

Lightning and surge protection for low voltage facilities

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Product quick selection, power supply

Type I

Product	Version	Rated voltage	Discharge capacity limp (10/350)	Protection level	Follow current suppression capability Ifi	blow-out/ encapsulated	Max. backup fuse A gl/gG	Signalling contact	Overall width	Order No.
		Uc		typ.						
Type I - LCF 50 kA										
VPU I 1 R LCF 280V/50kA	1-pole	280 V	50 kA	1800 V	no follow current	encapsulated	250 A	1 CO	4 TE	1351230000
VPU I 1 LCF 280V/50kA	1-pole	280 V	50 kA	1800 V	no follow current	encapsulated	250 A		4 TE	1351250000
VPU I 1 R LCF 400V/50kA	1-pole	400 V	50 kA	2500 V	no follow current	encapsulated	250 A	1 CO	4 TE	1351280000
VPU I 1 LCF 400V/50kA	1-pole	400 V	50 kA	2500 V	no follow current	encapsulated	250 A		4 TE	1351300000
Type I - LCF 35 kA										
VPU I 1 R LCF 280V/35kA	1-pole	280 V	35 kA	1800 V	no follow current	encapsulated	250 A	1 CO	4 TE	1351330000
VPU I 1 LCF 280V/35kA	1-pole	280 V	35 kA	1800 V	no follow current	encapsulated	250 A		4 TE	1351350000
VPU I 1 R LCF 400V/35kA	1-pole	400 V	35 kA	2500 V	no follow current	encapsulated	250 A	1 CO	4 TE	1351380000
VPU I 1 LCF 400V/35kA	1-pole	400 V	35 kA	2500 V	no follow current	encapsulated	250 A		4 TE	1351400000
Type I - LCF 25 kA / 280 V										
VPU I 1 R LCF 280V/25kA	1-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A	1 CO	2 TE	1351570000
VPU I 1 LCF 280V/25kA	1-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A		2 TE	1351590000
VPU I 2 R LCF 280V/25kA	2-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A	1 CO	4 TE	1351620000
VPU I 2 LCF 280V/25kA	2-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A		4 TE	1351640000
VPU I 3 R LCF 280V/25kA	3-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A	1 CO	6 TE	1351670000
VPU I 3 LCF 280V/25kA	3-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A		6 TE	1351690000
VPU I 4 R LCF 280V/25kA	4-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A	1 CO	8 TE	1351720000
VPU I 4 LCF 280V/25kA	4-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A		8 TE	1351730000
VPU I 1+1R LCF 280V/25kA	2-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A	1 CO	4 TE	1351740000
VPU I 1+1 LCF 280V/25kA	2-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A		4 TE	1351750000
VPU I 3+1R LCF 280V/25kA	4-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A	1 CO	8 TE	1351770000
VPU I 3+1 LCF 280V/25kA	4-pole, separable	280 V	25 kA	1600 V	no follow current	encapsulated	250 A		8 TE	1351780000
Type I - 25 kA / 400 V										
VPU I 1 R 400V/25kA	1-pole, separable	400 V	25 kA	1900 V	no follow current	encapsulated	250 A	1 CO	2 TE	1351800000
VPU I 1 400V/25kA	1-pole, separable	400 V	25 kA	1900 V	no follow current	encapsulated	250 A		2 TE	1351820000
VPU I 1+1R 400V/25kA	2-pole, separable	400 V	25 kA	1900 V	no follow current	encapsulated	250 A	1 CO	4 TE	1351830000
VPU I 1+1 400V/25kA	2-pole, separable	400 V	25 kA	1900 V	no follow current	encapsulated	250 A		4 TE	1351840000
VPU I 3 R 400V/25kA	2-pole, separable	400 V	25 kA	1900 V	no follow current	encapsulated	250 A	1 CO	6 TE	1351850000
VPU I 3 400V/25kA	2-pole, separable	400 V	25 kA	1900 V	no follow current	encapsulated	250 A		6 TE	1351870000
VPU I 3+1R 400V/25kA	4-pole, separable	400 V	25 kA	1900 V	no follow current	encapsulated	250 A	1 CO	8 TE	1351880000
VPU I 3+1 400V/25kA	4-pole, separable	400 V	25 kA	1900 V	no follow current	encapsulated	250 A		8 TE	1351890000
Type I - N-PE 50 kA / 100 kA										
VPU I 1 N-PE 260V50kA	1-pole	260 V	50 kA	1500 V	no follow current	encapsulated	n. A.		1 TE	1351900000
VPU I 1 N-PE 260V100kA	1-pole	260 V	100 kA	1600 V	no follow current	encapsulated	n. A.		2 TE	1351920000
VPU I 1 N-PE 440V50kA	1-pole	440 V	50 kA	1500 V	no follow current	encapsulated	n. A.		1 TE	1351950000
VPU I 1 N-PE 440V100kA	1-pole	440 V	100 kA	1600 V	no follow current	encapsulated	n. A.		2 TE	1351970000
Type I - LCF 12.5 kA										
VPU I 3+1LCF 280V/12.5kA	4-pole, separable	280 V	12.5 kA	1450 V	no follow current	encapsulated	250 A		4 TE	1352020000
VPU I 3+1R LCF 280V/12.5kA	4-pole, separable	280 V	12.5 kA	1450 V	no follow current	encapsulated	250 A	1 CO	4 TE	1352030000
VPU I 1+1 LCF 280V/12.5kA	2-pole, separable	280 V	12.5 kA	1450 V	no follow current	encapsulated	250 A		2 TE	1352040000
VPU I 1+1R LCF 280V/12.5kA	2-pole, separable	280 V	12.5 kA	1450 V	no follow current	encapsulated	250 A	1 CO	2 TE	1352050000
VPU I 1 LCF 280V/12.5kA	1-pole, separable	280 V	12.5 kA	1450 V	no follow current	encapsulated	250 A		1 TE	1352070000
VPU I 1 R LCF 280V/12.5kA	1-pole, separable	280 V	12.5 kA	1450 V	no follow current	encapsulated	250 A	1 CO	1 TE	1352080000
VPU I 3 LCF 280V/12.5kA	2-pole, separable	280 V	12.5 kA	1450 V	no follow current	encapsulated	250 A		3 TE	1352090000
VPU I 3 R LCF 280V/12.5kA	2-pole, separable	280 V	12.5 kA	1450 V	no follow current	encapsulated	250 A	1 CO	3 TE	1352100000
Type I - 12.5 kA / 280 V										
VPU I 1 280V/12.5kA	1-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A		1 TE	1352130000
VPU I 1 R 280V/12.5kA	1-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A	1 CO	1 TE	1352140000
VPU I 2 280V/12.5kA	2-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A		2 TE	1352150000
VPU I 2 R 280V/12.5kA	2-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A	1 CO	2 TE	1352170000
VPU I 4 280V/12.5kA	4-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A		4 TE	1352180000
VPU I 4 R 280V/12.5kA	4-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A	1 CO	4 TE	1352190000
VPU I 3 280V/12.5kA	3-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A		3 TE	1352200000
VPU I 3 R 280V/12.5kA	3-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A	1 CO	3 TE	1352220000
VPU I 3+1 280V/12.5kA	4-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A		4 TE	1352230000
VPU I 3+1R 280V/12.5kA	4-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A	1 CO	4 TE	1352240000
VPU I 1+1 280V/12.5kA	2-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A		2 TE	1352250000
VPU I 1+1R 280V/12.5kA	2-pole, separable	280 V	12.5 kA	1400 V	no follow current	encapsulated	250 A	1 CO	2 TE	1352270000



Type I

Product	Version	Rated voltage Uc	Discharge capacity Iimp (10/350)	Protection level typ.	Follow current suppression capability Ifi	blow-out/ encapsulated	Max. backup fuse A gl/gG	Signalling contact	Overall width	Order No.
Type I - 12.5 kA / 400 V										
VPU I 1 400V/12.5kA	1-pole, separable	400 V	12.5 kA	1800 V	no follow current	encapsulated	250 A		1 TE	1352290000
VPU I 1 R 400V/12.5kA	1-pole, separable	400 V	12.5 kA	1800 V	no follow current	encapsulated	250 A	1 CO	1 TE	1352300000
VPU I 1+1 400V/12.5kA	2-pole, separable	400 V	12.5 kA	1800 V	no follow current	encapsulated	250 A		2 TE	1352320000
VPU I 1+1 R 400V/12.5kA	2-pole, separable	400 V	12.5 kA	1800 V	no follow current	encapsulated	250 A	1 CO	2 TE	1352330000
VPU I 3 400V/12.5kA	3-pole, separable	400 V	12.5 kA	1800 V	no follow current	encapsulated	250 A		3 TE	1352340000
VPU I 3 R 400V/12.5kA	3-pole, separable	400 V	12.5 kA	1800 V	no follow current	encapsulated	250 A	1 CO	3 TE	1352350000
VPU I 3+1 400V/12.5kA	4-pole, separable	400 V	12.5 kA	1800 V	no follow current	encapsulated	250 A		4 TE	1352370000
VPU I 3+1 R 400V/12.5kA	4-pole, separable	400 V	12.5 kA	1800 V	no follow current	encapsulated	250 A	1 CO	4 TE	1352380000

C



Product quick selection, power supply

Type II

Product	Version	Rated voltage	Discharge capacity limp (10/350)	Protection level	Follow current suppression capability Ifi	blow-out/ encapsulated	Max. backup fuse A gl/gG	Signalling contact	Overall width	Order No.
		Uc		typ.						
Type II - 75 V										
VPU II 1 75V/30kA	1-pole, separable	75 V	30 kA	650 V	no follow current	encapsulated	125 A		1 TE	1352390000
VPU II 1 R 75V/30kA	1-pole, separable	75 V	30 kA	650 V	no follow current	encapsulated	125 A	1 CO	1 TE	1352420000
VPU II 2 75V/30kA	2-pole, separable	75 V	30 kA	650 V	no follow current	encapsulated	125 A		1 TE	1352430000
VPU II 2 R 75V/30kA	2-pole, separable	75 V	30 kA	650 V	no follow current	encapsulated	125 A	1 CO	1 TE	1352440000
Type II - 150 V										
VPU II 1 150V/40kA	1-pole, separable	150 V	40 kA	900 V	no follow current	encapsulated	125 A		1 TE	1352470000
VPU II 1 R 150V/40kA	1-pole, separable	150 V	40 kA	900 V	no follow current	encapsulated	125 A	1 CO	1 TE	1352480000
VPU II 2 150V/40kA	2-pole, separable	150 V	40 kA	900 V	no follow current	encapsulated	125 A		2 TE	1352490000
VPU II 2 R 150V/40kA	2-pole, separable	150 V	40 kA	900 V	no follow current	encapsulated	125 A	1 CO	2 TE	1352500000
VPU II 3 150V/40kA	3-pole, separable	150 V	40 kA	900 V	no follow current	encapsulated	125 A		3 TE	1352520000
VPU II 3 R 150V/40kA	3-pole, separable	150 V	40 kA	900 V	no follow current	encapsulated	125 A	1 CO	3 TE	1352530000
VPU II 4 150V/40kA	4-pole, separable	150 V	40 kA	900 V	no follow current	encapsulated	125 A		4 TE	1352540000
VPU II 4 R 150V/40kA	4-pole, separable	150 V	40 kA	900 V	no follow current	encapsulated	125 A	1 CO	4 TE	1352550000
Type II - 280 V										
VPU II 1 280V/40kA	1-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A		1 TE	1352580000
VPU II 1 R 280V/40kA	1-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A	1 CO	1 TE	1352590000
VPU II 2 280V/40kA	2-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A		2 TE	1352600000
VPU II 2 R 280V/40kA	2-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A	1 CO	2 TE	1352620000
VPU II 1+1 280V/40kA	2-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A		2 TE	1352630000
VPU II 1+1 R 280V/40kA	2-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A	1 CO	2 TE	1352640000
VPU II 3+1 280V/40kA	4-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A		4 TE	1352650000
VPU II 3+1 R 280V/40kA	4-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A	1 CO	4 TE	1352670000
VPU II 4 280V/40kA	4-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A		4 TE	1352680000
VPU II 4 R 280V/40kA	4-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A	1 CO	4 TE	1352690000
VPU II 3 280V/40kA	3-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A		3 TE	1352700000
VPU II 3 R 280V/40kA	3-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A	1 CO	3 TE	1352720000
VPU II 1 LCF 280V/40kA	1-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A		1 TE	1352740000
VPU II 1 R LCF 280V/40kA	1-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A	1 CO	1 TE	1352750000
VPU II 4 LCF 280V/40kA	4-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A		4 TE	1352770000
VPU II 4 R LCF 280V/40kA	4-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A	1 CO	4 TE	1352780000
VPU II 3 LCF 280V/40kA	3-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A		3 TE	1352790000
VPU II 3 R LCF 280V/40kA	3-pole, separable	280 V	40 kA	1550 V	no follow current	encapsulated	125 A	1 CO	3 TE	1352800000
Type II - 400 V										
VPU II 1 400V/40kA	1-pole, separable	400 V	40 kA	2100 V	no follow current	encapsulated	125 A		1 TE	1352830000
VPU II 1 R 400V/40kA	1-pole, separable	400 V	40 kA	2100 V	no follow current	encapsulated	125 A	1 CO	1 TE	1352840000
VPU II 2 400V/40kA	2-pole, separable	400 V	40 kA	2100 V	no follow current	encapsulated	125 A		2 TE	1352850000
VPU II 2 R 400V/40kA	2-pole, separable	400 V	40 kA	2100 V	no follow current	encapsulated	125 A	1 CO	2 TE	1352870000
VPU II 3 400V/40kA	3-pole, separable	400 V	40 kA	2100 V	no follow current	encapsulated	125 A		3 TE	1352880000
VPU II 3 R 400V/40kA	3-pole, separable	400 V	40 kA	2100 V	no follow current	encapsulated	125 A	1 CO	3 TE	1352890000
VPU II 4 400V/40kA	4-pole, separable	400 V	40 kA	2100 V	no follow current	encapsulated	125 A		4 TE	1352900000
VPU II 4 R 400V/40kA	4-pole, separable	400 V	40 kA	2100 V	no follow current	encapsulated	125 A	1 CO	4 TE	1352920000
Type II - 600 V										
VPU II 1 600V/25kA	1-pole, separable	600 V	25 kA	2350 V	no follow current	encapsulated	125 A		1 TE	1352940000
VPU II 1 R 600V/25kA	1-pole, separable	600 V	25 kA	2350 V	no follow current	encapsulated	125 A	1 CO	1 TE	1352950000
VPU II 2 600V/25kA	2-pole, separable	600 V	25 kA	2350 V	no follow current	encapsulated	125 A		2 TE	1352970000
VPU II 2 R 600V/25kA	2-pole, separable	600 V	25 kA	2350 V	no follow current	encapsulated	125 A	1 CO	2 TE	1352980000
VPU II 3 600V/25kA	3-pole, separable	600 V	25 kA	2350 V	no follow current	encapsulated	125 A		3 TE	1352990000
VPU II 3 R 600V/25kA	3-pole, separable	600 V	25 kA	2350 V	no follow current	encapsulated	125 A	1 CO	3 TE	1353000000
VPU II 4 600V/25kA	4-pole, separable	600 V	25 kA	2350 V	no follow current	encapsulated	125 A		4 TE	1353020000
VPU II 4 R 600V/25kA	4-pole, separable	600 V	25 kA	2350 V	no follow current	encapsulated	125 A	1 CO	4 TE	1351020000
Type II - 750 V										
VPU II 1 750V / 25kA	1-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A		1 TE	1351040000
VPU II 1 R 750V / 25kA	1-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A	1 CO	1 TE	1351050000
VPU II 2 750V / 25kA	2-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A		2 TE	1351070000
VPU II 2 R 750V / 25kA	2-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A	1 CO	2 TE	1351080000
VPU II 3 750V / 25kA	3-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A		3 TE	1351090000
VPU II 3 R 750V / 25kA	3-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A	1 CO	3 TE	1351100000
VPU II 4 750V / 25kA	4-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A		4 TE	1351120000
VPU II 4 R 750V / 25kA	4-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A	1 CO	4 TE	1351130000



Type II

Product	Version	Rated voltage U _c	Discharge capacity I _{imp} (10/350)	Protection level typ.	Follow current suppression capability I _{fi}	blow-out/ encapsulated	Max. backup fuse A gI/gG	Signalling contact	Overall width	Order No.
VPU II 3+1 750V / 40kA	4-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A		4 TE	1351140000
VPU II 3+1 R 750V / 40kA	4-pole, separable	750 V	25 kA	2600 V	no follow current	encapsulated	125 A	1 CO	4 TE	1351150000
Type II - N-PE										
VPU II 1 N-PE 260V/40kA	1-pole, separable	260 V	40 kA	1500 V	no follow current	encapsulated	n. A.		1 TE	1351170000

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Product quick selection, power supply

Type III

Product	Version	Rated voltage U _c	Discharge capacity I _{imp} (10/350)	Protection level typ.	Follow current suppression capability I _{fi}	blow-out/ encapsulated	Max. backup fuse A gl/gG	Signalling contact	Overall width	Order No.
Type III - TS 35										
VPU III R 12V/4kV AC/DC	1-pole, separable	12 V	2 kA	980 V	no follow current	encapsulated	16 A	1 CO	1 TE	1351550000
VPU III R 24V/4kV AC/DC	1-pole, separable	24 V	2 kA	890 V	no follow current	encapsulated	16 A	1 CO	1 TE	1351580000
VPU III R 48V/4kV AC/DC	1-pole, separable	48 V	2 kA	950 V	no follow current	encapsulated	16 A	1 CO	1 TE	1351600000
VPU III R 120V/6kV AC/DC	1-pole, separable	120 V	3 kA	1750 V	no follow current	encapsulated	16 A	1 CO	1 TE	1351630000
VPU III R 230V/6kV AC	1-pole, separable	230 V	3 kA	1800 V	no follow current	encapsulated	16 A	1 CO	1 TE	1351650000
VPU III 3/280V AC	3-pole	230 V	4 kA	1800 V	no follow current	encapsulated	16 A	1 NC	3 TE	1393050000
Type III - SO LD										
VPU III SO LD	1-pole	24 V	1.5 kA	1500 V	no follow current	encapsulated	16 A			1351680000
VPU III SO LD+A	1-pole	24 V	1.5 kA	1500 V	no follow current	encapsulated	16 A			1351700000



Product quick selection, power supply

Lightning and surge protection for photovoltaic systems

Product	Version	Rated voltage Uc	Discharge capacity Iimp (10/350)	Protection level typ.	Follow current suppression capability I _{fi}	blow-out/ encapsulated	Max. backup fuse A gI/gG	Signalling contact	Overall width	Order No.
Typ I										
VPU I 2+0 R PV 1000V DC	3-pole, separable	1000 V DC	12.5 kA	2600 V	no follow current	encapsulated	135 A	1 CO	6 TE	1351430000
VPU I 2+0 PV 1000V DC	3-pole, separable	1000 V DC	12.5 kA	2600 V	no follow current	encapsulated	135 A		6 TE	1351470000
VPU I 2+0 R PV 600V DC	3-pole, separable	600 V DC	12.5 kA	1800 V	no follow current	encapsulated	135 A	1 CO	6 TE	1351490000
VPU I 2+0 PV 600V DC	3-pole, separable	600 V DC	12.5 kA	1800 V	no follow current	encapsulated	135 A		6 TE	1351520000
Typ II										
VPU II 2 PV 1000V DC	2-pole, separable	1000 V DC	25 kA	2800 V	no follow current	encapsulated	135 A		2 TE	1351220000
VPU II 2 R PV 1000V DC	2-pole, separable	1000 V DC	25 kA	2800 V	no follow current	encapsulated	135 A	1 CO	2 TE	1351240000
VPU II 3 PV 1000V DC	3-pole, separable	1000 V DC	40 kA	4000 V	no follow current	encapsulated	135 A		3 TE	1351270000
VPU II 3 R PV 1000V DC	3-pole, separable	1000 V DC	40 kA	4000 V	no follow current	encapsulated	135 A	1 CO	3 TE	1351290000
VPU II 2 PV 600V DC	2-pole, separable	600 V DC	40 kA	2200 V	no follow current	encapsulated	135 A		2 TE	1351340000
VPU II 2 R PV 600V DC	2-pole, separable	600 V DC	40 kA	2200 V	no follow current	encapsulated	135 A	1 CO	2 TE	1351370000
VPU II 3 PV 1200V DC	2-pole, separable	1200 V DC	40 kA	2200 V	no follow current	encapsulated	135 A		2 TE	1351420000
VPU II 3 R PV 1200V DC	2-pole, separable	1200 V DC	40 kA	2200 V	no follow current	encapsulated	135 A	1 CO	2 TE	1351440000
VPU II 3 PV 1500V DC	2-pole, separable	1500 V DC	40 kA	5200 V	no follow current	encapsulated	135 A		2 TE	1351500000
VPU II 3 R PV 1500V DC	2-pole, separable	1500 V DC	40 kA	5200 V	no follow current	encapsulated	135 A	1 CO	2 TE	1351530000

C



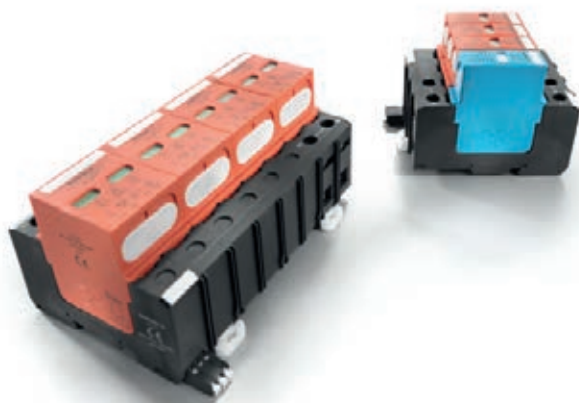
Type I

Lightning / surge protection for type I with spark gaps and varistor technology: VPU I

Weidmüller's VPU I series offers type I surge protection featuring varistor technology with a leakage current capacity of 12.5 kA to 50 kA (10/350 μ s). The pluggable, self-monitoring surge arresters of up to 25 kA are optionally available as 1-, 2-, 3- or 4-pole versions – with or without a remote signalling contact. VPU II devices can be rotated through 180° and thereby simplify installation with cross-connection bridges to the RCD. Since the devices can rotate, PE connections can take the shortest routes possible.

The advantages for you:

- Rotate 180° and remote signalling function
- Suitable for various types of mains voltages (TN/TT)
- Tested in compliance with IEC 61643-11 and EN 61643-11
- Convenient installation in sub-distribution boards and electrical cabinets
- Designed for use in buildings according to lightning protective level III/IV for 12.5 kA and I/II for 25 kA
- Very low residual voltage (<1.3 kV), thus also suitable as Type II surge protection



Lightning conductors with spark gap for lightning protection or equipotential bonding providing Surge protection type I

According to the requirements of Type I (DIN VDE 0675 part 6) and Type I according to IEC 61643-11: the lightning arrester should be used in the transition zone between protective zones (LP) 0 and 1 (acc. to IEC 1312-1) for lightning protection 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.

VPU I LCF 30 kA and 50 kA

Lightning and surge protection for installation before the electric meter in the highest lightning protection level (LPL)

The VPU I LCF 30 kA and 50 kA line of lightning and surge protectors for power are installed before the meter. The arrester protects the low-voltage consumer and electronic devices from any direct lightning effects and couplings. VPU I LCF 30 kA and 50 kA are fully compliant with IEC 61643-11 and are approved according to type I and type II requirements and type 1 / type 2 as laid down in EN 61643-11. With this product line, Weidmüller provides type I surge protection in varistor gas discharge technology with a leakage current capacity of 30 kA and 50 kA (10/350 μ s), offering impressive freedom from leakage current and high protection properties. The VPU I LCF 12.5 kA is a "compact" solution for protective Types III/IV and is sufficient for use before the meter. With protection Type I, it is critical that this is used with one phase and the VPU I LCF 30 kA or 50 kA is the solution. When using two modules (L/N), the 50 kA required is attained in accordance with the requirements of various standards



Electrical connection for building installation

The type 1 VPU I series lightning arrester is connected between the external conductors (L1, L2, L3) and N/PE. The N/PE spark gap is produced with the VPU I LCF N-PE 50 kA or 100 kA. Cables as short as possible should be used. The maximum permissible operating voltage UC is 280 V AC. Decoupling to downstream type II arresters is not necessary. Please note the installation instructions.

Electrical connection for industrial installations

The PU 1 TSG+ 50 kA/330 V or 440 V type 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. In addition, it must not be bolted directly to a mounting plate.

Energy co-ordination

The maximum permissible operating voltage U_c is 330 or 440 V AC. Decoupling from downstream type II 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

All arresters based on varistor technology have large status windows. If the status window is red, the corresponding arrester must be changed. With the VPU I LCF 30 and 50 kA products, the entire unit must be replaced in the event of an error message or a red status window.

The "PU I TSG+" surge protection modules are checked by means of visual inspection. A function display, which lights up at 120 V AC and higher, a mains voltage failure and failure of the ignition electronics. Frequent checking is advisable during storms.

The triggered spark gaps result in a very low protection level of less than 1.5 kV with high leakage currents.

The connection is designed for the following cross-sections:

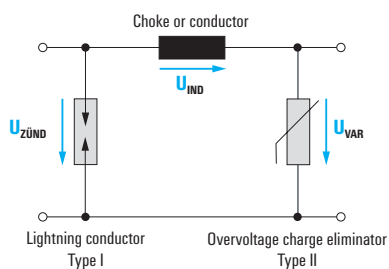
- solid wire: 10...16 mm²
 - stranded wire: 10...50 mm²
- 25 mm² for PU 1 TSG
or PU I TSG+

The operating temperature range is -40 °C...+70 °C.

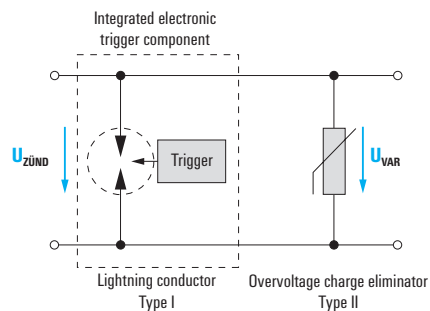
Combination of spark gaps and varistor arresters

Unlike standard spark gaps, the Weidmüller spark gaps PU I TSG+ and PU 1 TSG feature electronic triggering. This ignites the spark gap sufficiently early so that the following arrester Type II (VPU-II series) is relieved. There is no need to decouple to downstream type II arresters because triggered spark gaps with a low activation voltage are used.

PU I TSG+ and PU 1 TSG differ in terms of secondary current discharge. The PU I TSG+ splits the arc voltage over several chambers. As soon as the total arc voltage exceeds the mains voltage available, the secondary current is discharged. With the PU 1 TSG, the secondary current is discharged in the next zero crossing of the mains voltage.



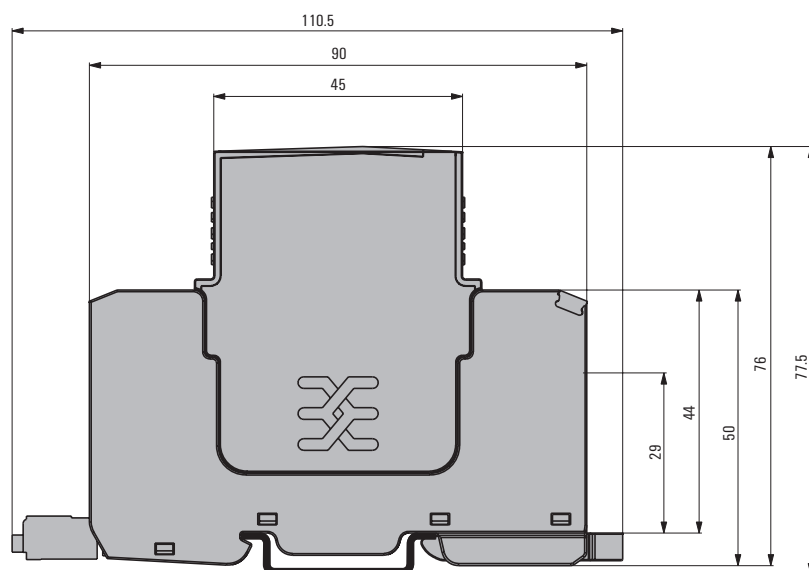
This used to be the usual solution, because the arresters were not co-ordinated.



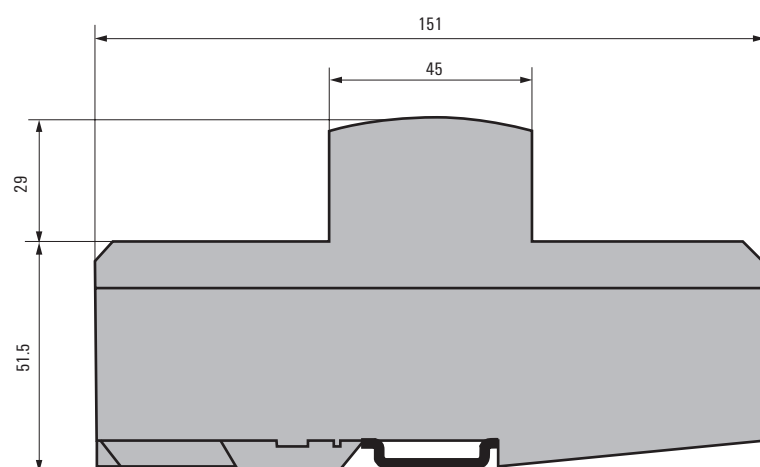
However, present day solutions no longer require restricting because they are co-ordinated with one another.

**Dimensional drawing VPU I**

Width: 17.5 mm (1 x TE)

**Dimensional drawing PU I TSG+**

Width: 36 mm



VPU I lightning and surge protection

Maximum type I protection from lightning and surges

With the increase in limit values in standards, the introduction of IEC/EN 61643-11 in 2012 places great emphasis on the need for all-round, reliable surge protection.

Our response to these new requirements is the new VPU lightning and surge protection series. Based on a combined varistor gas discharge technology, this forward-looking series of products is currently the first on the market to fulfil the new international standards and will therefore give your plant the highest protection.

However, you will not just be protecting your plant, but also your planning processes. Conformity with standards for at least 5 years means that you can minimise your planning iteration steps and the redesigns associated with them.

Many intelligent product features help installers during installation and maintenance specialists during their servicing of the lightning and surge protection system.

Equipped in this way, the VPU series provides a long-lasting, safe and forward-looking lightning and surge protection solution for your plant.
See for yourself.

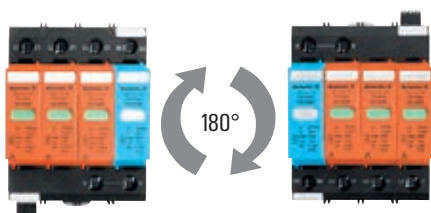
Solutions for PV photovoltaics

VPU I variants can be used in photovoltaic systems in accordance with IEC 50539-11.



Flexible positioning in the control cabinet

According to IEC 62305, the line path from the surge protection module to the PE connection may only be 50 cm. The fact that you can rotate the base through 180° means that you have the highest degree of flexibility during installation, without impacting on overall visibility.



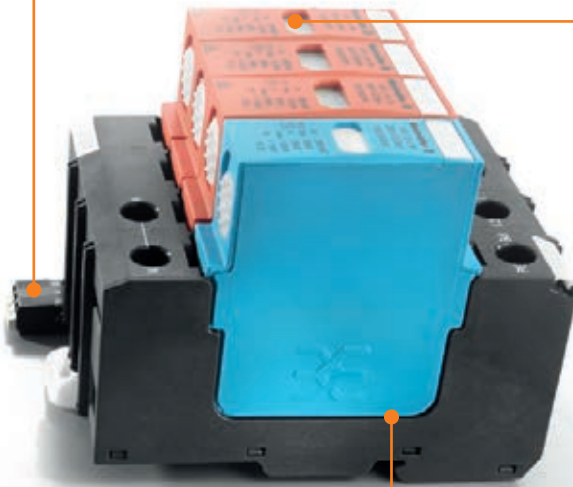
Rapid status messaging

The remote signaling contact with PUSH IN connection can be quickly connected and provides reliable information on the status of the protective function.



Best overview

The large, central, status window provides highly visible information on the status of the protective function.



Firmly locked in position

You can hear and feel the arrester lock into the base. This enables it to comply with the exacting requirements on vibration resistance set by wind turbine plant manufacturers.



Faster to assemble

The optimised mounting rail clip enables easy and quick assembly and removal, without the need for tools.



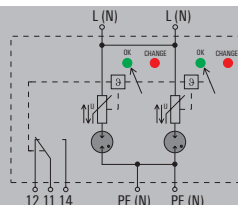
Type I and II lightning arrester for use upstream of the electrical meter

Type I and II lightning arrester

- No-leakage-current version suitable for use upstream of the electrical meter
- Suitable with 35 kA or 50 kA (10/350 μ s) 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

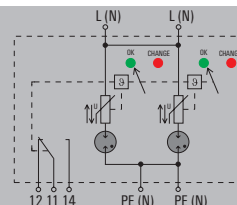
VPU I 1/R LCF 280 V / 50 kA

1-phase



VPU I 1/R LCF 400 V / 50 kA

1-phase



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Discharge current I_a (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
Rated load current I_L
PE conductor current I_{PE}
Short-circuit strength with max. back-up fuse
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
335 V
Type I, Type II
50 kA
25 kA
100 kA
25 kA
50 kA
125 A
0 μ A
25 kA_{eff}
 ≤ 100 ns
315 A gl
 ≤ 2.5 kV
green = OK; red = arrester is defective - replace
Installation housing; 4TE, Insta IP 20
Black
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

400 V
440 V
620 V
Type I, Type II
50 kA
25 kA
100 kA
25 kA
50 kA
125 A
0 μ A
25 kA_{eff}
 ≤ 100 ns
315 A gl
 ≤ 2.5 kV
green = OK; red = arrester is defective - replace
Installation housing; 4TE, Insta IP 20
Black
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 1 LCF 280V/50KA	1	1351250000
VPU I 1 R LCF 280V/50KA	1	1351230000

Type	Qty.	Order No.
VPU I 1 LCF 400V/50KA	1	1351300000
VPU I 1 R LCF 400V/50KA	1	1351280000

Note

Accessories

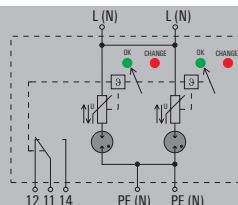
Note

Type I and II lightning arrester

- No-leakage-current version suitable for use upstream of the electrical meter
- Suitable with 35 kA or 50 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

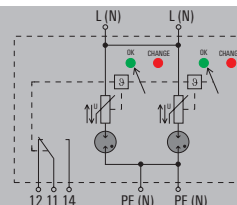
VPU I 1/R LCF 280 V / 35 kA

1-phase



VPU I 1/R LCF 400 V / 35 kA

1-phase



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 µs)
Discharge current I_a (8/20µs) wire-wire
Discharge current I_{max} (8/20µs) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
Rated load current I_L
PE conductor current I_{PE}
Short-circuit strength with max. back-up fuse
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
335 V
Type I, Type II
35 kA
25 kA
100 kA
25 kA
35 kA
125 A
0 µA
25 kA_{eff}
≤ 100 ns
315 A gl
≤ 2.5 kV
green = OK; red = arrester is defective - replace
Installation housing; 4TE, Insta IP 20
Black
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

400 V
440 V
620 V
Type I, Type II
35 kA
25 kA
100 kA
25 kA
35 kA
125 A
0 µA
25 kA_{eff}
≤ 100 ns
315 A gl
≤ 2.5 kV
green = OK; red = arrester is defective - replace
Installation housing; 4TE, Insta IP 20
Black
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 1 LCF 280V/35KA	1	1351350000
VPU I 1 R LCF 280V/35KA	1	1351330000

Type	Qty.	Order No.
VPU I 1 LCF 400V/35KA	1	1351400000
VPU I 1 R LCF 400V/35KA	1	1351380000

Note

Accessories

Note

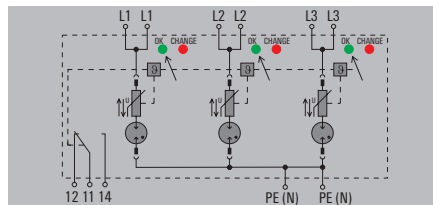
Type I and II lightning arrester for use upstream of the electrical meter

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 μ s) 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

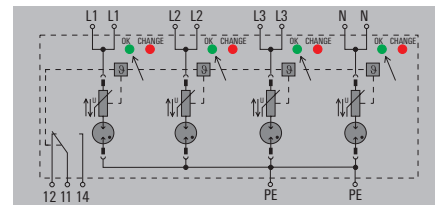
VPU I 3/R LCF 280 V / 25 kA

TN-C



VPU I 4/R LCF 280 V / 25 kA

TN-S



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Discharge current I_a (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
Rated load current I_L
PE conductor current I_{PE}
Short-circuit strength with max. back-up fuse
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
440 V
Type I, Type II
25 kA
25 kA
100 kA
25 kA
75 kA
125 A
0 μ A
25 kA_{eff}
 ≤ 100 ns
250 A gL
 ≤ 1.6 kV
green = OK; red = arrester is defective - replace
Installation housing; 6 TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V
280 V
335 V
Type I, Type II
25 kA
25 kA
100 kA
25 kA
100 kA
125 A
0 μ A
25 kA_{eff}
 ≤ 100 ns
250 A gL
 ≤ 1.6 kV
green = OK; red = arrester is defective - replace
Installation housing; 8 TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 108 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
90 / 144 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 3 LCF 280V/25KA	1	1351690000
VPU I 3 R LCF 280V/25KA	1	1351670000

Type	Qty.	Order No.
VPU I 4 LCF 280V/25KA	1	1351730000
VPU I 4 R LCF 280V/25KA	1	1351720000

Note

Accessories

Note

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

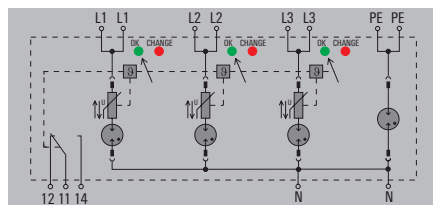
Pluggable spare arrester VPU I 0 LCF 280 V/25 kA-1351540000

Type I and II lightning arrester

- No-leakage-current version suitable for use upstream of the electrical meter
- Pluggable arrester
- Suitable with 25 kA (10/350 μ s) 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

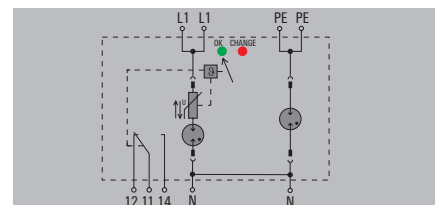
VPU I 3+1/R LCF 280 V / 25 kA

TN-S, TT



VPU I 1+1/R LCF 280 V / 25 kA

1-phase



Technical data

Rated voltage (AC)
 Highest continuous current (AC)
 Temporary surge voltage (over-voltage) - TOV
 Requirements category acc. to IEC 61643-11
 Lightning test current I_{imp} (10/350 μ s)
 Discharge current I_a (8/20 μ s) wire-wire
 Discharge current I_{max} (8/20 μ s) wire-PE
 Short-circuit resistance I_{SCCR}
 Total discharge current I_{total}
 Rated load current I_L
 PE conductor current I_{PE}
 Short-circuit strength with max. back-up fuse
 Sparkover time / Drop-out time
 Fusing
 Protection level U_p (typical)
 Optical function display
 Design
 Colour
 Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
 Stranded
 Stripping length
 Tightening torque

Approvals

Approvals
 Standards

230 V
 280 V
 440 V
 Type I, Type II
 25 kA
 25 kA
 100 kA
 25 kA
 100 kA
 125 A
 0 μ A
 25 kA_{eff}
 ≤ 100 ns
 250 A gL
 ≤ 1.6 kV
 green = OK; red = arrester is defective - replace
 Installation housing; 8 TE, Insta IP 20
 Black, Arrester red / blue
 -40 °C...+70 °C

2.5...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

IEC61643-11, EN61643-11

230 V
 280 V
 440 V
 Type I, Type II
 25 kA
 25 kA
 100 kA
 25 kA
 50 kA
 125 A
 0 μ A
 25 kA_{eff}
 ≤ 100 ns
 250 A gL
 ≤ 1.6 kV
 green = OK; red = arrester is defective - replace
 Installation housing; 4TE, Insta IP 20
 Black, Arrester red / blue
 -40 °C...+70 °C

2.5...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
 Height x width x depth mm
 Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
 94 / 144 / 69
 No
 250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
 94 / 72 / 69
 No
 250 V 1A 1CO

Ordering data

no remote sig. contact
 with remote signalling (R)

Type	Qty.	Order No.
VPU I 3+1 LCF 280V/25KA	1	1351780000
VPU I 3+1RLCF 280V/25KA	1	1351770000

Type	Qty.	Order No.
VPU I 1+1 LCF 280V/25KA	1	1351750000
VPU I 1+1RLCF 280V/25KA	1	1351740000

Note

Accessories

Note

Pluggable spare arrester L-N VPU I 0 LCF 280 V/25 kA-1351540000;
 N-PE VPU I 0 N-PE 260 V/100 kA-1351940000

Pluggable spare arrester L-N VPU I 0 LCF 280 V/25 kA-1351540000;
 N-PE VPU I 0 N-PE 260 V/100 kA-1351940000



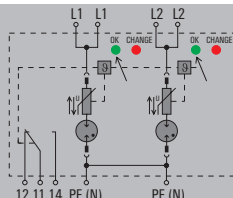
Type I and II lightning arrester for use upstream of the electrical meter

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 μ s) 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

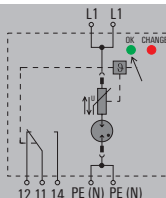
VPU I 2/R LCF 280 V / 25 kA

1-phase



VPU I 1/R LCF 280 V / 25 kA

1-phase



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Discharge current I_a (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
Rated load current I_L
PE conductor current I_{PE}
Short-circuit strength with max. back-up fuse
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
440 V
Type I, Type II
25 kA
25 kA
100 kA
25 kA
50 kA
125 A
0 μ A
25 kA_{eff}
 ≤ 100 ns
250 A gL
 ≤ 1.6 kV
green = OK; red = arrester is defective - replace
Installation housing; 4TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V
280 V
440 V
Type I, Type II
25 kA
25 kA
100 kA
25 kA
25 kA
125 A
0 μ A
25 kA_{eff}
 ≤ 100 ns
250 A gL
 ≤ 1.6 kV
green = OK; red = arrester is defective - replace
Installation housing; 2TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 72 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 2 LCF 280V/25KA	1	1351640000
VPU I 2 R LCF 280V/25KA	1	1351620000

Type	Qty.	Order No.
VPU I 1 LCF 280V/25KA	1	1351590000
VPU I 1 R LCF 280V/25KA	1	1351570000

Note

Accessories

Note

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

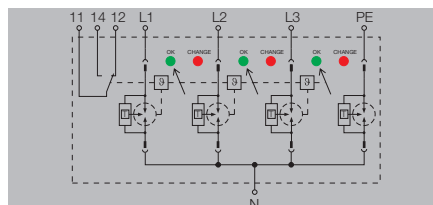
Pluggable spare arrester VPU I 0 LCF 280 V/25 kA-1351540000

Type I lightning arrester

- This space-saving, encapsulated lightning arrester can switch mains follow currents and discharge currents of max. 50 kA (10/350 μ s). It is possible to install in lightning protection level I and II.
- The pluggable arrester always guarantees proper readability. It also ensures that the shortest path is taken to the system's earth potential.
- The arrester's status display enables defective arresters to be quickly located and replaced.

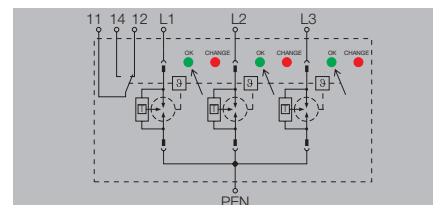
PU I 3+1 TSG+ 350 V 1.5 kV

TN-S, TT, IT



PU I 3 TSG+ 350 V 1.5 kV

TN-C



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
Rated load current I_L
PE conductor current I_{PE}
Short-circuit strength with max. back-up fuse
Leakage current at U_N
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

240 V / 415 V
350 V
415 V
Type I
25 kA
150 kA
100 kA
125 A
5 μ A
50 kA
0.01 mA
 ≤ 100 ns
315 A gl
1500 V
green = OK; red = arrester is defective - replace
Installation housing: 8 TE, Insta IP 20
Black
-40 °C...+80 °C

2.5...25 mm²
2.5...25 mm²
18 mm
4...4.5 Nm

CE; cURus; GOSTME25
IEC61643-11, EN61643-11

240 V / 415 V
350 V
415 V
Type I
25 kA
150 kA
75 kA
125 A
5 μ A
50 kA
0.01 mA
 ≤ 100 ns
315 A gl
1500 V
green = OK; red = arrester is defective - replace
Installation housing: 6 TE, Insta IP 20
Black
-40 °C...+80 °C

2.5...25 mm²
2.5...25 mm²
18 mm
4...4.5 Nm

CE; cURus; GOSTME25
IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)
Height x width x depth
Signalling contact

Note

25 / 2.5 / 35
97 / 144 / 72.5
250 V 1A 1CO

25 / 2.5 / 35
97 / 108 / 72.5
250 V 1A 1CO

Ordering data

Type	Qty.	Order No.
PU I 3+1 TSG+ 350V 1,5kV	1	8960510000

Type	Qty.	Order No.
PU I 3 TSG+ 350V 1,5kV	1	8960490000

Note

Accessories

Note

Pluggable spare arrester: L-N: PU I 0 TSG+ 350V 1,5kV 8960520000
N-PE: PU I 0 N/PE TSG+ 350V 1,5kV 1066040000

Pluggable spare arrester: L-N: PU I 0 TSG+ 350V 1,5kV 8960520000
N-PE: PU I 0 N/PE TSG+ 350V 1,5kV 1066040000



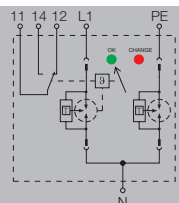
Type I and II lightning arrester for use upstream of the electrical meter

Type I lightning arrester

- This space-saving, encapsulated lightning arrester can switch mains follow currents and discharge currents of max. 50 kA (10/350 μ s). It is possible to install in lightning protection level I and II.
- The pluggable arrester always guarantees proper readability. It also ensures that the shortest path is taken to the system's earth potential.
- The arrester's status display enables defective arresters to be quickly located and replaced.

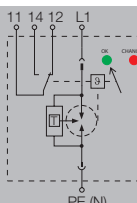
PU I 1+1 TSG+ 350 V 1.5 kV

1-phase



PU I 1 TSG+ 350 V 1.5 kV

1-phase



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
Rated load current I_L
PE conductor current I_{PE}
Short-circuit strength with max. back-up fuse
Leakage current at U_N
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

240 V / 415 V
350 V
415 V
Type I
25 kA
150 kA
50 kA
125 A
5 μ A
50 kA
0.01 mA
 ≤ 100 ns
315 A gl
1500 V
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black
-40 °C...+80 °C

2.5...25 mm²
2.5...25 mm²
18 mm
4...4.5 Nm

CE; cURus; GOSTME25
IEC61643-11, EN61643-11

240 V
350 V
415 V
Type I
25 kA
150 kA
25 kA
125 A
5 μ A
50 kA
0.01 mA
 ≤ 100 ns
315 A gl
1500 V
green = OK; red = arrester is defective - replace
Installation housing: 2TE, Insta IP 20
Black
-40 °C...+80 °C

2.5...25 mm²
2.5...25 mm²
18 mm
4...4.5 Nm

CE; cURus; GOSTME25
IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)
Height x width x depth
Signalling contact

Note

25 / 2.5 / 35
97 / 72 / 72.5
250 V 1A 1CO

25 / 2.5 / 35
97 / 36 / 72.5
250 V 1A 1CO

Ordering data

Type	Qty.	Order No.
PU I 1+1 TSG+ 350V 1,5kV	1	8960500000

Type	Qty.	Order No.
PU I 1 TSG+ 350V 1,5kV	1	8960480000

Note

Accessories

Note

Pluggable spare arrester: L-N: PU I 0 TSG+ 350V 1,5kV 8960520000
N-PE: PU I 0 N/PE TSG+ 350V 1,5kV 1066040000

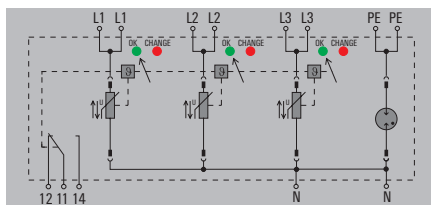
Pluggable spare arrester: L-N: PU I 0 TSG+ 350V 1,5kV 8960520000
N-PE: PU I 0 N/PE TSG+ 350V 1,5kV 1066040000

Type I and II lightning arrester

- Suitable with 25 kA (10/350 μ s) for lightning protection level I, II, III and IV (LPL I/II/III/IV)
- Pluggable arrester
- Tested according to IEC 61643-11 for Type I and II surge protection
- Can also be used as Type II surge protection
- Field of application downstream of the main electrical meter

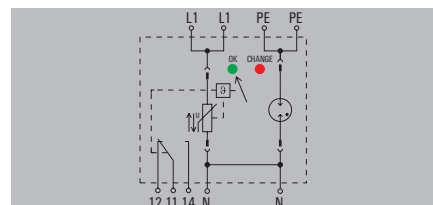
VPU I 3+1/R 400 V / 25 kA

TN-S, TT, IT



VPU I 1+1/R 400 V / 25 kA

1-phase



Technical data

Rated voltage (AC)
 Highest continuous current (AC)
 Temporary surge voltage (over-voltage) - TOV
 Requirements category acc. to IEC 61643-11
 Lightning test current I_{imp} (10/350 μ s)
 Discharge current I_a (8/20 μ s) wire-wire
 Discharge current I_{max} (8/20 μ s) wire-PE
 Short-circuit resistance I_{SCCR}
 Total discharge current I_{total}
 Rated load current I_L
 PE conductor current I_{PE}
 Short-circuit strength with max. back-up fuse
 Sparkover time / Drop-out time
 Fusing
 Protection level U_p (typical)
 Optical function display
 Design
 Colour
 Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
 Stranded
 Stripping length
 Tightening torque

Approvals

Approvals
 Standards

400 V
 440 V
 620 V
 Type I, Type II
 25 kA
 25 kA
 100 kA
 25 kA
 50 kA
 125 A
 0 μ A
 25 kA_{eff}
 ≤ 25 ns
 250 A gL
 ≤ 1.9 kV
 green = OK; red = arrester is defective - replace
 Installation housing; 8 TE, Insta IP 20
 Black, Arrester red / blue
 -40 °C...+70 °C

4...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

IEC61643-11, EN61643-11

400 V
 440 V
 620 V
 Type I, Type II
 25 kA
 25 kA
 100 kA
 25 kA
 50 kA
 125 A
 0 μ A
 25 kA_{eff}
 ≤ 25 ns
 250 A gL
 ≤ 1.9 kV
 green = OK; red = arrester is defective - replace
 Installation housing; 2TE, Insta IP 20
 Black, Arrester red / blue
 -40 °C...+70 °C

4...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
 Height x width x depth mm
 Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
 94 / 142.4 / 69
 No
 250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
 94 / 35.6 / 69
 No
 250 V 1A 1CO

Ordering data

no remote sig. contact
 with remote signalling (R)

Type	Qty.	Order No.
VPU I 3+1 400V/25KA	1	1351890000
VPU I 3+1R 400V/25KA	1	1351880000

Type	Qty.	Order No.
VPU I 1+1 400V/25KA	1	1351840000
VPU I 1+1R 400V/25KA	1	1351830000

Note

Accessories

Note

Pluggable spare arrester L-N VPU I 0 280 V/25 kA-1351790000,
 N-PE VPU I 0 440 V/100 kA-1351990000

Pluggable spare arrester L-N VPU I 0 280 V/25 kA-1351790000,
 N-PE VPU I 0 N-PE 440 V/100 kA-1351990000



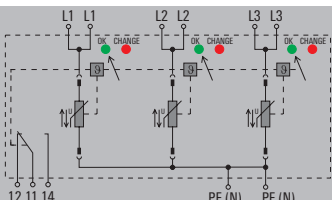
Type I and II lightning arrester for use downstream of the electrical meter

Type I and II lightning arrester

- Suitable with 25 kA (10/350 μ s) for lightning protection level I, II, III and IV (LPL I/II/III/IV)
- Pluggable arrester
- Tested according to IEC 61643-11 for Type I and II surge protection
- Can also be used as Type II surge protection
- Field of application downstream of the main electrical meter

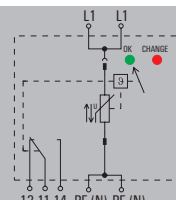
VPU I 3/R 400 V / 25 kA

TN-C



VPU I 1/R 400 V / 25 kA

1-phase



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Discharge current I_a (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
Rated load current I_L
PE conductor current I_{PE}
Short-circuit strength with max. back-up fuse
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

400 V
440 V
620 V
Type I, Type II
25 kA
25 kA
100 kA
25 kA
75 kA
125 A
0 μ A
25 kA_{eff}
 ≤ 25 ns
250 A gL
 ≤ 1.9 kV
green = OK; red = arrester is defective - replace
Installation housing; 6 TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²2.5...50 mm²

15 mm

2...3 Nm

IEC61643-11, EN61643-11

400 V
440 V
620 V
Type I, Type II
25 kA
25 kA
100 kA
25 kA
25 kA
125 A
0 μ A
25 kA_{eff}
 ≤ 25 ns
250 A gL
 ≤ 1.9 kV
green = OK; red = arrester is defective - replace
Installation housing; 2TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²2.5...50 mm²

15 mm

2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 106.8 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 3 400V/25KA	1	1351870000
VPU I 3 R 400V/25KA	1	1351850000

Type	Qty.	Order No.
VPU I 1 400V/25KA	1	1351820000
VPU I 1 R 400V/25KA	1	1351800000

Note

Accessories

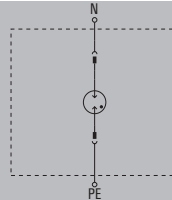
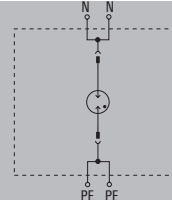
Note

Pluggable spare arrester VPU I 0 400V/25kA-1351790000

Pluggable spare arrester VPU I 0 400V/25kA-1351790000

Type I and II lightning arrester**N-PE path****Suitable for 230/400 V mains systems**

- Pluggable arrester
- High energy absorption with short time to sparkover
- Installation in distribution board

VPU I 1 N-PE 260 V / 50 kA**N-PE arrester 260 V****VPU I 1 N-PE 260 V / 100 kA****N-PE arrester 260 V****Technical data**

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Discharge current I_a (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Total discharge current I_{total}
Rated load current I_l
PE conductor current I_{pe}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
260 V
1200 V
Type I, Type II
50 kA
50 kA
50 kA
50 kA
0 μ A
≤ 100 ns
Not required
≤ 1.5 kV
No
Installation housing; 1TE, Insta IP 20
Black, Arrester blue
-40 °C...+70 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V
260 V
1200 V
Type I, Type II
100 kA
100 kA
100 kA
100 kA
125 A
0 μ A
≤ 100 ns
Not required
≤ 2 kV
No
Installation housing; 2TE, Insta IP 20
Black, Arrester blue
-40 °C...+70 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)	mm ²
Height x width x depth	mm
Signalling contact	

Note**no remote sig. contact**

16 / 2.5 / 50
94 / 17.8 / 69
No

no remote sig. contact

16 / 2.5 / 50
94 / 35.6 / 69
No

Ordering data

no remote sig. contact

Type	Qty.	Order No.
VPU I 1 N-PE 260V/50KA	1	1351900000

Type	Qty.	Order No.
VPU I 1 N-PE 260V/100KA	1	1351920000

Note**Accessories****Note**

Pluggable spare arrester VPU I 0 N-PE 260 V/50 kA-1351930000

Pluggable spare arrester VPU I 0 N-PE 260 V/100 kA-1351940000





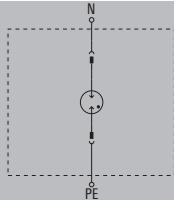
Type I and II lightning arrester for use downstream of the electrical meter

Type I and II lightning arrester
N-PE path
Suitable for 400/690 V mains systems

- Tested according to IEC 61643-11 for Type I
- Pluggable arresters
- High energy absorption with short time to sparkover
- Installation in distribution board

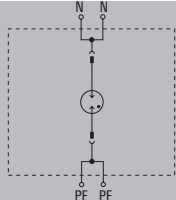
VPU I 1 N-PE 400 V / 50 kA

N-PE arrester 440 V



VPU I 1 N-PE 400 V / 100 kA

N-PE arrester 440 V



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Discharge current I_a (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Total discharge current I_{total}
Rated load current I_l
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

400 V
440 V
1200 V
Type I, Type II
50 kA
50 kA
50 kA
50 kA
0 μ A
 ≤ 100 ns
Not required
 ≤ 2 kV
No
Installation housing; 1TE, Insta IP 20
Black, Arrester blue
-40 °C...+70 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

400 V
440 V
1200 V
Type I, Type II
100 kA
100 kA
100 kA
100 kA
125 A
0 μ A
 ≤ 100 ns
Not required
 ≤ 2 kV
No
Installation housing; 2TE, Insta IP 20
Black, Arrester blue
-40 °C...+70 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact

16 / 2.5 / 50
94 / 17.8 / 69
No

no remote sig. contact

16 / 2.5 / 50
94 / 35.6 / 69
No

Ordering data

no remote sig. contact

Type	Qty.	Order No.
VPU I 1 N-PE 440V/50KA	1	1351950000

Type	Qty.	Order No.
VPU I 1 N-PE 440V/100KA	1	1351970000

Note

Accessories

Note

Pluggable spare arrester VPU I 0 N-PE 440 V/50 kA-1351980000

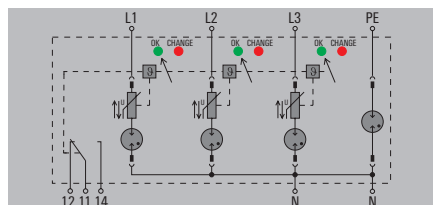
Pluggable spare arrester VPU I 0 N-PE 440 V/100 kA-1351990000

Type I and II lightning arrester

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

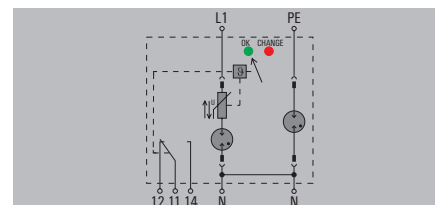
VPU I 3+1/R LCF 280 V / 12.5 kA

TN-S, TT



VPU I 1+1/R LCF 280 V / 12.5 kA

1-phase



Technical data

Rated voltage (AC)
 Highest continuous current (AC)
 Temporary surge voltage (over-voltage) - TOV
 Requirements category acc. to IEC 61643-11
 Lightning test current I_{imp} (10/350 μ s)
 Discharge current I_a (8/20 μ s) wire-wire
 Discharge current I_{max} (8/20 μ s) wire-PE
 Short-circuit resistance I_{SCCR}
 Total discharge current I_{total}
 PE conductor current I_{PE}
 Short-circuit strength with max. back-up fuse
 Sparkover time / Drop-out time
 Fusing
 Protection level U_p (typical)
 Optical function display
 Design
 Colour
 Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
 Stranded
 Stripping length
 Tightening torque

Approvals

Approvals
 Standards

230 V
 280 V
 335 V
 Type I, Type II
 12.5 kA
 25 kA
 50 kA
 25 kA
 50 kA
 0 μ A
 25 kA_{eff}
 ≤ 25 ns, ≤ 100 ns
 250 A gL
 ≤ 1.45 kV
 green = OK; red = arrester is defective - replace
 Installation housing: 4TE, Insta IP 20
 Black, Arrester red / blue
 -40 °C...+70 °C

4...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

IEC61643-11, EN61643-11

230 V
 280 V
 335 V
 Type I, Type II
 12.5 kA
 25 kA
 50 kA
 25 kA
 25 kA
 0 μ A
 25 kA_{eff}
 ≤ 25 ns, ≤ 100 ns
 250 A gL
 ≤ 1.45 kV
 green = OK; red = arrester is defective - replace
 Installation housing: 2TE, Insta IP 20
 Black, Arrester red / blue
 -40 °C...+70 °C

4...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
 Height x width x depth mm
 Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
 94 / 71.2 / 69
 No
 250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
 94 / 35.6 / 69
 No
 250 V 1A 1CO

Ordering data

no remote sig. contact
 with remote signalling (R)

Type	Qty.	Order No.
VPU I 3+1LCF280V/12,5kA	1	1352020000
VPU I3+1RLCF280V/12,5KA	1	1352030000

Type	Qty.	Order No.
VPU I 1+1LCF280V/12,5KA	1	1352040000
VPU I1+1RLCF280V/12,5KA	1	1352050000

Note

Accessories

Note

Pluggable spare arrester L-N VPU I 0 LCF 280 V/12.5 kA-1352000000,
 N-PE VPU I 0 N-PE 260 V/50 kA-1351930000

Pluggable spare arrester L-N VPU I 0 LCF 280 V/12.5 kA-1352000000,
 N-PE VPU I 0 N-PE 260 V/50 kA-1351930000



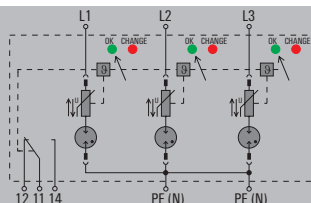
Type I and II lightning arrester for use upstream of the electrical meter

Type I and II lightning arrester

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

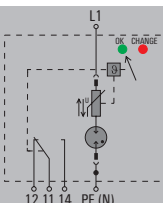
VPU I 3/R LCF 280 V / 12.5 kA

TN-C



VPU I 1/R LCF 280 V / 12.5 kA

1-phase



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Discharge current I_a (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Short-circuit strength with max. back-up fuse
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
335 V
Type I, Type II
12.5 kA
25 kA
50 kA
25 kA
37.5 kA
0 μ A
25 kA_{eff}
 ≤ 100 ns
250 A gL
 ≤ 1.45 kV
green = OK; red = arrester is defective - replace
Installation housing: 3TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V
280 V
335 V
Type I, Type II
12.5 kA
25 kA
50 kA
25 kA
12.5 kA
0 μ A
25 kA_{eff}
 ≤ 100 ns
250 A gL
 ≤ 1.45 kV
green = OK; red = arrester is defective - replace
Installation housing: 1TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

with remote signalling (R) no remote sig. contact

16 / 4 / 50
106 / 53.4 / 69
250 V 1A 1CO
No

with remote signalling (R) no remote sig. contact

16 / 4 / 50
106 / 17.8 / 69
250 V 1A 1CO
No

Ordering data

with remote signalling (R)
no remote sig. contact

Type	Qty.	Order No.
VPU I 3RLCF 280V/12,5KA	1	1352100000
VPU I 3 LCF 280V/12,5KA	1	1352090000

Type	Qty.	Order No.
VPU I 1RLCF 280V/12,5KA	1	1352080000
VPU I 1 LCF 280V/12,5KA	1	1352070000

Note

Accessories

Note

Pluggable spare arrester VPU I O 280 V/12.5 kA-1352120000

Pluggable spare arrester VPU I O 280 V/12.5 kA-1352120000



VPU II surge protection

Maximum type II protection from surges

With the increase in limit values in standards, the introduction of IEC/EN 61643-11 in 2012 places great emphasis on the need for all-round, reliable surge protection.

Our response to these new requirements is the new VPU lightning and surge protection series.

Based on a combined varistor gas discharge technology, this forward-looking series of products is currently the first on the market to fulfil the new international standards and will therefore give your plant the highest protection.

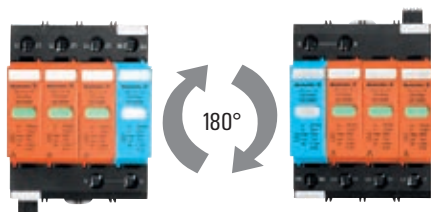
However, you will not just be protecting your plant, but also your planning processes. Conformity with standards for at least 5 years means that you can minimise your planning iteration steps and the redesigns associated with them.

Many intelligent product features help installers during installation and maintenance specialists during their servicing of the lightning and surge protection system.

Equipped in this way, the VPU series provides a long-lasting, safe and forward-looking lightning and surge protection solution for your plant. See for yourself.

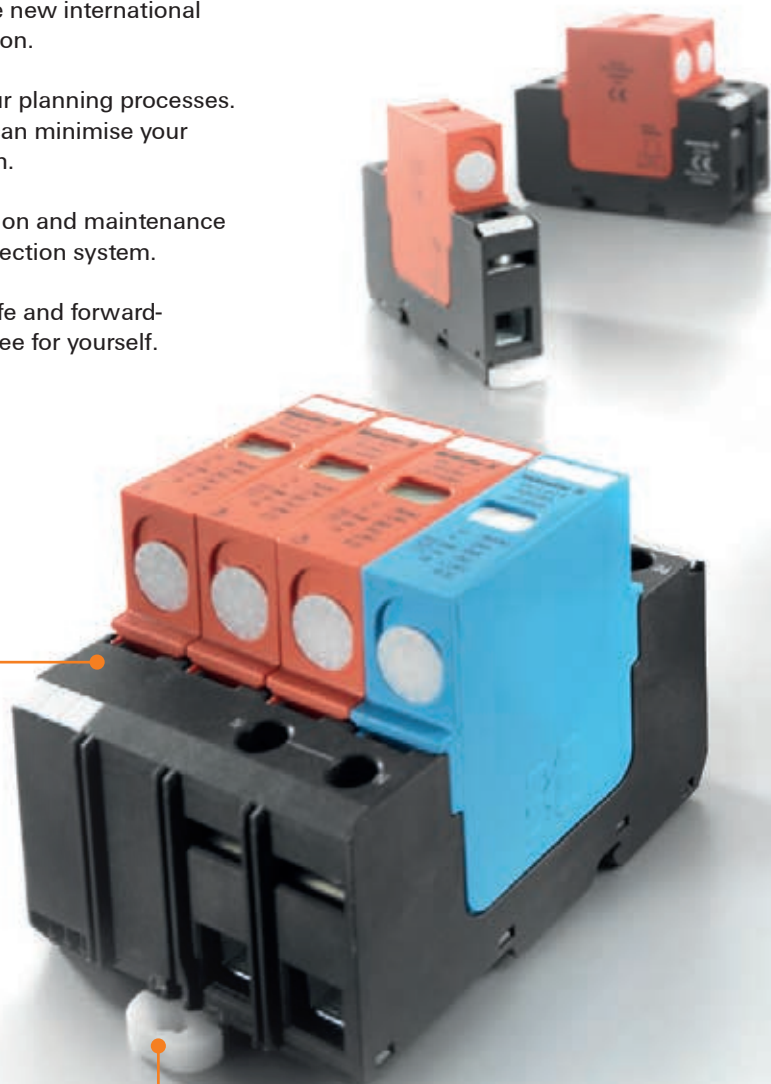
Flexible positioning in the control cabinet

According to IEC 62305, the line path from the surge protection module to the PE connection may only be 50 cm. The fact that you can rotate the base through 180° means that you have the highest degree of flexibility during installation, without impacting on overall visibility.



Faster to assemble

The optimised mounting rail clip enables easy and quick installation, without the need for tools.



Solutions for PV photovoltaics

VPU I variants can be used in photovoltaic systems in accordance with IEC 50569-11.



Best overview

The large, central, status window provides highly visible information on the status of the protective function.



Rapid status messaging

The remote signaling contact with PUSH IN connection can be quickly connected and provides reliable information on the status of the protective function.

Firmly locked in position

You can hear and feel the arrester lock into the base. This enables it to comply with the exacting requirements on vibration resistance set by wind turbine plant manufacturers.



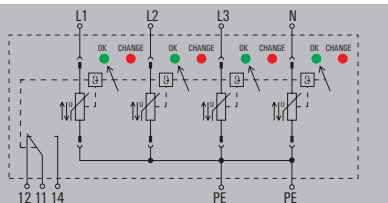
Type I and II lightning arrester for use downstream of the electrical meter

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

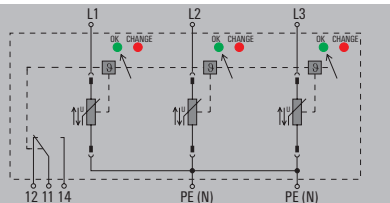
VPU I 4/R 280 V / 12.5 kA

TN-S



VPU I 3/R 280 V / 12.5 kA

TN-C



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Short-circuit strength with max. back-up fuse
Discharge current I_n (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{sCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
335 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
50 kA
30 μ A
 ≤ 25 ns
250 A gL
 ≤ 1.4 kV
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V
280 V
335 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
37.5 kA
30 μ A
 ≤ 25 ns
250 A gL
 ≤ 1.4 kV
green = OK; red = arrester is defective - replace
Installation housing: 3TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 53.4 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 4 280V/12,5KA	1	1352180000
VPU I 4 R 280V/12,5KA	1	1352190000

Type	Qty.	Order No.
VPU I 3 280V/12,5KA	1	1352200000
VPU I 3 R 280V/12,5KA	1	1352220000

Note

Accessories

Note

Pluggable spare arrester VPU I O 400 V/12.5 kA-1352280000

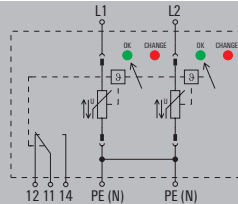
Pluggable spare arrester VPU I O 280 V/12.5 kA-1352120000

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

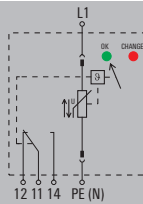
VPU I 2/R 280 V / 12.5 kA

1-phase



VPU I 1/R 280 V / 12.5 kA

1-phase



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Short-circuit strength with max. back-up fuse
Discharge current I_n (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
335 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
25 kA
30 μ A
 ≤ 25 ns
250 A gL
 ≤ 1.4 kV
green = OK; red = arrester is defective - replace
Installation housing: 2TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V
280 V
335 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
12.5 kA
30 μ A
 ≤ 25 ns
250 A gL
 ≤ 1.4 kV
green = OK; red = arrester is defective - replace
Installation housing: 1TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 17.8 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 2 280V/12,5KA	1	1352150000
VPU I 2 R 280V/12,5KA	1	1352170000

Type	Qty.	Order No.
VPU I 1 280V/12,5KA	1	1352130000
VPU I 1 R 280V/12,5KA	1	1352140000

Note

Accessories

Note

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

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



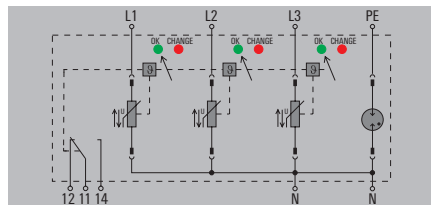
Type I and II lightning arrester for use downstream of the electrical meter

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

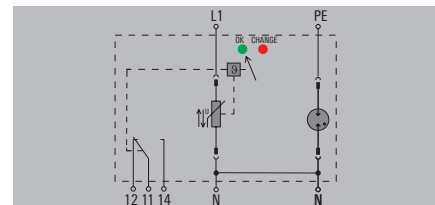
VPU I 3+1/R 280 V / 12.5 kA

TN-S, TT



VPU I 1+1/R 280 V / 12.5 kA

1-phase



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Short-circuit strength with max. back-up fuse
Discharge current I_n (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
335 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
50 kA
30 μ A
 ≤ 25 ns, ≤ 100 ns
250 A gL
 ≤ 1.4 kV
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red / blue
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V
280 V
335 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
50 kA
30 μ A
 ≤ 25 ns, ≤ 100 ns
250 A gL
 ≤ 1.4 kV
green = OK; red = arrester is defective - replace
Installation housing: 2TE, Insta IP 20
Black, Arrester red / blue
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 3+1 280V/12,5KA	1	1352230000
VPU I 3+1 R 280V/12,5KA	1	1352240000

Type	Qty.	Order No.
VPU I 1+1 280V/12,5KA	1	1352250000
VPU I 1+1 R 280V/12,5KA	1	1352270000

Note

Accessories

Note

Pluggable spare arrester L-N VPU I 0 280 V/12.5 kA-1352120000,
N-PE VPU I 0 N-PE 260 V/100 kA-1351940000

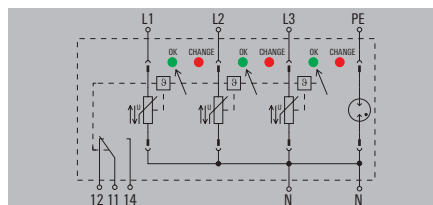
Pluggable spare arrester L-N VPU I 0 280 V/12.5 kA-1352120000,
N-PE VPU I 0 N-PE 260 V/50 kA-1351930000

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 IEC61643-11 for Type I and II lightning and surge protection

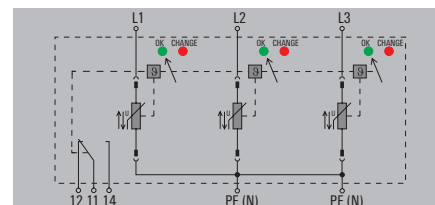
VPU I 3+1 400 V / 12.5 kA

TN-S, TT, IT



VPU I 3 400 V / 12.5 kA

TN-C



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Short-circuit strength with max. back-up fuse
Discharge current I_n (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

400 V
440 V
620 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
50 kA
30 μ A
 ≤ 25 ns, ≤ 100 ns
250 A gL
 ≤ 1.8 kV
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red / blue
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

400 V
440 V
620 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
37.5 kA
30 μ A
 ≤ 25 ns
250 A gL
 ≤ 1.8 kV
green = OK; red = arrester is defective - replace
Installation housing: 3TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 53.4 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 3+1 400V/12,5KA	1	1352370000
VPU I 3+1 R 400V/12,5KA	1	1352380000

Type	Qty.	Order No.
VPU I 3 400V/12,5KA	1	1352340000
VPU I 3 R 400V/12,5KA	1	1352350000

Note

Accessories

Note

Pluggable spare arrester L-N VPU I 0 400 V/12.5 kA-1352280000,
N-PE VPU I 0 N-PE 440 V/100 kA-1351990000

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



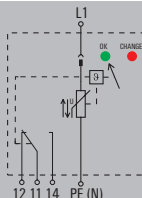
Type I and II lightning arrester for use downstream of the electrical meter

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 IEC61643-11 for Type I and II lightning and surge protection

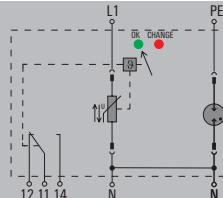
VPU I 1/R 400 V / 12.5 kA

1-phase



VPU I 1+1/R 400 V / 12.5 kA

1-phase



Technical data

Rated voltage (AC)
Highest continuous current (AC)
Temporary surge voltage (over-voltage) - TOV
Requirements category acc. to IEC 61643-11
Lightning test current I_{imp} (10/350 μ s)
Short-circuit strength with max. back-up fuse
Discharge current I_n (8/20 μ s) wire-wire
Discharge current I_{max} (8/20 μ s) wire-PE
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Colour
Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

400 V
440 V
620 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
12.5 kA
30 μ A
 ≤ 25 ns
250 A gL
 ≤ 1.8 kV
green = OK; red = arrester is defective - replace
Installation housing: 1TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

400 V
440 V
620 V
Type I, Type II
12.5 kA
25 kA_{eff}
25 kA
50 kA
25 kA
12.5 kA
30 μ A
 ≤ 25 ns, ≤ 100 ns
250 A gL
 ≤ 1.8 kV
green = OK; red = arrester is defective - replace
Installation housing: 2TE, Insta IP 20
Black, Arrester red / blue
-40 °C...+70 °C

4...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 17.8 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 4 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU I 1 400V/12,5KA	1	1352290000
VPU I 1 R 400V/12,5KA	1	1352300000

Type	Qty.	Order No.
VPU I 1+1 400V/12,5KA	1	1352320000
VPU I 1+1 R 400V/12,5KA	1	1352330000

Note

Accessories

Note

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

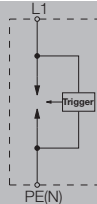
Pluggable spare arrester L-N VPU I 0 400 V/12.5 kA-1352280000, N-PE VPU I 0 N-PE 440 V/50 kA-1351980000

Type 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 level I, II, III, IV.

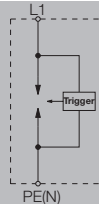
PU I 1 TSG+ 50 kA / 0.9 kV-330 V

For use in industrial systems



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

For use in industrial systems



Technical data

Rated voltage (AC)
 Highest continuous current (AC)
 Temporary surge voltage (over-voltage) - TOV
 Requirements category acc. to IEC 61643-11
 Lightning test current I_{imp} (10/350 μ s)
 Short-circuit strength with max. back-up fuse
 Discharge current I_n (8/20 μ s) wire-wire
 Discharge current I_{max} (8/20 μ s) wire-PE
 Short-circuit resistance I_{SCCR}
 Total discharge current I_{total}
 Rated load current I_L
 PE conductor current I_{PE}
 Leakage current at U_n
 Sparkover time / Drop-out time
 Fusing
 Protection level U_p (typical)
 Optical function display
 Design
 Colour
 Ambient temperature (operational)

Connection according to IEC 947-7-1

Solid
 Stranded
 Stripping length
 Tightening torque

Approvals

Approvals
 Standards

330 V
 330 V
 350 V
 Type I
 50 kA with 25 As charge
 25 kA_{eff}

25 kA
 50 kA

3 mA
 3 mA
 ≤ 150 ns
 250 A gL
 ≤ 0.9 kV
 Green LED
 Insta IP 20
 Black
 $-40^\circ\text{C} \dots +85^\circ\text{C}$

10...35 mm²
 10...35 mm²
 19 mm
 6...8 Nm

CE; GOSTME25

440 V
 440 V
 440 V
 Type I
 50 kA with 25 As charge
 25 kA_{eff}

25 kA
 50 kA

3 mA
 3 mA
 ≤ 150 ns
 250 A gL
 ≤ 1500 V
 Green LED
 Insta IP 20
 Black
 $-40^\circ\text{C} \dots +85^\circ\text{C}$

16...35 mm²
 10...35 mm²
 19 mm
 6...8 Nm

CE; GOSTME25

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
 Height x width x depth mm
 Signalling contact

Note

no remote sig. contact

35 / 10 / 35
 150 / 35 / 80
 No
 Minimum distance 10 cm to base plate

no remote sig. contact

35 / 16 / 35
 150 / 35 / 80
 No
 Minimum distance 10 cm to base plate

Ordering data

no remote sig. contact

Type	Qty.	Order No.
PU1TSG Plus 330 VAC 0,9kV	1	8561220000

Type	Qty.	Order No.
PU1TSG PLUS 440VAC 1,5kV	1	8561250000

Note

Cross-connector QB 36-3 order no. 8816090000

Cross-connector QB 36-3 order no. 8816090000

Accessories

Note



Surge protection for low-voltage consumer installations and electronics

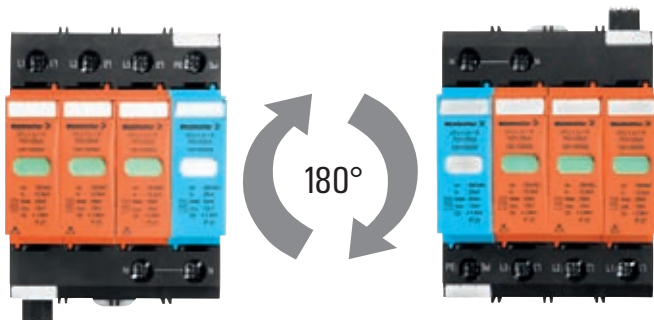
Surge protection of type II

The Weidmüller VPU 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 VPU II series satisfies the type II requirements of IEC 61643-11:2011 and type 2 requirements of EN 61643-11:2012.

Electrical connection

Connect the VPU 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. A helpful feature is that the protective unit can rotate 180°.



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 VPU II surge protection is available as a compact module with 1, 2, 3 or 4 poles, with the PE connections already internally connected within the module.

We can supply the following voltage rating versions:

U_n : 60 V AC = U_c : 75 V
 U_n : 120/230 V AC = U_c : 150 V
 U_n : 230/400 V AC = U_c : 280 V
 U_n : 400/690 V AC = U_c : 400 V
 U_n : 470/600 V AC = U_c : 600 V
 U_n : 750/1200 V AC = U_c : 750 V

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

The VPU II series offers a choice of voltage ($U_n \leq U_c$) 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

VPU 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 disconnect. 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.

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 earth conductor is in accordance with the requirements of the national standards.
The fuse for VPU II modules is selected on the basis of conductor cross-section and type of routing. A maximum of 125 A gG/gL is permitted.

VPU II series arresters from Weidmüller are suitable for the following cross-sections:

solid wire: 4...16 mm²

stranded wire: 4...50 mm²

flexible: 4...25 mm²

The operating temperature range is -40 °C...+70 °C.

V-form connection

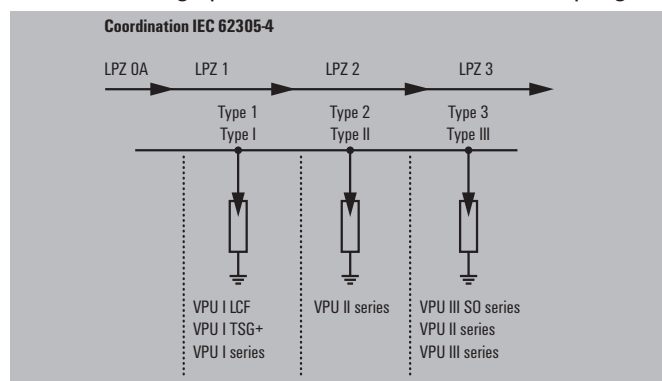
When using cross-connections from the RCD or fuses to the VPU II, a V-form wiring arrangement can be used.

Remote signalling contact (R)

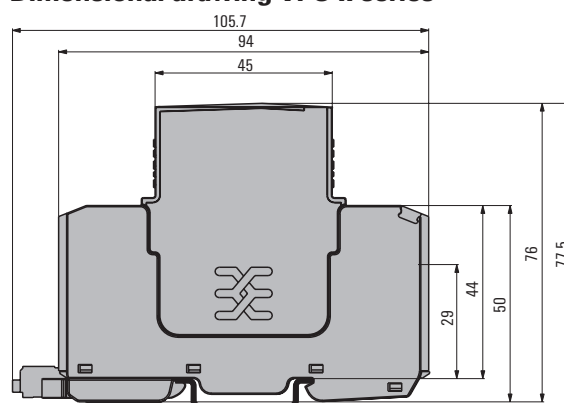
All modules of the VPU II series are available with the option of a remote signalling contact which is integrated directly in the module. This potential-free contact should be connected as a changeover contact using a PUSH IN plug connection. The contact's electrical data is: 250 V AC / 1 A or 24 V DC / 0.1 A.

Co-ordination with other arresters

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



Dimensional drawing VPU II series



Overall width

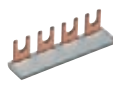
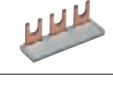
VPU II, single-pole, 18 mm

VPU II, two-pole, 36 mm

VPU II, three-pole, 54 mm

VPU II, four-pole, 72 mm

Accessories: Link and remote signalling contact

Type		grey	blue
	QB 18-4 insulated	8877520000	8877510000
	QB 18-3 insulated	8877500000	8877530000
	QB 18-2 insulated	8877540000	8877550000
	Remote signalling contact PLUG VPU	1402570000	

Type II surge protection

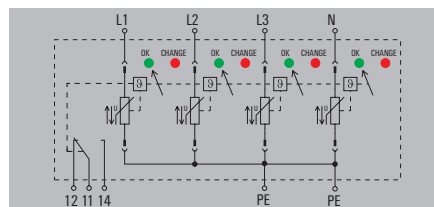
Type II/III surge protection U_c : 280 V

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

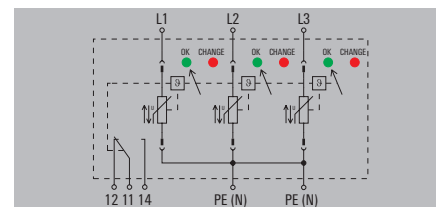
VPU II 4/R 280 V / 40 kA

TN-S



VPU II 3/R 280 V / 40 kA

TN-C



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V / 400 V
280 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
160 kA
30 μ A
≤ 25 ns
125 A gL
≤ 1.55 kV
440 V
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V / 400 V
280 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
120 kA
30 μ A
≤ 25 ns
125 A gL
≤ 1.55 kV
440 V
green = OK; red = arrester is defective - replace
Installation housing: 3TE
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)	mm ²
Height x width x depth	mm
Signalling contact	

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 71.2 / 69	106 / 71.2 / 69
No	250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 53.4 / 69	106 / 53.4 / 69
No	250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 4 280V/40KA	1	1352680000
VPU II 4 R 280V/40KA	1	1352690000

Type	Qty.	Order No.
VPU II 3 280V/40KA	1	1352700000
VPU II 3 R 280V/40KA	1	1352720000

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

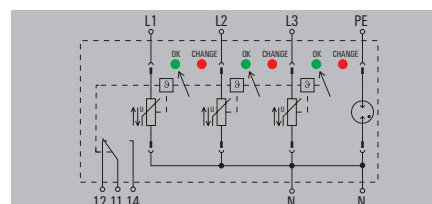
Type II/III surge protection U_c : 280 V

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

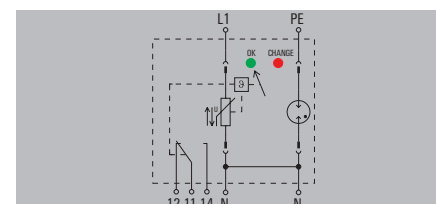
VPU II 3+1/R 280 V / 40 kA

TN-S, TT



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

1-phase



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{scCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V / 400 V
280 V
Type II, Type III
20 kA
40 kA
10 kV
25 kA
160 kA
30 μ A
 ≤ 25 ns, ≤ 100 ns
125 A gL
 ≤ 1.55 kV
440 V
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red / blue
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V
280 V
Type II, Type III
20 kA
40 kA
10 kV
25 kA
80 kA
30 μ A
 ≤ 25 ns, ≤ 100 ns
125 A gL
 ≤ 1.55 kV
440 V
green = OK; red = arrester is defective - replace
Installation housing: 2TE, Insta IP 20
Black, Arrester red / blue
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 3+1 280V/40KA	1	1352650000
VPU II 3+1 R 280V/40KA	1	1352670000

Type	Qty.	Order No.
VPU II 1+1 280V/40KA	1	1352630000
VPU II 1+1 R 280V/40KA	1	1352640000

Note

Accessories

Note

Pluggable spare arrester L-N VPU II 0 280 V/40 kA-1352570000,
N-PE VPU II 0 N-PE 260 V/40 kA-1351180000

Pluggable spare arrester L-N VPU II 0 280 V/40 kA-1352570000,
N-PE VPU II 0 N-PE 260 V/40 kA-1351180000



Type II surge protection

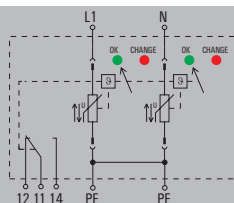
Type II/III surge protection U_c : 280 V

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

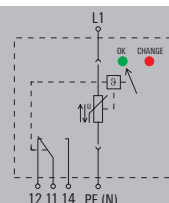
VPU II 2/R 280 V / 40 kA

1-phase



VPU II 1/R 280 V / 40 kA

1-phase



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
80 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 1.55 kV
440 V
green = OK; red = arrester is defective - replace
Installation housing: ZTE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V
280 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
40 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 1.55 kV
440 V
green = OK; red = arrester is defective - replace
Installation housing: 1TE
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 17.8 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 2 280V/40KA	1	1352600000
VPU II 2 R 280V/40KA	1	1352620000

Type	Qty.	Order No.
VPU II 1 280V/40KA	1	1352580000
VPU II 1 R 280V/40KA	1	1352590000

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

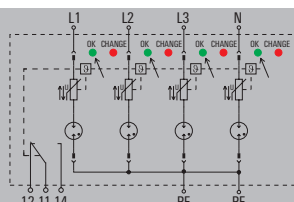
Type II/III surge protection U_c : 280 V

Suitable for 230/400 V mains systems

- Leakage current free, 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

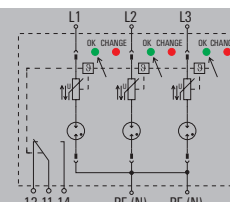
VPU II 4 LCF/R 280 V / 20 kA

TN-S



VPU II 3 LCF/R 280 V / 20 kA

TN-C



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V / 400 V
280 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
160 kA
0 μ A
≤ 100 ns
125 A gL
≤ 1.8 kV
440 V
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

230 V / 400 V
280 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
120 kA
0 μ A
≤ 100 ns
125 A gL
≤ 1.8 kV
440 V
green = OK; red = arrester is defective - replace
Installation housing: 3TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)	mm ²
Height x width x depth	mm
Signalling contact	

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 71.2 / 69	106 / 71.2 / 69
No	250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 53.4 / 69	106 / 53.4 / 69
No	250 V 1A 1CO

Ordering data

no remote sig. contact	
with remote signalling (R)	

Type	Qty.	Order No.
VPU II 4 LCF 280V/40KA	1	1352770000
VPU II 4R LCF 280V/40KA	1	1352780000

Type	Qty.	Order No.
VPU II 3 LCF 280V/40KA	1	1352790000
VPU II 3R LCF 280V/40KA	1	1352800000

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 surge protection

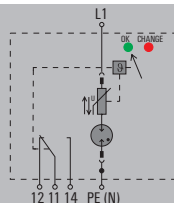
Type II/III surge protection U_c : 280 V

Suitable for 230/400 V mains systems

- Leakage current free, 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 1 LCF / R 280 V / 20 kA

1-phase



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
280 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
40 kA
0 μ A
 ≤ 100 ns
125 A gL
 ≤ 1.8 kV
440 V
green = OK; red = arrester is defective - replace
Installation housing: 1TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 17.8 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 1 LCF 280V/40KA	1	1352740000
VPU II 1R LCF 280V/40KA	1	1352750000

Note

Accessories

Note

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



Type II surge protection

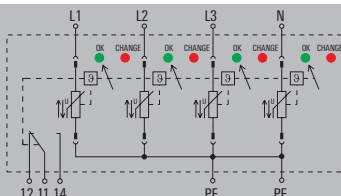
Type II/III surge protection U_c : 400 V

Suitable for 400/690 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

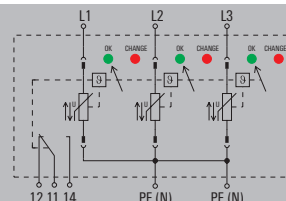
VPU II 4/R 400 V / 40 kA

TN-S



VPU II 3/R 400 V / 40 kA

TN-C



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

400 V / 690 V
400 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
160 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 2.1 kV
620 V
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

400 V / 690 V
400 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
120 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 2.1 kV
620 V
green = OK; red = arrester is defective - replace
Installation housing: 3TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 53.4 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 4 400V/40KA	1	1352900000
VPU II 4 R 400V/40KA	1	1352920000

Type	Qty.	Order No.
VPU II 3 400V/40KA	1	1352880000
VPU II 3 R 400V/40KA	1	1352890000

Note

Accessories

Note

Pluggable spare arrester VPU II 0 400 V/40 kA-1352820000

Pluggable spare arrester VPU II 0 400 V/40 kA-1352820000

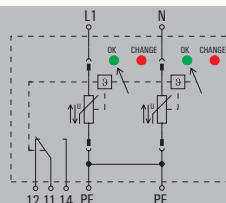
Type II/III surge protection U_c : 400 V

Suitable for 400/690 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

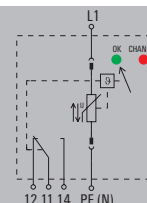
VPU II 2/R 400 V / 40 kA

1-phase



VPU II 1/R 400 V / 40 kA

1-phase



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

400 V
400 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
80 kA
30 μ A
≤ 25 ns
125 A gL
≤ 2.1 kV
620 V
green = OK; red = arrester is defective - replace
Installation housing: 2TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

400 V
400 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
40 kA
30 μ A
≤ 25 ns
125 A gL
≤ 2.1 kV
620 V
green = OK; red = arrester is defective - replace
Installation housing: 1TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)	mm ²
Height x width x depth	mm
Signalling contact	

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 35.6 / 69	106 / 35.6 / 69
No	250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 17.8 / 69	106 / 17.8 / 69
No	250 V 1A 1CO

Ordering data

no remote sig. contact	
with remote signalling (R)	

Type	Qty.	Order No.
VPU II 2 400V/40KA	1	1352850000
VPU II 2 R 400V/40KA	1	1352870000

Type	Qty.	Order No.
VPU II 1 400V/40KA	1	1352830000
VPU II 1 R 400V/40KA	1	1352840000

Note

Accessories

Note

Pluggable spare arrester VPU II 0 400 V/40 kA-1352820000

Pluggable spare arrester VPU II 0 400 V/40 kA-1352820000



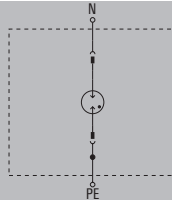
Type II surge protection

Type II N-PE arrester

- Tested according to IEC 61643-11 Type II
- Pluggable N-PE arrester
- Coded voltage level
- High energy absorption with short time to sparkover
- Insert can be rotated through 180°
- Installation in distribution board

VPU II 1 N-PE

N-PE arrester 440 V



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

230 V
260 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
100 A
40 kA
0 μ A
 ≤ 100 ns

≤ 1.5 kV
1200 V
No
Installation housing: 1TE, Insta IP 20
Black, Arrester blue
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact

16 / 2.5 / 50
94 / 17.8 / 69
No

Ordering data

no remote sig. contact

Type	Qty.	Order No.
VPU II 1 N-PE 260V/40KA	1	1351170000

Note

Accessories

Note

Pluggable spare arrester VPU II 0 N-PE 440 V/40 kA-1351180000



Type II surge protection

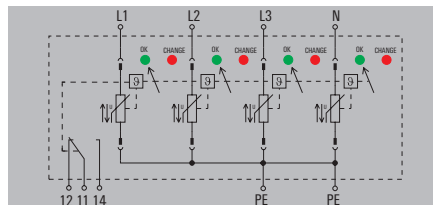
Type II/III surge protection U_c : 150 V

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

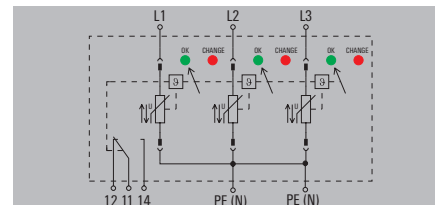
VPU II 4/R 150 V / 40 kA

TN-S



VPU II 3/R 150 V / 40 kA

TN-C



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

120 V / 240 V
150 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
160 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 0.9 kV
230 V
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

120 V / 240 V
150 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
120 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 0.9 kV
230 V
green = OK; red = arrester is defective - replace
Installation housing: 3TE
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 71.2 / 69
No
250 V 1 A 1 NC

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 53.4 / 69
No
250 V 1 A 1 NC

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 4 150V/40KA	1	1352540000
VPU II 4 R 150V/40KA	1	1352550000

Type	Qty.	Order No.
VPU II 3 150V/40KA	1	1352520000
VPU II 3 R 150V/40KA	1	1352530000

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

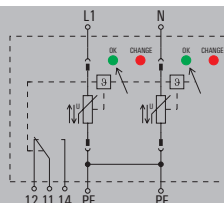
Type II/III surge protection U_c : 150 V

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

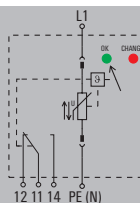
VPU II 2/R 150 V / 40 kA

1-phase



VPU II 1/R 150 V / 40 kA

1-phase



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

120 V
150 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
80 kA
30 μ A
≤ 25 ns
125 A gL
≤ 0.9 kV
230 V
green = OK; red = arrester is defective - replace
Installation housing: 2TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

120 V
150 V
Type II, Type III
20 kA
40 kA
40 kA
10 kV
25 kA
40 kA
30 μ A
≤ 25 ns
125 A gL
≤ 0.9 kV
230 V
green = OK; red = arrester is defective - replace
Installation housing: 1TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)	mm ²
Height x width x depth	mm
Signalling contact	

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 35.6 / 69	106 / 35.6 / 69
No	250 V 1 A 1 NC

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 17.8 / 69	106 / 17.8 / 69
No	250 V 1 A 1 NC

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 2 150V/40KA	1	1352490000
VPU II 2 R 150V/40KA	1	1352500000

Type	Qty.	Order No.
VPU II 1 150V/40KA	1	1352470000
VPU II 1 R 150V/40KA	1	1352480000

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

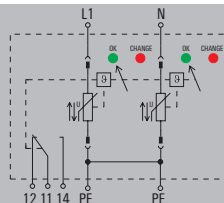
Type II surge protection

Type II/III surge protection U_c : 75 V

- 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

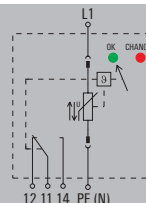
VPU II 2/R 75 V / 30 kA

1-phase



VPU II 1/R 75 V / 30 kA

1-phase



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

48 V
75 V
Type II, Type III
15 kA
30 kA
30 kA
10 kV
25 kA
60 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 0.65 kV
92 V
green = OK; red = arrester is defective - replace
Installation housing: 2TE
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

48 V
75 V
Type II, Type III
15 kA
30 kA
30 kA
10 kV
25 kA
30 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 0.65 kV
92 V
green = OK; red = arrester is defective - replace
Installation housing: 1TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 17.8 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 2 75V/30kA	1	1352430000
VPU II 2 R 75V/30kA	1	1352440000

Type	Qty.	Order No.
VPU II 1 75V/30kA	1	1352390000
VPU II 1 R 75V/30kA	1	1352420000

Note

Accessories

Note

Pluggable spare arrester VPU II 0 75 V/40 kA-1350530000

Pluggable spare arrester VPU II 0 75 V/40 kA-1350530000



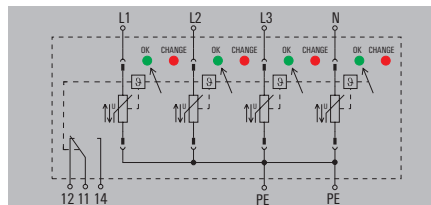
Type II surge protection

Type II/III surge protection U_c : 600 V
Suitable for 600/1000 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

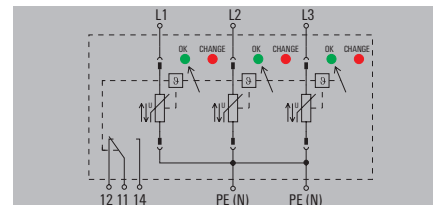
VPU II 4/R 600 V / 25 kA

TN-S



VPU II 3/R 600 V / 25 kA

TN-C



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{pe}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

600 V / 1000 V
600 V
Type II, Type III
12.5 kA
25 kA
25 kA
10 kV
25 kA
100 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 2.35 kV
820 V
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

600 V / 1000 V
600 V
Type II, Type III
12.5 kA
25 kA
25 kA
10 kV
25 kA
75 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 2.35 kV
820 V
green = OK; red = arrester is defective - replace
Installation housing: 3TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50 16 / 2.5 / 50
94 / 71.2 / 69 106 / 71.2 / 69
No 250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50 16 / 2.5 / 50
94 / 53.4 / 69 106 / 53.4 / 69
No 250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 4 600V/25kA	1	1353020000
VPU II 4 R 600V/25kA	1	1351020000

Type	Qty.	Order No.
VPU II 3 600V/25kA	1	1352990000
VPU II 3 R 600V/25kA	1	1353000000

Note

Accessories

Note

Pluggable spare arrester VPU II 0 600 V / 40 kA-1352930000

Pluggable spare arrester VPU II 0 600 V / 40 kA-1352930000

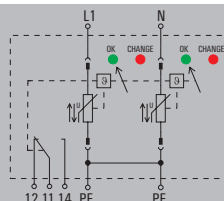
Type II/III surge protection U_c : 600 V

Suitable for 600/1000 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

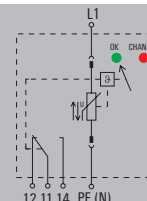
VPU II 2/R 600 V / 25 kA

1-phase



VPU II 1/R 600 V / 25 kA

1-phase



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

600 V
600 V
Type II, Type III
12.5 kA
25 kA
25 kA
10 kV
25 kA
50 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 2.35 kV
820 V
green = OK; red = arrester is defective - replace
Installation housing: 2TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

600 V
600 V
Type II, Type III
12.5 kA
25 kA
25 kA
10 kV
25 kA
25 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 2.35 kV
820 V
green = OK; red = arrester is defective - replace
Installation housing: 1TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 17.8 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 2 600V/25kA	1	1352970000
VPU II 2 R 600V/25kA	1	1352980000

Type	Qty.	Order No.
VPU II 1 600V/25kA	1	1352940000
VPU II 1 R 600V/25kA	1	1352950000

Note

Accessories

Note

Pluggable spare arrester VPU II 0 600 V / 40 kA-1352930000

Pluggable spare arrester VPU II 0 600 V / 40 kA-1352930000



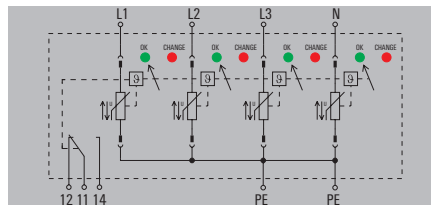
Type II surge protection

Type II/III surge protection U_c : 750 VSuitable for generator protection
in wind turbines

- 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

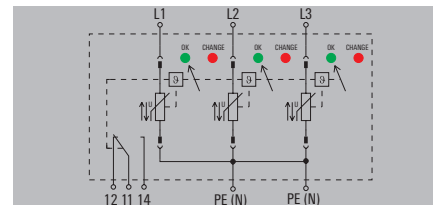
VPU II 4/R 750 V / 25 kA

TN-S



VPU II 3/R 750 V / 25 kA

TN-C



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

460 V
750 V
Type II, Type III
12.5 kA
25 kA
25 kA
10 kV
25 kA
100 kA
30 μ A
≤ 25 ns
125 A gL
≤ 2.6 kV
980 V
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

460 V
750 V
Type II, Type III
12.5 kA
25 kA
25 kA
10 kV
25 kA
75 kA
30 μ A
≤ 25 ns
125 A gL
≤ 2.6 kV
980 V
green = OK; red = arrester is defective - replace
Installation housing: 3TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm ²
2.5...50 mm ²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)	mm ²
Height x width x depth	mm
Signalling contact	

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 71.2 / 69	106 / 71.2 / 69
No	250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50	16 / 2.5 / 50
94 / 53.4 / 69	106 / 53.4 / 69
No	250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 4 750V/25kA	1	1351120000
VPU II 4 R 750V/25kA	1	1351130000

Type	Qty.	Order No.
VPU II 3 750V/25kA	1	1351090000
VPU II 3 R 750V/25kA	1	1351100000

Note

Accessories

Note

Spare arrester VPU II 0 750V/25kA-1351030000

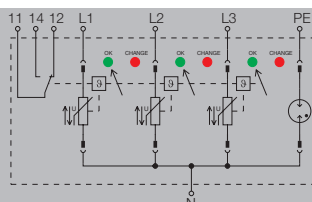
Spare arrester VPU II 0 750V/25kA-1351030000

Type II/III surge protection U_c : 750 V**Suitable for generator protection****in wind turbines**

- 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 3+1/R 750 V / 25 kA

TN-S, TT, IT

**Technical data**

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

460 V
750 V
Type II, Type III
12.5 kA
25 kA
25 kA
10 kV
25 kA
100 kA
30 μ A
 ≤ 25 ns, ≤ 100 ns
125 A gL
 ≤ 2.6 kV
980 V
green = OK; red = arrester is defective - replace
Installation housing: 4TE, Insta IP 20
Black, Arrester red / blue
-40 °C...+70 °C
-40 °C ... +80 °C

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

Approvals

Approvals
Standards

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note**no remote sig. contact with remote signalling (R)**

16 / 2.5 / 50
94 / 71.2 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 3+1 750V/25kA	1	1351140000
VPU II 3+1 R 750V/25kA	1	1351150000

Note**Accessories****Note**

Spare arrester L-N VPU II 0 750 V/25 kA-1351030000,
N-PE VPU II 0 N-PE 260 V/40 kA-1351180000



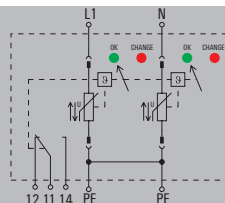
Type II surge protection

Type II/III surge protection U_c : 750 VSuitable for generator protection
in wind turbines

- 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

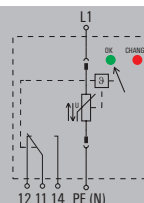
VPU II 2/R 750 V / 25 kA

1-phase



VPU II 1/R 750 V / 25 kA

1-phase



Technical data

Rated voltage
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Rated discharge current (8/20 μ s) I_n
Limiting discharge current (8/20 μ s) I_{max}
Discharge current, max. (8/20 μ s)
Combined pulse U_{oc}
Short-circuit resistance I_{SCCR}
Total discharge current I_{total}
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Colour
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

460 V
750 V
Type II, Type III
12.5 kA
25 kA
25 kA
10 kV
25 kA
50 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 2.6 kV
980 V
green = OK; red = arrester is defective - replace
Installation housing: 2TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

460 V
750 V
Type II, Type III
12.5 kA
25 kA
25 kA
10 kV
25 kA
30 μ A
 ≤ 25 ns
125 A gL
 ≤ 2.6 kV
980 V
green = OK; red = arrester is defective - replace
Installation housing: 1TE, Insta IP 20
Black, Arrester red
-40 °C...+70 °C
-40 °C ... +80 °C

2.5...16 mm²
2.5...50 mm²
15 mm
2...3 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 35.6 / 69
No
250 V 1A 1CO

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
94 / 17.8 / 69
No
250 V 1A 1CO

Ordering data

no remote sig. contact
with remote signalling (R)

Type	Qty.	Order No.
VPU II 2 750V/25kA	1	1351070000
VPU II 2 R 750V/25kA	1	1351080000

Type	Qty.	Order No.
VPU II 1 750V / 25kA	1	1351040000
VPU II 1 R 750V/25kA	1	1351050000

Note

Accessories

Note

Spare arrester VPU II 0 750V/25kA-1351030000

Spare arrester VPU II 0 750V/25kA-1351030000



DC surge protection for photovoltaic facilities



For the DC voltage side, Weidmüller offers complete protection with a comprehensive range of surge arresters.

For cable lengths of more than 10 m between the PV generator and the inverter, protection is needed at both ends. This means that both the generators and the inverter are protected.

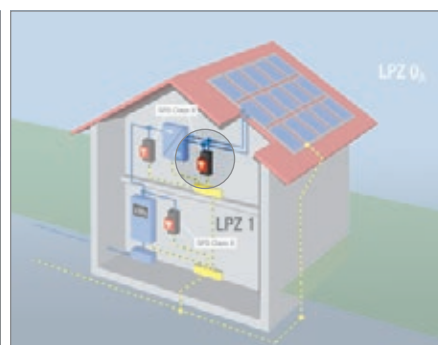
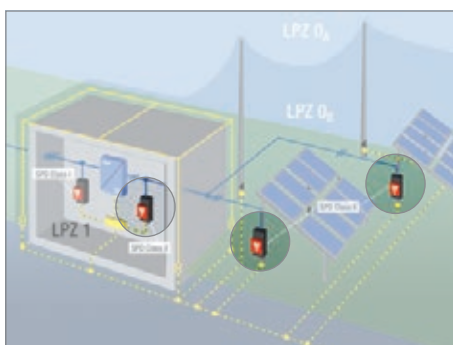
C

External lightning protection available

And the separation distances are observed (Type II)

External lightning protection not available

(Type II)



VPU II 3/R 1.000 V DC PV



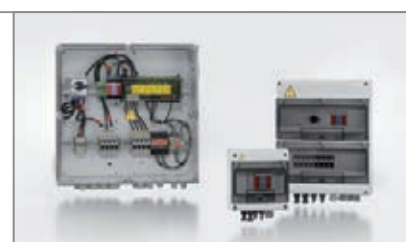
Failure to comply with the separation distance S

If the separation distance S according to EN 62305 is not observed ($S < \min$), then partial lightning currents need to be taken into account. A shielded generator main line with sufficient cross-sectional area (min. 16 mm^2) should be used. The adjacent picture shows an implementation that reaches LPZ 1. Here the surge protection from the Class II arrester can be installed in line with the existing standards (product selection, see above). Another alternative is type I lightning and surge protection, especially for plants where the separation distance cannot be observed, e.g. installation on tin roofs.

Ready-made standard solutions

Weidmüller offers an extensive range of combiner boxes with overvoltage protection for the DC side. It comprises solutions pre-wired for 1 to 16 string applications in various versions.

Our Photovoltaic Catalogue (order number 1344440000) contains a **complete list** of our standard solutions.

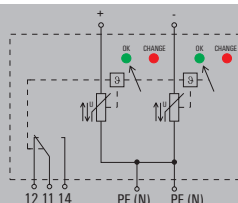


Type I and II lightning arrester for use in photovoltaic applications

- Suitable for lightning protection level III and IV (LPL III/IV)
- Can also be used as Type II surge protection
- Tested in accordance with EN 50539-11
- Suitable for use in accordance with IEC 60364-7-712/EN 50539-12
- Use if the separation distance cannot be observed

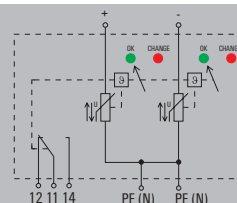
VPU I 2+0 PV 600 V

Photovoltaics



VPU I 2+0 PV 1000 V

Photovoltaics



Technical data

Max. continuous voltage, U_c (DC)
 Requirements class
 Lightning test current I_{imp} (10/350 μ s)
 Discharge current, max. (8/20 μ s)
 Rated discharge current (8/20 μ s) I_h
 PV voltage, acc. to IEC 60364-7-712
 Discharge current, nominal, per path, (8/20 μ s)
 PE conductor current I_{PE}
 Sparkover time / Drop-out time
 Optical function display
 Design
 Colour
 Ambient temperature (operational)
 Storage temperature

Connection according to IEC 947-7-1

Solid
 Stranded
 Stripping length
 Tightening torque

Technical data - photovoltaic

Maximum continuous operating voltage UCPV mode +/-, -/PE, +/-PE
 Protection level U_p mode (+/-, -/PE, +/-PE)
 Conditions and requirements
 Short circuit protection I_{scpv}
 Protection level U_p at I_{sc} (per module)
 PV system voltage, max. U_{cpv}

Approvals

Approvals
 Standards

600 V
 Type I, Type II / T1, T2
 12.5 kA
 40 kA
 20 kA
 < 600 V
 20 kA
 30 μ A
 ≤ 25 ns
 green = OK; red = arrester is defective - replace
 Installation housing; 4TE, Insta IP 20
 Black
 -40 °C...+70 °C
 -40 °C...+80 °C

2.5...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

600 V DC
 ≤ 1.8 kV
 EN 50539-11
 50 A
 ≤ 1.8 kV
 600 V

EN 50539-11

1000 V
 Type I, Type II / T1, T2
 12.5 kA
 40 kA
 20 kA
 ≤ 1000 V
 20 kA
 30 μ A
 ≤ 25 ns
 green = OK; red = arrester is defective - replace
 Installation housing; 4TE, Insta IP 20
 Black
 -40 °C...+70 °C
 -40 °C...+80 °C

2.5...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

1000 V DC
 ≤ 2.6 kV
 EN 50539-11
 50 A
 ≤ 2.6 kV
 1000 V

EN 50539-11

Dimensions

Clamping range (nominal / min. / max.) mm²
 Height x width x depth mm
 Signalling contact

Note

no remote sig. contact	with remote signalling (R)
16 / 4 / 50	16 / 4 / 50
94 / 71.2 / 69	106 / 71.2 / 69
No	250 V 1A 1CO

no remote sig. contact	with remote signalling (R)
16 / 4 / 50	16 / 4 / 50
94 / 71.2 / 69	106 / 71.2 / 69
No	250 V 1A 1CO

Ordering data

no remote sig. contact
 with remote signalling (R)

Type	Qty.	Order No.
VPU I 2+0 PV 600V DC	1	1351520000
VPU I 2+0 R PV 600V DC	1	1351490000

Type	Qty.	Order No.
VPU I 2+0 PV 1000V DC	1	1351470000
VPU I 2+0 R PV 1000V DC	1	1351430000

Note

Accessories

Note

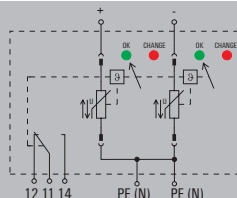


Type II surge voltage arrester for use in photovoltaic applications

- Pluggable arrester
- Suitable for protecting DC systems as Type II arrester
- Encapsulated, non-blow-out arrester
- Tested in accordance with EN 50539-11
- Pluggable arresters
- Suitable for use in accordance with IEC 60364-7-712 / EN 50539-12
- Use if the separation distance can be observed

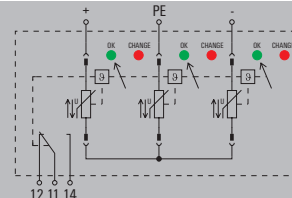
VPU II 2 PV/R 1000 V

Photovoltaics



VPU II 3 PV/R 1000 V

Photovoltaics



Technical data

Max. continuous voltage, U_c (DC)
 Requirements class
 Discharge current, max. (8/20 μ s)
 Rated discharge current (8/20 μ s) I_n
 PV voltage, acc. to IEC 60364-7-712
 Discharge current, nominal, per path, (8/20 μ s)
 PE conductor current I_{PE}
 Sparkover time / Drop-out time
 Optical function display
 Design
 Colour
 Ambient temperature (operational)
 Storage temperature

Connection according to IEC 947-7-1

Solid
 Stranded
 Stripping length
 Tightening torque

Technical data - photovoltaic

Maximum continuous operating voltage UCPV mode +/-, -/PE, +/-PE
 Protection level U_p mode (+/-, -/PE, +/-PE)
 Conditions and requirements
 Short circuit protection I_{scpv}
 Protection level U_p at I_n (per module)
 PV system voltage, max. U_{cpv}

Approvals

Approvals
 Standards

1000 V
 Type II / T2
 25 kA
 12.5 kA
 ≤ 1000 V
 12.5 kA
 30 μ A
 ≤ 25 ns
 green = OK; red = arrester is defective - replace
 Installation housing: 2TE, Insta IP 20
 Black, Arrester red
 -40 °C... $+70$ °C
 -40 °C ... $+80$ °C

2.5...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

1000 V DC
 ≤ 2.8 kV
 EN 50539-11
 50 A
 ≤ 2.8 kV
 1000 V

EN 50539-11

1000 V
 Type II / T2
 40 kA
 25 kA
 ≤ 1000 V
 20 kA
 30 μ A
 ≤ 25 ns
 green = OK; red = arrester is defective - replace
 Installation housing: 3TE, Insta IP 20
 Black, Arrester red
 -40 °C... $+70$ °C
 -40 °C ... $+80$ °C

2.5...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

1000 V DC
 ≤ 4.0 kV
 EN 50539-11
 50 A
 ≤ 4.0 kV
 1000 V

EN 50539-11

Dimensions

Clamping range (nominal / min. / max.) mm²
 Height x width x depth mm
 Signalling contact

Note

no remote sig. contact	with remote signalling (R)
16 / 2.5 / 50	16 / 2.5 / 50
94 / 35.6 / 69	106 / 35.6 / 69
No	250 V 1 A 1 NC

no remote sig. contact	with remote signalling (R)
16 / 2.5 / 50	16 / 2.5 / 50
94 / 53.4 / 69	106 / 53.4 / 69
No	250 V 1 A 1 NC

Ordering data

no remote sig. contact
 with remote signalling (R)

Type	Qty.	Order No.
VPU II 2 PV 1000V DC	1	1351220000
VPU II 2 R PV 1000V DC	1	1351240000

Type	Qty.	Order No.
VPU II 3 PV 1000V DC	1	1351270000
VPU II 3 R PV 1000V DC	1	1351290000

Note

Accessories

Note

Pluggable spare arrester VPU II 0 PV 1,000 V-1351190000

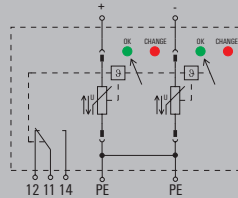
Pluggable spare arrester VPU II 0 PV Y 1,000 V-1375440000

Type II surge voltage arrester for use in photovoltaic applications

- Pluggable arrester
- Suitable for protecting DC systems as Type II arrester
- Encapsulated, non-blow-out arrester
- Tested in accordance with EN 50539-11
- Pluggable arresters
- Suitable for use in accordance with IEC 60364-7-712 / EN 50539-12
- Use if the separation distance can be observed

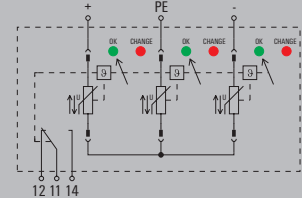
VPU II 2 PV/R 600 V

Photovoltaics



VPU II 3 PV/R 1200 V

Photovoltaics



Technical data

Max. continuous voltage, U_c (DC)
 Requirements class
 Discharge current, max. (8/20 μ s)
 Rated discharge current (8/20 μ s) I_n
 PV voltage, acc. to IEC 60364-7-712
 Discharge current, nominal, per path, (8/20 μ s)
 PE conductor current I_{PE}
 Sparkover time / Drop-out time
 Optical function display
 Design
 Colour
 Ambient temperature (operational)
 Storage temperature

Connection according to IEC 947-7-1

Solid
 Stranded
 Stripping length
 Tightening torque

Technical data - photovoltaic

Maximum continuous operating voltage UCPV mode +/-, -/PE, +/-PE
 Protection level U_p mode (+/-, -/PE, +/-PE)
 Conditions and requirements
 Short circuit protection I_{scpv}
 Protection level U_p at I_n (per module)
 PV system voltage, max. U_{cpv}

Approvals

Approvals
 Standards

600 V
 Type II / T2
 40 kA
 20 kA
 < 600 V
 20 kA
 30 μ A
 ≤ 25 ns
 green = OK; red = arrester is defective - replace
 Installation housing; 2TE, Insta IP 20
 Black, Arrester red
 -40 °C...+70 °C
 -40 °C ... +80 °C

2.5...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

600 V DC
 ≤ 2.2 kV
 EN 50539-11
 50 A
 ≤ 2.2 kV
 600 V

EN 50539-11

1200 V
 Type II / T2
 40 kA
 20 kA
 < 1200 V
 20 kA
 30 μ A
 ≤ 25 ns
 green = OK; red = arrester is defective - replace
 Installation housing; 3TE, Insta IP 20
 Black, Arrester red
 -40 °C...+70 °C
 -40 °C ... +80 °C

2.5...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

1200 V DC
 ≤ 4.4 kV
 EN 50539-11
 50 A
 ≤ 4.4 kV
 1200 V

EN 50539-11

Dimensions

Clamping range (nominal / min. / max.) mm²
 Height x width x depth mm
 Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
 94 / 35.6 / 69
 No
 250 V 1 A 1 NC

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
 94 / 53.4 / 69
 No
 250 V 1 A 1 NC

Ordering data

no remote sig. contact
 with remote signalling (R)

Type	Qty.	Order No.
VPU II 2 PV 600V DC	1	1351340000
VPU II 2 R PV 600V DC	1	1351370000

Type	Qty.	Order No.
VPU II 3 PV 1200V DC	1	1351420000
VPU II 3 R PV 1200V DC	1	1351440000

Note

Accessories

Note

Pluggable spare arrester VPU II 0 PV 600 V-1351320000

Pluggable spare arrester VPU II 0 PV 1,200 V-1351390000

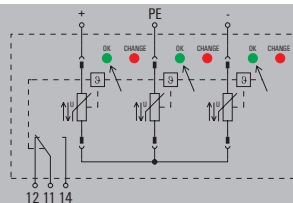


Type II surge voltage arrester for use in photovoltaic applications

- Pluggable arrester
- Suitable for protecting DC systems as Type II arrester
- Encapsulated, non-blow-out arrester
- Tested in accordance with EN 50539-11
- Pluggable arresters
- Suitable for use in accordance with IEC 60364-7-712 / EN 50539-12
- Use if the separation distance can be observed

VPU II 3 PV/R 1500 V

Photovoltaics



Technical data

Max. continuous voltage, U_c (DC)
 Requirements class
 Discharge current, max. (8/20 μ s)
 Rated discharge current (8/20 μ s) I_n
 PV voltage, acc. to IEC 60364-7-712
 Discharge current, nominal, per path, (8/20 μ s)
 PE conductor current I_{PE}
 Sparkover time / Drop-out time
 Optical function display
 Design
 Colour
 Ambient temperature (operational)
 Storage temperature

Connection according to IEC 947-7-1

Solid
 Stranded
 Stripping length
 Tightening torque

Technical data - photovoltaic

Maximum continuous operating voltage UCPV mode +/-, -/PE, +/-PE
 Protection level U_p mode (+/-, -/PE, +/-PE)
 Conditions and requirements
 Short circuit protection I_{scpv}
 Protection level U_p at I_n (per module)
 PV system voltage, max. U_{cpv}

Approvals

Approvals
 Standards

1500 V
 Type II / T2
 25 kA
 12.5 kA
 < 1500 V
 12.5 kA
 30 μ A
 ≤ 25 ns
 green = OK; red = arrester is defective - replace
 Installation housing: 3TE, Insta IP 20
 Black, Arrester red
 -40 °C...+70 °C
 -40 °C ... +80 °C

2.5...16 mm²
 2.5...50 mm²
 15 mm
 2...3 Nm

1500 V DC
 ≤ 5.2 kV
 EN 50539-11
 50 A
 ≤ 5.2 kV
 1500 V

EN 50539-11

Dimensions

Clamping range (nominal / min. / max.) mm²
 Height x width x depth mm
 Signalling contact

Note

no remote sig. contact with remote signalling (R)

16 / 2.5 / 50
 94 / 53.4 / 69
 No
 250 V 1 A 1 NC

Ordering data

no remote sig. contact
 with remote signalling (R)

Type	Qty.	Order No.
VPU II 3 PV 1500V DC	1	1351500000
VPU II 3 R PV 1500V DC	1	1351530000

Note

Accessories

Note

Pluggable spare arrester VPU II 0 PV 1,500 V-1351480000



Type III surge protection for end devices

Low-voltage consumer installations, small distribution units and electronics

Surge protection module type III

Our surge protection modules VPU III and VPO DS protect low voltage consumer installations and electronic devices from voltage surges that occur through atmospheric discharge (lightning) or switching activities (transients). The VPU III and the VPO DS can be built into small distribution boards or into multi-floor distribution boards. The VPU III satisfies the requirements of IEC 61643-11.

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. With the VPU III type, a switch contact is also fitted for signalling. With the VPO DS, an LED is used to indicate status and with the VPO ADS a buzzer highlights any error messages.

The back-up fuse you install depends on the conductor cross-section and type of routing. For VPU III 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

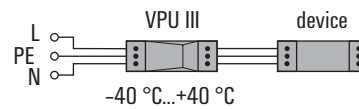
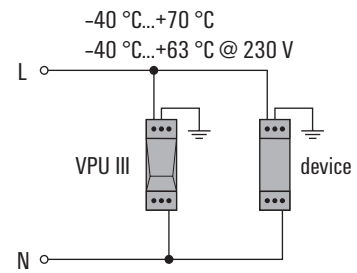
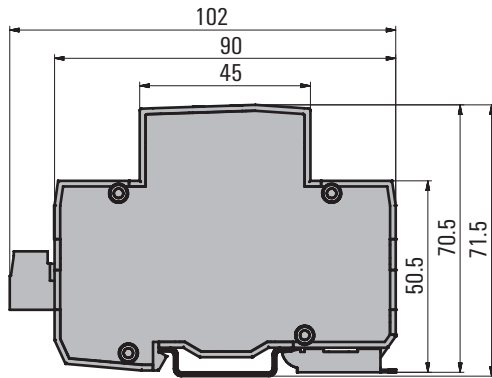


Electrical connection

The VPU III or VPO DS surge protection device is installed after the VPU 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..

Dimensioned drawing VPU III

Overall width 18 mm



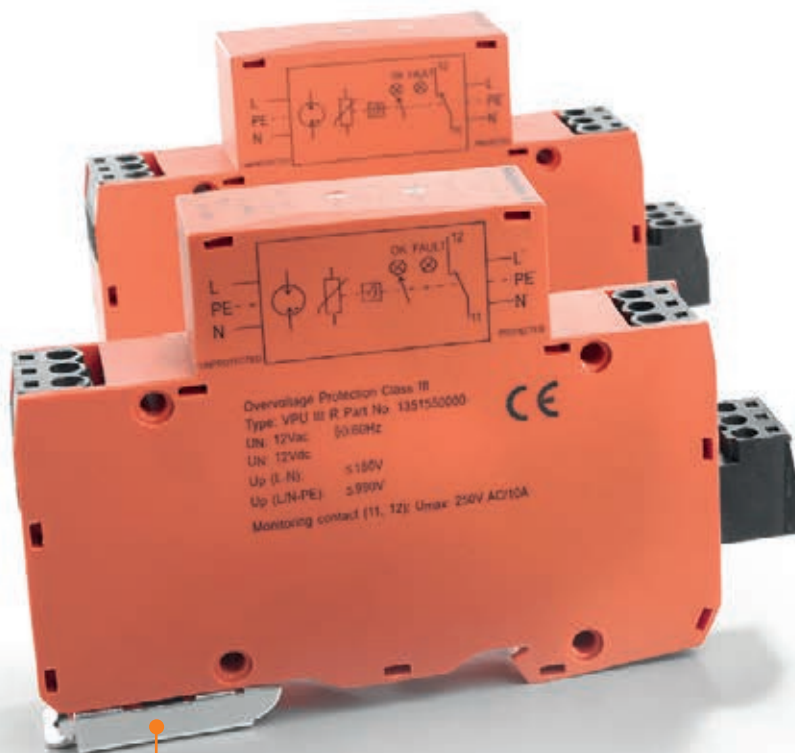
The standard implementation for operating the VPU III products is a series connection to the end device. Under this operational state, the protective device can bear a long-term load of 16 A. For higher demands, parallel circuitry is used



VPU III surge protection for terminal devices

Maximum type III protection from surges

This product line provides an integrated protective strategy for surge protection for end devices. Rail-based mounting installations are especially important for industrial applications. For this reason, the housing design has been adapted to the standardised installation dimensions. The VPU III has a wide array of available functions. A status signal and a connection for the floating contact make the unit easy to service. A defective device can easily be swapped out because of the plug-in connectors. The VPU III covers all standard nominal voltages in the power range: 12 V, 24 V, 48 V, 120 V and 230 V.



Faster to assemble

The optimised mounting rail clip enables easy and quick installation, without the need for tools.

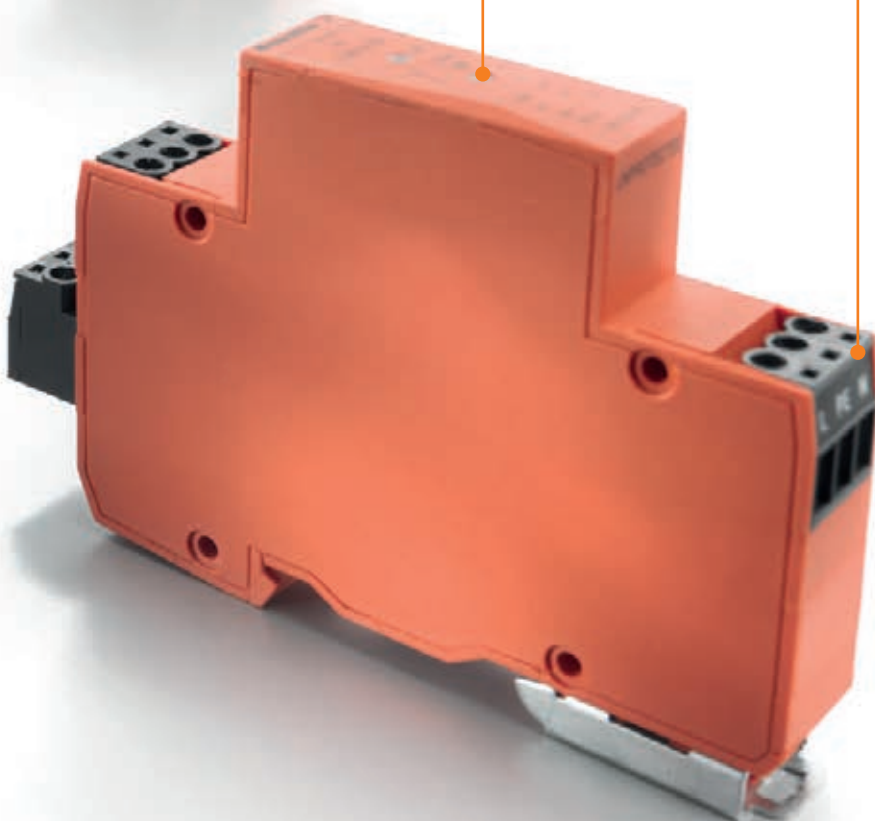


**Best overview**

LEDs provide clearly visible information on the status of the protective function

**Rapid status messaging**

The remote signaling contact provides reliable information regarding the status of the protective function



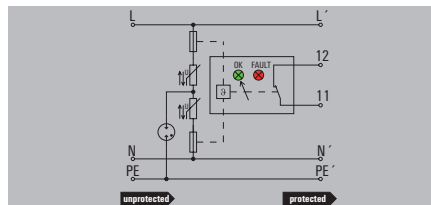
Type III surge protection for terminal devices

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

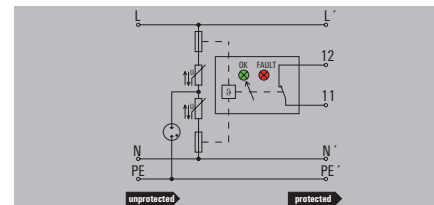
VPU III R 230 V / 6 kV

For use as device protector



VPU III R 120 V / 6 kV

For use as device protector



Technical data

Rated voltage (AC)
 Rated voltage (DC)
 Max. continuous voltage, U_c (AC)
 Max. continuous voltage, U_c (DC)
 Requirements category acc. to IEC 61643-11
 Combined pulse U_{oc}
 Rated discharge current (8/20 μ s) I_n
 Short-circuit resistance I_{scor}
 Discharge current, max. (8/20 μ s)
 Rated load current I_L
 PE conductor current I_{pE}
 Sparkover time / Drop-out time
 Fusing
 Protection level U_p (typical)
 Temporary surge voltage (over-voltage) - TOV
 Optical function display
 Design
 Ambient temperature (operational)
 Storage temperature

Connection according to IEC 947-7-1

Solid
 Stranded
 Stripping length
 Tightening torque

Approvals

Approvals
 Standards

230 V
 300 V
 Type III
 3 kV
 1.5 kA
 3 kA
 16 A
 0 μ A
 < 100 ns
 16 A
 ≤ 1.8 kV
 440 V
 Green LED = OK, LED red = arrester faulty, replace
 Installation housing; 1TE, Insta IP 20
 -40 °C...+70 °C
 -40°C ... +80°C

0.5...2.5 mm²
 0.5...2.5 mm²
 7 mm
 0.4...0.5 Nm

IEC61643-11, EN61643-11

120 V
 150 V
 212 V
 180 V
 Type III
 3 kV
 1.5 kA
 3 kA
 16 A
 0 μ A
 < 100 ns
 16 A
 ≤ 1.75 kV
 228 V
 Green LED = OK, LED red = arrester faulty, replace
 Installation housing; 1TE, Insta IP 20
 -40 °C...+70 °C
 -40°C ... +80°C

0.5...2.5 mm²
 0.5...2.5 mm²
 7 mm
 0.4...0.5 Nm

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
 Height x width x depth mm
 Signalling contact

Note

Screw connection

2.5 / 0.5 / 2.5
 102 / 18 / 71.5
 250 V 1 A 1 NC

Screw connection

2.5 / 0.5 / 2.5
 102 / 18 / 71.5
 250 V 1 A 1 NC

Ordering data

Screw connection

Type	Qty.	Order No.
VPU III R 230V/6KV AC	1	1351650000

Type	Qty.	Order No.
VPU III R 120V/6KV AC/DC	1	1351630000

Note

Accessories

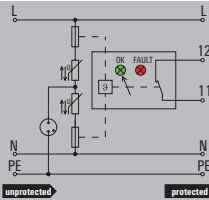
Note

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

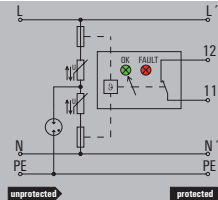
VPU III R 48 V / 4 kV

For use as device protector



VPU III R 24 V / 4 kV

For use as device protector



Technical data

Rated voltage (AC)	48 V
Rated voltage (DC)	70 V
Max. continuous voltage, U_c (AC)	50 V
Max. continuous voltage, U_c (DC)	72 V
Requirements category acc. to IEC 61643-11	Type III
Combined pulse U_{oc}	2 kV
Rated discharge current (8/20 μ s) I_n	1.5 kA
Short-circuit resistance I_{scor}	2 kA
Discharge current, max. (8/20 μ s)	16 A
Rated load current I_L	0 μ A
PE conductor current I_{PE}	< 100 ns
Sparkover time / Drop-out time	16 A
Fusing	≤ 950 V
Protection level U_p (typical)	91 V
Temporary surge voltage (over-voltage) - TOV	Green LED = OK, LED red = arrester faulty, replace
Optical function display	Installation housing; 1TE, Insta IP 20
Design	-40 °C...+70 °C
Ambient temperature (operational)	-40 °C ... +80 °C
Storage temperature	

Connection according to IEC 947-7-1

Solid	0.5...2.5 mm ²
Stranded	0.5...2.5 mm ²
Stripping length	7 mm
Tightening torque	0.4...0.5 Nm

Approvals

Approvals
Standards

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)	mm ²
Height x width x depth	mm
Signalling contact	

Note

Screw connection

2.5 / 0.5 / 2.5
102 / 18 / 71.5
250 V 1 A 1 NC

Ordering data

Screw connection

Note

Accessories

Note

24 V
32 V
32 V
53 V
Type III
2 kV
1.5 kA
2 kA
16 A
0 μ A
< 100 ns
16 A
≤ 890 V
45 V
Green LED = OK, LED red = arrester faulty, replace
Installation housing; 1TE, Insta IP 20
-40 °C...+70 °C
-40 °C ... +80 °C

0.5...2.5 mm ²
0.5...2.5 mm ²
7 mm
0.4...0.5 Nm

IEC61643-11, EN61643-11

Screw connection

2.5 / 0.5 / 2.5
102 / 18 / 71.5
250 V 1 A 1 NC



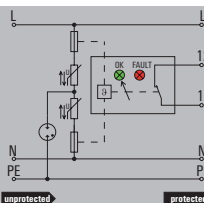
Type III surge protection for terminal devices

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

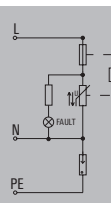
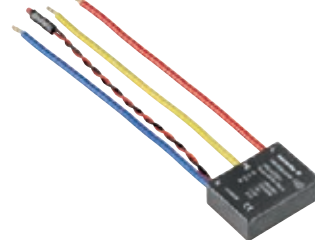
VPU III R 12 V / 4 kV

For use as device protector



VPU III SO LD / +A

For use as device protector



Technical data

Rated voltage (AC)
Rated voltage (DC)
Max. continuous voltage, U_c (AC)
Max. continuous voltage, U_c (DC)
Requirements category acc. to IEC 61643-11
Combined pulse U_{oc}
Rated discharge current (8/20 μ s) I_n
Short-circuit resistance I_{scor}
Discharge current, max. (8/20 μ s)
Rated load current I_L
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Temporary surge voltage (over-voltage) - TOV
Optical function display
Design
Ambient temperature (operational)
Storage temperature

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

Approvals

Approvals
Standards

12 V
14 V
20 V
24 V
Type III
2 kV

1.5 kA
2 kA
16 A
0 μ A
< 100 ns
16 A
 ≤ 0.98 kV
22 V
Green LED = OK, LED red = arrester faulty, replace
Installation housing; 1TE, Insta IP 20
-40 °C...+70 °C
-40 °C ... +80 °C

0.5...2.5 mm²
0.5...2.5 mm²
7 mm
0.4...0.5 Nm

IEC61643-11, EN61643-11

230 V

275 V

Type III
3 kV

1.5 kA
1.5 kA

0 μ A
< 100 ns
16 A
 ≤ 1.5 kV
440 V
Red LED
Flush mounting
-25 °C...+55 °C
-40 °C ... +60 °C

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.) mm²
Height x width x depth mm
Signalling contact

Note

Screw connection

2.5 / 0.5 / 2.5
102 / 18 / 71.5
250 V 1 A 1 NC

Without audible signal

with acoustic signal (A)

35 / 12 / 25
No

35 / 12 / 25
No

Ordering data

Screw connection

Type	Qty.	Order No.
VPU III R 12V/4KV AC/DC	1	1351550000

Type	Qty.	Order No.
VPU III SO LD	1	1351680000
VPU III SO LD+A	1	1351700000

Note

Accessories

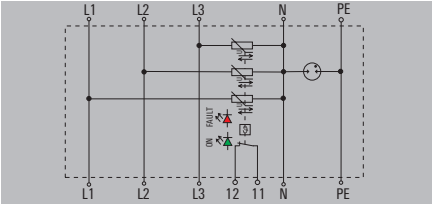
Note

Type III with varistors

- Type III surge protection
- Suitable for protecting 3-phase terminals
- Installed in the vicinity of the equipment to be protected
- For mounting on rail
- Arrester with remote signalling contact
- Tested in accordance with IEC 61643-11

VPU III 3 / 280 V

For use as device protector



Technical data

Rated voltage (AC)
Max. continuous voltage, U_c (AC)
Requirements category acc. to IEC 61643-11
Combined pulse U_{oc}
Discharge current, nominal, per path, (8/20 μ s)
Short-circuit resistance I_{scCR}
Total discharge current I_{total}
Rated load current I_L
PE conductor current I_{PE}
Sparkover time / Drop-out time
Fusing
Protection level U_p (typical)
Optical function display
Design
Ambient temperature (operational)
Storage temperature

230 V
275 V
Type III
6 kV
3 kA
1.5 kA
3 kA
16 A
0 μ A
< 100 ns
16 A
≤ 1.8 kV
Green LED = OK, LED red = arrester faulty, replace
Installation housing: 1TE, Insta IP 20
-40 °C...+70 °C
-40°C ... +80°C

Connection according to IEC 947-7-1

Solid
Stranded
Stripping length
Tightening torque

0.5...2.5 mm ²
0.5...2.5 mm ²
7 mm
0.4...0.5 Nm

Approvals

Approvals
Standards

IEC61643-11, EN61643-11

Dimensions / Signalling contact info

Clamping range (nominal / min. / max.)	mm ²
Height x width x depth	mm
Signalling contact	

2.5 / 0.5 / 2.5
90 / 70 / 57
250 V 1 A 1 NC

Note

Ordering data

Type	Qty.	Order No.
VPU III 3/280V	1	1393050000

Note

Accessories

Note



