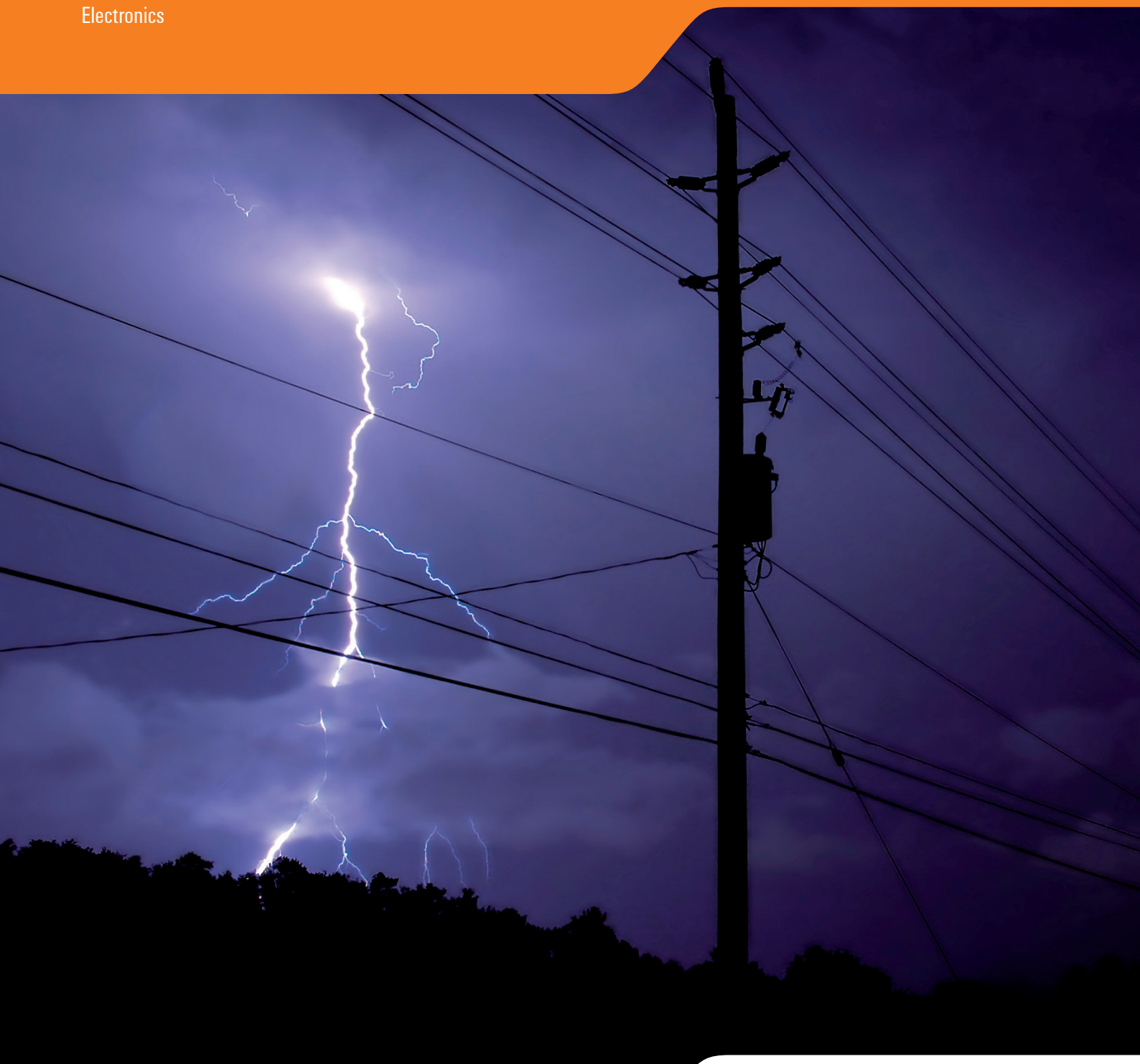
Surge Protection
Short Form Catalogue

Electronics



Weidmüller

Does your structure have external lightning protection? According to the new 17th edition wiring regulations and BS62305-4 you must now install Class I and Class II Surge Protection Devices.

In July 2011, the Institution of Engineering and Technology and the British Standards Institution (BSI) jointly published important changes to The IET Wiring Regulations, 17th Edition, BS 7671:2008 incorporating Amendment No.1, 2011. This set out the national standard to which all new electrical installations must comply and they came into effect on 1st January 2012.

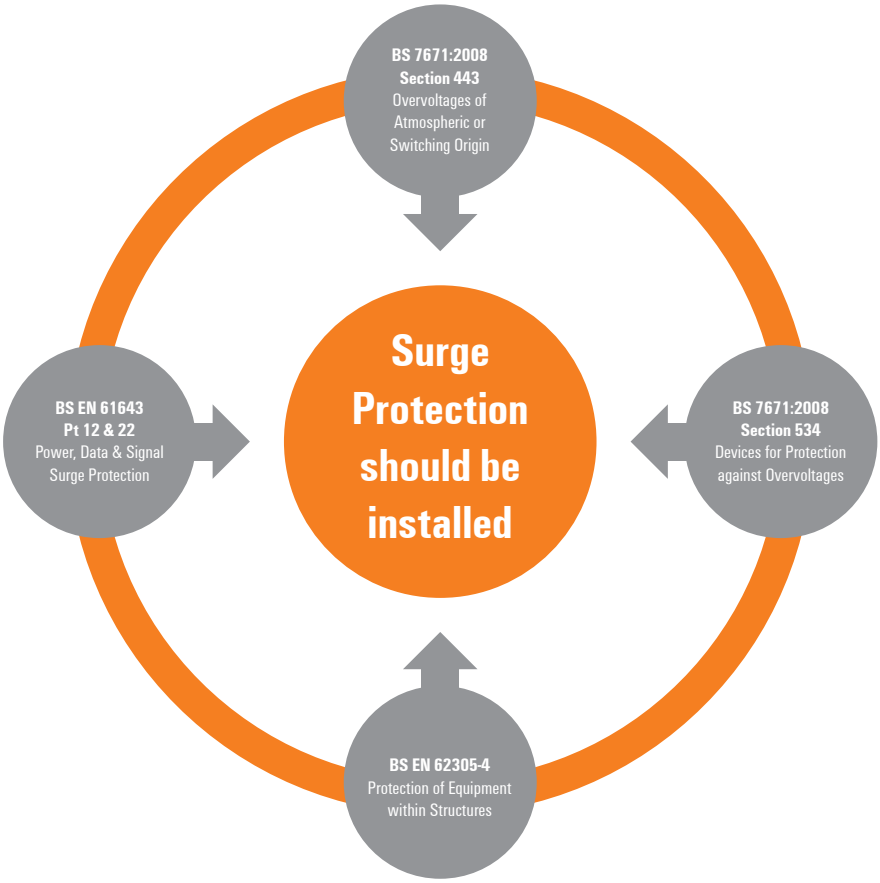
This means new considerations for those of you involved in protecting businesses against the potential effects of transient overvoltages, along with the maintenance, installation and/or design of electrical installations or wiring in buildings.

Any switching operation, fault initiation or interruption is followed by a transient phenomenon in which an overvoltage can occur. Common causes can include power grid quality issues, downed lines or faulty wiring. Surges can also occur through natural causes such as lightning strikes.

NEW Section 534: Devices for protection against overvoltages: this section is a collation of information contained in

- BS EN 7671:2008 Section 443
- BS EN 60664-1 Insulation Co-ordination
- BS EN 62305-4 Protection of Electronic Systems within Structures
- BS EN 61643 Parts 12 & 22: Power, Data, Telecoms and Signal Surge Protection

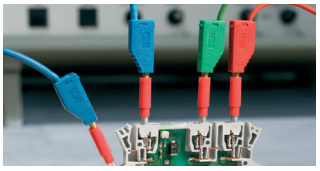
The standard has been designed to ensure that all competent parties adhere to, and implement, lightning and surge protection strategies, within electrical systems. It also lays out selection and erection guidelines for installations.



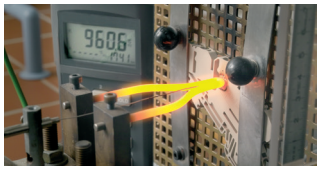
Classes of Surge Protection Devices

Class I – Use on buildings in applications where there is an external lightning protection system installed, usually installed at the service entrance or Main Distribution Board
Class II – Installed after the Class I device if installed or suitable for all other applications at the sub distribution board, or machine control panels
Class III – Installed after class II devices where a specific piece of electronic equipment or mission-critical application requires the highest levels of protection.

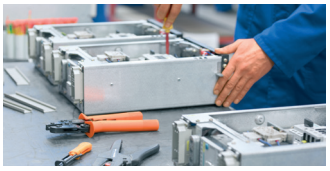
Over 60 years of proven industry design and production experience means our customers trust us to deliver innovative, reliable, and safe electrical connectivity solutions.



Our DIN EN ISO/IEC accreditations enable our lab to carry out certified tests for terminal blocks, connectors, and electronic equipment, so you can be safe in the knowledge that our products can be used worldwide.



With a heritage based on outstanding quality standards and service levels, backed up by a team of local technical, engineering and design support we offer you complete peace of mind.



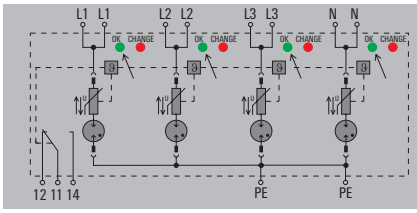
In addition to our state-of–the-art manufacturing facilities, sales offices and distributor network, we operate in more than 80 countries, making Weidmüller your true global partner.

Type I and II lightning arrester

- No-leakage-current version suitable for use upstream of the electrical meter
- Pluggable arrester
- Suitable with 25 kA (10/350 µs) for lightning protection level I, II, III and IV (LPL I/II/III/IV)
- Tested according to IEC 61643-11 for Type I and II surge protection
- Can also be used as Type II surge protection

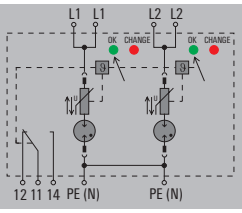
VPU I 4/R LCF 280 V / 25 kA

TN-S



VPU I 2/R LCF 280 V / 25 kA

1-phase



Technical data

Rated voltage (AC)	230 V	230 V
Highest continuous current (AC)	280 V	280 V
Temporary surge voltage (over-voltage) - TOV	335 V	440 V
Requirements category acc. to IEC 61643-11	Type I, Type II	Type I, Type II
Lightning test current I_{imp} (10/350 µs)	25 kA	25 kA
Discharge current I_n (8/20µs) wire-wire	25 kA	25 kA
Discharge current I_{max} (8/20µs) wire-PE	100 kA	100 kA
Short-circuit resistance I_{SCCR}	25 kA	25 kA
Total discharge current I_{total}	100 kA	50 kA
Rated load current I_L	125 A	125 A
PE conductor current I_{PE}	0 µA	0 µA
Short-circuit strength with max. back-up fuse	25 kA_{eff}	25 kA_{eff}
Sparkover time / Drop-out time	≤ 100 ns	≤ 100 ns
Fusing	250 A gL	250 A gL
Protection level U_p (typical)	≤ 1.6 kV	≤ 1.6 kV
Optical function display	green = OK; red = arrester is defective - replace	green = OK; red = arrester is defective - replace
Design	Installation housing; 8 TE, Insta IP 20	Installation housing; 4TE, Insta IP 20
Colour	Black, Arrester red	Black, Arrester red
Ambient temperature (operational)	-40 °C...+70 °C	-40 °C...+70 °C
Connection according to IEC 947-7-1		
Solid	4...16 mm²	2.5...16 mm²
Stranded	2.5...50 mm²	2.5...50 mm²
Stripping length	15 mm	15 mm
Tightening torque	2...3 Nm	2...3 Nm
Approvals		
Approvals		
Standards	IEC61643-11, EN61643-11	IEC61643-11, EN61643-11

Dimensions / Signalling contact info		**no remote sig. contact**	**with remote signalling (R)**	**no remote sig. contact**	**with remote signalling (R)**
Clamping range (nominal / min. / max.)	mm²	16 / 4 / 50	16 / 2.5 / 50	16 / 2.5 / 50	16 / 2.5 / 50
Height x width x depth	mm	90 / 144 / 69	106 / 144 / 69	94 / 72 / 69	106 / 72 / 69
Signalling contact		No	250 V 1A 1CO	No	250 V 1A 1CO
Note					

Ordering data

	Type	**Qty.**	**Order No.**
no remote sig. contact	VPU I 4 LCF 280V/25KA	1	**1351730000**
with remote signalling (R)	VPU I 4 R LCF 280V/25KA	1	**1351720000**

	Type	**Qty.**	**Order No.**
no remote sig. contact	VPU I 2 LCF 280V/25KA	1	**1351640000**
with remote signalling (R)	VPU I 2 R LCF 280V/25KA	1	**1351620000**

Note

Accessories

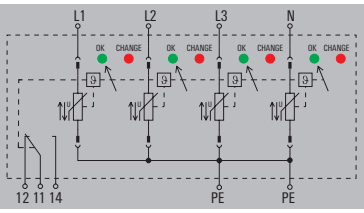
Note	
	Pluggable spare arrester VPU I 0 LCF 280 V/25 kA-1351540000
	Pluggable spare arrester VPU I 0 LCF 280 V/25 kA-1351540000

Type I and II lightning arrester for use downstream of electrical meter

- Suitable for lightning protection level III and IV (LPL III/IV)
- Pluggable arresters
- Tested according to IEC 61643-11 for Type I and II lightning and surge protection

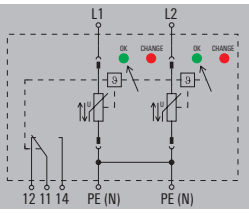
VPU I 4/R 280 V / 12.5 kA

TN-S



VPU I 2/R 280 V / 12.5 kA

1-phase



Technical data

Rated voltage (AC)	230 V	230 V
Highest continuous current (AC)	280 V	280 V
Temporary surge voltage (over-voltage) - TOV	335 V	335 V
Requirements category acc. to IEC 61643-11	Type I, Type II	Type I, Type II
Lightning test current I_{imp} (10/350 µs)	12.5 kA	12.5 kA
Short-circuit strength with max. back-up fuse	25 kA_{eff}	25 kA_{eff}
Discharge current I_n (8/20µs) wire-wire	25 kA	25 kA
Discharge current I_{max} (8/20µs) wire-PE	50 kA	50 kA
Short-circuit resistance I_{SCCR}	25 kA	25 kA
Total discharge current I_{total}	50 kA	50 kA
PE conductor current I_{PE}	30 µA	30 µA
Sparkover time / Drop-out time	≤ 25 ns	≤ 25 ns
Fusing	250 A gL	250 A gL
Protection level U_P (typical)	≤ 1.4 kV	≤ 1.4 kV
Optical function display	green = OK; red = arrester is defective - replace	green = OK; red = arrester is defective - replace
Design	Installation housing; 4TE, Insta IP 20	Installation housing; 2TE, Insta IP 20
Colour	Black, Arrester red	Black, Arrester red
Ambient temperature (operational)	-40 °C...+70 °C	-40 °C...+70 °C
Connection according to IEC 947-7-1		
Solid	4...16 mm²	4...16 mm²
Stranded	2.5...50 mm²	2.5...50 mm²
Stripping length	15 mm	15 mm
Tightening torque	2...3 Nm	2...3 Nm
Approvals		
Approvals		
Standards	IEC61643-11, EN61643-11	IEC61643-11, EN61643-11

Dimensions / Signalling contact info		**no remote sig. contact**	**with remote signalling (R)**	**no remote sig. contact**	**with remote signalling (R)**
Clamping range (nominal / min. / max.)	mm²	16 / 4 / 50	16 / 4 / 50	16 / 4 / 50	16 / 4 / 50
Height x width x depth	mm	94 / 71.2 / 69	106 / 71.2 / 69	94 / 35.6 / 69	106 / 35.6 / 69
Signalling contact		No	250 V 1A 1CO	No	250 V 1A 1CO
Note					

Ordering data

	Type	**Qty.**	**Order No.**	**Type**	**Qty.**	**Order No.**
no remote sig. contact	VPU I 4 280V/12,5KA	1	**1352180000**	VPU I 2 280V/12,5KA	1	**1352150000**
with remote signalling (R)	VPU I 4 R 280V/12,5KA	1	**1352190000**	VPU I 2 R 280V/12,5KA	1	**1352170000**

Note

Accessories

Note	Pluggable spare arrester VPU I 0 400 V/12.5 kA-1352280000	Pluggable spare arrester VPU I 0 280 V/12.5 kA-1352120000

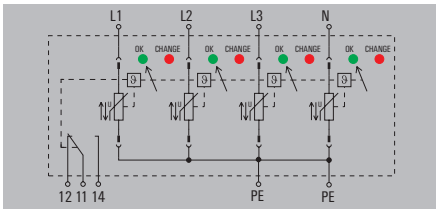
Type II/III surge protection U_c: 280 V

Suitable for 230/400 V mains systems

- Pluggable arrester
- Coded voltage level
- High energy absorption with short time to sparkover
- Arrester can be rotated through 180°
- No follow-on current
- Installation in distribution board
- Thermal protection function
- Co-ordination with VPU Type I

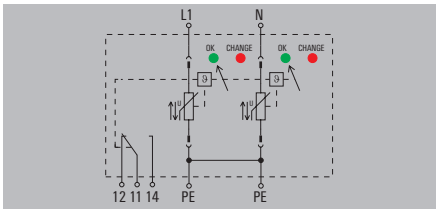
VPU II 4/R 280 V / 40 kA

TN-S



VPU II 2/R 280 V / 40 kA

1-phase



Technical data

Rated voltage	230 V / 400 V	230 V
Max. continuous voltage, Uc (AC)	280 V	280 V
Requirements category acc. to IEC 61643-11	Type II, Type III	Type II, Type III
Rated discharge current (8/20 µs) I_N	20 kA	20 kA
Limiting discharge current (8/20 µs) I_{max}	40 kA	40 kA
Discharge current, max. (8/20 µs)	40 kA	40 kA
Combined pulse U_{oc}	10 kV	10 kV
Short-circuit resistance I_{SCCR}	25 kA	25 kA
Total discharge current I_{total}	160 kA	80 kA
PE conductor current I_{PE}	30 µA	30 µA
Sparkover time / Drop-out time	≤ 25 ns	≤ 25 ns
Fusing	125 A gL	125 A gL
Protection level U_P (typical)	≤ 1.55 kV	≤ 1.55 kV
Temporary surge voltage (over-voltage) - TOV	440 V	440 V
Optical function display	green = OK; red = arrester is defective - replace	green = OK; red = arrester is defective - replace
Design	Installation housing; 4TE, Insta IP 20	Installation housing; 2TE, Insta IP 20
Colour	Black, Arrester red	Black, Arrester red
Ambient temperature (operational)	-40 °C...+70 °C	-40 °C...+70 °C
Storage temperature	-40 °C ... +80 °C	-40 °C ... +80 °C
Connection according to IEC 947-7-1		
Solid	2.5...16 mm²	2.5...16 mm²
Stranded	2.5...50 mm²	2.5...50 mm²
Stripping length	15 mm	15 mm
Tightening torque	2...3 Nm	2...3 Nm
Approvals		
Approvals		
Standards	IEC61643-11, EN61643-11	IEC61643-11, EN61643-11

Dimensions / Signalling contact info		**no remote sig. contact**	**with remote signalling (R)**	**no remote sig. contact**	**with remote signalling (R)**
Clamping range (nominal / min. / max.)	mm²	16 / 2.5 / 50	16 / 2.5 / 50	16 / 2.5 / 50	16 / 2.5 / 50
Height x width x depth	mm	94 / 71.2 / 69	106 / 71.2 / 69	94 / 35.6 / 69	106 / 35.6 / 69
Signalling contact		No	250 V 1A 1CO	No	250 V 1A 1CO
Note					

Ordering data

	Type	**Qty.**	**Order No.**	**Type**	**Qty.**	**Order No.**
no remote sig. contact	VPU II 4 280V/40KA	1	**1352680000**	VPU II 2 280V/40KA	1	**1352600000**
with remote signalling (R)	VPU II 4 R 280V/40KA	1	**1352690000**	VPU II 2 R 280V/40KA	1	**1352620000**

Note

Accessories

Note	Pluggable spare arrester VPU II 0 280 V/40 kA-1352570000	Pluggable spare arrester VPU II 0 280 V/40 kA-1352570000

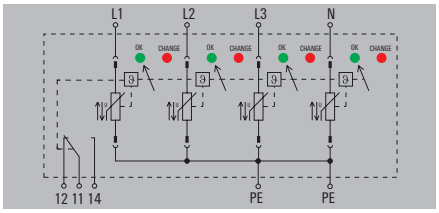
Type II/III surge protection U_c: 150 V

Suitable for 120/240 V mains systems

- Pluggable arrester
- Coded voltage level
- High energy absorption with short time to sparkover
- Arrester can be rotated through 180°
- No follow-on current
- Installation in distribution board
- Thermal protection function
- Co-ordination with VPU Type I

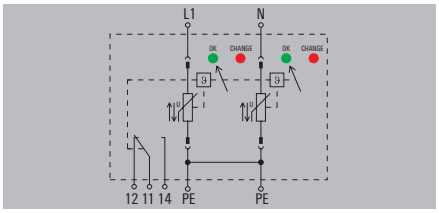
VPU II 4/R 150 V / 40 kA

TN-S



VPU II 2/R 150 V / 40 kA

1-phase



Technical data

Rated voltage	120 V / 240 V	120 V
Max. continuous voltage, Uc (AC)	150 V	150 V
Requirements category acc. to IEC 61643-11	Type II, Type III	Type II, Type III
Rated discharge current (8/20 µs) I_N	20 kA	20 kA
Limiting discharge current (8/20 µs) I_{max}	40 kA	40 kA
Discharge current, max. (8/20 µs)	40 kA	40 kA
Combined pulse U_{oc}	10 kV	10 kV
Short-circuit resistance I_{SCCR}	25 kA	25 kA
Total discharge current I_{total}	160 kA	80 kA
PE conductor current I_{PE}	30 µA	30 µA
Sparkover time / Drop-out time	≤ 25 ns	≤ 25 ns
Fusing	125 A gL	125 A gL
Protection level U_P (typical)	≤ 0.9 kV	≤ 0.9 kV
Temporary surge voltage (over-voltage) - TOV	230 V	230 V
Optical function display	green = OK; red = arrester is defective - replace	green = OK; red = arrester is defective - replace
Design	Installation housing; 4TE, Insta IP 20	Installation housing; 2TE, Insta IP 20
Colour	Black, Arrester red	Black, Arrester red
Ambient temperature (operational)	-40 °C...+70 °C	-40 °C...+70 °C
Storage temperature	-40 °C ... +80 °C	-40 °C ... +80 °C
Connection according to IEC 947-7-1		
Solid	2.5...16 mm²	2.5...16 mm²
Stranded	2.5...50 mm²	2.5...50 mm²
Stripping length	15 mm	15 mm
Tightening torque	2...3 Nm	2...3 Nm
Approvals		
Approvals		
Standards	IEC61643-11, EN61643-11	IEC61643-11, EN61643-11

Dimensions / Signalling contact info		**no remote sig. contact**	**with remote signalling (R)**	**no remote sig. contact**	**with remote signalling (R)**
Clamping range (nominal / min. / max.)	mm²	16 / 2.5 / 50	16 / 2.5 / 50	16 / 2.5 / 50	16 / 2.5 / 50
Height x width x depth	mm	94 / 71.2 / 69	106 / 71.2 / 69	94 / 35.6 / 69	106 / 35.6 / 69
Signalling contact		No	250 V 1 A 1 NC	No	250 V 1 A 1 NC
Note					

Ordering data

	Type	**Qty.**	**Order No.**	**Type**	**Qty.**	**Order No.**
no remote sig. contact	VPU II 4 150V/40KA	1	**1352540000**	VPU II 2 150V/40KA	1	**1352490000**
with remote signalling (R)	VPU II 4 R 150V/40KA	1	**1352550000**	VPU II 2 R 150V/40KA	1	**1352500000**
Note						

Accessories

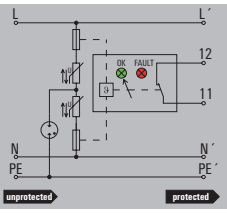
Note	Pluggable spare arrester VPU II 0 150 V/40 kA-1352450000	Pluggable spare arrester VPU II 0 150 V/40 kA-1352450000

Type III with varistors / gas discharge tube

- Type III surge protection
- Suitable for protecting terminals
- Installed in the vicinity of the equipment to be protected
- For mounting on TS35 rail
- Arrester with remote signalling contact
- Tested in accordance with IEC 61643-11

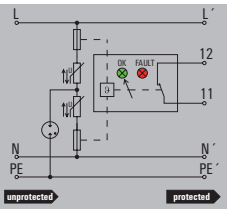
VPU III R 230 V / 6 kV

For use as device protector



VPU III R 24 V / 4 kV

For use as device protector



Technical data

Rated voltage (AC)	230 V	24 V
Rated voltage (DC)		32 V
Max. continuous voltage, Uc (AC)	300 V	32 V
Max. continuous voltage, Uc (DC)		53 V
Requirements category acc. to IEC 61643-11	Type III	Type III
Combined pulse U_{oc}	3 kV	2 kV
Rated discharge current (8/20 µs) I_N		
Short-circuit resistance I_{SCCR}	1.5 kA	1.5 kA
Discharge current, max. (8/20 µs)	3 kA	2 kA
Rated load current I_L	16 A	16 A
PE conductor current I_{PE}	0 µA	0 µA
Sparkover time / Drop-out time	< 100 ns	< 100 ns
Fusing	16 A	16 A
Protection level U_P (typical)	≤ 1.8 kV	≤ 890 V
Temporary surge voltage (over-voltage) - TOV	440 V	45 V
Optical function display	Green LED = OK, LED red = arrester faulty, replace	Green LED = OK, LED red = arrester faulty, replace
Design	Installation housing; 1TE, Insta IP 20	Installation housing; 1TE, Insta IP 20
Ambient temperature (operational)	-40 °C...+70 °C	-40 °C...+70 °C
Storage temperature	-40°C ... +80°C	-40°C ... +80°C
Connection according to IEC 947-7-1		
Solid	0.5...2.5 mm²	0.5...2.5 mm²
Stranded	0.5...2.5 mm²	0.5...2.5 mm²
Stripping length	7 mm	7 mm
Tightening torque	0.4...0.5 Nm	0.4...0.5 Nm
Approvals		
Approvals		
Standards	IEC61643-11, EN61643-11	IEC61643-11, EN61643-11

Dimensions / Signalling contact info		**Screw connection**	**Screw connection**
Clamping range (nominal / min. / max.)	mm²	2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
Height x width x depth	mm	102 / 18 / 71.5	102 / 18 / 71.5
Signalling contact		250 V 1 A 1 NC	250 V 1 A 1 NC
Note			

Ordering data

	Type	Qty.	Order No.
Screw connection	VPU IIIR 230V/6KV AC	1	**1351650000**
Note			

	Type	Qty.	Order No.
	VPU III R 24V/4KV AC/DC	1	**1351580000**

Accessories

Note

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As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.

Let's Connect!

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