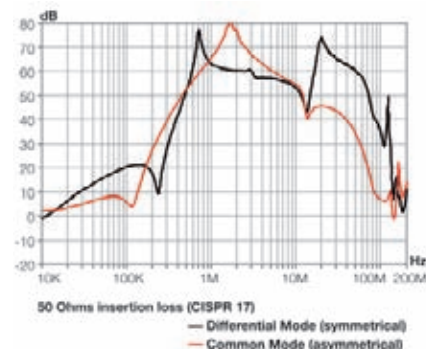
3 A WAVEFILTER



6 A WAVEFILTER



10 A WAVEFILTER



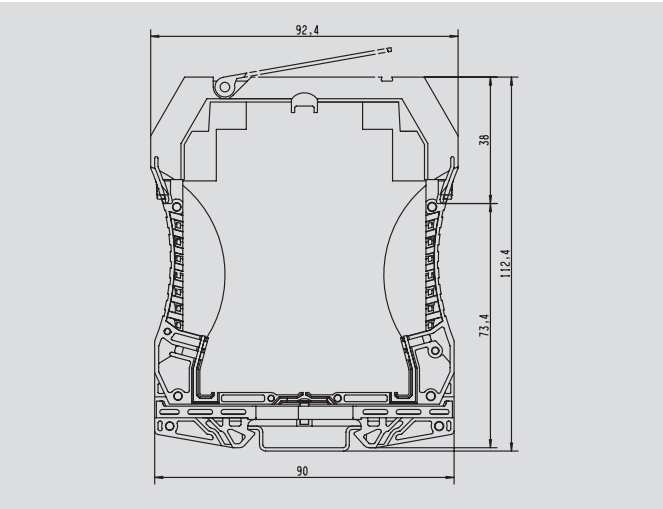
Installation height 112.4 mm



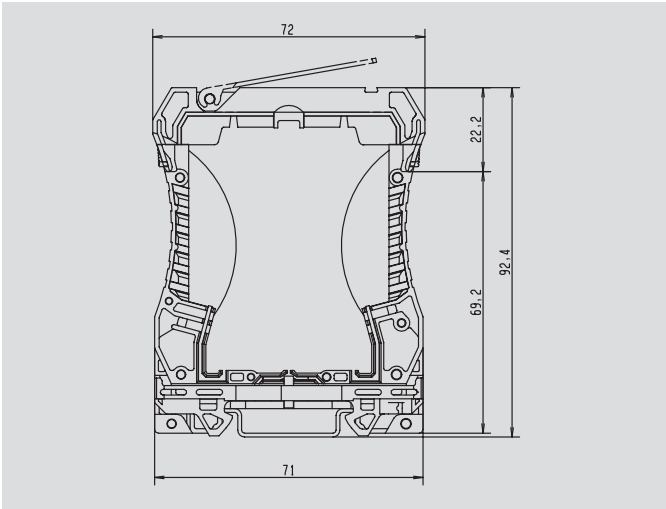
Installation height 92.4 mm



Dimensions



Dimensions

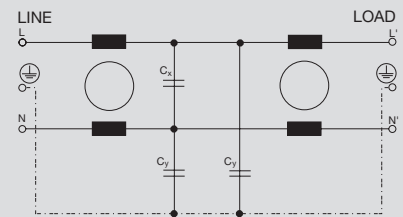
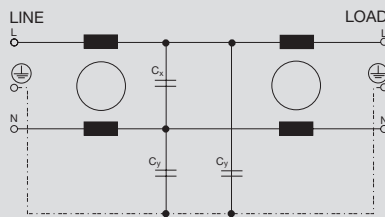


Surge protection for low-voltage supplies

mains filter

WAVEFILTER 1 A 250 V

WAVEFILTER 3 A 250 V



Technical data

Technical data

Rated voltage (AC/DC)
Rated current
Capacitance
Inductance L and L1
Leakage current at Un
Test voltage P/N-PE
Test voltage P-N
Ambient temperature (operational)
Approvals

250 V
1 A
 C_x / C_y : 33nF
10.00 mH
190 μ A
2000.00 V AC
1700.00 V DC
-20 ... 40°C
cURus

250 V
3 A
 C_x / C_y : 33nF
2.00 mH
190 μ A
2000.00 V AC
1700.00 V DC
-20 ... 40°C
cURus

Dimensions

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

2.5 / 0.5 / 2.5
90 x 22.5 x 73.4

2.5 / 0.5 / 2.5
90 x 22.5 x 73.4

Note

See attenuation curve

See attenuation curve

Ordering data

Version

Type	Qty.	Order No.
WAVEFILTER 1A	1	8614790000

Type	Qty.	Order No.
WAVEFILTER 3A	1	8614780000

Note

Accessories

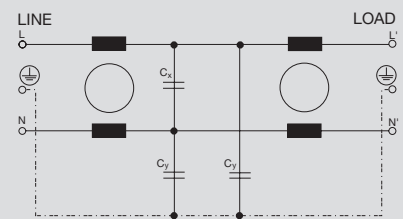
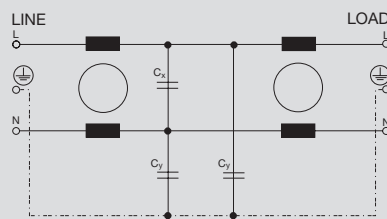
Note

mains filter

WAVEFILTER 6 A 250 V



WAVEFILTER 10 A 250 V



Technical data

Technical data

- Rated voltage (AC/DC)
- Rated current
- Capacitance
- Inductance L and L1
- Leakage current at U_n
- Test voltage P/N-PE
- Test voltage P-N
- Ambient temperature (operational)
- Approvals

[illegible][illegible]

Dimensions

Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm

Note

See attenuation curve

See attenuation curve

Ordering data

Version

Type	Qty.	Order No.
WAVEFILTER 6A	1	8614800000

Type	Qty.	Order No.
WAVEFILTER 10A	1	8614770000

Note

Accessories

Note

Product quick selection, information technology

Instrumentation and control equipment

Interface/ signal	Mounting	Connection system	Protected wires	Discharge capacity	Operating current	Max. voltage	Protection device	Order No.
				8/20 µs	I _{max}	DC		
0-20 mA, 4-20mA	on DIN rail,separable	screw terminals	2	6 kA	100 mA	24V-230V	LPU 24V-230V 100mA	8008300000-8008380000 + 8007871001
0-20 mA, 4-20mA	on DIN rail,separable	screw terminals	2	6 kA	1.5 A	24V-230V	LPU 24V-230V 1.5A	8008430000-8008460000 + 8007871001
0-20 mA, 4-20mA	on DIN rail,compact	screw terminals	1	5 kA	300 mA	24V-230V	DKU 24-230V 0.3A	8015800000-8019330000
0-20 mA, 4-20mA	on DIN rail,compact	screw terminals	2	5-7 kA	0.3-1 A	24V-230V	DKU DK5/DK6 24V-230V	8238340000-8263760000
0-20 mA, 4-20mA	on DIN rail,compact	tension clamp terminals	2	5 kA	500 mA - 1.25 A	24V-230V	MCZ OVP 24V-230V	8448920000-8449080000
Binary signals	on DIN rail,separable	screw terminals	2	6 kA	100 mA	24V-230V	LPU 24V - 230V SL	8008230000-8008280000 + 8007871001
Binary signals	on DIN rail,compact	screw terminals	1	5 kA	300 mA	24V-230V	DKU 24-230V 0.3 A	8015800000-8019330000
Binary signals	on DIN rail,compact	tension clamp terminals	2	5 kA	500 mA - 1.25 A	24V-230V	MCZ OVP SL 24V-230V	8448940000-8449090000
PT 100, PT 1000	on DIN rail,separable	screw terminals	2	6 kA	100 mA	24V	LPU 24V 100 mA SL	8008230000+8007871001
PT 100, PT 1000	on DIN rail,compact	tension clamp terminals	2	5 kA	1.25 A	24V	MCZ OVP SL 24V1.25A	8448970000
TTL	on DIN rail,separable	screw terminals	2	6 kA	100 mA	24V	LPU 24V 100 mA SL	8008230000+8007871001
TTL	on DIN rail,compact	tension clamp terminals	2	5 kA	0.5 A	24V	MCZ OVP SL 24V 0.5A	8448940000
TTY	on DIN rail,separable	screw terminals	2	6 kA	100 mA	24V	LPU 24V 100 mA SL	8008230000+8007871001
TTY	on DIN rail,compact	tension clamp terminals	2	5 kA	0.5 A	24V	MCZ OVP SL 24V 0.5A	8448940000
RS 232	on DIN rail,separable	screw terminals	2	6 kA	100 mA	24V	LPU 24V 100 mA SL	8008230000+8007871001
RS 232	on DIN rail,compact	tension clamp terminals	2	5 kA	0.5 A	24V	MCZ OVP SL 24V 0.5A	8448940000
RS 232	adapter plug	D-Sub	8	0.5 kA		15V	RS232 adapter plug	8570500000 or 8570510000
RS 232	built-in housing	screw terminals	2	5 kA		15V	EGU4 RS232	1170460000
RS 485	on DIN rail,separable	screw terminals	2	6 kA	100 mA	24V	LPU 24V 100 mA SL	8008230000+8007871001
RS 485	on DIN rail,compact	tension clamp terminals	2	5 kA	0.5 A	24V	MCZ OVP SL 24V 0.5A	8448940000
RS 485	built-in housing	screw terminals	4	0.5 kA		12V	RS485/RS422 K21	8008501001
RS 422,V11	on DIN rail,separable	screw terminals	2	6 kA	100 mA	24V	LPU 24V 100 mA SL	8008230000+8007871001
RS 422,V11	on DIN rail,compact	tension clamp terminals	2	5 kA	0.5 A	24V	MCZ OVP SL 24V 0.5A	8448940000

Bus systems

Interface/ signal	Mounting	Connection system	Protected wires	Discharge capacity	Operating current	Max. voltage	Protection device	Order No.
				8/20 µs	I _{max}	DC		
ASI	on DIN rail,separable	screw terminals	2	6 kA			PU DS 48V (yellow cable)	8670740000
ASI	on DIN rail,separable	screw terminals	2	6 kA			PU DS 24V8V (black cable)	8682100000
Bitbus	on DIN rail,separable	screw terminals	2	6 kA			RS 485	9454930000+8007871001
CAN Bus	on DIN rail,separable	screw terminals	2	6 kA			RS 485	9454930000+8007871001
Device Net	on DIN rail,separable	screw terminals	2	6 kA	1.5A	12V	RS 485	9454930000+8007871001
Ethernet Cat 5	plug-in adapter	RJ 45 connection	4	2 kA		7V	DME 100Tx-4RJ	8738780000
Ethernet Cat 5	plug-in adapter on DIN rail	RJ 45 connection	4	2 kA		7V	DME 100Tx-4RJ TS 35	8830230000
Ethernet Cat 5	adapter plug	M12	4	10 kA		30V	JACKPAC® Ethernet Cat.5 M12	8805570000
Ethernet Cat 6	combination adapter	RJ 45 connection	4	5 kA		30V	PU D ZS 230V16A Cat.6	8805530000
Ethernet Cat 6	adapter plug	RJ 45 connection	4	10 kA		48V	JACKPAC® Ethernet Cat.6 IP20	8805550000
Ethernet Cat 6	adapter plug	RJ 45 connection	4	10 kA		48V	JACKPAC® Ethernet Cat.6 IP67	8805560000
Interbus-Inline I/O	on DIN rail,separable	screw terminals	2	6 kA		53V	LPU 48V 1.5A	8008440000+8007871001
Interbus-Inline I/O	on DIN rail,compact	tension clamp terminals	2	10 kA	1.25A	53V	MCZ OVP CL 48V 1.25A	8449040000
LON TP/XF 78	on DIN rail,separable	screw terminals	2	6 kA	1.5A	27V	LPU 24V 1.5 A	8008430000+8007871001
LON TP/XF 78	on DIN rail,compact	tension clamp terminals	2	10 kA	0.5A	28V	MCZ OVP CL 24V 0.5A	8448920000
LON TP/XF 78	on DIN rail,compact	tension clamp terminals	2	0.1kA	16A	14V	MCZ OVP LON bus	8473470000
TP/FTT 10+TP/LPT10	on DIN rail,separable	screw terminals	2	6 kA		53V	LPU 48V 1.5A	8008440000+8007871001
TP/FTT 10+TP/LPT10	on DIN rail,compact	tension clamp terminals	2	10 kA	1.25A	53V	MCZ OVP CL 48V 1.25A	8449040000
Termination	on DIN rail,compact	screw terminals	2			60V	Dialoc bus terminator	8496110000
Profibus DP/FMS	on DIN rail,separable	screw terminals	2	6 kA	1.5A	12V	RS 485	9454930000+8007871001
Profibus PA	on DIN rail,separable	screw terminals	2	6 kA		53V	LPU 48V 1.5A	8008440000+8007871001
Profibus PA	on DIN rail,compact	tension clamp terminals	2	10 kA	1.25A	53V	MCZ OVP CL 48V 1.25A	8449040000
Sinec L2 DP/ ~Profibus DP	on DIN rail,separable	screw terminals	2	6 kA	1.5A	12V	RS 485	9454930000+8007871001
Token Ring	on DIN rail,compact	tension clamp terminals	2	0.5kA	16A	27V	MCZ OVP TAZ 24V	8449160000

Telecommunication

Interface/ signal	Mounting	Connection system	Protected wires	Discharge capacity	Operating current	Max. voltage	Protection device	Order No.
				8/20 μ s	I _{max.}	DC		
ADSL, T-DSL	on DIN rail, compact	screw terminals	2	20 kA		135V	Dk4/35 U gas discharge tube 230V	9400120000
ADSL, T-DSL	adapter plug	RJ 45	2	5 kA		190V	PU D ZS Uk0	8697570000
ISDN (S0)	in installation boxes	TAE	2	4 kA		190V	TAE OVP ISDN	8674000000
ISDN (S0)	in installation boxes	TAE	2	4 kA		190V	TAE OVP ISDN LED	8674010000
ISDN (S0)	in installation boxes	TAE	2	4 kA		190V	TAE OVP ISDN FM	8673970000
ISDN (S0)	adapter plug	RJ 45	4	4 kA		190V	PU D ZS S0	8697560000
ISDN (Uk0)	on DIN rail, compact	screw terminals	2	20 kA		135V	Dk4/35 U gas discharge tube 230V	9400120000
ISDN (Uk0)	adapter plug	RJ 45	2	4 kA		190V	PU D ZS UK0	8697570000
ISDN (Uk0)	in installation boxes	TAE	2	4 kA		190V	TAE OVP ISDN	8674000000
ISDN (Uk0)	in installation boxes	TAE	2	4 kA		190V	TAE OVP ISDN LED	8674010000
ISDN (Uk0)	in installation boxes	TAE	2	4 kA		190V	TAE OVP ISDN FM	8673970000
Telephone analogue	in installation boxes	TAE	2	4 kA		190V	TAE OVP analogue	8673980000
Telephone analogue	in installation boxes	TAE	2	4 kA		190V	TAE OVP analogue LED	8674020000
Telephone analogue	in installation boxes	TAE	2	4 kA		190V	TAE OVP analogue FM	8649910000

Power supplies

Interface/ signal	Mounting	Connection system	Protected wires	Discharge capacity	Operating current	Max. voltage	Protection device	Order No.
				8/20 μ s	I _{max.}	DC		
24V 6A	clip-on base profiles	screw terminals	2	24 kA	6A	27V	RSU 24V 6A	1171361001
115V 6A	clip-on base profiles	screw terminals	2	24 kA	6A	130V	RSU 115V 6A	1171561001
230V 6A	clip-on base profiles	screw terminals	2	24 kA	6A	250V	RSU 230V 6A	1171661001
24V 10A	clip-on base profiles	screw terminals	2	24 kA	10A	27V	RSU 24V 10A	8104201001
115V 10A	clip-on base profiles	screw terminals	2	24 kA	10A	130V	RSU 115V 10A	8104221001
230V 10A	clip-on base profiles	screw terminals	2	24 kA	10A	250V	RSU 230V 10A	8093281001

TV/radio

Interface/ signal	Mounting	Connection system	Protected wires	Discharge capacity	Operating current	Max. voltage	Protection device	Order No.
				8/20 μ s	I _{max.}	DC		
TV/radio	adapter plug	BNC	2	5 kA	16A	70V	PU D ZS TV/R	8779230000

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