

Electrical installation solutions for buildings

Protection and safety

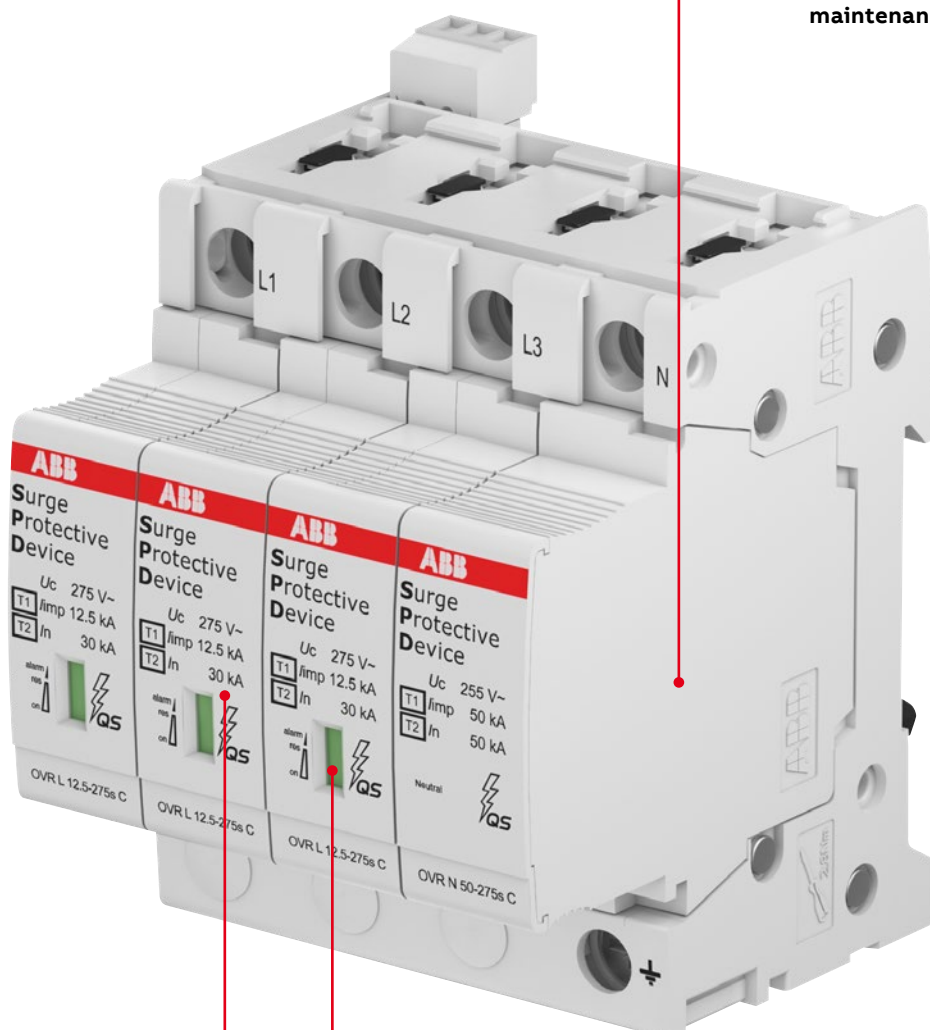
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OVR T1-T2, T2 and T2-T3 ranges.

The details make the difference

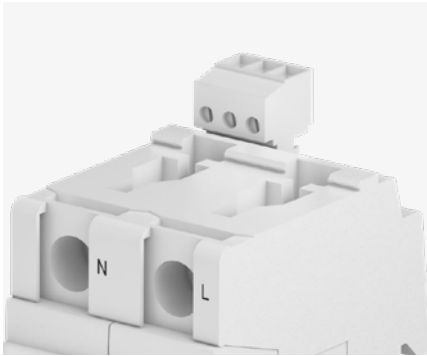
A complete range for your surge protection

Pluggable cartridge for easy replacement during maintenance operations



Clear information on the front of the product indicating the technical characteristics of the OVR.

Safety Reserve system with two varistors per line to extend protection lifetime.



OVR T1-T2 12.5, T2 and T2-T3 ranges are using same terminal as Pro M compact devices to guarantee a complete coordination and time saving in wiring operation.



The pluggable feature of ABB **OVR T1-T2, T2 and T2-T3** surge protective devices (SPDs) facilitates maintenance. Should one or more worn cartridges need to be replaced, the wires do not have to be removed.

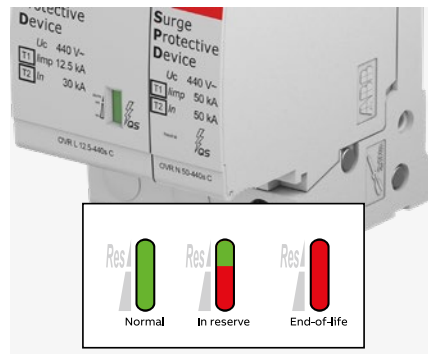


The end-of-life indicator of the SPD signals the status of the device. A mechanical indicator turns from green to red when the SPD reaches the end of its life, when the end-of-life indicator is fitted.



The toggle of the miniature circuit breaker indicates the status of the **OVR Plus** range.

If the toggle is on, the surge protection is active. If the toggle is off and can be switched on again, the device has protected your equipment. If the toggle is off and cannot be switched on, the device must be changed.



A safety reserve system for an extended protection. T1-T2s and T2s. These Surge Protective Devices are equipped with two varistors per pole. If one varistor is damaged, the SPD gives advanced warning that it is approaching the end of its life while the other varistor continues to protect the equipment, allowing to perform Preventive Maintenance.



QuickSafe MOV technology extended to SPD dedicated to D.C photovoltaic applications, bringing soft-protected feature (no back-up needed) up to 10 kA PV short circuit current.

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OVR surge protective devices selection tables

Pro- tected lines	Impulse current	Max. dis- charge current	Nominal current	Follow current interrupt- ing rating	Voltage protec- tion level	Nominal voltage	Max. cont. op- erating voltage	Type	Order code
	I _{imp} 10/350 kA	I _{max} 8/20 kA	I _n kA	I _{fi} kA	U _p kV	U _n V	U _c V		
Type 1 OVR non-pluggable									
Uc 255 V									
1	25	60	25	50	2.5	230	255	OVR T1 25-255	2CTB815101R0100
2	25	60	25	50	2.5	230	255	OVR T1 2L 25-255	2CTB815101R1200
2	25	60	25	50	2.5	230	255	OVR T1 2L 25-255 TS	2CTB815101R1100
3	25	60	25	50	2.5	230/400	255	OVR T1 3L 25-255	2CTB815101R1300
3	25	60	25	50	2.5	230/400	255	OVR T1 3L 25-255 TS	2CTB815101R0600
4	25	60	25	50	2.5	230/400	255	OVR T1 4L 25-255	2CTB815101R1400
4	25	60	25	50	2.5	230/400	255	OVR T1 4L 25-255 TS	2CTB815101R0800
1+1	25	60	25	50	2.5	230	255	OVR T1 1N 25-255	2CTB815101R1500
1+1	25	60	25	50	2.5	230	255	OVR T1 1N 25-255 TS	2CTB815101R1000
3+1	25	60	25	50	2.5	230/400	255	OVR T1 3N 25-255	2CTB815101R1600
3+1	25	60	25	50	2.5	230/400	255	OVR T1 3N 25-255 TS	2CTB815101R0700
1	25	60	25	7	2.5	230	255	OVR T1 25-255-7	2CTB815101R8700
3+1	25	60	25	7	2.5	230/400	255	OVR T1 3N 25-255-7	2CTB815101R8800
Uc 440 V									
1	25	60	25	50	2.5	400	440	OVR T1 25-440-50	2CTB815101R9300
Neutral									
1	25	60	25	0.1	4	230	255	OVR T1 25 N	2CTB815101R9700
1	50	100	50	0.1	1.5	230	255	OVR T1 50 N	2CTB815101R0400
1	100	100	25	0.1	2	230	255	OVR T1 100 N	2CTB815101R0500
Type T1-T2 OVR pluggable and non-pluggable									
Uc 255-275 V									
1	25	60	25	15	1.5	230	255	OVR T1+2 25-255 TS	2CTB815101R0300
1+1	25	60	25	15	1.5	230	255	OVR T1+2 1N 25-255 TS	2CTB815101R4400
3	25	60	25	15	1.5	230/400	255	OVR T1+2 3L 25-255 TS	2CTB815101R4300
3+1	25	60	25	15	1.5	230/400	255	OVR T1+2 3N 25-255 TS	2CTB815101R4500
4	25	60	25	15	1.5	230/400	255	OVR T1+2 4L 25-255 TS	2CTB815101R4200
1	12.5	80	20	-	1.4	230	275	OVR T1-T2 12.5-275s P TS QS	2CTB815710R0000
1+1	12.5	80	20	-	1.4	230	275	OVR T1-T2 1N 12.5-275s P TS QS	2CTB815710R0100
3	12.5	80	20	-	1.4	230/400	275	OVR T1-T2 3L 12.5-275s P TS QS	2CTB815710R0600
3+1	12.5	80	20	-	1.4	230/400	275	OVR T1-T2 3N 12.5-275s P TS QS	2CTB815710R0700
4	12.5	80	20	-	1.4	230/400	275	OVR T1-T2 4L 12.5-275s P TS QS	2CTB815710R1100
1	12.5	80	20	-	1.4	230	275	OVR T1-T2 12.5-275s P QS	2CTB815710R1200
1+1	12.5	80	20	-	1.4	230	275	OVR T1-T2 1N 12.5-275s P QS	2CTB815710R1300
3	12.5	80	20	-	1.4	230/400	275	OVR T1-T2 3L 12.5-275s P QS	2CTB815710R1800
3+1	12.5	80	20	-	1.4	230/400	275	OVR T1-T2 3N 12.5-275s P QS	2CTB815710R1900
4	12.5	80	20	-	1.4	230/400	275	OVR T1-T2 4L 12.5-275s P QS	2CTB815710R2300

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OVR surge protective devices selection tables

Pro- tected lines	Impulse current	Max. dis- charge current	Nominal current	Follow current interrupt- ing rating	Voltage protec- tion level	Nominal voltage	Max. cont. op- erating voltage	Type code	Order code
	Iimp 10/350 kA	I _{max} 8/20 kA	I _n kA	I _{fi} kA	U _p kV	U _n V	U _c V		
Uc 440 V									
1	12.5	80	20	-	1.9	400	440	OVR T1-T2 12.5-440s P TS QS	2CTB815710R2900
1+1	12.5	80	20	-	1.9	400	440	OVR T1-T2 1N 12.5-440s P TS QS	2CTB815710R3000
3	12.5	80	20	-	1.9	400/690	440	OVR T1-T2 3L 12.5-440s P TS QS	2CTB815710R3500
3+1	12.5	80	20	-	1.9	400/690	440	OVR T1-T2 3N 12.5-440s P TS QS	2CTB815710R3600
4	12.5	80	20	-	1.9	400/690	440	OVR T1-T2 4L 12.5-440s P TS QS	2CTB815710R4000
1	12.5	80	20	-	1.9	400	440	OVR T1-T2 12.5-440s P QS	2CTB815710R4100
1+1	12.5	80	20	-	1.9	400	440	OVR T1-T2 1N 12.5-440s P QS	2CTB815710R4200
3	12.5	80	20	-	1.9	400/690	440	OVR T1-T2 3L 12.5-440s P QS	2CTB815710R4700
3+1	12.5	80	20	-	1.9	400/690	440	OVR T1-T2 3N 12.5-440s P QS	2CTB815710R4800
4	12.5	80	20	-	1.9	400/690	440	OVR T1-T2 4L 12.5-440s P QS	2CTB815710R5200
Neutral									
1	50	100	50	0.1	1.4	230	275	OVR T1-T2 N 50-275s P QS	2CTB815710R5300
1	50	100	50	0.1	1.9	400	440	OVR T1-T2 N 50-440s P QS	2CTB815710R5300
Cartridges									
1	12.5	80	20	-	1.4	230	275	OVR T1-T2 12.5-275s C QS	2CTB815710R2600
1	12.5	80	20	-	1.9	400	440	OVR T1-T2 12.5-440s C QS	2CTB815710R5500
1	50	100	50	-	1.4	230	275	OVR T1-T2 N 50-275s C QS	2CTB815710R2700
1	50	100	50	-	1.9	400	440	OVR T1-T2 N 50-440s C QS	2CTB815710R5600
Type 2 OVR non-pluggable									
Uc 275 V									
1	-	20	5	-	1.0	230	275	OVR T2 20-275	2CTB804200R0100
1	-	40	20	-	1.4	230	275	OVR T2 40-275	2CTB804201R0100
1	-	20	5	-	1.0	230	275	OVR T2 20-275 (x20)	2CTB804200R1100
1	-	40	20	-	1.4	230	275	OVR T2 40-275 (x20)	2CTB804201R1100
Type 2 OVR pluggable									
Uc 75 V									
1	-	20	5	-	0.3	57	75	OVR T2 20-75 P	2CTB803851R2800
1	-	20	5	-	0.3	57	75	OVR T2 20-75 P TS	2CTB803851R2700
2	-	20	5	-	0.3	57	75	OVR T2 2 20-75 P	2CTB803852R1700
2	-	20	5	-	0.3	57	75	OVR T2 2 20-75 P TS	2CTB803852R1600
Uc 275 V									
1	2	40	20	-	1.25	230	275	OVR T2 40-275 P TS QS	2CTB803871R1700
1+1	2	40	20	-	1.25	230	275	OVR T2 1N 40-275 P TS QS	2CTB803972R0500
3	2	40	20	-	1.25	230/400	275	OVR T2 3L 40-275 P TS QS	2CTB803873R2500
4	2	40	20	-	1.25	230/400	275	OVR T2 4L 40-275 P TS QS	2CTB803873R5200
1	2	40	20	-	1.25	230	275	OVR T2 40-275 P QS	2CTB803871R2300
1+1	2	40	20	-	1.25	230	275	OVR T2 1N 40-275 P QS	2CTB803972R1100
3	2	40	20	-	1.25	230/400	275	OVR T2 3L 40-275 P QS	2CTB803873R2400
4	2	40	20	-	1.25	230/400	275	OVR T2 4L 40-275 P QS	2CTB803873R5600
1	2	40	20	-	1.4	230	275	OVR T2 40-275s P TS QS	2CTB815704R0000
1+1	2	40	20	-	1.4	230	275	OVR T2 1N 40-275s P TS QS	2CTB815704R0200
3	2	40	20	-	1.4	230/400	275	OVR T2 3L 40-275s P TS QS	2CTB815704R0600
4	2	40	20	-	1.4	230/400	275	OVR T2 4L 40-275s P TS QS	2CTB815704R1100
1	2	40	20	-	1.4	230	275	OVR T2 40-275s P QS	2CTB815704R1200
1+1	2	40	20	-	1.4	230	275	OVR T2 1N 40-275s P QS	2CTB815704R1400
3	2	40	20	-	1.4	230/400	275	OVR T2 3L 40-275s P QS	2CTB815704R1800
4	2	40	20	-	1.4	230/400	275	OVR T2 4L 40-275s P QS	2CTB815704R2300
1	6.25	80	20	-	1.4	230	275	OVR T2 80-275s P TS QS	2CTB815708R0000
1+1	6.25	80	20	-	1.4	230	275	OVR T2 1N 80-275s P TS QS	2CTB815708R0200
3	6.25	80	20	-	1.4	230/400	275	OVR T2 3L 80-275s P TS QS	2CTB815708R0600
4	6.25	80	20	-	1.4	230/400	275	OVR T2 4L 80-275s P TS QS	2CTB815708R1100
1	6.25	80	20	-	1.4	230	275	OVR T2 80-275s P QS	2CTB815708R1200
1+1	6.25	80	20	-	1.4	230	275	OVR T2 1N 80-275s P QS	2CTB815708R1400
3	6.25	80	20	-	1.4	230/400	275	OVR T2 3L 80-275s P QS	2CTB815708R1800
4	6.25	80	20	-	1.4	230/400	275	OVR T2 4L 80-275s P QS	2CTB815708R2300

* Available in June 2020

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Pro- tected lines	Impulse current	Max. dis- charge current	Nominal current	Follow current interrupt- ing rating	Voltage protec- tion level	Nominal voltage	Max. cont. op- erating voltage	Type code	Order code
	Iimp 10/350 kA	I _{max} 8/20 kA	I _n kA	I _{fi} kA	U _p kV	U _n V	U _c V		
Neutral									
1	2	80	30	0.1	1.4	230	275	OVR T2-T3 N 80-275 P QS	2CTB803973R1900
1	6.25	80	30	0.1	1.4	230	275	OVR T2 N 80-275s P QS	2CTB815708R2500
Cartridges									
1	2	80	30	-	1.4	230	275	OVR T2-T3 N 80-275 C QS	2CTB803876R0000
1	2	40	20	-	1.25	230	275	OVR T2 40-275 C QS	2CTB803876R1000
1	6.25	40	20	-	1.4	230	275	OVR T2 40-275s C QS	2CTB815704R2600
1	6.25	80	20	-	1.4	230	275	OVR T2 80-275s C QS	2CTB815708R2600
1	6.25	80	30	-	1.4	230	275	OVR T2 N 80-275s C QS	2CTB815708R2800
Uc 350V									
1	2	40	20	-	1.5	230	350	OVR T2 40-350 P QS	2CTB803881R2300
1	2	40	20	-	1.5	230	350	OVR T2 40-350 P TS QS	2CTB803881R1700
1+1	2	40	20	-	1.7	230	350	OVR T2 1N 40-350 P QS	2CTB803982R1100
1+1	2	40	20	-	1.7	230	350	OVR T2 1N 40-350 P TS QS	2CTB803982R0500
3	2	40	20	-	1.5	230/400	350	OVR T2 3L 40-350 P QS	2CTB803883R2400
3	2	40	20	-	1.5	230/400	350	OVR T2 3L 40-350 P TS QS	2CTB803883R2500
3+1	2	40	20	-	1.7	230/400	350	OVR T2 3N 40-350 P QS	2CTB803983R1100
3+1	2	40	20	-	1.7	230/400	350	OVR T2 3N 40-350 P TS QS	2CTB803983R0500
Neutral									
1	2	80	30	0.1	1.4	230	350	OVR T2 N 80-350 P QS	2CTB803983R1900
Cartridges									
1	2	80	30	0.1	1.4	230	350	OVR T2 N 80-350 C QS	2CTB803886R0000
1	2	40	20	-	1.5	230	350	OVR T2 40-350 C QS	2CTB803886R1000
Uc 440V									
1	2	40	20	-	1.8	400	440	OVR T2 40-440 P QS	2CTB803871R1200
1	2	40	20	-	1.8	400	440	OVR T2 40-440 P TS QS	2CTB803871R0500
3	2	40	20	-	1.8	400/690	440	OVR T2 3L 40-440 P TS QS	2CTB803873R2700
4	2	40	20	-	1.8	400/690	440	OVR T2 4L 40-440 P QS	2CTB803873R5100
4	2	40	20	-	1.8	400/690	440	OVR T2 4L 40-440 P TS QS	2CTB803873R5300
3+1	2	40	20	-	2.1	400/690	440	OVR T2 3N 40-440 P QS	2CTB803973R1400
3+1	2	40	20	-	2.1	400/690	440	OVR T2 3N 40-440 P TS QS	2CTB803973R1500
3	2	40	20	-	1.8	400/690	440	OVR T2 3L 40-440 P QS	2CTB803873R2800
1	2	40	20	-	1.8	400	440	OVR T2 40-440s P TS QS	2CTB815704R2900
3+1	2	40	20	-	1.8	400/690	440	OVR T2 3N 40-440s P TS QS	2CTB815704R3700
1	2	40	20	-	1.8	400	440	OVR T2 40-440s P QS	2CTB815704R4100
1	6.25	80	20	-	1.8	400	440	OVR T2 80-440s P TS QS	2CTB815708R2900
3	6.25	80	20	-	1.8	400/690	440	OVR T2 3L 80-440s P TS QS	2CTB815708R3500
3+1	6.25	80	20	-	1.8	400/690	440	OVR T2 3N 80-440s P TS QS	2CTB815708R3700
4	6.25	80	20	-	1.8	400/690	440	OVR T2 4L 80-440s P TS QS	2CTB815708R4000
1	6.25	80	20	-	1.8	400	440	OVR T2 80-440s P QS	2CTB815708R4100
3	6.25	80	20	-	1.8	400/690	440	OVR T2 3L 80-440s P QS	2CTB815708R4700
3+1	6.25	80	20	-	1.8	400/690	440	OVR T2 3N 80-440s P QS	2CTB815708R4900
4	6.25	80	20	-	1.8	400/690	440	OVR T2 4L 80-440s P QS	2CTB815708R5200
1+1	2	40	20	-	1.9	400	440	OVR T2 1N 40-440 P TS QS	2CTB803972R1400

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Pro- tected lines	Impulse current	Max. dis- charge current	Nominal current	Follow current interrupt- ing rating	Voltage protec- tion level	Nominal voltage	Max. cont. op- erating voltage	Type code	Order code
	Iimp 10/350 kA	I _{max} 8/20 kA	I _n kA	I _{fi} kA	U _p kV	U _n V	U _c V		
Neutral									
1	6.25	80	30	0.1	2	400	440	OVR T2 N 80-440s P QS	2CTB815708R5400
1	2	80	30	0.1	1.4	400	440	OVR T2-T3 N 80-440 P QS	2CTB803973R2000
Cartridges									
1	2	80	20	-	1.8	400	440	OVR T2 40-440 C QS	2CTB803876R0400
1	2	40	20	-	1.8	400	440	OVR T2-T3 40-440s C QS	2CTB815704R5500
1	6.25	80	20	-	1.8	400	440	OVR T2 80-440s C QS	2CTB815708R5500
1	6.25	80	30	-	1.4	400	440	OVR T2-T3 N 80-440 C QS	2CTB803886R0100
1	6.25	80	30	-	2	400	440	OVR T2 N 80-440s C QS	2CTB815708R5700
Uc 600V									
1	2	40	20	-	2.3	400	600	OVR T2 40-600 P TS QS	2CTB803881R0500
3	2	40	20	-	2.3	400/690	600	OVR T2 3L 40-600 P TS QS	2CTB803883R2700
4	2	40	20	-	2.3	400/690	600	OVR T2 4L 40-600 P TS QS	2CTB803883R5300
Cartridges									
1	-	40	20	-	2.3	400	600	OVR T2 40-600 C QS	2CTB803886R0400
Uc 760V									
3	-	40	15	-	2.9	400/690	440	OVR T2 3L 40 400/690 P	2CTB803853R4500
3	-	40	15	-	2.9	400/690	440	OVR T2 3L 40 400/690 P TS	2CTB803853R4600
Cartridges									
1		40	20	-	2.9	400	440	OVR T2 40-400/690 C	2CTB803854R1100
Type T2-T3 OVR Pluggable									
Uc 275V									
1	2	20	5	-	0.9	230	275	OVR T2-T3 20-275 P QS	2CTB803871R2400
1	2	20	5	-	0.9	230	275	OVR T2-T3 20-275 P TS QS	2CTB803871R2500
1+1	2	20	5	-	1.4	230	275	OVR T2-T3 1N 20-275 P QS	2CTB803972R1200
1+1	2	20	5	-	1.4	230	275	OVR T2-T3 1N 20-275 P TS QS	2CTB803972R1300
3	2	20	5	-	0.85	230/400	275	OVR T2-T3 3L 20-275 P QS	2CTB803873R3400
3	2	20	5	-	0.85	230/400	275	OVR T2-T3 3L 20-275 P TS QS	2CTB803873R3500
3+1	2	20	5	-	1.4	230/400	275	OVR T2-T3 3N 20-275 P QS	2CTB803973R1200
3+1	2	20	5	-	1.4	230/400	275	OVR T2-T3 3N 20-275 P TS QS	2CTB803973R1600
Neutral									
1	-	80	30	0.1	1.4	230	275	OVR T2-T3 N 80-275 P QS	2CTB803973R1900
Cartridges									
1	-	20	5	-	1.4	230	275	OVR T2 20-275 C QS	2CTB803876R1200
1	-	80	30	-	1.4	230	275	OVR T2-T3 N 80-275 C QS	2CTB803876R0000
Uc 440V									
1	2	20	5	-	1.4	400	440	OVR T2-T3 20-440 P QS	2CTB803871R1100
1	2	20	5	-	1.4	400	440	OVR T2-T3 20-440 P TS QS	2CTB803871R1300
3+1	2	20	5	-	1.4	400/690	440	OVR T2-T3 3N 20-440 P QS	2CTB803973R1300
Neutral									
1		80	30	0.1	1.4	400	440	OVR T2-T3 N 80-440 P QS	2CTB803973R2000
Cartridges									
1	-	80	5	-	1.4	400	440	OVR T2 20-440 C QS	2CTB803876R0600
1	-	80	30	-	1.4	400	440	OVR T2-T3 N 80-440 C QS	2CTB803886R0100
Type T2-T3 OVR non-pluggable Street Light									
1+1	-	15	5	-	1.1	230	275	OVR T2-T3 N1 15-275S SL	2CTB804500R0200
1+1	-	15	5	-	1.1	230	275	OVR T2-T3 N1 15-275S SL (x20)	2CTB804500Z1200

Protection and safety

OVR surge protective devices selection tables

Protected lines	Impulse current	Max. discharge current	Nominal current	Follow current interrupting rating	Voltage protection level	Nominal voltage	Max. cont. operating voltage	Type code	Order code
	Iimp 10/350 kA	I _{max} 8/20 kA	I _n kA	I _{fi} kA	U _p kV	U _n V	U _c V		
Type T2 OVR autoprotected non-pluggable									
1+1	-	20	5	-	1.3	230	275	OVR PLUS N1 20	2CTB803701R0700
1+1	-	40	20	-	1.6	230	275	OVR PLUS N1 40	2CTB803701R0100
3+1	-	20	5	-	1.3	230/400	275	OVR PLUS N3 20	2CTB803701R0400
3+1	-	40	20	-	1.5	230/400	275	OVR PLUS N3 40	2CTB803701R0300
Type 2 OVR pluggable PV applications									
Uc 670 V DC									
1+1 DC	2	40	20	0.3 (Iscpv)	2.8/1.4	600	600	OVR PV T2 40-600 P QS	2CTB804153R2800
1+1 DC	2	40	20	0.3 (Iscpv)	2.8/1.4	600	600	OVR PV T2 40-600 P TS QS	2CTB804153R2900
1+1 DC	2	40	20	0.3 (Iscpv)	2.8/1.4	600	600	OVR PV T2 40-600 P QS BULK (30)	2CTB804153Z2800
1+1 DC	2	40	20	0.3 (Iscpv)	2.8/1.4	600	600	OVR PV T2 40-600 P TS QS BULK (30)	2CTB804153Z2900
Cartridges									
1+1 DC	2	40	20	10.000 (Iscpv)	2.8/1.4	600	600	OVR PV T2 40-600 C QS	2CTB804153R3100
1+1 DC	2	40	20	10.000 (Iscpv)	2.8/1.4	600	600	OVR PV MC C QS	2CTB804153R3500
Uc 1100 V DC									
1+1 DC	-	40	20	10.000 (Iscpv)	3.8	1000	1100	OVR PV T2 40-1000 P QS	2CTB804153R2400
1+1 DC	2	40	20	10.000 (Iscpv)	3.8	1000	1100	OVR PV T2 40-1000 P TS QS	2CTB804153R2500
1+1 DC	2	40	20	10.000 (Iscpv)	3.8	1000	1100	OVR PV T2 40-1000 P QS BULK (30)	2CTB804153Z2400
1+1 DC	2	40	20	10.000 (Iscpv)	3.8	1000	1100	OVR PV T2 40-1000 P TS QS BULK (30)	2CTB804153Z2500
2+2 DC	2	40	20	10.000 (Iscpv)	3.8	1000	1100	OVR PV T2 40-1000 P TWIN QS	2CTB804153R3000
2+2 DC	2	40	20	10.000 (Iscpv)	3.8	1000	1100	OVR PV T2 40-1000 P TS TWIN QS	2CTB804153R2300
2+2 DC	2	40	20	10.000 (Iscpv)	3.8	1000	1100	OVR PV T2 40-1000 P TS TWIN QS BULK (18)	2CTB804153Z2300
Cartridges									
1+1 DC or 2+2DC	2	40	20	10.000 (Iscpv)	3.8	1000	1100	OVR PV T2 40-1000 C QS	2CTB804153R3200
Uc 1500 V DC									
1+1 DC	2	40	10	10.000 (Iscpv)	4.5	1500	1500	OVR PV T2 40-1500 P QS	2CTB804153R2600
1+1 DC	2	40	10	10.000 (Iscpv)	4.5	1500	1500	OVR PV T2 40-1500 P TS QS	2CTB804153R2700
1+1 DC	2	40	10	10.000 (Iscpv)	4.5	1500	1500	OVR PV T2 40-1500 P QS BULK (30)	2CTB804153Z2600
1+1 DC	2	40	10	10.000 (Iscpv)	4.5	1500	1500	OVR PV T2 40-1500 P TS QS BULK (30)	2CTB804153Z2700
Cartridges									
1+1 DC	2	40	10	10.000 (Iscpv)	4.5	1500	1500	OVR PV T2 40-1500 C QS	2CTB804153R3300

Protection and safety

OVR surge protective devices selection tables

Protected lines	Total Discharge Current	Impulse current	Max. discharge current	Nominal current	Follow current interrupting rating	Voltage protection level	Nominal voltage	Max. cont. operating voltage	Type code	Order code
	I _{total} 10/350 kA	I _{imp} 10/350 kA	I _{max} 8/20 kA	I _n kA	I _{fi} kA	U _p kV	U _n V	U _c V		
Type T1-T2 OVR pluggable PV application										
Uc 1100 V DC										
1+1 DC	5	5	40	20	11.000 (I _{scpv})	3.8	1000	1100	OVR PV T1-T2 5-1000 P QS	2CTB812050R1000
1+1 DC	5	5	40	20	11.000 (I _{scpv})	3.8	1000	1100	OVR PV T1-T2 5-1000 P TS QS	2CTB812051R1000
1+1 DC	6,25	12.5	40	20	11.000 (I _{scpv})	3.8	1000	1100	OVR PV T1-T2 12.5-1000 P QS	2CTB812120R1000
1+1 DC	6,25	12.5	40	20	11.000 (I _{scpv})	3.8	1000	1100	OVR PV T1-T2 12.5-1000 P TS QS	2CTB812121R1000
Cartridges										
1+1 DC	5	5	40	20	11.000 (I _{scpv})	-	1000	1100	OVR PV T1-T2 5-1000 C QS	2CTB812052R1000
1+1 DC	6,25	6,25	40	20	11.000 (I _{scpv})	-	1000	1100	OVR PV T1-T2 12.5-1000 C QS	2CTB812122R1000
1+1 DC	6,25	6,25	40	20	11.000 (I _{scpv})	-	1000	1100	OVR PV T1-T2 12.5-1000 M C QS	2CTB812122R1001
Uc 1500 V DC										
1+1 DC	5	5	30	20	11.000 (I _{scpv})	5	1500	1500	OVR PV T1-T2 5-1500 P QS	2CTB812050R1500
1+1 DC	5	5	30	20	11.000 (I _{scpv})	5	1500	1500	OVR PV T1-T2 5-1500 P TS QS	2CTB812051R1500
1+1 DC	5	10	30	20	11.000 (I _{scpv})	5	1500	1500	OVR PV T1-T2 10-1500 P QS	2CTB812100R1500
1+1 DC	5	10	30	20	11.000 (I _{scpv})	5	1500	1500	OVR PV T1-T2 10-1500 P TS QS	2CTB812101R1500
Cartridges										
1+1 DC	5	5	30	20	11.000 (I _{scpv})	-	1500	1500	OVR PV T1-T2 5-1500 C QS	2CTB812052R1500
1+1 DC	5	5	30	20	11.000 (I _{scpv})	-	1500	1500	OVR PV T1-T2 10-1500 C QS	2CTB812102R1500
1+1 DC	5	5	30	20	11.000 (I _{scpv})	-	1500	1500	OVR PV T1-T2 10-1500 M C QS	2CTB812102R1501
Type T1-T2 OVR pluggable WT Applications										
Uc 690 V										
3		2	40	20	-	6	400/690	690	OVR WT 3L 690 P TS	2CTB235402R0000
3		2	40	20	-	6	400/690	690	OVR WT 3L 690 P (enclosed)	2CTB235401R0000
Cartridges										
1		2	40	20	-	6	400	440	OVR T2 40 440 C	2CTB803854R0400

Protection and safety

OVR Type 1 surge protective devices, Single pole



OVR T1

Technical features

Types			OVR T1 25-255-7	OVR T1 25-440-50	OVR T1 25-255
with auxiliary contact (TS)			–	–	–
Technology			Spark-gap	Spark-gap	Spark-gap
Electrical features					
Standard			IEC 61643-1/EN 61643-11		
Type/test class			T1/I	T1/I	T1/I
Protected lines			1	1	1
Types of networks			TNC/TT(L-N)-TNS	TNC-IT(230)-TT(L-N)-TNS	TNC/TT(L-N)-TNS
Type of current			AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system			± 10%	± 10%	± 10%
Nominal voltage Un		[V]	230/400	400/690	230/400
Maximum continuous operating voltage Uc		[V]	255	440	255
Maximum impulse current Iimp (10/350)		[kA]	25	25	25
Maximum impulse current Tot. Iimp (10/350)		[kA]	25	25	25
Nominal discharge current In (8/20)		[kA]	25	25	25
Follow current interrupting rating Ifi		[kA]	7	50	50
Voltage protection level Up at In		[kV]	≤ 2.5	≤ 2.5	≤ 2.5
Voltage protection level Ures at 3 kA		[kV]	≤ 0.9	≤ 1.3	≤ 0.9
TOV (Temporary overvoltage) withstand Ut					
(L-N: 5 s /N-PE: 200 ms)		[V]	650/–	690/–	450/–
Response time		[ns]	≤ 100	≤ 100	≤ 100
Residual current IPE		[μA]	10	10	10
Short-circuit withstand capability Isccr		[kA]	50	50	50
Backup protection	Fuse (gG)	[A]	≤ 125	≤ 125	≤ 125
	Circuit breaker (B or C curve)	[A]	≤ 125	≤ 125	≤ 125
Pluggable cartridge			No	No	No
Integrated thermal disconnecter			–	–	–
State indicator			Yes	No	No
Safety reserve			No	No	No
Auxiliary contact			No	No	No
Installation					
Wire range (L, N, PE)	Solid wire	[mm²]	2.5...50	2.5...50	2.5...50
	Stranded wire	[mm²]	2.5...35	2.5...35	2.5...35
Stripping length (L, N, PE)		[mm]	15	15	15
Tightening torque (L, N, PE)		[Nm]	3.5	3.5	3.5
Auxiliary contact (TS)					
Contact complement			–	–	–
Minimum load			–	–	–
Maximum load			–	–	–
Connection cross-section		[mm²]	–	–	–
Miscellaneous characteristics					
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80	-40 to +80
Maximal Altitude		[m]	2000	2000	2000
Degree of protection			IP20	IP20	IP20
Fire resistance according to UL 94			V0	V0	V0
Dimensions height x width x depth		[mm]	85 x 17.8 x 70.8	88 x 35.6 x 58	88 x 35.6 x 58
		[inches]	3.34 x 0.70 x 2.78	3.46 x 1.38 x 2.28	3.46 x 1.38 x 2.28
Dimensions height x width x depth with auxiliary contact (TS)		[mm]	–	–	–
		[inches]	–	–	–

Protection and safety

OVR Type 1 surge protective devices, Single pole

Type 1 surge protective devices are designed to discharge high current surges without any destruction of the installation. These surge protective devices are characterized by their capacity to withstand impulse current with 10/350 μ s wave form which simulate natural lightning current. Type 1 SPDs can be installed at the entrance in the main switch board for a global protection of the electrical installation.

Follow current interrupting rating 7 kA

Poles	Impulse current limp 10/350	Follow current cur- rent inter- rupt- ing rating Ifi	Volt- age pro- tec- tion level Up	Nominal voltage Un	Max. cont. oper- ating volt- age Uc	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code		kg
1	25	7	2.5	230	255	514110	OVR T1 25-255-7	2CTB815101R8700		0.16

Follow current interrupting rating 50 kA

Poles	Impulse current limp 10/350	Follow current cur- rent inter- rupt- ing rating Ifi	Volt- age pro- tec- tion level Up	Nominal voltage Un	Max. cont. oper- ating volt- age Uc	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code		kg
1	25	50	2.5	400	440	514929	OVR T1 25-440-50	2CTB815101R9300		0.31
1	25	50	2.5	230	255	510877	OVR T1 25-255	2CTB815101R0100		0.31

Protection and safety

OVR Type 1 surge protective devices TNC 230 V networks



OVR T1 3L 25-255

Technical features

Types		OVR T1 3L 25-255	
with auxiliary contact (TS)		OVR T1 3L 25-255 TS	
Technology		Spark-gap	
Electrical features			
Standard		IEC 61643-1/EN 61643-11	
Type/test class		T1/I	
Protected lines		3	
Types of networks		TNC	
Type of current		AC 47-63 Hz	
Voltage regulation of the system network		± 10 %	
Nominal voltage Un		[V]	230/400
Maximum continuous operating voltage Uc		[V]	255
Maximum impulse current Iimp (10/350)		[kA]	25
Maximum impulse current Tot. Iimp (10/350)		[kA]	75
Nominal discharge current In (8/20)		[kA]	25
Follow current interrupting rating Ifi		[kA]	50
Voltage protection level Up at In		[kV]	≤ 2.5
Voltage protection level Ures at 3 kA		[kV]	≤ 0.9
TOV (Temporary overvoltage) withstand Ut (L-N: 5 s /N-PE: 200 ms)		[V]	450/–
Response time		[ns]	≤ 100
Residual current IPE		[μA]	10
Short-circuit withstand capability Isccr		[kA]	50
Backup protection	Fuse (gG)	[A]	≤ 125
	Circuit breaker (B or C curve)	[A]	≤ 125
Pluggable cartridge		No	
Integrated thermal disconnecter		–	
State indicator		TS Option	
Safety reserve		No	
Auxiliary contact		TS Option	
Installation			
Wire range (L, N, PE)	Solid wire	[mm²]	2.5...50
	Stranded wire	[mm²]	2.5...35
Stripping length (L, N, PE)		[mm]	15
Tightening torque (L, N, PE)		[Nm]	3.5
Auxiliary contact (TS)			
Contact complement		1 NO - 1 NC	
Minimum load		12 V DC - 10 mA	
Maximum load		250 V AC - 1 A	
Connection cross-section		[mm²]	1.5
Miscellaneous characteristics			
Stocking and operating temperature		[°C]	-40 to +80
Maximal Altitude		[m]	2000
Degree of protection		IP20	
Fire resistance according to UL 94		V0	
Dimensions	height x width x depth	[mm]	90 x 106.8 x 64.8
		[inches]	3.54 x 4.2 x 2.55
with auxiliary contact (TS)	height x width x depth	[mm]	90 x 124.6 x 64.8
		[inches]	3.54 x 4.91 x 2.55

Protection and safety

OVR Type 1 surge protective devices TNC 230 V networks

Type 1 surge protective devices are designed to discharge high current surges without any destruction of the installation. These surge protective devices are characterized by their capacity to withstand impulse current with 10/350 μ s wave form which simulate natural lightning current. Type 1 SPDs can be installed at the entrance in the main switch board for a global protection of the electrical installation.

Follow current interrupting rating 50 kA

Poles	Impulse current limp 10/350	Follow cur- rent inter- rupt- ing rating Ifi	Volt- age pro- tec- tion level Up	Nominal voltage Un	Max. cont. oper- ating volt- age Uc	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg	
3	25	50	2.5	230/400	255	510907	OVR T1 3L 25-255	2CTB815101R1300	0.94	
3	25	50	2.5	230/400	255	510952	OVR T1 3L 25-255 TS	2CTB815101R0600	1.00	

Protection and safety

OVR Type 1 surge protective devices TNS/TT 230 V 1Ph+N networks



OVR T1 1N 25-255

Technical features

Types			OVR T1 1N 25-255	OVR T1 2L 25-255
with auxiliary contact (TS)			OVR T1 1N 25-255 TS	OVR T1 2L 25-255 TS
Technology			Spark-gap + GDT	Spark-gap + GDT
Electrical features				
Standard			IEC 61643-1/ EN 61643-11	IEC 61643-1/ EN 61643-11
Type/test class			T1/I	T1/I
Protected lines			1+1	2
Types of networks			TNS-TT	TNS
Type of current			AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			± 10 %	± 10 %
Nominal voltage Un		[V]	230/400	230/400
Maximum continuous operating voltage Uc		[V]	255	255
Maximum impulse current Iimp (10/350)		[kA]	25	25
Maximum impulse current Tot. Iimp (10/350)		[kA]	50	50
Nominal discharge current In (8/20)		[kA]	25	25
Follow current interrupting rating Ifi		[kA]	50	50
Voltage protection level Up at In (L-N/N-PE/L-PE)		[kV]	2.5/-/2.5	≤ 2.5
Voltage protection level Ures at 3 kA (L-N/N-PE/L-PE)		[kV]	0.9/-/0.9	≤ 0.9
TOV (Temporary overvoltage) withstand Ut (L-N: 5 s /N-PE: 200 ms)		[V]	450/1200	450/-
Response time		[ns]	≤ 100	≤ 100
Residual current IPE		[μA]	10	10
Short-circuit withstand capability Isccr		[kA]	50	50
Backup protection	Fuse (gG)	[A]	≤ 125	≤ 125
	Circuit breaker (B or C curve)	[A]	≤ 125	≤ 125
Pluggable cartridge			No	No
Integrated thermal disconnecter			-	-
State indicator			TS Option	TS Option
Safety reserve			No	No
Auxiliary contact			TS Option	TS Option
Installation				
Wire range (L, N, PE)	Solid wire	[mm²]	2.5...50	2.5...50
	Stranded wire	[mm²]	2.5...35	2.5...35
Stripping length (L, N, PE)		[mm]	15	15
Tightening torque (L, N, PE)		[Nm]	3.5	3.5
Auxiliary contact (TS)				
Contact complement			1 NO - 1 NC	1 NO - 1 NC
Minimum load			12 V DC - 10 mA	12 V DC - 10 mA
Maximum load			250 V AC - 1 A	250 V AC - 1 A
Connection cross-section		[mm²]	1.5	1.5
Miscellaneous characteristics				
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80
Maximal Altitude		[m]	2000	2000
Degree of protection			IP20	IP20
Fire resistance according to UL 94			V0	V0
Dimensions	height x width x depth	[mm]	90 x 71.2 x 64.8	90 x 71.2 x 64.8
		[inches]	3.54 x 2.8 x 2.55	3.54 x 2.8 x 2.55
with auxiliary contact (TS)	height x width x depth	[mm]	90 x 89 x 64.8	90 x 89 x 64.8
		[inches]	3.54 x 3.5 x 2.55	3.54 x 3.5 x 2.55

Protection and safety

OVR Type 1 surge protective devices TNS/TT 230 V 1Ph+N networks

Type 1 surge protective devices are designed to discharge high current surges without any destruction of the installation. These surge protective devices are characterized by their capacity to withstand impulse current with 10/350 μ s wave form which simulate natural lightning current. Type 1 SPDs can be installed at the entrance in the main switch board for a global protection of the electrical installation.

Follow current interrupting rating 50 kA

Poles	Impulse current limp 10/350	Follow cur- rent inter- rupt- ing rating Ifi	Volt- age pro- tec- tion level Up	Nominal voltage Un	Max. cont. oper- ating volt- age Uc	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg	
1+1	25	50	2.5	230/400	255	510921	OVR T1 1N 25-255	2CTB815101R1500	0.53	
1+1	25	50	2.5	230/400	255	510976	OVR T1 1N 25-255 TS	2CTB815101R1000	0.64	
2	25	50	2.5	230/400	255	510891	OVR T1 2L 25-255	2CTB815101R1200	0.63	
2	25	50	2.5	230/400	255	510945	OVR T1 2L 25-255 TS	2CTB815101R1100	0.64	

Protection and safety

OVR Type 1 surge protective devices TNS/TT 230 V 3Ph+N networks



OVR T1 3N 25-255-7

Technical features

Types			OVR T1 4L 25-255	OVR T1 3N 25-255	OVR T1 3N 25-255-7
with auxiliary contact (TS)			OVR T1 4L 25-255 TS	OVR T1 3N 25-255 TS	–
Technology			Spark-gap	Spark-gap + GDT	Spark-gap + GDT
Electrical features					
Standard			IEC 61643-1/EN 61643-11		
Type/test class			T1/I	T1/I	T1/I
Protected lines			4	3+1	3+1
Types of networks			TNS	TNS-TT	TNS-TT
Type of current			AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			± 10 %	± 10 %	± 10 %
Nominal voltage Un		[V]	230/400	230/400	230/400
Maximum continuous operating voltage Uc		[V]	255	255	255
Maximum impulse current Iimp (10/350)		[kA]	25	25	25
Maximum impulse current Tot. Iimp (10/350)		[kA]	100	100	100
Nominal discharge current In (8/20)		[kA]	25	25	25
Follow current interrupting rating Ifi		[kA]	50	50	7
Voltage protection level Up at In (L-N/N-PE/L-PE)		[kV]	2.5/–/–	2.5/2.0/2.5	2.0/2.0/2.0
Voltage protection level Ures at 3 kA (L-N/N-PE/L-PE)		[kV]	≤ 0.9	0.9/0.9/0.9	0.9/0.9/0.9
TOV (Temporary overvoltage) withstand Ut (L-N: 5 s / N-PE: 200 ms)		[V]	450/–	450/1200	650/1200
Response time		[ns]	≤ 100	≤ 100	≤ 100
Residual current IPE		[μA]	10	10	1000
Short-circuit withstand capability Isccr		[kA]	50	50	50
Backup protection	Fuse (gG)	[A]	≤ 125	≤ 125	≤ 125
	Circuit breaker (B or C curve)	[A]	≤ 125	≤ 125	≤ 125
Pluggable cartridge			No	No	No
Integrated thermal disconnecter			–	–	–
State indicator			TS option	TS option	Yes
Safety reserve			No	No	No
Auxiliary contact			TS option	TS option	No
Installation					
Wire range (L, N, PE)	Solid wire	[mm ²]	2.5...50	2.5...50	2.5...50
	Stranded wire	[mm ²]	2.5...35	2.5...35	2.5...35
Stripping length (L, N, PE)		[mm]	15	15	15
Tightening torque (L, N, PE)		[Nm]	3.5	3.5	3.5
Auxiliary contact (TS)					
Contact complement			1 NO - 1 NC	1 NO - 1 NC	–
Minimum load			12 V DC - 10 mA	12 V DC - 10 mA	–
Maximum load			250 V AC - 1 A	250 V AC - 1 A	–
Connection cross-section		[mm ²]	1.5	1.5	–
Miscellaneous characteristics					
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80	-40 to +80
Maximal Altitude		[m]	2000	2000	2000
Degree of protection			IP20	IP20	IP20
Fire resistance according to UL 94			V0	V0	V0
Dimensions	height x width x depth	[mm]	90 x 142.4 x 64.8	90 x 142.4 x 64.8	85 x 89 x 70.8
		[inches]	3.54 x 5.61 x 2.55	3.54 x 5.61 x 2.55	3.35 x 3.50 x 2.79
with auxiliary contact (TS)	height x width x depth	[mm]	90 x 160.2 x 64.8	90 x 160.2 x 64.8	–
		[inches]	3.54 x 6.31 x 2.55	3.54 x 6.31 x 2.55	–

Protection and safety

OVR Type 1 surge protective devices TNS/TT 230 V 3Ph+N networks

Type 1 surge protective devices are designed to discharge high current surges without any destruction of the installation. These surge protective devices are characterized by their capacity to withstand impulse current with 10/350 μ s wave form which simulate natural lightning current.

Type 1 SPDs can be installed at the entrance in the main switch board for a global protection of the electrical installation.

Follow current interrupting rating 7 kA

Poles	Impulse current Iimp 10/350	Follow current interrupting rating Ifi	Voltage protection level Up	Nominal voltage Un	Max. cont. operating voltage Uc	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code		kg
3+1	25	7	2	230/400	255	514127	OVR T1 3N 25-255-7	2CTB815101R8800		0.84

Follow current interrupting rating 50 kA

Poles	Impulse current Iimp 10/350	Follow current interrupting rating Ifi	Voltage protection level Up	Nominal voltage Un	Max. cont. operating voltage Uc	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code		kg
4	25	50	2.5	230/400	255	510914	OVR T1 4L 25-255	2CTB815101R1400		1.16
4	25	50	2.5	230/400	255	510969	OVR T1 4L 25-255 TS	2CTB815101R0800		1.26
3+1	25	50	2.5	230/400	255	510938	OVR T1 3N 25-255	2CTB815101R1600		1.16
3+1	25	50	2.5	230/400	255	510983	OVR T1 3N 25-255 TS	2CTB815101R0700		1.26

Protection and safety

OVR Type 1 surge protective devices Single pole neutral



OVR T1 100 N

Technical features

Types			OVR T1 25 N	OVR T1 50 N	OVR T1 100 N
with auxiliary contact (TS)			–	–	–
Technology			Gas discharge tube (GDT)	Gas discharge tube (GDT)	Gas discharge tube (GDT)
Electrical features					
Standard			IEC 61643-1/EN 61643-11		
Type/test class			T1/I	T1/I	T1/I
Protected lines			1	1	1
Types of networks			TT(N-PE)-TNS(N-PE)	TT(N-PE)-TNS(N-PE)	TT(N-PE)-TNS(N-PE)
Type of current			AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			± 10%	± 10%	± 10%
Nominal voltage Un		[V]	400	230	230
Maximum continuous operating voltage Uc		[V]	690	255	255
Maximum impulse current Iimp (10/350)		[kA]	25	50	100
Maximum impulse current Tot. Iimp (10/350)		[kA]	25	50	100
Nominal discharge current In (8/20)		[kA]	25	25	25
Follow current interrupting rating Ifi		[kA]	0.1	0.1	0.1
Voltage protection level Up at In		[kV]	≤ 4	≤ 1.5	≤ 2
Voltage protection level Ures at 3 kA		[kV]	–	0.9	0.9
TOV (Temporary overvoltage) withstand Ut (L-N: 5 s /N-PE: 200 ms)		[V]	–/1200	–/1200	–/1200
Response time		[ns]	≤ 100	≤ 100	≤ 100
Residual current IPE		[μA]	10	10	10
Short-circuit withstand capability Isccr		[kA]	50	50	50
Backup protection	Fuse (gG)	[A]	–	–	–
	Circuit breaker (B or C curve)	[A]	–	–	–
Pluggable cartridge			No	No	No
Integrated thermal disconnecter			–	–	–
State indicator			No	No	No
Safety reserve			No	No	No
Auxiliary contact			No	No	No
Installation					
Wire range (L, N, PE)	Solid wire	[mm ²]	2.5...50	2.5...50	2.5...50
	Stranded wire	[mm ²]	2.5...35	2.5...35	2.5...35
Stripping length (L, N, PE)		[mm]	15	15	15
Tightening torque (L, N, PE)		[Nm]	3.5	3.5	3.5
Auxiliary contact (TS)					
Contact complement			–	–	–
Minimum load			–	–	–
Maximum load			–	–	–
Connection cross-section		[mm ²]	–	–	–
Miscellaneous characteristics					
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80	-40 to +80
Maximal Altitude		[m]	2000	2000	2000
Degree of protection			IP20	IP20	IP20
Fire resistance according to UL 94			V0	V0	V0
Dimensions	height x width x depth	[mm]	85 x 17.8 x 64.8	85 x 35.6 x 64.8	85 x 35.6 x 64.8
		[inches]	3.35 x 0.70 x 2.55	3.35 x 1.40 x 2.55	3.35 x 1.40 x 2.55
with auxiliary contact (TS)	height x width x depth	[mm]	–	–	–
		[inches]	–	–	–

Protection and safety

OVR Type 1 surge protective devices Single pole neutral

Type 1 surge protective devices are designed to discharge high current surges without any destruction of the installation. These surge protective devices are characterized by their capacity to withstand impulse current with 10/350 μ s wave form which simulate natural lightning current. Type 1 SPDs can be installed at the entrance in the main switch board for a global protection of the electrical installation.

Type 1 Neutral

Poles	Impulse current Iimp 10/350	Follow cur- rent inter- rupt- ing rating Ifi	Volt- age pro- tec- tion level Up	Nominal voltage Un	Max. cont. oper- ating volt- age Uc	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code		kg
1	25	0.1	4	230	255	517043	OVR T1 25 N	2CTB815101R9700		0.15
1	50	0.1	1.5	230	255	510853	OVR T1 50 N	2CTB815101R0400		0.29
1	100	0.1	2	230	255	510860	OVR T1 100 N	2CTB815101R0500		0.29

Protection and safety

OVR Type 1+2 surge protective devices Single pole



OVR T1-T2 12.5-275s P QS

Technical features

Types		OVR T1-T2 12.5-275s P QS	
with auxiliary contact (TS)		OVR T1-T2 12.5-275s P TS QS	
Technology		Varistor	
Electrical features			
Standard		IEC 61643-11/EN 61643-11	
Type/test class		T1-T2/I - II	
Protected lines		1	
System network		TT (L-N) - TNS - TNC	
Type of current		AC 47-63 Hz	
Voltage regulation of the system network		± 20%	
Nominal system voltage Un	[V]	230	
Max. cont. operating voltage Uc	[V]	275	
Maximum impulse current Iimp (10/350)	[kA]	12.5	
Nominal discharge current In (8/20)	[kA]	20	
Maximum discharge current Imax (8/20)	[kA]	80	
Follow current interrupting rating Ifi	[kA]	-	
Voltage protection level Up at In (L-N/N-PE/L-PE)	[kV]	1.4/-/1.4	
Voltage protection level Ures at 3 kA	[kV]	0.5	
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	337/	
Response time	[ns]	< 25	
Short-circuit withstand capability Isccr	[kA]	100	
Backup protection fuse (gG)	[A]	≤ 160	
maximum rating circuit breaker (B or C curve)	[A]	≤ 125	
Pluggable cartridge		Yes	
Integrated thermal disconnecter		Yes	
State indicator		Yes	
Safety reserve		Yes	
Auxiliary contact		Yes (TS option)	
Installation			
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35
	stranded wire	[mm²]	2.5 ... 25
Stripping length (L, N, PE)		[mm]	12.5
Tightening torque (L, N, PE)		[Nm]	2.8
Auxiliary contact (TS)			
Contacts information		1 NO - 1 NC	
Min. load		12 V DC - 10 mA	
Max. load		250 V AC - 1A	
Connection cross-section		[mm²]	6.5
Miscellaneous characteristics			
Stocking and operating temperature		[°C]	-40 to +80
Maximal Altitude		[m]	5000
Degree of protection		IP 20 - Indoor	
Fire resistance according to UL 94		V-0	
Dimensions			
height x width x depth	[mm]	88 x 17.8 x 76.7	
	[inches]	3.46 x 0.70 x 3.02	
Dimensions with auxiliary contact (TS)			
height x width x depth	[mm]	95.8 x 17.8 x 76.7	
	[inches]	3.77 x 0.70 x 3.02	
Replacement Cartridges			
Phase Product ID		OVR T1-T2 12.5-275s C QS 2CTB815710R2600	
Neutral Product ID		-	

Protection and safety

OVR Type 1+2 surge protective devices Single pole

OVR T1-T2 12.5-440s P QS	OVR T1-T2 N 50-275s P QS	OVR T1-T2 N 50-440s P QS	-
OVR T1-T2 12.5-440s P TS QS			OVR T1+2 25-255 TS
Varistor	GDT	GDT	Spark-gap + Varistor
IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
T1-T2/I - II	T1-T2/I - II	T1-T2/I - II	T1+2/I - II
1	N	N	1
TT (L-N) - TNS - TNC	TT (N-PE) - TNS (N-PE)	TT (N-PE) - TNS (N-PE)	TT (L-N) - TNS - TNC
AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
± 10 %	± 20 %	± 10 %	± 10 %
400	230	400	230
440	275	440	255
12.5	50	50	25
20	50	50	25
80	100	100	60
-	-	-	15
1.9/-/1.9	-/1.4/-	-/1.9/-	1.5/-/1.5
0.5	-	-	1.0
581/	-/1200	-/1200	334/-
< 25	≤10	≤10	< 100
100	≤100	≤100	≤50
≤ 160	-	-	≤125
≤ 125	-	-	≤125
Yes	Yes	Yes	No
Yes	No	No	Yes
Yes	No	No	Yes
Yes	No	No	No
Yes (TS option)	No	No	Yes
2.5 ... 35	2.5 ... 50	2.5 ... 50	2.5 ... 50
2.5 ... 25	2.5 ... 35	2.5 ... 35	2.5 ... 35
12.5	12.5	12.5	15
2.8	3.5	3.5	3.5
1 NO - 1 NC			1 NO - 1 NC
12 V DC - 10 mA			12 V DC - 10 mA
250 V AC - 1 A			250 VAC - 1 A
6.5			1.5
-40 to +80	-40 to +80	-40 to +80	-40 to +80
5000	5000	5000	2000
IP 20 - Indoor	IP 20 - Indoor	IP 20 - Indoor	IP 20 - Indoor
V-0	V0	V0	V0
88 x 35.6 x 76.7	88 x 17.8 x 76.7	88 x 17.8 x 76.7	
3.46 x 1.4 x 3.02	3.46 x 0.7 x 3.02	3.46 x 0.7 x 3.02	
95.8 x 35.6 x 76.7			93.5 x 35.6 x 65
3.77 x 1.4 x 3.02			3.68 x 1.4 x 2.56
OVR T1-T2 12.5-440s C QS 2CTB815710R5500			
-	OVR T1-T2 N 50-275s C QS 2CTB815710R2700	OVR T1-T2 N 50-440s C QS 2CTB815710R5600	

Protection and safety

OVR Type 1+2 surge protective devices Single pole

Type 1+2 surge protective devices are designed to discharge high current surges without any destruction of the installation. These surge protective devices are characterized by their capacity to withstand impulse current with 10/350 μ s wave form which simulate natural lightning current. Type 1+2 ABB surge protective devices have a high impulse current withstand capacity with ensuring a low protection level (U_p).

Type 1+2 SPDs can be installed at the entrance in the main switch board for a global protection of the electrical installation.

Poles	Impulse current 10/350 limp	Max. dis-charge current I_{max} 8/20	Follow current inter-rupting rating I_{fi}	Voltage protec- tion level U_p	Nominal voltage U_n	Max. cont. op- erating voltage U_c	Bbn 3660 308	Order details		Weight 1 piece
	kA	kA	kA	kV	V	V	EAN	Type code	Order code	kg
1	12.5	80	-	1.4	230	275	524881	OVR T1-T2 12.5- 275s P TS QS	2CTB815710R0000	0.15
1	12.5	80	-	1.4	230	275	524959	OVR T1-T2 12.5- 275s P QS	2CTB815710R1200	0.15
1	12.5	80	-	1.9	400	440	525055	OVR T1-T2 12.5- 440s P TS QS	2CTB815710R2900	0.30
1	12.5	80	-	1.9	400	440	525123	OVR T1-T2 12.5- 440s P QS	2CTB815710R4100	0.30
1	50	100	-	1.4	230	275	525024	OVR T1-T2 N 50- 275s P QS	2CTB815710R2400	0.15
1	50	100	-	1.9	400	440	525192	OVR T1-T2 N 50- 440s P QS	2CTB815710R5300	0.14
1	25	60	15	1.5	230	255	510884	OVR T+2 25 -255 TS	2CTB815101R0300	0.27



Notes

Lined area for notes, consisting of multiple horizontal lines.

Protection and safety

OVR Type 1+2 surge protective devices TNC 230 and 400 V networks

Technical features

Types		OVR T1-T2 3L 12.5-275s P QS	OVR T1-T2 3L 12.5-440s P QS	
with auxiliary contact (TS)		OVR T1-T2 3L 12.5-275s P TS QS	OVR T1-T2 3L 12.5-440s P TS QS	OVR T1+2 3L 25-255 TS
Technology		Varistor	Varistor	Spark-gap + Varistor
Electrical features				
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T1-T2/I - II	T1-T2/I - II	T1+2/I - II
Protected lines		3	3	3
System network		TNC	TNC	TNC
Type of current		AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		± 20%	± 10%	± 10%
Nominal system voltage Un		[V] 230/400	400/690	230/400
Max. cont. operating voltage Uc		[V] 275	440	255
Maximum impulse current Iimp (10/350)		[kA] 12.5	12.5	25
Max. Imp current Tot Iimp (10/350)		[kA] 37.5	37.5	75
Nominal discharge current In (8/20)		[kA] 20	20	25
Maximum discharge current Imax (8/20)		[kA] 80	80	60
Follow current interrupting rating Ifi		[kA] -	-	-
Voltage protection level Up at In (L-N/N-PE/L-PE)		[kV] -/-/1.4	-/-/2	-/-/1.5
Voltage protection level Ures at 3 kA		[kV] 0.5	0.8	1.0
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)		[V] 337/-	581/-	334/-
Response time		[ns] ≤ 25	≤ 25	< 100
Short-circuit withstand capability Isccr		[kA] 100	100	≤ 50
Backup protection maximum rating	fuse (gG)	[A] ≤ 160	≤ 160	≤ 125
	circuit breaker (B or C)	[A] ≤ 125	≤ 125	≤ 125
Pluggable cartridge		Yes	Yes	No
Integrated thermal disconnecter		Yes	Yes	Yes
State indicator		Yes	Yes	Yes
Safety reserve		Yes	Yes	No
Auxiliary contact		Yes (TS option)	Yes (TS option)	Yes
Installation				
Wire range (L, N, PE)	solid wire	[mm²] 2.5 ... 35	2.5 ... 35	2.5 ... 50
	stranded wire	[mm²] 2.5 ... 25	2.5 ... 25	2.5 ... 35
Stripping length (L, N, PE)		[mm] 12.5	12.5	15
Tightening torque (L, N, PE)		[Nm] 2.8	2.8	3.5
Auxiliary contact (TS)				
Contacts information		1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Min. load		12 DC - 10 mA	12 DC - 10 mA	12 V DC - 10 mA
Max. load		250 V AC - 1 A	250 V AC - 1 A	250 VAC - 1 A
Connection cross-section		[mm²] 1.5	1.5	1.5
Miscellaneous characteristics				
Stocking and operating temperature		[°C] -40 to +80	-40 to +80	-40 to +80
Maximal Altitude		[m] 5000	5000	2000
Degree of protection		IP 20 - Indoor	IP 20 - Indoor	IP 20 - Indoor
Fire resistance according to UL 94		V-0	V-0	V0
Dimensions				
height x width x depth	[mm]	88 x 53.4 x 76.7	88 x 106.8 x 76.7	
	[inches]	3.46 x 2.1 x 3.02	3.46 x 4.2 x 3.02	
Dimensions with auxiliary contact (TS)				
height x width x depth	[mm]	95.8 x 53.4 x 76.7	95.8 x 106.8 x 76.7	93.5 x 106.8 x 65
	[inches]	3.77 x 2.1 x 3.02	3.77 x 4.2 x 3.02	3.68 x 4.2 x 2.56
Replacement Cartridges				
Phase Product ID		OVR T1-T2 12.5-275s C QS 2CTB815710R2600	OVR T1-T2 12.5-440s C QS 2CTB815710R5500	OVR T1+2 25-255 c 2CTB815101R3700

Protection and safety

OVR Type 1+2 surge protective devices TNC networks

Type 1+2 surge protective devices are designed to discharge high current surges without any destruction of the installation. These surge protective devices are characterized by their capacity to withstand impulse current with 10/350 μ s wave form which simulate natural lightning current. Type 1+2 ABB surge protective devices have a high impulse current withstand capacity with ensuring a low protection level (Up).

Type 1+2 SPDs can be installed at the entrance in the main switch board for a global protection of the electrical installation.

Poles	Impulse current 10/350 kA	Max discharge current Imax 8/20 kA	Voltage protection level Up kV	Nominal voltage Un V	Max. cont. operating voltage Uc V	Bbn 3660308 EAN	Order details		Weight 1 piece kg
							Type code	Order code	
3	12.5	80	1.4	230/400	275	524911	OVR T1-T2 3L 12.5-275s P TS QS	2CTB815710R0600	0.45
3	12.5	80	1.4	230/400	275	524980	OVR T1-T2 3L 12.5-275s P QS	2CTB815710R1800	0.45
3	12.5	80	1.9	400/690	440	525086	OVR T1-T2 3L 12.5-440s P TS QS	2CTB815710R3500	0.90
3	12.5	80	2	400/690	440	525154	OVR T1-T2 3L 12.5-440s P QS	2CTB815710R4700	0.90
3	25	60	1.5	230/400	255	513397	OVR T1+T2 3L 25-255 TS	2CTB815101R4300	0.85

Protection and safety

OVR Type 1+2 surge protective devices TNS/TT 230 1Ph+N and 3Ph+N networks

Technical features

Types		OVR T1-T2 1N 12.5-275s P QS	OVR T1-T2 3N 12.5-275s P QS
with auxiliary contact (TS)		OVR T1-T2 1N 12.5-275s P TS QS	OVR T1-T2 3N 12.5-275s P TS QS
Technology		Varistor + GDT	Varistor + GDT
Electrical features			
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T1-T2/I - II	T1-T2/I - II
Protected lines		1+1	3+1
System network		TT - TNS	TT - TNS
Type of current		AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		± 20%	± 20%
Nominal system voltage Un	[V]	230	230/400
Max. cont. operating voltage Uc	[V]	275	275
Maximum impulse current Iimp (10/350)	[kA]	12.5	12.5
Max. Imp current Tot Iimp (10/350)	[kA]	25	50
Nominal discharge current In (8/20)	[kA]	20	20
Maximal discharge current I _{max} (8/20) kA	[kA]	80	80
Follow current interrupting rating I _{fi}	[kA]		
Voltage protection level Up at In (L-N/N-PE/L-PE)	[kV]	1.4/1.4/1.5	1.4/1.4/1.5
Voltage protection level Ures at 3 kA	[kV]	0.5	0.5
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	337/1200	337/1200
Response time	[ns]	≤ 25	≤ 25
Short-circuit withstand capability I _{sc}	[kA]	100	100
Backup protection maximum rating	fuse (gG)	[A] ≤ 160	≤ 160
	circuit breaker (B or C curve)	[A] ≤ 125	≤ 125
Pluggable cartridge		Yes	Yes
Integrated thermal disconnecter		Yes	Yes
State indicator		Yes	Yes
Safety reserve		Yes	Yes
Auxiliary contact		Yes (TS option)	Yes (TS option)
Installation			
Wire range (L, N, PE)	solid wire	[mm ²] 2.5 ... 35	2.5 ... 35
	stranded wire	[mm ²] 2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)	[mm]	12.5	12.5
Tightening torque (L, N, PE)	[Nm]	2.8	2.8
Auxiliary contact (TS)			
Contacts information		1 NO - 1 NC	1 NO - 1 NC
Min. load		12 V DC - 10 mA	12 V DC - 10 mA
Max. load		250 V AC - 1A	250 V AC - 1A
Connection cross-section		[mm ²] 1.5	1.5
Miscellaneous characteristics			
Stocking and operating temperature		[°C] -40 to +80	-40 to +80
Maximal Altitude		[m] 5000	5000
Degree of protection		IP 20 - Indoor	IP 20 - Indoor
Fire resistance according to UL 94		V-0	V-0
Dimensions			
height x width x depth	[mm]	88 x 35.6 x 76.7	88 x 71.2 x 76.7
	[in]	3.46 x 1.4 x 3.02	3.46 x 2.8 x 3.02
Dimensions with auxiliary contact (TS)			
height x width x depth	[mm]	95.8 x 35.6 x 76.7	95.8 x 71.2 x 76.7
	[in]	3.46 x 1.4 x 3.02	3.77 x 2.8 x 3.02
Replacement Cartridges			
Phase Product ID		OVR T1-T2 12.5-275s C QS 2CTB815710R2600	OVR T1-T2 12.5-275s C QS 2CTB815710R2600
Neutral Product ID		OVR T1-T2 N 50-275s C QS 2CTB815710R2700	OVR T1-T2 N 50-275s C QS 2CTB815710R2700

Protection and safety

OVR Type 1+2 surge protective devices TNS/TT 230 1Ph+N and 3Ph+N networks

OVR T1-T2 4L 12.5-275s P QS			
OVR T1-T2 4L 12.5-275s P TS QS	OVR T1+2 1N 25-255 TS	OVR T1+2 3N 25-255 TS	OVR T1+2 4L 25-255 TS
Varistor	Varistor + GDT	Spark-gap + GDT	Spark-gap
IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
T1-T2/I - II	T1+2/I - II	T1+2/I - II	T1+2/I - II
3+N	1+N	3+N	3+N
TNS	TT - TNS	TT - TNS	TNS
AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
± 20%	± 10%	± 10%	± 10%
230/400	230	230/400	230/400
275	255	255	255
12.5	25	25	25
50	50	100	100
20	25	25	25
80	60	60	60
-	15	15	15
2.8/1.4/1.4	1.5	1.5	1.5
0.5	1.0	1.0	1.0
337/	334/-	334/-	334/-
≤ 25	< 100	< 100	< 100
100	≤50	≤50	≤50
≤ 160	≤125	≤125	≤125
≤ 125	≤125	≤125	≤125
Yes	No	No	No
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	No	No	No
Yes (TS option)	Yes	Yes	Yes
2.5 ... 35	2.5 ... 50	2.5 ... 50	2.5 ... 50
2.5 ... 25	2.5 ... 35	2.5 ... 35	2.5 ... 35
12.5	15	15	15
2.8	3.5	3.5	3.5
1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA
250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A
1.5	1.5	1.5	1.5
-40 to +80	-40 to +80	-40 to +80	-40 to +80
5000	2000	2000	2000
IP 20 - Indoor	IP 20 - Indoor	IP 20 - Indoor	IP 20 - Indoor
V-0	V0	V0	V0
88 x 71.2 x 76.7	93.5 x 71.2 x 65	93.5 x 142.4 x 65	93.5 x 142.4 x 65
3.46 x 2.8 x 3.02	3.68 x 2.8 x 2.56	3.68 x 5.61 x 2.56	3.68 x 5.61 x 2.56
95.8 x 71.2 x 76.7			
3.77 x 2.8 x 3.02			
OVR T1-T2 12.5-275s C QS 2CTB815710R2600	OVR T1+2 25-255 c 2CTB815101R3700	OVR T1+2 25-255 c 2CTB815101R3700	OVR T1+2 25-255 c 2CTB815101R3700

Protection and safety

OVR Type 1+2 surge protective devices TNS/TT 400 V 1Ph+N and 3Ph+N networks

Technical features

Types		OVR T1-T2 1N 12.5-440s P QS	OVR T1-T2 3N 12.5-440s P QS	OVR T1-T2 4L 12.5-440s P QS
with auxiliary contact (TS)		OVR T1-T2 1N 12.5-440s P TS QS	OVR T1-T2 3N 12.5-440s P TS QS	OVR T1-T2 4L 12.5-440s P TS QS
Technology		Varistor + GDT	Varistor + GDT	Varistor
Electrical features				
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T1-T2/I - II	T1-T2/I - II	T1-T2/I - II
Protected lines		1+1	3+1	4
System network		TT- TNS	TT- TNS	TNS
Type of current		AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		± 10 %	± 10 %	± 10 %
Nominal system voltage Un	[V]	400	400/690	400/690
Max. cont. operating voltage Uc	[V]	440	440	440
Maximum impulse current Iimp (10/350)	[kA]	12.5	12.5	12.5
Max. Imp current Tot Iimp (10/350)	[kA]	25	50	50
Nominal discharge current In (8/20)	[kA]	20	20	20
Maximal discharge current Imax (8/20) kA	[kA]	80	80	80
Follow current interrupting rating Ifi	[kA]			
Voltage protection level Up at In (L-N/N-PE/L-PE)	[kV]	1.9/1.9/2	1.9/1.9/2	3.8/1.9/1.9
Voltage protection level Ures at 3 kA	[kV]	0.8	0.8	0.8
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	581/1200	581/1200	581/
Response time	[ns]	≤ 25	≤ 25	≤ 25
Short-circuit withstand capability Isccr	[kA]	100	100	100
Backup protection maximum rating	fuse (gG)	[A] ≤ 160	≤ 160	≤ 160
	circuit breaker (B or C curve)	[A] ≤ 125	≤ 125	≤ 125
Pluggable cartridge		Yes	Yes	Yes
Integrated thermal disconnecter		Yes	Yes	Yes
State indicator		Yes	Yes	Yes
Safety reserve		Yes	Yes	Yes
Auxiliary contact		Yes (TS option)	Yes (TS option)	Yes (TS option)
Installation				
Wire range (L, N, PE)	solid wire	[mm²] 2.5 ... 35	2.5 ... 35	2.5 ... 35
	stranded wire	[mm²] 2.5 ... 25	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)	[mm]	12.5	12.5	12.5
Tightening torque (L, N, PE)	[Nm]	2.8	2.8	2.8
Auxiliary contact (TS)				
Contacts information		1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Min. load		12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA
Max. load		250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A
Connection cross-section	[mm²]	1.5	1.5	1.5
Miscellaneous characteristics				
Stocking and operating temperature		[°C] -40 to +80	-40 to +80	-40 to +80
Maximal Altitude		[m] 5000	5000	5000
Degree of protection		IP 20 - Indoor	IP 20 - Indoor	IP 20 - Indoor
Fire resistance according to UL 94		V-0	V-0	V-0
Dimensions				
height x width x depth	[mm]	88 x 53.4 x 76.7	88 x 124.6 x 76.7	88 x 142.4 x 76.7
	[in]	3.46 x 2.1 x 3.02	3.46 x 4.91 x 3.02	3.46 x 5.61 x 3.02
Dimensions with auxiliary contact (TS)				
height x width x depth	[mm]	95.8 x 53.4 x 76.7	95.8 x 124.6 x 76.7	95.8 x 142.4 x 76.7
	[in]	3.77 x 2.1 x 3.02	3.77 x 4.91 x 3.02	3.77 x 5.61 x 3.02
Replacement Cartridges				
Phase Product ID		OVR T1-T2 12.5-440s C QS 2CTB815710R5500	OVR T1-T2 12.5-440s C QS 2CTB815710R5500	OVR T1-T2 12.5-440s C QS 2CTB815710R5500
Neutral Product ID		OVR T1-T2 N 50-440s C QS 2CTB815710R5600	OVR T1-T2 N 50-440s C QS 2CTB815710R5600	

Protection and safety

OVR Type 1+2 surge protective devices TNS/TT 400 V 1Ph+N and 3Ph+N networks



OVR T1-T2
1N 12.5-440s
P TS QS

Type 1+2 surge protective devices are designed to discharge high current surges without any destruction of the installation. These surge protective devices are characterized by their capacity to withstand impulse current with 10/350 μ s wave form which simulate natural lightning current.

Type 1+2 ABB surge protective devices have a high impulse current withstand capacity with ensuring a low protection level (Up).

Type 1+2 SPDs can be installed at the entrance in the main switch board for a global protection of the electrical installation.

Poles	Impulse current Iimp 10/350	Max. discharge current Imax 8/20	Follow current interrupting rating Ifi	Voltage protection level Up	Nominal voltage Un	Max. cont. operating voltage Uc	Bbn 3660 308	Order details		Weight 1 piece
	kA	kA	kA	kV	V	V	EAN	Type code	Order code	kg
1+1	12.5	80	-	1.4	230	275	524966	OVR T1-T2 1N 12.5-275s P QS	2CTB815710R1300	0.30
1+1	12.5	80	-	1.4	230	275	524898	OVR T1-T2 1N 12.5-275s P TS QS	2CTB815710R0100	0.30
1+1	12.5	80	-	1.9	400	440	525130	OVR T1-T2 1N 12.5-440s P QS	2CTB815710R4200	0.45
1+1	12.5	80	-	1.9	400	440	525062	OVR T1-T2 1N 12.5-440s P TS QS	2CTB815710R3000	0.45
3+1	12.5	80	-	1.4	230/400	275	524997	OVR T1-T2 3N 12.5-275s P QS	2CTB815710R1900	0.60
3+1	12.5	80	-	1.4	230/400	275	524928	OVR T1-T2 3N 12.5-275s P TS QS	2CTB815710R0700	0.60
3+1	12.5	80	-	1.9	400/690	440	525161	OVR T1-T2 3N 12.5-440s P QS	2CTB815710R4800	1.05
3+1	12.5	80	-	1.9	400/690	440	525093	OVR T1-T2 3N 12.5-440s P TS QS	2CTB815710R3600	1.05
4	12.5	80	-	1.4	230/400	275	525017	OVR T1-T2 4L 12.5-275s P QS	2CTB815710R2300	0.60
4	12.5	80	-	1.4	230/400	275	524942	OVR T1-T2 4L 12.5-275s P TS QS	2CTB815710R1100	0.60
4	12.5	80	-	1.9	400/690	440	525185	OVR T1-T2 4L 12.5-440s P QS	2CTB815710R5200	1.20
4	12.5	80	-	1.9	400/690	440	525116	OVR T1-T2 4L 12.5-440s P TS QS	2CTB815710R4000	1.20
1+1	25	60	15	1.5	230	255	513519	OVR T1+2 1N 25-255 TS	2CTB815101R4400	0.54
3+1	25	60	15	1.5	230/400	255	513526	OVR T1+2 3N 25-255 TS	2CTB815101R4500	1.07
4	25	60	15	1.5	230/400	255	513434	OVR T1+2 4L 25-255 TS	2CTB815101R4200	1.07

Protection and safety

OVR Type 2 surge protective devices for 57 V networks

Technical features

Types			OVR T2 20-75 P	OVR T2 2 20-75 P
with auxiliary contact (TS)			OVR T2 20-75 P TS	OVR T2 2 20-75 P TS
Technology			Varistor	Varistor
Electrical features				
Standard			IEC 61643-1/EN 61643-11	IEC 61643-1/EN 61643-11
Type/test class			T2/II	T2/II
Protected lines			1	2
Types of networks			TT-TNS-TNC	TT-TNS-TNC
Type of current			AC - DC	AC - DC
Nominal AC voltage Un		[V]	57	57
Max. cont. operating AC voltage Uc		[V]	75	75
Maximum discharge current I _{max} (8/20)		[kA]	20	20
Nominal discharge current I _n (8/20)		[kA]	5	5
Voltage protection level Up at I _n		[kV]	0.3	0.3
Voltage protection level Up at 3 kA		[kV]	0.25	0.25
TOV (Temporary overvoltage) withstand Ut (L-N: 5s/N-PE: 200ms)		[V]	75/-	75/-
Response time		[ns]	≤ 25	≤ 25
Residual current IPE		[μA]	≤110	≤10
Short-circuit withstand capability I _{sc}		[kA]	50	50
Backup protection maximum rating	fuse (gG)	[A]	≤ 16	≤ 16
	circuit breaker (B or C curve)	[A]	≤ 16	≤ 16
Pluggable cartridge			Yes	Yes
Integrated thermal disconnect			Yes	Yes
State indicator			Yes	Yes
Safety reserve			No	No
Auxiliary contact (TS)			Yes (TS option)	Yes (TS option)
Installation				
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 25	2.5 ... 25
	stranded wire	[mm²]	2.5 ... 16	2.5 ... 16
Stripping length (L, N, PE)		[mm]	12.5	12.5
Tightening torque (L, N, PE)		[Nm]	2.5	2.5
Auxiliary contact (TS)				
Contact complement			1 NO - 1 NC	1 NO - 1 NC
Min. load			12 V DC - 10 mA	12 V DC - 10 mA
Max. load			250 V AC - 1 A	250 V AC - 1 A
Connection cross-section		[mm²]	1.5	1.5
Miscellaneous characteristics				
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80
Maximal Altitude		[m]	5000	5000
Degree of protection			IP 20	IP 20
Fire resistance according to UL 94			V-0	V-0
Dimensions				
height x width x depth		[mm]	88 x 17.8 x 65	88 x 35.6 x 65
		[in]	3.46 x 0.7 x 2.56	3.46 x 1.4 x 2.56
Dimensions with auxiliary contact (TS)				
height x width x depth		[mm]	96 x 17.8 x 65	96 x 35.6 x 65
		[in]	3.78 x 0.7 x 2.56	3.78 x 1.4 x 2.56
Replacement Cartridges				
Phase Product ID			OVR T2 20-75 C 2CTB803854R1400	OVR T2 20-75 C 2CTB803854R1400

Protection and safety

OVR Type 2 surge protective devices for 57 V networks

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up). They are characterized by their capacity to safely discharge current with 8/20 µs wave form.

Type 2 pluggable - Uc 75 V

Poles	Max discharge current Imax 8/20	Nominal discharge current In	Voltage protection level Up	Nominal voltage Un	Max. cont. operating voltage Uc	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
1	20	5	0.3	57	75	518446	OVR T2 20-75 P	2CTB803851R2800	0.12
1	20	5	0.3	57	75	518453	OVR T2 20-75 P TS	2CTB803851R2700	0.12
2	20	5	0.3	57	75	518484	OVR T2 2 20-75 P	2CTB803852R1700	0.23
2	20	5	0.3	57	75	518477	OVR T2 2 20-75 P TS	2CTB803852R1600	0.23

Protection and safety

OVR Type 2 surge protective devices non pluggable

Technical features

Types		OVR T2 20-275	OVR T2 40-275
with auxiliary contact (TS)		-	-
Technology		Varistor	Varistor
Electrical features			
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T2/II	T2/II
Protected lines		1	1
Types of networks		TT(L-N)-TNS-TNC	TT(L-N)-TNS-TNC
Type of current		AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		± 20 %	± 20 %
Nominal AC voltage Un	[V]	230	230
Max. cont. operating AC voltage Uc	[V]	275	275
Maximum discharge current I _{max} (8/20)	[kA]	20	40
Nominal discharge current I _n (8/20)	[kA]	5	20
Voltage protection level Up at I _n	[kV]	1	1.4
Voltage protection level Up at 3 kA	[kV]	0.9	0.9
TOV (Temporary overvoltage) withstand Ut (L-N: 5s/N-PE: 200ms)	[V]	337/-	337/-
Response time	[ns]	≤ 25	≤ 25
Residual current IPE	[μA]	≤ 110	≤ 110
Short-circuit withstand capability I _{sc}	[kA]	50	50
Backup protection fuse (gG)	[A]	≤ 50	≤ 50
maximum rating circuit breaker (B or C curve)	[A]	≤ 50	≤ 50
Pluggable cartridge		No	No
Integrated thermal disconnect		Yes	Yes
State indicator		Yes	Yes
Safety reserve		No	No
Auxiliary contact (TS)		No	No
Installation			
Wire range (L, N, PE)	solid wire	[mm ²] 2.5...25	2.5...25
	stranded wire	[mm ²] 2.5...16	2.5...16
Stripping length (L, N, PE)		[mm] 12.2	12.2
Tightening torque (L, N, PE)		[Nm] 2.5	2.5
Auxiliary contact (TS)			
Contact complement		-	-
Min. load		-	-
Max. load		-	-
Connection cross-section		[mm ²] -	-
Miscellaneous characteristics			
Stocking and operating temperature		[°C] -40 to +80	-40 to +80
Maximal Altitude		[m] 2000	2000
Degree of protection		IP 20	IP 20
Fire resistance according to UL 94		V-0	V-0
Dimensions			
height x width x depth	[mm]	85 x 17.8 x 64.8	85 x 17.8 x 64.8
	[in]	3.35 x 0.70 x 2.55	3.35 x 0.70 x 2.55

Protection and safety

OVR Type 2 surge protective devices non pluggable

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up). They are characterized by their capacity to safely discharge current with 8/20 μs wave form.

Type 2 non pluggable - Uc 275 V

Pos	Max discharge current I _{max} 8/20	Nominal discharge current I _n	Voltage protection level U _p	Nominal voltage U _n	Max. cont. operating voltage U _c	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
1	20	5	1	230/400	275	514882	OVR T2 20-275	2CTB804200R0100	0.12
1	40	20	1.4	230/400	275	514103	OVR T2 40-275	2CTB804201R0100	0.12
1	20	5	1	230/400	275	519382	OVR T2 20-275 (x20)	2CTB804200R1100	0.12
1	40	20	1.4	230/400	275	519412	OVR T2 40-275 (x20)	2CTB804201R1100	0.12

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices Single pole
230 V networks

Technical features

Types		OVR T2 40-275 P QS	OVR T2 40-275s P QS
with auxiliary contact (TS)		OVR T2 40-275 P TS QS	OVR T2 40-275s P TS QS
Technology		Varistor	Varistor
Electrical features			
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T2/II	T2/II
Protected lines		1	1
System network		TT(L-N)-TNS-TNC	TT(L-N)-TNS-TNC
Type of current		AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		± 20%	± 20%
Nominal system voltage Un	[V]	230	230
Max. cont. operating voltage Uc	[V]	275	275
Nominal dc voltage Un dc L-PE	[V dc]	320	-
Max. dc. cont. operating voltage Ucdc L-PE	[V dc]	355	-
Maximum discharge current I _{max} (8/20)	[kA]	40	40
Maximum impulse current I _{imp} (10/350)	[kA]	2	2
Nominal discharge current I _n (8/20)	[kA]	20	20
Voltage protection level Up at I _n (L-N/N-PE/L-PE)	[kV]	1.25/-/1.25	1.4/-/1.4
Voltage protection level Ures at 3kA (L-N)	[kV]	0.8	0.5
Voltage protection level Ures at 5kA (L-N)	[kV]	0.85	0.7
Voltage protection level Ures at 10kA (L-N)	[kV]	1	0.9
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	337/-	337/-
Response time	[ns]	≤ 25	≤ 25
Short-circuit withstand capability I _{sc}	[kA]	100	100
Backup protection maximum rating	fuse (gG)	[A]	≤ 125
	circuit breaker (B or C curve)	[A]	≤ 125
Pluggable cartridge		Yes	Yes
Integrated QuickSafe® technology		Yes	Yes
State indicator		Yes	Yes
Safety reserve		No	Yes
Auxiliary contact		Yes (TS option)	Yes (TS option)
Installation			
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35
	stranded wire	[mm²]	2.5 ... 25
Stripping length (L, N, PE)	[mm]	12.5	12.5
Tightening torque (L, N, PE)	[Nm]	2.8	2.8
Auxiliary contact (TS)			
Contacts information		1 NO - 1 NC	1 NO - 1 NC
Min. load		12 V DC - 10 mA	12 V DC - 10 mA
Max. load		250 V AC - 1 A	250 V AC - 1 A
Connection cross-section	[mm²]	1.5	1.5
Miscellaneous characteristics			
Stocking and operating temperature	[°C]	-40 to +80	-40 to +80
Maximal Altitude	[m]	5000	5000
Degree of protection		IP 20	IP 20
Fire resistance according to UL 94		V0	V0
Dimensions			
height x width x depth	[mm]	88 x 17.8 x 65.3	88 x 17.8 x 76.7
	[inches]	3.46 x 0.7 x 2.57	3.46 x 0.7 x 3.02
With Auxiliary Contact (TS)			
height x width x depth	[mm]	95.8 x 17.8 x 65.3	95.8 x 17.8 x 76.7
	[inches]	3.77 x 0.7 x 2.57	3.77 x 0.7 x 3.02
Replacement Cartridges			
Phase Product ID		OVR T2 40-275 C QS 2CTB803876R1000	OVR T2 40-275s C QS 2CTB815704R2600
Neutral Product ID		-	-

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices Single pole
230 V networks

OVR T2 40-350 P QS	OVR T2 80-275s P QS	OVR T2-T3 N 80-275 P QS	OVR T2 N 80-350 P QS	OVR T2 N 80-275s P QS
OVR T2 40-350 P TS QS	OVR T2 80-275s P TS QS			
Varistor	Varistor	GDT	GDT	GDT
IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
T2/II	T2/II	T2-T3/II-III	T2/II	T2
1	1	1	1	1
TT(L-N)-TNS-TNC	TT(L-N)-TNS-TNC	TT (N-PE)-TNS(N-PE)	TT (N-PE)-TNS(N-PE)	TT(N-PE)-TNS(N-PE)
AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
± 50%	± 20%	± 20%	± 50%	± 20%
230	230	230	230	230
350	275	275	350	275
375	-	-	-	-
415	-	-	-	-
40	80	80	80	80
2	6.25	2	2	6.25
20	20	30	30	30
1.5/-/1.5	1.4/-/1.4	-/1.4/-	-/1.4/-	-/1.4/-
1	0.5	-	-	-
1.05	0.7	-	-	-
1.2	0.9	-	-	-
455/-	337/-	-/1200	-/1200	-/1200
≤ 25	≤ 25	< 25	< 25	< 25
100	100	-	-	100
≤ 125	≤ 160	≤ 125	≤ 125	≤ 160
≤ 125	≤ 125	≤ 125	≤ 125	≤ 125
Yes	Yes	Yes	Yes	Yes
Yes	Yes	-	-	-
Yes	Yes	No	No	No
No	Yes	No	No	No
Yes (TS option)	Yes (TS option)	No	No	No
2.5 ... 35	2.5 ... 35	2.5 ... 35	2.5 ... 35	2.5 ... 35
2.5 ... 25	2.5 ... 25	2.5 ... 25	2.5 ... 25	2.5 ... 25
12.5	12.5	12.5	12.5	15
2.8	2.8	2.8	2.8	3.5
1 NO- 1 NC	1 NO- 1 NC	-	-	-
12 V DC - 10 mA	12 V DC - 10 mA	-	-	-
250 V AC - 1 A	250 V AC - 1 A	-	-	-
1.5	1.5	-	-	-
-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80
5000	5000	5000	5000	5000
IP 20	IP 20 - Indoor	IP 20 - Indoor	IP 20 - Indoor	IP 20 - Indoor
V0	V-0	V-0	V-0	V0
88 x 17.8 x 65.3	88 x 17.8 x 76.7	88 x 17.8 x 65.3	88 x 17.8 x 65.3	88 x 17.8 x 76.7
3.46 x 0.7 x 2.57	3.46 x 0.7 x 3.02	3.46 x 0.7 x 3.02	3.46 x 0.7 x 3.02	3.45 x 0.7 x 3.02
95.8 x 17.8 x 65.3	95.8 x 17.8 x 76.7	-	-	-
3.77 x 0.7 x 2.57	3.77 x 0.7 x 3.02	-	-	-
OVR T2 40-350 C QS 2CTB803886R1000	OVR T2 80-275s C QS 2CTB815708R2600	-	-	-
-	-	OVR T2-T3 N 80-275 C QS 2CTB803876R0000	OVR T2 N 80-350 C QS 2CTB803886R0000	OVR T2 N 80-275s C QS 2CTB815708R2800

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices Single pole
230 V networks



OVR T2 40-275 P QS

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up). They are characterized by their capacity to safely discharge current with 8/20 μ s wave form.

Type 2 pluggable

Poles	Max discharge current I_{max} 8/20	Nominal discharge current I_n	Voltage protection level U_p	Nominal voltage U_n	Max. cont. operating voltage U_c	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
1	40	20	1.25	230	275	519580	OVR T2 40-275 P QS	2CTB803871R2300	0.12
1	40	20	1.25	230	275	519597	OVR T2 40-275 P TS QS	2CTB803871R1700	0.12
1	40	20	1.4	230	275	525291	OVR T2 40-275s P QS	2CTB815704R1200	0.15
1	40	20	1.4	230	275	525222	OVR T2 40-275s P TS QS	2CTB815704R0000	0.15
1	40	20	1.5	230	350	520609	OVR T2 40-350 P QS	2CTB803881R2300	0.12
1	40	20	1.5	230	350	520562	OVR T2 40-350 P TS QS	2CTB803881R1700	0.12
1	80	20	1.4	230	275	525475	OVR T2 80-275s P QS	2CTB815708R1200	0.15
1	80	20	1.4	230	275	525406	OVR T2 80-275s P TS QS	2CTB815708R0000	0.15
1	80	30	1.4	230	275	519658	OVR T2 N 80-350 P QS	2CTB803983R1900	0.12
1	80	30	1.4	230	275	519641	OVR T2-T3 N 80-275 P QS	2CTB803973R1900	0.12
1	80	30	1.4	230	275	525536	OVR T2 N 80-275s P QS	2CTB815708R2500	0.12



Notes

Lined area for notes, consisting of multiple horizontal lines.

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices Single pole
400 V networks

Technical features

Types		OVR T2 40-440 P QS	OVR T2 40-440s P QS	OVR T2 80-440s P QS
with auxiliary contact (TS)		OVR T2 40-440 P TS QS	OVR T2 40-440s P TS QS	OVR T2 80-440s P TS QS
Technology		Varistor	Varistor	Varistor
Electrical features				
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T2/II	T2/II	T2/II
Protected lines		1	1	1
System network		TNC - TT(L-N) - TNS - IT (230 V)	TNC - TT(L-N) - TNS - IT (230 V)	TNC - TT(L-N) - TNS - IT (230 V)
Type of current		AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		± 10%	± 10%	± 10%
Nominal system voltage Un	[V]	400	400	400
Max. cont. operating voltage Uc	[V]	440	440	440
Nominal dc voltage Un dc L-PE	[V dc]	495	-	-
Max. dc. cont. operating voltage Ucdc L-PE	[V dc]	545	-	-
Maximum discharge current I _{max} (8/20)	[kA]	40	40	80
Maximum impulse current I _{imp} (10/350)	[kA]	2	2	6.25
Nominal discharge current I _n (8/20)	[kA]	20	20	20
Voltage protection level Up at I _n (L-N/N-PE/L-PE)	[kV]	1.8/-/1.8	1.8/-/1.8	1.8/-/1.8
Voltage protection level U _{res} at 3kA (L-N)	[kV]	1.25	0.8	0.8
Voltage protection level U _{res} at 5kA (L-N)	[kV]	1.35	1.2	1.2
Voltage protection level U _{res} at 10kA (L-N)	[kV]	1.55	1.55	-
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	581/-	581/-	581/-
U _{oc}	[kV]	-	-	-
Response time	[ns]	≤ 25	≤ 25	≤ 25
Short-circuit withstand capability I _{scrr}	[kA]	100	100	100
Backup protection maximum rating	fuse (gG)	[A]	≤ 125	≤ 160
	circuit breaker (B or C curve)	[A]	≤ 125	≤ 125
Pluggable cartridge		Yes	Yes	Yes
Integrated QuickSafe® technology		Yes	Yes	Yes
State indicator		Yes	Yes	Yes
Safety reserve		No	Yes	Yes
Auxiliary contact		Yes (TS option)	Yes (TS option)	Yes (TS option)
Installation				
Wire range (L, N, PE)	solid wire	[mm ²]	2.5 ... 35	2.5 ... 35
	stranded wire	[mm ²]	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)		[mm]	12.5	12.5
Tightening torque (L, N, PE)		[Nm]	2.8	2.8
Auxiliary contact (TS)				
Contacts information		1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Min. load		12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA
Max. load		250 V AC - 1 A	250 V AC - 1A	250 V AC - 1A

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices Single pole
400 V networks

OVR T2 40-600 P QS	OVR T2-T3 N 80-440 P QS	OVR T2 N 80-440s P QS
OVR T2 40-600 P TS QS		
Varistor	GDT	GDT
IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
T2/II	T2-T3/II-III	T2
1	1	1
TNC - TT(L-N) - TNS - IT (230 V)	TT (N-PE)-TNS(N-PE)	TT(N-PE)-TNS(N-PE)
AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
± 50 %	± 10 %	± 10 %
400	400	400
600	440	440
650	-	-
715	-	-
40	80	80
2	2	6.25
20	30	30
2.3/-/-	-/1.4/-	-/2/-
1.6	-	-
1.7	-	-
1.9	-	-
792/-	-/1200	-/1200
-	-	-
≤ 25	< 25	< 25
100	-	100
≤ 125	≤ 125	≤ 160 A
≤ 125	≤ 125	≤ 160 A
Yes	Yes	No
Yes	Yes	-
Yes	Yes	No
No	No	No
Yes	No	No
2.5 ... 35	2.5 ... 35	2.5 ... 35
2.5 ... 25	2.5 ... 25	2.5 ... 25
12.5	12.5	15
2.8	2.8	3.5
1 NO - 1 NC	-	-
12 V DC - 10 mA	-	-
250 V AC - 1 A	-	-

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices Single pole
400 V networks

Technical features

Types		OVR T2 40-440 P QS	OVR T2 40-440s P QS	OVR T2 80-440s P QS
with auxiliary contact (TS)		OVR T2 40-440 P TS QS	OVR T2 40-440s P TS QS	OVR T2 80-440s P TS QS
Connection cross-section	[mm²]	1.5	1.5	1.5
Miscellaneous characteristics				
Stocking and operating temperature	[°C]	-40 to +80	-40 to +80	-40 to +80
Maximal Altitude	[m]	5000	5000	5000
Degree of protection		IP 20	IP 20	IP 20
Fire resistance according to UL 94		V0	V-0	V-0
Dimensions of packing				
height x width x depth	[mm]	88 x 17.8 x 65.3	88 x 17.8 x 76.7	88 x 17.8 x 76.7
	[inches]	3.46 x 0.7 x 2.57	3.46 x 0.7 x 3.02	3.46 x 0.7 x 3.02
With Auxiliary Contact (TS)				
height x width x depth	[mm]	95.8 x 17.8 x 65.3	95.8 x 17.8 x 76.7	95.8 x 17.8 x 76.7
	[inches]	3.77 x 0.7 x 2.57	3.77 x 0.7 x 3.02	3.77 x 0.7 x 3.02
Replacement Cartridges				
Phase Product ID		OVR T2 40-440 C 2CTB803876R0400	OVR T2 40-440s C QS 2CTB815704R5500	OVR T2 80-440s C QS 2CTB815708R5500
Neutral Product ID		-	-	-

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices Single pole
400 V networks

OVR T2 40-600 P QS	OVR T2-T3 N 80-440 P QS	OVR T2 N 80-440s P QS
OVR T2 40-600 P TS QS		
1.5		1.5
-40 to +80	-40 to +80	-40 to +80
5000	5000	5000
IP 20	IP 20	IP 20
V0	V-0	V0
88 x 17.8 x 65.3	88 x 17.8 x 65.3	88 x 17.8 x 76
3.46 x 0.7 x 2.99	3.46 x 0.7 x 2.57	3.46 x 0.7 x 2.99
95.8 x 17.8 x 76.7		
3.77 x 0.7 x 3.02		
OVR T2 40-600 C QS 2CTB803886R0400	-	
-	OVR T2-T3 N 80-440 C QS 2CTB803886R0100	OVR T2 N 80-440s C QS 2CTB815708R2800

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up). They are characterized by their capacity to safely discharge current with 8/20 µs wave form.

Type 2 pluggable

Poles	Max dis- charge current I _{max} 8/20	Nomi- nal dis- charge current I _n	Volt- age pro- tec- tion level U _p	Nominal voltage U _n	Max. cont. oper- ating volt- age U _c	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
1	40	20	1.8	400	440	519627	OVR T2 40-440 P QS	2CTB803871R1200	0.12
1	40	20	2	400	440	519634	OVR T2 40-440 P TS QS	2CTB803871R0500	0.12
1	40	20	1.8	400	440	525338	OVR T2 40-440s P QS	2CTB815704R4100	0.30
1	40	20	1.8	400	440	525369	OVR T2 40-440s P TS QS	2CTB815704R2900	0.30
1	80	20	1.8	400	440	525567	OVR T2 80-440s P QS	2CTB815708R4100	0.30
1	80	20	1.8	400	440	525567	OVR T2 80-440s P TS QS	2CTB815708R2900	0.30
1	40	20	2.3	400	600	520616	OVR T2 40-600 P QS	2CTB803881R1200	0.12
1	40	20	2.3	400	600	520579	OVR T2 40-600 P TS QS	2CTB803881R0500	0.12
1	80	30	1.4	400	440	519665	OVR T2-T3 N 80-440 P QS	2CTB803973R2000	0.12
1	80	30	2	400	440	525642	OVR T2 N 80-440s P QS	2CTB815708R5400	0.12
1	120	60	2.5	400	440	517067	OVR T2 120-440s P	2CTB803951R1300	0.25

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices

TNC 230 V networks

Technical features

Types		OVR T2 3L 40-275 P QS	OVR T2 3L 40-275s P QS	OVR T2 3L 80-275s P QS	OVR T2 3L 40-350 P QS
with auxiliary contact (TS)		OVR T2 3L 40-275 P TS QS	OVR T2 3L 40-275s P TS QS	OVR T2 3L 80-275s P TS QS	OVR T2 3L 40-350 P TS QS
Technology		Varistor	Varistor	Varistor	Varistor
Electrical features					
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T2/II	T2/II	T2/II	T2/II
Protected lines		3	3	3	3
System network		TNC	TNC	TNC	TNC
Type of current		AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		± 20%	± 20%	± 20%	± 50%
Nominal system voltage Un (L-PEN/L-L)	[V]	230/400	230/400	230/400	230/400
Max. cont. operating voltage Uc	[V]	275	275	275	350
Nominal dc voltage Un dc L-PE/Un dc L-L	[V dc]	320/640	-	-	375/750
Max. dc. cont. operating voltage Ucdc L-PE/Ucdc L-L	[V dc]	355/710	-	-	415/830
Maximum discharge current I _{max} (8/20)	[kA]	40	40	80	40
Maximum impulse current I _{imp} (10/350)	[kA]	2	2	6.25	2
Nominal discharge current I _n (8/20)	[kA]	20	20	20	20
Voltage protection level Up at I _n (L-PE)	[kV]	1.25	1.4	1.4	1.5
Voltage protection level U _{res} at 3kA	[kV]	0.8	0.5	0.5	1.0
Voltage protection level U _{res} at 5kA	[kV]	0.85	0.7	0.7	1.05
Voltage protection level U _{res} at 10kA	[kV]	1.0	0.9	0.9	1.2
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	337/-	337/-	337/-	455/-
U _{oc}	[kV]	-	-	-	-
Response time	[ns]	≤ 25	≤ 25	≤ 25	≤ 25
Short-circuit withstand capability I _{sc}	[kA]	100	100	100	100
Backup protection maximum rating	fuse (gG)	[A]	≤ 125	≤ 160	≤ 125
	circuit breaker (B or C curve)	[A]	≤ 125	≤ 125	≤ 125
Pluggable cartridge		Yes	Yes	Yes	Yes
Integrated QuickSafe® technology		Yes	Yes	Yes	Yes
State indicator		Yes	Yes	Yes	Yes
Safety reserve		No	Yes	Yes	No
Auxiliary contact		Yes (TS option)	Yes (TS option)	Yes (TS option)	Yes (TS option)
Installation					
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35	2.5 ... 35	2.5 ... 35
	stranded wire	[mm²]	2.5 ... 25	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)		[mm]	12.5	12.5	12.5
Tightening torque (L, N, PE)		[Nm]	2.8	2.8	2.8
Auxiliary contact (TS)					
Contacts information		1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Min. load		12 DC - 10 mA	12 DC - 10 mA	12 DC - 10 mA	12 DC - 10 mA
Max. load		250 V AC - 1A	250 V AC - 1A	250 V AC - 1A	250 V AC - 1A
Connection cross-section		[mm²]	1.5	1.5	1.5
Miscellaneous characteristics					
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80	-40 to +80
Maximal Altitude		[m]	5000	5000	5000
Degree of protection			IP 20	IP 20	IP 20
Fire resistance according to UL 94			V0	V-0	V0

Protection and safety

OVR Type 2 surge protective devices TNC 230 V networks, pluggable and non-pluggable versions

Technical features

Types		OVR T2 3L 80-275s P QS	OVR T2 3L 40-350 P QS
with auxiliary contact (TS)		OVR T2 3L 80-275s P TS QS	OVR T2 3L 40-350 P TS QS
Dimensions			
height x width x depth	[mm]	88 x 53.4 x 76.7	85 x 53.4 x 64.8
	[inches]	3.46 x 2.1 x 3.02	3.35 x 2.10 x 2.55
With Auxiliary Contact (TS)			
height x width x depth	[mm]	95.8 x 53.4 x 76.7	96 x 53.4 x 64.8
	[inches]	3.77 x 2.1 x 3.02	3.78 x 2.10 x 2.55
Replacement Cartridges			
Phase Product ID		OVR T2 80-275s C QS 2CTB8157084R2600	OVR T2 40-350 C QS 2CTB803886R1000
Neutral Product ID		-	-



OVR T2 3L 40-275 P QS

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up). They are characterized by their capacity to safely discharge current with 8/20 μs wave form.

Type 2 pluggable

Po- les	Max dis- charge current I _{max} 8/20	Nomi- nal dis- charge current I _n	Volt- age pro- tec- tion level U _p	Nominal voltage U _n	Max. cont. oper- ating voltage U _c	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
3	40	20	1.25	230/400	275	519825	OVR T2 3L 40-275 P QS	2CTB803873R2400	0.36
3	40	20	1.25	230/400	275	519832	OVR T2 3L 40-275 P TS QS	2CTB803873R2500	0.36
3	40	20	1.4	230/400	275	525253	OVR T2 3L 40-275s P TS QS	2CTB815704R0600	0.45
3	40	20	1.4	230/400	275	525314	OVR T2 3L 40-275s P QS	2CTB815704R1800	0.45
3	80	20	1.4	230/400	275	525437	OVR T2 3L 80-275s P TS QS	2CTB815708R0600	0.45
3	80	20	1.4	230/400	275	525499	OVR T2 3L 80-275s P QS	2CTB815708R1800	0.45
3	40	20	1.5	230/400	350	519849	OVR T2 3L 40-350 P QS	2CTB803883R2400	0.36
3	40	20	1.5	230/400	350	519856	OVR T2 3L 40-350 P TS QS	2CTB803883R2500	0.36

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices
TNC 400 V networks

Technical features

Types		OVR T2 3L 40-440 P QS	OVR T2 3L 80-440s P QS	OVR T2 3L 40 400/690 P	
with auxiliary contact (TS)		OVR T2 3L 40-440 P TS QS	OVR T2 3L 80-440s P TS QS	OVR T2 3L 40 400/690 P TS	OVR T2 3L 40-600 P TS QS
Technology		Varistor	Varistor	Varistor	Varistor
Electrical features					
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T2/II	T2/II	T2/II	T2/II
Protected lines		3	3	3	3
System network		TNC - IT (230)	TNC - IT (230)	TNC - IT (400)	TNC - IT (230)
Type of current		AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		± 10%	± 10%	± 10%	± 50%
Nominal system voltage Un (L-PEN/L-L)	[V]	400/690	400/690	400/690	400/690
Max. cont. operating voltage Uc	[V]	440	440	440	600
Nominal dc voltage Un dc L-PE/Un dc L-L	[V dc]	495/990	-	-	650/990
Max. dc. cont. operating voltage Ucdc L-PE/Ucdc L-L	[V dc]	545/1090	-	-	715/1090
Maximum discharge current I _{max} (8/20)	[kA]	40	80	40	40
Maximum impulse current I _{imp} (10/350)	[kA]	2	6.25	2	2
Nominal discharge current I _n (8/20)	[kA]	20	20	15	20
Voltage protection level Up at I _n (L-PE)	[kV]	1.8	2.1	2.9	2.3
Voltage protection level U _{res} at 3kA	[kV]	1.25	1.25	2.1	1.6
Voltage protection level U _{res} at 5kA	[kV]	1.35	1.35	2.2	1.7
Voltage protection level U _{res} at 10kA	[kV]	1.55	1.55	2.3	1.9
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	581/-	581/-	910/-	792/-
Response time	[ns]	< 25	< 25	< 25	< 25
Short-circuit withstand capability I _{sc}	[kA]	100	100	100	100
Backup protection maximum rating	fuse (gG)	[A]	≤ 125	≤ 50	≤ 125
	circuit breaker (B or C curve)	[A]	≤ 125	≤ 50	≤ 125
Pluggable cartridge		Yes	Yes	Yes	Yes
Integrated QuickSafe® technology		Yes	Yes	No	Yes
State indicator		Yes	Yes	Yes	Yes
Safety reserve		No	Yes	No	No
Auxiliary contact		Yes (TS option)	Yes (TS option)	Yes (TS option)	Yes
Installation					
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35	2.5 ... 35	2.5 ... 36
	stranded wire	[mm²]	2.5 ... 25	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)		[mm]	2.8	2.8	2.8
Tightening torque (L, N, PE)		[Nm]			
Auxiliary contact (TS)			1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Contacts information			12 DC - 10 mA	12 DC - 10 mA	12 DC - 10 mA
Min. load			250 V AC - 1A	250 V AC - 1A	250 V AC - 1A
Max. load			1.5	1.5	1.5
Connection cross-section		[mm²]			
Miscellaneous characteristics					
Stocking and operating temperature	°C		-40 to +80	-40 to +80	-40 to +80
Maximal Altitude	[m]		5000	5000	5000
Degree of protection			IP 20	IP 20	IP 20

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices
TNC 400 V networks

Technical features

Types		OVR T2 3L 40-440 P QS	OVR T2 3L 80-440s P QS	OVR T2 3L 40 400/690 P	
with auxiliary contact (TS)		OVR T2 3L 40-440 P TS QS	OVR T2 3L 80-440s P TS QS	OVR T2 3L 40 400/690 P TS	OVR T2 3L 40-600 P TS QS
Fire resistance according to UL 94		V-0	V-0	V-0	V-0
Dimensions					
height x width x depth	mm	88 x 53.4 x 65.3	88 x 53.4 x 76.7	88 x 53.4 x 64.8	
	inches	3.46 x 2.1 x 2.57	3.46 x 2.1 x 3.02	3.46 x 2.1 x 2.55	
With Auxiliary Contact (TS)					
height x width x depth	mm	95.8 x 53.4 x 65.3	95.8 x 53.4 x 76.7	96 x 53.4 x 64.8	95.8 x 53.4 x 65.3
	inches	3.77 x 2.1 x 2.57	3.77 x 2.1 x 3.02	3.78 x 2.1 x 2.55	3.77 x 2.1 x 2.57
Replacement Cartridges					
Phase Product ID		OVR T2 40-440 C QS 2CTB803876R0400	OVR T2 80-440s C QS 2CTB815708R5500	OVR T2 40 400/690 C 2CTB803854R1100	OVR T2 40-600 C QS 2CTB803886R0400
Neutral Product ID		-	-	-	-



OVR T2 3L 40-440 P QS

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up). They are characterized by their capacity to safely discharge current with 8/20 µs wave form.

Po- les	Max dis- charge current I _{max} 8/20	Nomi- nal dis- charge current I _n	Volt- age pro- tec- tion level U _p	Nominal voltage U _n	Max. cont. oper- ating voltage U _c	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
3	40	20	1.8	400	440	519894	OVR T2 3L 40-440 P QS	2CTB803873R5100	0.45
3	40	20	1.8	400	440	519900	OVR T2 3L 40-440 P TS QS	2CTB803873R5300	0.45
3	80	20	2.1	400	440	525598	OVR T2 3L 80-440s P TS QS	2CTB815708R4000	0.45
3	80	20	2.1	400	440	525635	OVR T2 3L 80-440s P QS	2CTB815708R5200	0.45
3	40	20	2.3	400	600	520685	OVR T2 3L 40-600 P TS QS	2CTB803883R5300	0.45
3	40	15	2.9	400/690	440	515629	OVR T2 3L 40- 400/690 P	2CTB803853R4500	0.48
3	40	15	2.9	400/690	440	515636	OVR T2 3L 40- 400/690 P TS	2CTB803853R4600	0.48

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices
TNS 230 V networks

Technical features

Types			OVR T2 4L 40-275 P QS	OVR T2 4L 40-275s P QS	OVR T2 4L 80-275s P QS
with auxiliary contact (TS)			OVR T2 4L 40-275 P TS QS	OVR T2 4L 40-275s P TS QS	OVR T2 4L 80-275s P TS QS
Technology			Varistor	Varistor	Varistor
Electrical features					
Standard			IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class			T2/II	T2/II	T2/II
Protected lines			4	4	4
Types of networks			TNS	TNS	TNS
Type of current			AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			± 20 %	± 20 %	± 20 %
Nominal voltage Un (L-N/L-L)		[V]	230/400	230/400	230/400
Max. cont. operating AC voltage Uc		[V]	275	275	275
Nominal dc voltage Un dc L-PE/Un dc L-L		V dc	320/640	-	-
Max. dc. cont. operating voltage Ucdc L-PE/ Ucdc L-L		V dc	355/710	-	-
Maximum discharge current I _{max} (8/20)		[kA]	40	40	80
Nominal discharge current I _n (8/20)		[kA]	20	20	20
Voltage protection level Up at I _n (L-N/N-PE/L-PE)		[kA]	2.5/1.25/1.25	2.8/1.4/1.4	2.8/1.4/1.4
Voltage protection level Up at 3 kA		[kA]	0.8	0.5	0.8
TOV (Temporary over-voltage) withstand Ut (L-N: 5 s /N-PE: 200 ms)		[V]	334/-	337	334/-
Response time		[ns]	≤ 25	≤ 25	≤ 25
Short-circuit withstand capability I _{sc} r		[kA]	100	100	100
Backup protection	Fuse (gG)	[A]	≤ 125	≤160	≤ 160
	Circuit breaker (B or C curve)	[A]	≤ 125	≤125	≤ 125
Pluggable cartridge			Yes	Yes	Yes
Integrated thermal disconnecter			Yes	Yes	Yes
State indicator			Yes	Yes	Yes
Safety reserve			No	Yes	Yes
Auxiliary contact			Yes (TS option)	Yes (TS option)	Yes (TS option)
Installation					
Wire range (L, N, PE)	Solid wire	[mm²]	2.5 ... 35	2.5 ... 35	2.5 ... 35
	Stranded wire	[mm²]	2.5 ... 25	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)		[mm]	12.5	12.5	12.5
Tightening torque (L, N, PE)		[Nm]	2.5	2.5	2.5
Auxiliary contact (TS)					
Contact complement			1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Minimum load			12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA
Maximum load			250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A
Connection cross-section		[mm²]	1.5	1.5	1.5
Miscellaneous characteristics					
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80	-40 to +80
Maximal Altitude		[m]	5000	5000	5000
Degree of protection			IP20	IP 20	IP20
Fire resistance according to UL 94			V0	V0	V0
Dimensions	height x width x depth	[mm]	88 x 71.2 x 65.3	88 x 71.2 x 76.7	88 x 71.2 x 76.7
		[inches]	3.46 x 2.8 x 2.57	3.46 x 2.8 x 3.02	3.46 x 2.8 x 3.02
with auxiliary contact (TS)	height x width x depth	[mm]	95.8 x 71.2 x 65.3	95.8 x 71.2 x 76.7	95.8 x 71.2 x 76.7
		[inches]	3.77 x 2.8 x 2.57	3.77 x 2.8 x 3.02	3.77 x 2.8 x 3.02
Replacement Cartridges					
Phase Product ID			OVR T2 40-275 C QS 2CTB803876R1000	OVR T2 40-275s C QS 2CTB8157084R2600	OVR T2 80-275s C QS 2CTB815708R2600
Neutral Product ID			-	-	-

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices
TNS 230 V networks



OVR T2 4L 40-275 P QS

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up). They are characterized by their capacity to safely discharge current with 8/20 µs wave form.

Type 2 pluggable - Uc 275 V

Poles	Max discharge current I _{max} 8/20	Nominal discharge current I _n	Voltage protection level U _p	Nominal voltage U _n	Max. cont. operating voltage U _c	Bbn 3660308	Order details			Weight 1 piece
							EAN	Type code	Order code	
4	40	20	1.25	230/400	275	20548	OVR T2 4L 40-275 P QS	2CTB803873R5600	0.45	
4	40	20	1.25	230/400	275	20555	OVR T2 4L 40-275 P TS QS	2CTB803873R5200	0.45	
4	40	20	1.4	230/400	275	25345	OVR T2 4L 40-275s P QS	2CTB815704R2300	0.45	
4	40	20	1.4	230/400	275	25284	OVR T2 4L 40-275s P TS QS	2CTB815704R1100	0.45	
4	80	20	1.4	230/400	275	25529	OVR T2 4L 80-275s P QS	2CTB815708R2300	0.45	
4	80	20	1.4	230/400	275	25468	OVR T2 4L 80-275s P TS QS	2CTB815708R1100	0.45	

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices TNS 400 V networks

Technical features

Types		OVR T2 4L 40-440 P QS	OVR T2 4L 80-440s P QS	
with auxiliary contact (TS)		OVR T2 4L 40-440 P TS QS	OVR T2 4L 80-440s P TS QS	OVR T2 4L 40-600 P TS QS
Technology		Varistor	Varistor	Varistor
Electrical features				
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T2/II	T2/II	T2/II
Protected lines		4	4	4
System network		TNS	TNS	TNS
Type of current		AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulaion of the system network		± 10%	± 10%	± 50%
Nominal system voltage Un (L-N/L-L)	V	400/690	400/690	400/690
Max. cont. operating AC voltage Uc	V	440	440	600
Nominal dc voltage Un dc L-PE/Un dc L-L		495/990	-	650/990
Max. dc cont. Operating voltage Ucdc L-PE/ Ucdc L-L		545/1090	-	715/1090
Maximal discharge current I _{max} (8/20)	kA	40	80	40
Maximum impulse current I _{imp} (10/350)	kA	2	6.25	2
Nominal discharge current I _n (8/20)	kA	20	20	20
Follow current interrupting rating I _{fi}	kA	-	-	-
Voltage protection level Up at I _n (L-N/N-PE/L-PE)	kV	3.6/1.8/1.8	3.6/1.8/1.8	4.6/2.3/2.3
Voltage protection level U _{res} at 3 kA	kV	1.25	-	1.6
Voltage protection level U _{res} at 5 kA		1.35	-	1.7
Voltage protection level U _{res} at 10 kA		1.55	-	1.9
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	V	581/	581/	792/
Response time	ns	≤25	≤25	≤25
Short-circuit withstand capability I _{sc}	kA	100	100	100
Backup protection maximum rating				
fuse (gG)	A	≤125	≤160	≤125
circuit breaker (B or C curve)	A	≤125	≤125	≤125
Pluggable cartridge		Yes	Yes	Yes
Integrated thermal disconnecter		Yes	Yes	Yes
State indicator		Yes	Yes	Yes
Safety reserve		No	Yes	No
Auxiliary contact		Yes (TS option)	Yes (TS option)	Yes
Installation				
Wire range (L, N, PE) solid wire	mm ²	2.5 ... 35	2.5 ... 35	2.5 ... 35
stranded wire	mm ²	2.5 ... 25	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)	mm	12.5	12.5	12.5
Tightening torque (L, N, PE)	Nm	2.5	2.5	2.5
Auxiliary contact (TS)		-	-	-
Contacts information		1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Min. load		12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA
Max. load		250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A
Connection cross-section	mm ²	1.5	1.5	1.5
Miscellaneous characteristics				
Stocking and operating temperature	°C	-40 to +80	-40 to +80	-40 to +80
Maximal Altitude	[m]	5000	5000	5000
Degree of protection		IP 20	IP 20	IP 20

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices TNS 400 V networks

Technical features

Types		OVR T2 4L 40-440 P QS	OVR T2 4L 80-440s P QS	
with auxiliary contact (TS)		OVR T2 4L 40-440 P TS QS	OVR T2 4L 80-440s P TS QS	OVR T2 4L 40-600 P TS QS
Fire resistance according to UL 94		V0	V0	V0
Dimensions				
height x width x depth	mm	88 x 71.2 x 65.3	88 x 71.2 x 69.4	
	inches	3.46 x 2.8 x 2.57	3.46 x 2.8 x 2.57	
Dimensions with auxiliary contact (TS)				
height x width x depth	mm	95.8 x 142.4 x 69	95 x 71.2 x 69.4	95.8 x 71.2 x 65.3
	inches	3.77 x 2.8 x 2.57	3.77 x 2.8 x 2.57	3.77 x 2.8 x 2.57
Replacement Cartridges				
Phase Product ID		OVR T2 40-440 C QS	OVR T2 80-440s C QS	OVR T2 40-600 C QS
		2CTB803876R0400	2CTB815708R5500	2CTB803886R0400



OVR T2 4L 20-275

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up). They are characterized by their capacity to safely discharge current with 8/20 µs wave form.

OVR T2 Pluggable

Pro- tected lines	Max dis- charge current Imax 8/20	Nomi- nal current In 8/20	Volt- age pro- tec- tion level	Nomi- nal volt- age	Max. cont. oper- ating volt- age	Bbn 3660308	Order details		Weight 1 piece
	kA		Up kV	Un V	Uc V	EAN	Type code	Order code	kg
4	40	20	1,8	440	440	519894	OVR T2 4L 40-440 P QS	2CTB803873R5100	0.45
4	40	20	1,8	440	440	519900	OVR T2 4L 40-440 P TS QS	2CTB803873R5300	0.45
4	80	20	1,8	440	440	525635	OVR T2 4L 80-440s P QS	2CTB815708R5200	0.6
4	80	20	1,8	440	440	525598	OVR T2 4L 80-440s P TS QS	2CTB815708R4000	0.6
4	40	20	2,3	440	600	520685	OVR T2 4L 40-600 P TS QS	2CTB803883R5300	0.45

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices TNS/TT
230 and 400 V 1Ph+N networks

Technical features

Types		OVR T2 1N 40-275 P QS	OVR T2 1N 40-275s P QS	OVR T2 1N 80-275s P QS	OVR T2 1N 40-350 P QS	
with auxiliary contact (TS)		OVR T2 1N 40- 275 P TS QS	OVR T2 1N 40- 275s P TS QS	OVR T2 1N 80- 275s P TS QS	OVR T2 1N 40- 350 P TS QS	OVR T2 1N 40- 440 P TS QS
Technology		Varistor + GDT	Varistor + GDT	Varistor + GDT	Varistor + GDT	Varistor + GDT
Electrical features						
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T2/II	T2/II	T2/II	T2/II	T2/II
Protected lines		1+1	1+1	1+1	1+1	1+1
System network		TT - TNS	TT - TNS	TT - TNS	TT - TNS	TT-TNS
Type of current		AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		± 20%	± 20%	± 20%	± 50%	±10 %
Nominal system voltage Un	[V]	230	230	230	230	400
Max. cont. operating voltage Uc	[V]	275	275	275	350	440
Maximum discharge current I _{max} (8/20)	[kA]	40	40	80	40	40
Maximum impulse current I _{imp} (10/350)	[kA]	2	2	6.25	2	2
Nominal discharge current I _n (8/20)	[kA]	20	20	20	20	20
Total Current	[kA]	80	80	80	80	80
Voltage protection level Up at I _n (L-N/N-PE/L-PE)	[kV]	1.25/1.4/1.5	1.4/1.4/1.5	1.4/1.4/1.5	1.5/1.4/1.6	1,8/1,4/1,9
Voltage protection level U _{res} at 3 kA	[kV]	0.8/1.4/0.85	0.8/1.4/0.85	0.8/1.4/0.85	1.0/1.4/1.05	1,25/1,4/1,45
Voltage protection level U _{res} at 5 kA	[kV]	0.85/1.4/0.95	0.85/1.4/0.95	0.85/1.4/0.95	1.05/1.4/1.1	1,35/1,4/1,55
Voltage protection level U _{res} at 10 kA	[kV]	1/1.4/1.15	1/1.4/1.15	1/1.4/1.15	1.2/1.4/1.3	1,55/1,4/1,65
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	337/1200	337/1200	337/1200	455/1200	581/1200
U _{oc}	[kV]	-	-	-	-	-
Response time	[ns]	< 25	< 25	< 25	< 25	<25
Short-circuit withstand capability I _{sc}	[kA]	100	100	100	100	100
Backup protection maximum rating	fuse (gG)	[A]	≤ 125	≤ 160	≤ 125	≤ 125
	circuit breaker (B or C curve)	[A]	≤ 125	≤ 125	≤ 125	≤ 125
Pluggable cartridge		Yes	Yes	Yes	Yes	Yes
Integrated QuickSafe® technology		Yes	Yes	Yes	Yes	Yes
State indicator		Yes	Yes	Yes	Yes	Yes
Safety reserve		No	Yes	Yes	No	No
Auxiliary contact		Yes (TS option)	Yes (TS option)	Yes (TS option)	Yes (TS option)	Yes
Installation						
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35	2.5 ... 35	2.5 ... 35	2.5 ... 35
	stranded wire	[mm²]	2.5 ... 25	2.5 ... 25	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)	[mm]	12.5	12.5	12.5	12.5	12.5
Tightening torque (L, N, PE)	[Nm]	2.8	2.8	2.8	2.8	2.8
Auxiliary contact (TS)						
Contacts information		1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Min. load		12 DC - 10 mA	12 DC - 10 mA	12 DC - 10 mA	12 DC - 10 mA	12 DC - 10 mA
Max. load		250 V AC - 1A	250 V AC - 1A	250 V AC - 1A	250 V AC - 1A	250 V AC - 1A
Connection cross-section	[mm²]	1.5	1.5	1.5	1.5	1.5
Miscellaneous characteristics						
Stocking and operating temperature	°C	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80
Maximal Altitude	[m]	5000	5000	5000	5000	5000
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20
Fire resistance according to UL 94		V0	V-0	V-0	V0	V0

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices TNS/TT
230 and 400 V 1Ph+N networks

Technical features

Types		OVR T2 1N 40-275 P QS	OVR T2 1N 40-275s P QS	OVR T2 1N 80-275s P QS	OVR T2 1N 40-350 P QS	
with auxiliary contact (TS)		OVR T2 1N 40- 275 P TS QS	OVR T2 1N 40- 275s P TS QS	OVR T2 1N 80- 275s P TS QS	OVR T2 1N 40- 350 P TS QS	OVR T2 1N 40- 440 P TS QS
Dimensions						
height x width x depth	mm	88 x 35.6 x 65.3	88 x 35.6 x 76.7	88 x 35.6 x 76.7	88 x 35.6 x 65.3	
	inches	3.46 x 1.4 x 2.57	3.46 x 1.4 x 3.02	3.46 x 1.4 x 3.02	3.46 x 1.4 x 2.57	
With Auxiliary Contact (TS)						
height x width x depth	mm	95.8 x 35.6 x 65.3	95.8 x 35.6 x 76.7	95.8 x 35.6 x 76.7	95.8 x 35.6 x 65.3	95.8 x 35.6 x 65.3
	inches	3.77 x 1.4 x 2.57	3.77 x 1.4 x 3.02	3.77 x 1.4 x 3.02	3.77 x 1.4 x 2.57	3.77 x 1.4 x 2.57
Replacement Cartridges						
Phase Product ID		OVR T2 40-275 C QS 2CTB803876R1000	OVR T2 40-275s C QS 2CTB815704R2600	OVR T2 80-275s C QS 2CTB815708R2600	OVR T2 40-350 C QS 2CTB803886R1000	OVR T2 40-440 C QS 2CTB803876R0400
Neutral Product ID		OVR T2-T3 N 80- 275 C QS 2CTB803876R0000	OVR T2 N 80-275s C QS 2CTB815708R2800	OVR T2 N 80-275s C QS 2CTB815708R2800	OVR T2 N 80-350 C QS 2CTB803886R0000	OVR T2 N 80-440 C QS 2CTB803886R0100



OVR T2 1N 40-
275 P QS

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up).

They are characterized by their capacity to safely discharge current with 8/20 µs wave form.

Type 2 pluggable

Po- les	Im pulse Current 10/350	Max dis- charge current Imax 8/20	Nomi- nal current In	Voltage protec- tion level Up	Nomi- nal voltage Un	Max. cont. oper- ating voltage Uc	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kA	kV	V	V	EAN	Type code	Order code	kg
1+1	2	40	20	1.25	230	275	519696	OVR T2 1N 40-275 P QS	2CTB803972R1100	0.24
1+1	2	40	20	1.25	230	275	519702	OVR T2 1N 40-275 P TS QS	2CTB803972R0500	0.24
1+1	2	40	20	1.4	230	275	525239	OVR T2 1N 40-275s P TS QS	2CTB815704R0200	0.30
1+1	2	40	20	1.4	230	275	525307	OVR T2 1N 40-275s P QS	2CTB815704R1400	0.30
1+1	2	80	20	1.4	230	275	525413	OVR T2 1N 80-275s P TS QS	2CTB815708R0200	0.30
1+1	2	80	20	1.4	230	275	525482	OVR T2 1N 80-275s P QS	2CTB815708R1400	0.30
1+1	2	40	20	1.5	230	350	519719	OVR T2 1N 40-350 P QS	2CTB803982R1100	0.24
1+1	2	40	20	1.5	230	350	519726	OVR T2 1N 40-350 P TS QS	2CTB803982R0500	0.24
1+1	2	40	20	1.9	400	440	524577	OVR T2 1N 40-440 P TS QS	2CTB803972R1400	0.24

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices TNS/TT
230 and 400 V 3Ph+N networks



OVR T2 3N 40-
275 P QS

Technical features

Types			OVR T2 3N 40-275 P QS	OVR T2 3N 40-275s P QS
with auxiliary contact (TS)			OVR T2 3N 40-275 P TS QS	OVR T2 3N 40-275s P TS QS
Technology			Varistor + GDT	Varistor + GDT
Electrical features				
Standard			IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class			T2/II	T2/II
Protected lines			3+1	3+1
System network			TT - TNS	TT - TNS
Type of current			AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			± 20%	± 20%
Nominal system voltage Un (L-N/L-L)		[V]	230/400	230/400
Max. cont. operating voltage Uc (L-N/L-L)		[V]	275/440	275/440
Maximum discharge current I _{max} (8/20)		[kA]	40	40
Maximum impulse current I _{imp} (10/350)		[kA]	2	2
Nominal discharge current I _n (8/20)		[kA]	20	20
Total Current		[kA]	80	80
Voltage protection level Up at I _n (L-N/N-PE/L-PE)		[kV]	1.25/1.4/1.5	1.4/1.4/1.5
Voltage protection level U _{res} at 3kA (L-N/N-PE /L-PE)		[kV]	0.8/1.4/0.85	0.8/1.4/0.85
Voltage protection level U _{res} at 5kA (L-N/N-PE /L-PE)		[kV]	0.85/1.4/0.95	0.85/1.4/0.95
Voltage protection level U _{res} at 10kA (L-N/N-PE /L-PE)		[kV]	1/1.4/1.15	1/1.4/1.15
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)		[V]	337/1200	337/1200
Response time		[ns]	< 25	< 25
Short-circuit withstand capability I _{sc}		[kA]	100	100
Backup protection	fuse (gG)	[A]	≤ 125	≤ 160
maximum rating	circuit breaker (B or C curve)	[A]	≤ 125	≤ 125
Pluggable cartridge			Yes	Yes
Integrated QuickSafe® technology			Yes	Yes
State indicator			Yes	Yes
Safety reserve			No	Yes
Auxiliary contact			Yes (TS option)	Yes (TS option)
Installation				
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35	2.5 ... 35
	stranded wire	[mm²]	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)		[mm]	12.5	12.5
Tightening torque (L, N, PE)		[Nm]	2.8	2.8
Auxiliary contact (TS)				
Contacts information			1 NO - 1 NC	1 NO - 1 NC
Min. load			12 DC - 10 mA	12 DC - 10 mA
Max. load			250 V AC - 1A	250 V AC - 1A
Connection cross-section		[mm²]	1.5	1.5
Miscellaneous characteristics				
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80
Maximal Altitude		[m]	5000	5000
Degree of protection			IP 20	IP 20
Fire resistance according to UL 94			V0	V-0
Dimensions				
height x width x depth		[mm]	88 x 71.2 x 65.3	88 x 71.2 x 76.7
		[inches]	3.46 x 2.8 x 2.57	3.46 x 2.8 x 3.02
With Auxiliary Contact (TS)				
height x width x depth		[mm]	95.8 x 71.2 x 65.3	95.8 x 71.2 x 76.7
		[inches]	3.77 x 2.8 x 2.57	3.77 x 2.8 x 3.02
Replacement Cartridges				
Phase Product ID			OVR T2 40-275 C QS 2CTB803876R1000	OVR T2 40-275s C QS 2CTB815704R2600
Neutral Product ID			OVR T2-T3 N 80-275 C QS 2CTB803876R0000	OVR T2 N 80-275s C QS 2CTB815708R2800

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices TNS/TT
230 and 400 V 3Ph+N networks

OVR T2 3N 80-275s P QS	OVR T2 3N 40-350 P QS	OVR T2 3N 40-440 P QS	OVR T2 3N 80-440s P QS	OVR T2 3N 80-440s P QS
OVR T2 3N 80-275s P TS QS	OVR T2 3N 40-350 P TS QS	OVR T2 3N 40-440 P TS QS	OVR T2 3N 40-440s P TS QS	OVR T2 3N 80-440s P TS QS
Varistor + GDT	Varistor + GDT	Varistor + GDT	Varistor + GDT	Varistor + GDT
IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
T2/II	T2/II	T2/II	T2/II	T2/II
3+1	3+1	3+1	3+1	3+1
TT - TNS	TT - TNS	TT - TNS	TT - TNS	TT - TNS
AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
± 20%	± 50%	± 10%	± 10%	± 10%
230/440	230/400	400/690	400/690	400/690
275/440	350/600	440/760	440/760	440/760
80	40	40	40	80
6.25	2	2	2	6.25
20	20	20	20	20
80	80	80	80	80
1.4/1.4/1.5	1.5/1.4/1.7	1.8/1.4/2.1	1.8/2/2.1	1.8/2/2.1
0.8/1.4/0.85	1.0/1.4/1.05	1.25/1.4/1.45	1.25/1.4/1.45	1.25/1.4/1.45
0.85/1.4/0.95	1.05/1.4/1.1	1.35/1.4/1.45	1.35/1.4/1.45	1.35/1.4/1.45
1/1.4/1.15	1.2/1.4/1.3	1.55/1.4/1.65	1.55/1.4/1.65	1.55/1.4/1.65
337/1200	455/1200	581/1200	581/1200	581/1200
< 25	< 25	< 25	< 26	< 25
100	100	100	100	100
≤ 160	≤ 125	≤ 125	≤ 160	≤ 160
≤ 125	≤ 125	≤ 125	≤ 125	≤ 125
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
Yes	No	No	Yes	Yes
Yes (TS option)	Yes (TS option)	Yes (TS option)	Yes	Yes (TS option)
2.5 ... 35	2.5 ... 35	2.5 ... 35	2.5 ... 35	2.5 ... 35
2.5 ... 25	2.5 ... 25	2.5 ... 25	2.5 ... 25	2.5 ... 25
12.5	12.5	12.5	12.5	12.5
2.8	2.8	2.8	2.8	2.8
1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
12 DC - 10 mA	12 DC - 10 mA	12 DC - 10 mA	12 DC - 10 mA	12 DC - 10 mA
250 V AC - 1A	250 V AC - 1A	250 V AC - 1A	250 V AC - 1A	250 V AC - 1A
1.5	1.5	1.5	1.5	1.5
-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80
5000	5000	5000	5000	5000
IP 20	IP 20	IP 20	IP 20	IP 20
V-0	V0	V0	V-0	V-0
88 x 71.2 x 76.7	88 x 71.2 x 65.3	88 x 71.2 x 65.3		88 x 71.2 x 76.7
3.46 x 2.8 x 3.02	3.46 x 2.8 x 2.57	3.46 x 2.8 x 2.57		3.46 x 2.8 x 3.02
95.8 x 71.2 x 76.7	95.8 x 71.2 x 65.3	95.8 x 71.2 x 65.3	95.8 x 71.2 x 76.7	95.8 x 71.2 x 76.7
3.77 x 2.8 x 3.02	3.77 x 2.8 x 2.57	3.77 x 2.8 x 2.57	3.77 x 2.8 x 3.02	3.77 x 2.8 x 3.02
OVR T2 80-275s C QS 2CTB815708R2600	OVR T2 40-350 C QS 2CTB803886R1000	OVR T2 40-440 C QS 2CTB803876R0400	OVR T2 40-440s C QS 2CTB815704R5500	OVR T2 80-440s C QS 2CTB815708R5500
OVR T2 N 80-275s C QS 2CTB815708R2800	OVR T2 N 80-350 C QS 2CTB803886R0000	OVR T2-T3 N 80-440 C QS 2CTB803886R0100	OVR T2 N 80-440s C QS 2CTB815708R5700	OVR T2 N 80-440s C QS 2CTB815708R5700

Protection and safety

OVR Type 2 pluggable QuickSafe® surge protective devices TNS/TT
230 and 400 V 3Ph+N networks



OVR T2 3N 40-
275 P QS

Type 2 surge protective devices are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (Up). They are characterized by their capacity to safely discharge current with 8/20 μ s wave form.

Type 2 pluggable

Pro- tected lines	Max dis- charge current I _{max} 8/20	Nomi- nal dis- charge current I _n	Volt- age pro- tec- tion level U _p	Nominal voltage U _n	Max. cont. oper- ating volt- age U _c	Bbn 3660308	Order details			Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg	
3+1	40	20	1.5	230/400	275	519.931	OVR T2 3N 40-275 P QS	2CTB803973R1100	0.48	
3+1	40	20	1.5	230/400	275	519.948	OVR T2 3N 40-275 P TS QS	2CTB803973R0500	0.48	
3+1	40	20	1.4	230/400	275	52526 0	OVR T2 3N 40-275s P TS QS	2CTB815704R0800	0.60	
3+1	40	20	1.4	230/400	275	52532 1	OVR T2 3N 40-275s P QS	2CTB815704R2000	0.60	
3+1	80	20	1.4	230/400	275	52544 4	OVR T2 3N 80-275s P TS QS	2CTB815708R0800	0.60	
3+1	80	20	1.4	230/400	275	52550 5	OVR T2 3N 80-275s P QS	2CTB815708R2000	0.60	
3+1	40	20	1.5	230/400	350	519.962	OVR T2 3N 40-350 P QS	2CTB803983R1100	0.48	
3+1	40	20	1.5	230/400	350	519.979	OVR T2 3N 40-350 P TS QS	2CTB803983R0500	0.48	
3+1	40	20	1.8	400/690	440	519.993	OVR T2 3N 40-440 P QS	2CTB803973R1400	0.48	
3+1	40	20	1.8	400/690	440	520.005	OVR T2 3N 40-440 P TS QS	2CTB803973R1500	0.48	
3+1	40	20	1.8	400/690	440	52537 6	OVR T2 3N 40-440s P TS QS	2CTB815704R3700	1.05	
3+1	80	20	1.8	400/690	440	52558 1	OVR T2 3N 80-440s P TS QS	2CTB815708R3700	1.05	
3+1	80	20	1.8	400/690	440	52562 8	OVR T2 3N 80-440s P QS	2CTB815708R4900	1.05	



Notes

Lined area for notes, consisting of multiple horizontal lines.

Protection and safety

OVR Type T2-T3 pluggable QuickSafe® surge protective devices

Single pole - 230 V and 440 V networks

Technical features

Types			OVR T2-T3 20-275 P QS	OVR T2-T3 20-440 P QS	OVR T2-T3 N 80-275 P QS	OVR T2-T3 N 80-440 P QS
with auxiliary contact (TS)			OVR T2-T3 20-275 P TS QS	OVR T2-T3 20-440 P TS QS	-	-
Technology			Varistor	Varistor	GDT	GDT
Electrical features						
Standard			IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class			T2-T3/II-III	T2-T3/II-III	T2-T3/II-III	T2-T3/II-III
Protected lines			1	1	1	1
System network			TNC - TT(L-N) - TNS	TNC - TT(L-N) - TNS	TT (N-PE)-TNS(N-PE)	TT (N-PE)-TNS(N-PE)
Type of current			AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			± 20 %	± 10 %	± 20 %	± 10 %
Nominal system voltage Un		[V]	230	400	230	400
Max. cont. operating voltage Uc		[V]	275	440	275	440
Nominal dc voltage Un dc L-PE		[V dc]	320	320	-	-
Max. dc. cont. operating voltage Ucdc L-PE		[V dc]	355	355	-	-
Maximum discharge current I _{max} (8/20)		[kA]	20	20	80	80
Nominal discharge current I _n (8/20)		[kA]	5	5	2	2
Voltage protection level Up at I _n (L-N)		[kV]	0.9/-/-	1.4/-/-	30	30
Voltage protection level U _{res} at 3kA (L-N)		[kV]	0.8	1.25	-/-/1.4	-/-/1.4
Voltage protection level U _{res} at 5kA (L-N)		[kV]	0.85	1.35	-	-
Voltage protection level U _{res} at 10kA (L-N)		[kV]	1	1.55	-	-
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)		[V]	337/-	581/-	-	-
U _{oc}		[kV]	6	6	-	-
Response time		[ns]	≤ 25	≤ 25	-/1200	-/1200
Short-circuit withstand capability I _{sc} cr		[kA]	100	100	<25	<25
Backup protection maximum rating	fuse (gG)	[A]	≤ 125	≤ 125	<125	<125
	circuit breaker (B or C curve)	[A]	≤ 125	≤ 125	<125	<125
Pluggable cartridge			Yes	Yes	Yes	Yes
Integrated QuickSafe® technology			Yes	Yes	-	-
State indicator			Yes	Yes	No	No
Safety reserve			No	No	No	No
Auxiliary contact			Yes (TS option)	Yes (TS option)	No	No
Installation						
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35	2.5 ... 35	2.5 ... 35	2.5 ... 35
	stranded wire	[mm²]	2.5 ... 25	2.5 ... 25	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)		[mm]	12.5	12.5	12.5	12.5
Tightening torque (L, N, PE)		[Nm]	2.8	2.8	2.8	2.8
Auxiliary contact (TS)						
Contacts information			1 NO - 1 NC	1 NO - 1 NC	-	-
Min. load			12 DC - 10 mA	12 DC - 10 mA	-	-
Max. load			250 V AC - 1A	250 V AC - 1A	-	-
Connection cross-section		[mm²]	1.5	1.5	-	-
Miscellaneous characteristics						
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80	-40 to + 80	-40 to + 80
Maximal Altitude		[m]	5000	5000	5000	5000
Degree of protection			IP 20	IP 20	IP 20 - Indoor	IP 20 - Indoor
Fire resistance according to UL 94			V0	V0	V-0	V-0
Dimensions of packing						
height x width x depth		[mm]	88 x 17.8 x 65.3	88 x 17.8 x 65.3	85 x 17.8 x 64.8	85 x 17.8 x 64.8
		[inches]	3.46 x 0.7 x 2.57	3.46 x 0.7 x 2.57	3.35 x 0.70 x 2.55	3.35 x 0.70 x 2.55

Protection and safety

OVR Type T2-T3 pluggable QuickSafe® surge protective devices
Single pole - 230 V and 440 V networks

Technical features

Types		OVR T2-T3 20-275 P QS	OVR T2-T3 20-440 P QS	OVR T2-T3 N 80-275 P QS	OVR T2-T3 N 80-440 P QS
with auxiliary contact (TS)		OVR T2-T3 20-275 P TS QS	OVR T2-T3 20-440 P TS QS	-	-
With Auxiliary Contact (TS)					
height x width x depth	[mm]	95.8 x 17.8 x 65.3	95.8 x 17.8 x 65.3	-	-
	[inches]	3.77 x 0.7 x 2.57	3.77 x 0.7 x 2.57	-	-
Replacement Cartridges					
Phase Product ID		OVR T2-T3 20-275 C QS 2CTB803876R1200	OVR T2-T3 20-440 C QS 2CTB803876R0600	OVR T2-T3 N 80-275 C QS 2CTB803876R0000	OVR T2-T3 N 80-275 C QS 2CTB803876R0000
Neutral Product ID		-	-	-	-



OVR T2 T3 20- 275 P QS

Type 2 and 3 surge protective devices shall be installed as close as possible to the sensitive equipment to protect. As Type 2 they have been characterize by their capacity to safely discharge current with a 8/20 μ s wave form and they guarantee the coordination with Type 1 SPDs or other Type 2 respecting coordination distances. As Type 3 they are characterized by their capacity to safely discharge current with 1.2/50 μ s wave form, with a very low level of Voltage Protection level.

Poles	Max discharge current I _{max} 8/20	Nominal discharge current I _n	Voltage protection level U _p	Nominal voltage U _n	Max. cont. operating voltage U _c	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
1	20	5	0.9	230	275	519.566	OVR T2-T3 20-275 P QS	2CTB803871R2400	0.12
1	20	5	0.9	230	275	519.573	OVR T2-T3 20-275 P TS QS	2CTB803871R2500	0.12
1	20	5	1.4	400	440	519.603	OVR T2-T3 20-440 P QS	2CTB803871R1100	0.12
1	20	5	1.4	400	440	519.610	OVR T2-T3 20-440 P TS QS	2CTB803871R1300	0.12
1	80	30	1.4	230	275	519641	OVR T2-T3 N 80-275 P QS	2CTB803973R1900	0.12
1	80	30	1.4	400	440	519641	OVR T2-T3 N 80-440 P QS	2CTB803973R2000	0.12

Protection and safety

OVR Type T2-T3 pluggable QuickSafe® surge protective devices

TNC - 230 V 3Ph + N networks

Technical features

Types		OVR T2-T3 3L 20-275 P QS	
with auxiliary contact (TS)		OVR T2-T3 3L 20-275 P TS QS	
Technology		Varistor	
Electrical features			
Standard		IEC 61643-11/EN 61643-11 / UL 1449 4th Ed	
Type/test class		T2-T3/II-III	
Protected lines		3	
System network		TNC	
Type of current		AC 47-63 Hz	
Voltage regulation of the system network		± 20 %	
Nominal system voltage Un (L-PE/L-L)		[V]	230/400
Max. cont. operating voltage Uc (L-PE/L-L)		[V]	275/440
Nominal dc voltage Un dc L-PE		[V dc]	320
Max. dc. cont. operating voltage Ucdc L-PE		[V dc]	355
Maximum discharge current I _{max} (8/20)		[kA]	20
Nominal discharge current I _n (8/20)		[kA]	5
Total Current		[kA]	60
Voltage protection level Up at I _n (L-N/N-PE /L-PE)		[kV]	0,85/-/-
Voltage protection level U _{res} at 3kA		[kV]	0.8
Voltage protection level U _{res} at 5kA		[kV]	0.85
Voltage protection level U _{res} at 10kA		[kV]	1.0
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)		[V]	337/-
U _{oc}		[kV]	6
Response time		[ns]	≤ 25
Short-circuit withstand capability I _{sc} cr		[kA]	100
Backup protection maximum rating	fuse (gG)	[A]	≤ 125
	circuit breaker (B or C curve)	[A]	≤ 125
Pluggable cartridge		Yes	
Integrated QuickSafe® technology		Yes	
State indicator		Yes	
Safety reserve		No	
Auxiliary contact		Yes (TS option)	
Installation			
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35
	stranded wire	[mm²]	2.5 ... 25
Stripping length (L, N, PE)		[mm]	12.5
Tightening torque (L, N, PE)		[Nm]	2.8
Auxiliary contact (TS)			
Contacts information		1 NO - 1 NC	
Min. load		12 DC - 10 mA	
Max. load		250 V AC - 1A	
Connection cross-section		[mm²]	1.5
Miscellaneous characteristics			
Stocking and operating temperature		[°C]	-40 to +80
Maximal Altitude		[m]	5000
Degree of protection		IP 20	
Fire resistance according to UL 94		V0	
Dimensions			
height x width x depth		mm	88 x 53.4 x 65.3
		inches	3.46 x 2.1 x 2.57

Protection and safety

OVR Type T2-T3 pluggable QuickSafe® surge protective devices
TNC - 230 V 3Ph + N networks

Technical features

Types		OVR T2-T3 3L 20-275 P QS
with auxiliary contact (TS)		OVR T2-T3 3L 20-275 P TS QS
With Auxiliary Contact (TS)		
height x width x depth	mm	95.8 x 53.4 x 65.3
	inches	3.77 x 2.1 x 2.57
Replacement Cartridges		
Phase Product ID		OVR T2-T3 20-275 C QS 2CTB803876R1200
Neutral Product ID		-



OVR T2 T3 3L 20-275 P TS QS

Type 2 and 3 surge protective devices shall be installed as close as possible to the sensitive equipment to protect. As Type 2 they have been characterize by their capacity to safely discharge current with a 8/20 μ s wave form and they guarantee the coordination with Type 1 SPDs or other Type 2 respecting coordination distances. As Type 3 they are characterized by their capacity to safely discharge current with 1.2/50 μ s wave form, with a very low level of Voltage Protection level.

Po- les	Max dis- charge current I _{max} 8/20	Nomi- nal dis- charge current I _n	Volt- age pro- tec- tion level U _p	Nomi- nal voltage U _n	Max. cont. oper- ating volt- age U _c	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
3	20	5	0.85	230/400	275	519.818	OVR T2-T3 3L 20-275 P QS	2CTB803873R3400	0.36
3	20	5	0.85	230	275	520.661	OVR T2-T3 3L 20-275 P TS QS	2CTB803873R3500	0.36

Protection and safety

OVR Type T2-T3 QuickSafe® surge protective devices

TNS/TT - 230 V 1Ph+N networks

Technical features

Types		OVR T2-T3 1N 20-275 P QS	
with auxiliary contact (TS)		OVR T2-T3 1N 20-275 P TS QS	
Electrical features			
Standard		IEC 61643-11/EN 61643-11	
Type/test class		T2-T3/II-III	
Protected lines		1+1	
System network		TT - TNS	
Type of current		AC 47-63 Hz	
Voltage regulation of the system network		± 20%	
Nominal system voltage Un	[V]	230	
Max. cont. operating voltage Uc	[V]	275	
Maximum discharge current I _{max} (8/20)	[kA]	20	
Nominal discharge current I _n (8/20)	[kA]	5	
Total Current	[kA]	40	
Voltage protection level Up at I _n (L-N/N-PE/L-PE)	[kV]	0.9/1.4/1.4	
Voltage protection level U _{res} at 3kA (L-N/N-PE /L-PE)	[kV]	0.8/1.4/0.85	
Voltage protection level U _{res} at 5kA(L-N/N-PE /L-PE)	[kV]	0.85/1.4/0.95	
Voltage protection level U _{res} at 10kA (L-N/N-PE /L-PE)	[kV]	1/1.4/1.15	
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	337/1200	
U _{oc}	[kV]	6	
Response time	[ns]	≤ 25	
Residual current I _{PE}	[μA]	≤ 10	
Short-circuit withstand capability I _{sc} r	[kA]	100	
Backup protection maximum rating	fuse (gG)	[A]	≤ 125
	circuit breaker (B or C curve)	[A]	≤ 125
Pluggable cartridge		Yes	
Integrated QuickSafe® technology		Yes	
State indicator		Yes	
Safety reserve		No	
Auxiliary contact		Yes (TS option)	
Installation			
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35
	stranded wire	[mm²]	2.5 ... 25
Stripping length (L, N, PE)		[mm]	12.5
Tightening torque (L, N, PE)		[Nm]	2.8
Auxiliary contact (TS)			
Contacts information		1 NO - 1 NC	
Min. load		12 DC - 10 mA	
Max. load		250 V AC - 1A	
Connection cross-section		[mm²]	1.5
Miscellaneous characteristics			
Stocking and operating temperature		[°C]	-40 to +80
Maximal Altitude		[m]	5000
Degree of protection		IP 20	
Fire resistance according to UL 94		V0	

Protection and safety

OVR Type T2-T3 QuickSafe® surge protective devices
TNS/TT - 230 V 1Ph+N networks

Technical features

Types	OVR T2-T3 1N 20-275 P QS	
with auxiliary contact (TS)	OVR T2-T3 1N 20-275 P TS QS	
Dimensions		
height x width x depth	[mm]	88 x 35.6 x 65.3
	[inches]	3.46 x 1.4 x 2.57
With Auxiliary Contact (TS)		
height x width x depth	mm	95.8 x 35.6 x 65.3
	inches	3.77 x 1.4 x 2.57
Replacement Cartridges		
Phase Product ID	OVR T2-T3 20-275 C QS 2CTB803876R1200	
Neutral Product ID	OVR T2-T3 N 80-275 C QS 2CTB803876R0000	



OVR T2 T3 1N 20-275 P QS

Type 2 and 3 surge protective devices shall be installed as close as possible to the sensitive equipment to protect. As Type 2 they have been characterize by their capacity to safely discharge current with a 8/20 μ s wave form and they guarantee the coordination with Type 1 SPDs or other Type 2 respecting coordination distances. As Type 3 they are characterized by their capacity to safely discharge current with 1.2/50 μ s wave form, with a very low level of Voltage Protection level.

Po- les	Max dis- charge current I _{max} 8/20	Nomi- nal dis- charge current I _n	Volt- age pro- tec- tion level U _p	Nomi- nal voltage U _n	Max. cont. oper- ating volt- age U _c	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
1+1	20	5	1.4	230	275	519.689	OVR T2-T3 1N 20-275 P QS	2CTB803972R1200	0.24
1+1	20	5	1.4	230	275	520.654	OVR T2-T3 1N 20-275 P TS QS	2CTB803972R1300	0.24

Protection and safety

OVR Type T2-T3 QuickSafe® surge protective devices

TT - 230 V and 400 V 3Ph+N networks

Technical features

Types			OVR T2-T3 3N 20-275 P QS	OVR T2-T3 3N 20-440 P QS
with auxiliary contact (TS)			OVR T2-T3 3N 20-275 P TS QS	
Technology			Varistor + GDT	Varistor + GDT
Electrical features				
Standard			IEC 61643-11/EN 61643-11	IEC 61643-11 /EN 61643-11
Type/test class			T2-T3/II-III	T2-T3 /II-III
Protected lines			3+1	3+1
System network			TT - TNS	TT - TNS
Type of current			AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			± 20%	± 10%
Nominal system voltage Un (L-N/L-L)		[V]	230/400	400/690
Max. cont. operating voltage Uc (L-N/L-L)		[V]	275/440	440/750
Maximum discharge current Imax (8/20)		[kA]	20	20
Nominal discharge current In (8/20)		[kA]	5	5
Total Current		[kA]	80	80
Voltage protection level Up at In (L-N/N-PE/L-PE)		[kV]	0.9/1.4/1.4	1.4/1.4/1.4
Voltage protection level Ures at 3kA (L-N/N-PE /L-PE)		[kV]	0.8/1.4/0.85	1.25/1.4/1.4
Voltage protection level Ures at 5kA (L-N/N-PE /L-PE)		[kV]	0.85/1.4/0.95	1.35/1.4/1.45
Voltage protection level Ures at 10kA (L-N/N-PE /L-PE)		[kV]	1/1.4/1.15	1.35/1.4/1.65
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./ N-PE: 200ms)		[V]	337/1200	581/1200
Uoc		[kV]	6	6
Response time		[ns]	≤ 25	≤ 25
Residual current IPE		[μA]	≤ 10	≤ 10
Short-circuit withstand capability Isccr		[kA]	100	100
Backup protection maximum rating	fuse (gG)	[A]	≤ 125	≤ 125
	circuit breaker (B or C curve)	[A]	≤ 125	≤ 125
Pluggable cartridge			Yes	Yes
Integrated QuickSafe® technology			Yes	Yes
State indicator			Yes	Yes
Safety reserve			No	No
Auxiliary contact			Yes (TS option)	Yes (TS option)
Installation				
Wire range (L, N, PE)	solid wire	[mm²]	2.5 ... 35	2.5 ... 35
	stranded wire	[mm²]	2.5 ... 25	2.5 ... 25
Stripping length (L, N, PE)		[mm]	12.5	12,5
Tightening torque (L, N, PE)		[Nm]	2.8	2,8
Auxiliary contact (TS)				
Contacts information			1 NO- 1 NC	1 NO- 1 NC
Min. load			12 DC - 10 mA	12 DC - 10 mA
Max. load			250 V AC - 1A	250 V AC - 1A
Connection cross-section		[mm²]	1.5	1.5
Miscellaneous characteristics				
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80
Maximal Altitude		[m]	5000	5000
Degree of protection			IP 20	IP 20
Fire resistance according to UL 94			V0	V0

Protection and safety

OVR Type T2-T3 QuickSafe® surge protective devices
TT - 230 V and 400 V 3Ph+N networks

Technical features

Types		OVR T2-T3 3N 20-275 P QS	OVR T2-T3 3N 20-440 P QS
with auxiliary contact (TS)		OVR T2-T3 3N 20-275 P TS QS	
Dimensions			
height x width x depth	mm	88 x 71.2 x 65.3	88 x 71.2 x 65.3
	inches	3.46 x 2.8 x 2.57	3.46 x 2.8 x 2.57
With Auxiliary Contact (TS)			
height x width x depth	mm	95.8 x 71.2 x 65.3	96 x 71.2 x 64.8
	inches	3.77 x 2.8 x 2.57	3.35 x 2.81 x 2.55
Replacement Cartridges			
Phase Product ID		OVR T2-T3 20-275 C QS 2CTB803876R1200	OVR T2-T3 20-440 C QS 2CTB803876R0600
Neutral Product ID		OVR T2-T3 N 80-275 C QS 2CTB803876R0000	OVR T2-T3 N 80-440 C QS 2CTB803886R0100



OVR T2 T3 3N 20-275 P TS QS

Type 2 and 3 surge protective devices shall be installed as close as possible to the sensitive equipment to protect. As Type 2 they have been characterized by their capacity to safely discharge current with a 8/20 μ s wave form and they guarantee the coordination with Type 1 SPDs or other Type 2 respecting coordination distances. As Type 3 they are characterized by their capacity to safely discharge current with 1.2/50 μ s wave form, with a very low level of Voltage Protection level.

Po- les	Max dis- charge current I _{max} 8/20	Nomi- nal dis- charge current I _n	Volt- age pro- tec- tion level U _p	Nomi- nal voltage U _n	Max. cont. oper- ating volt- age U _c	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg
3+1	20	5	1.4	230/400	275	519.924	OVR T2-T3 3N 20-275 P QS	2CTB803973R1200	0.48
3+1	20	5	1.4	230/400	275	520.692	OVR T2-T3 3N 20-275 P TS QS	2CTB803973R1600	0.48
3+1	20	5	1.5	400/690	440	519986	OVR T2-T3 3N 20-440 P QS	2CTB803973R1300	0.48

Protection and safety

OVR Type T2-T3 StreetLight surge protective devices TT/TN - 230 V 1Ph+N networks

Technical features

Types		OVR T2-T3 N1 15-275S SL	
Technology		Varistor + GDT	
Electrical features			
Standard		IEC 61643-11/EN 61643-11	
Type/test class		T2-T3/II-III	
System network		TT, TNS	
Protection mode		Common/Differential	
Number of pole/Type of current		1+1	
Nominal system voltage Un		[V]	230
Max. cont. operating voltage Uc (L-N)		[V]	275
Maximum discharge current I _{max} (8/20)		[kA]	15
Nominal discharge current I _n (8/20)		[kA]	5
Total Current		[kA]	30
Voltage protection level Up at I _n (L-N/L-PE)		[kV]	1.1/1.3
TOV (Temporary overvoltage) withstand Ut (L-N: 5s.)		[V]	337
Uoc		[kV]	1.1
Response time		[ns]	< 25
Short circuit withstand I _{cc}		[kA]	15
Backup protection maximum rating	fuse (gG)	[A]	< 20 A
	circuit breaker (B or C curve)	[A]	< 20 A
Pluggable cartridge		No	
Integrated QuickSafe® technology		No	
State indicator		Yes	
Safety reserve		Yes	
Installation			
Wire range : phase and neutral wire		2 x 1.5 mm ² - L 16cm	
Wire range : Protective Earth wire		[mm ²]	< 6 mm ²
Stripping length (L, N, PE)		[mm]	10
Auxiliary contact (TS)			
Contacts information		-	
Min. load		-	
Max. load		-	
Connection cross-section		[mm ²]	-
Miscellaneous characteristics			
Stocking and operating temperature		[°C]	-40 to +80
Degree of protection		IP 32	
Fire resistance according to UL 94		V0	
Dimensions			
height x width x depth		[mm]	80 x 17.5 x 41
		[inches]	3.15 x 0.69 x 1.62
With Auxiliary Contact (TS)			
height x width x depth		[mm]	-
		[inches]	-

Protection and safety

OVR Type T2-T3 StreetLight surge protective devices TT/TN - 230 V 1Ph+N networks



OVR T2 T3 StreetLight

OVR TYPE 2 – TYPE 3 STREET LIGHTING

This is a particular Type 2 and 3 surge protective devices meant to be installed in applications where overall dimensions are critical. It has the Safety system integrated by default, performed by two varistors in parallel, allowing the customer to perform preventive maintenance. As soon as one of the Life status windows swap from green to red, we know the product needs to be replaced, but it still guarantees the protection. It has IP 32 and bottom connections to guarantee the best performances in critical and humid environment.

Po- les	Max dis- charge current I _{max} 8/20	Nomi- nal dis- charge current I _n	Volt- age pro- tec- tion level U _p	Nomi- nal voltage U _n	Max. cont. oper- ating volt- age U _c	Bbn 3660308	Order details			Weight 1 piece
							EA	Type code	Order code	
1+1	15	5	1.3	230	275	524.775		OVR T2-T3 N1 15-275S SL	2CTB804500R0200	0.04
1+1	15	5	1.3	230	275	524799		OVR T2-T3 N1 15-275S SL (x20)	2CTB804500Z1200	0.04

Protection and safety

OVR Plus - Autoprotected surge protective devices TNS/TT 230 V networks

Technical features

Types			OVR Plus N1 20	OVR Plus N1 40	OVR Plus N3 20	OVR Plus N3 40
with auxiliary contact (TS)			–	–	–	–
Technology			Varistor + GDT	Varistor + GDT	Varistor + GDT	Varistor + GDT
Electrical features						
Standard			IEC 61643-1/EN 61643-11			
Type/test class			T2/II	T2/II	T2/II	T2/II
Protected lines			1+1	1+1	3+1	3+1
Types of networks			TNS/TT	TNS/TT	TNS/TT	TNS/TT
Type of current			AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			± 20%	± 20%	± 20%	± 20%
Nominal voltage Un (L-N/L-L)		[V]	230/400	230/400	230/400	230/400
Max. cont. operating voltage Uc		[V]	275	275	275	275
Maximum discharge current I _{max} (8/20)		[kA]	20	40	20	40
Nominal discharge current I _n (8/20)		[kA]	5	20	5	20
Voltage protection level Up at I _n (L-N/N-PE/L-PE)		[kV]	1.3/-/1.3	1.6/-/1.8	1.3/1.3/1.3	2.0/1.5/2.0
Voltage protection level Up at 3 kA (L-N/N-PE/L-PE)		[kV]	1.1/-/1.1	1.1/-/1.1	1.1/1.1/1.1	1.1/1.1/1.1
TOV (Temporary overvoltage) withstand Ut (L-N: 5 s /N-PE: 200 ms)		[V]	334/1200	334/1200	334/1200	334/1200
Response time		[ns]	≤ 25	≤ 25	≤ 25	≤ 25
Residual current I _{PE}		[μA]	10	10	10	10
Short-circuit withstand capability I _{sc}		[kA]	10	15	10	15
Backup protection	Fuse (gG)	[A]	-	-	-	-
	Circuit breaker (B or C curve)	[A]	integrated	integrated	integrated	integrated
Pluggable cartridge			No	No	No	No
Integrated thermal disconnecter			Yes	Yes	Yes	Yes
State indicator			Yes	Yes	Yes	Yes
Safety reserve			No	No	No	No
Auxiliary contact			Yes (S2C-H6R/2CDS200912R0001)			
Installation						
Wire range (L, N, PE)	Solid wire	[mm²]	2.5...25	2.5...25	2.5...25	2.5...25
	Stranded wire	[mm²]	2.5...16	2.5...16	2.5...16	2.5...16
Stripping length (L, N, PE)		[mm]	11	11	11	11
Tightening torque (L, N, PE)		[Nm]	2.5	2.5	2.5	2.5
Auxiliary contact (TS)						
Contact complement			–	–	–	–
Minimum load			–	–	–	–
Maximum load			–	–	–	–
Connection cross-section		[mm²]	–	–	–	–
Miscellaneous characteristics						
Stocking and operating temperature		[°C]	-40 to +70 / -25 to +55	-40 to +70 / -25 to +55	-40 to +70 / -25 to +55	-40 to +70 / -25 to +55
Maximal Altitude		[m]	2000	2000	2000	2000
Degree of protection			IP20	IP20	IP20	IP20
Fire resistance according to UL 94			V0	V0	V0	V0
Dimensions	height x width x depth	[mm]	91 x 35.6 x 74.6	91 x 35.6 x 74.6	100.8 x 106.8 x 74.6	100.8 x 106.8 x 74.6
		[inches]	3.58 x 1.40 x 2.94	3.58 x 1.40 x 2.94	3.97 x 4.20 x 2.94	3.97 x 4.20 x 2.94

Protection and safety

OVR Plus - Autoprotected surge protective devices TNS/TT 230 V networks



OVR PLUS N3 20
OVR PLUS N3 40

OVR PLUS N3 20 and OVR PLUS N3 40 for commercial and industrial applications:

- Auto-protected: Backup miniature circuit breaker integrated and fully coordinated with the surge protective device.
- Easy installation: Fully coordinated unit with easy wiring with the complete ABB pro M modular range.
- High discharge capacity: With I_{max} 20 and 40 kA the OVR Plus N3 insure the protection of your low voltage installations and electric equipment.
- High reliability: No welding inside the module and specific thermal disconnection with the „bilame“ sensor.

OVR PLUS N1 40 for residential applications:

- Auto-protected: Backup miniature circuit breaker integrated and fully coordinated with the surge protective device.
- Compact: Only two modules (36 mm width), means more space and easy wiring with the complete ABB DIN rail range.
- High discharge capacity: With I_{max} 20 and 40 kA the OVR PLUS N1 can protect your electric equipment against high surges.
- High reliability: No welding inside the module and specific thermal disconnection.




Type 2 autoprotected

Po- les	Max dis- charge current I _{max} 8/20	Nomi- nal dis- charge current I _n	Volt- age pro- tec- tion level U _p	Nomi- nal voltage U _n	Max. cont. oper- ating volt- age U _c	Bbn 3660308	Order details			Weight 1 piece
	kA	kA	kV	V	V	EAN	Type code	Order code	kg	
1+1	20	5	1.3	230	275	521286	OVR PLUS N1 20	2CTB803701R0700	0.28	
1+1	40	20	1.8	230	275	517005	OVR PLUS N1 40	2CTB803701R0100	0.28	
3+1	20	5	1.3	230/400	275	517081	OVR PLUS N3 20	2CTB803701R0400	0.84	
3+1	40	20	2.0	230/400	275	517074	OVR PLUS N3 40	2CTB803701R0300	0.84	

Protection and safety

OVR PV surge protective devices Photovoltaic networks

Technical features

Types			OVR PV T2 40-600 P QS	OVR PV T2 40-1000 P QS	OVR PV T2 40-1500 P QS
with auxiliary contact (TS)			OVR PV T2 40-600 P TS QS	OVR PV T2 40-1000 P TS QS	OVR PV T2 40-1500 P TS QS
Technology			Varistor	Varistor	Varistor
Electrical features					
Standard			IEC 61643-11/ EN 61643-11/ UL 1449 4th Ed	IEC 61643-11/ EN 61643-11/ UL 1449 4th Ed	IEC 61643-11/ EN 61643-11/ UL 1449 4th Ed
Type/test class			T2/II	T2/II	T2/II
Protected lines			2	2	4
Types of networks			Photovoltaic	Photovoltaic	Photovoltaic
Type of current			DC	DC	DC
Nominal voltage Un (L-N/L-L)		[V]	600	1000	1500
Max. cont. operating voltage Ucpv		[V]	600	1100	1500
Max.cont.operating voltage according  (MCOV)		[V]	600	1100	1500
Impulse current Iimp (10/350)			2	-	2
Maximum discharge current Imax (8/20)		[kA]	40	40	40
Nominal discharge current In (8/20)		[kA]	20	20	10
Voltage protection level Up at In (L-L/L-PE)		[kV]	2.8/1.4	3.8/3.8	3.8/3.8
Voltage protection rating according  (VPR (L+/G, L-/G, L+/L-))		[kV]	1.2/1.2/1.8	2.5/2.5/2.5	2.5/2.5/2.5
Response time		[ns]	≤ 25	≤ 25	≤ 25
Residual current IPE		[μA]	≤10	≤1000	≤1000
Short-circuit DC current Iscpv		[A]	300	10,000	10,000
Short circuit withstand according  (S _{CCR})		[kA]	10	10	10
Disconnecter			Fuse		
Circuit breaker			no need up to 0.3 kA	no need up to 10 kA	no need up to 10 kA
Pluggable cartridge			Yes	Yes	Yes
Integrated specific thermal disconnecter			Yes	Yes	Yes
State indicator			Yes	Yes	Yes
Safety reserve			No	No	No
Auxiliary contact			Yes (TS option)	Yes (TS option)	Yes (TS option)
Installation					
Wire range					
(L, N, PE)	Solid wire	[mm²]	2.5...35	2.5...35	2.5...35
	Stranded wire	[mm²]	2.5...25	2.5...25	2.5...25
Stripping length (L, N, PE)			12.2	12.2	12.2
Tightening torque (L, N, PE)			2.5	2.5	2.5
Auxiliary contact (TS)					
Contact complement			1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Minimum load			12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA
Maximum load			250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1A
Connection cross-section			1.5	1.5	1.5
Miscellaneous characteristics					
Stocking and operating temperature		[°C]	-40 to +80	-40 to +80	-40 to +80
Maximal Altitude		[m]	5000	5000	5000
Humidity Rate HR			95%	95%	95%
Degree of protection			IP20	IP20	IP 20
Fire resistance according to UL 94			V0	V0	V0
Dimensions	height x width x depth	[mm]	88 x 53.4 x 65	88 x 53.4 x 65	88 x 88,33 x 65
		[inches]	3.46 x 2.10 x 2.56	3.46 x 2.10 x 2.56	3.46 x 3,5 x 2.56
with auxiliary contact (TS)	height x width x depth	[mm]	95 x 53.4 x 65	95 x 53.4 x 65	95 x 88,33 x 65
		[inches]	3.46 x 2.10 x 2.56	3.77 x 2.1 x 2.55	3.46 x 3,5 x 2.56
Replacement Cartridges					
Phase Product ID			OVR PV T2 40-600 C QS 2CTB804153R3100	OVR PV T2 40-1000 C QS 2CTB804153R3200	OVR PV T2 40-1000 C QS 2CTB804153R3200
			OVR PV MC C QS 2CTB804153R3500		OVR PV T2 40-1500 C QS 2CTB804153R3300

Technical features

Types		OVR PV T1-T2 5-1000 P QS	OVR PV T1-T2 12.5-1000 P QS	OVR PV T1-T2 5-1500 P QS	OVR PV T1-T2 10-1500 P QS
With auxiliary contact (TS)		OVR PV T1-T2 5-1000 P TS QS	OVR PV T1-T2 12.5-1000 P TS QS	OVR PV T1-T2 5-1500 P TS QS	OVR PV T1-T2 10-1500 P TS QS
Technology		Varistor	Varistor	Varistor	Varistor
Electrical features					
Standard		IEC61643-11/ IEC 61643-31/	IEC61643-11/ IEC 61643-31/ UL 1449 4 th Ed.	IEC61643-11/ IEC 61643-31/	IEC61643-11/ IEC 61643-31/ UL 1449 4 th Ed.
Type/test class		T1-T2/I-II	T1-T2/I-II	T1-T2/I-II	T1-T2/I-II
Protected lines		2	2	2	2
Types of networks		Photovoltaic	Photovoltaic	Photovoltaic	Photovoltaic
Type of current		DC	DC	DC	DC
Nominal Voltage Un (L-N)/L-L	[V]	1000	1000	1500	1500
Max. cont. Operating voltage Ucpv	[V]	1100	1100	1500	1500
Max.cont.operating voltage accroding UL (MCOV)		1100	1100	1500	1500
Impulse current Iimp (10/350)	[kA]	5	6.26	5	5
Total discharge current Itotal (10/350)	[kA]	5	12.5	5	10
Maximum discharge current Imax (8/20)	[kA]	40	40	30	30
Nominal discharge current In (8/20)	[kA]	20	20	20	20
Voltage protection level Up at In (L-L/L-N)	[kV]	3,8	3.8	5	5
Voltage protection rating according UL (VPR (L+/G, L-/G, L+/L-))	[kV]	3,8	2.5/2.5/2.5	-	4/4/4
Response time	[ns]	<25	<25	<25	<25
Short circuit DC current Iscpv	[A]	11	11	11	11
Short circuit withstand according (Logo UL) (Sccr)	[kA]	-	50	-	65
Disconnector	Fuse	no need up to 11 kA	no need up to 11 kA	no need up to 11 kA	no need up to 11 kA
	Circuit breaker	no need up to 11 kA	no need up to 11 kA	no need up to 11 kA	no need up to 11 kA
Pluggable cartridge		Yes	Yes	Yes	Yes
Integrated specific thermal disconnector		Yes	Yes	Yes	Yes
State indicator		Yes	Yes	Yes	Yes
Safety Reserve		No	No	No	No
Auxiliary contact		Yes (TS option)	Yes (TS option)	Yes (TS option)	Yes (TS option)
Installation					
Wire range	Solid wire	[mm²] 2.5....35	2.5....35	2.5....35	2.5....35
	Stranded wire	[mm²] 2.5...25	2.5...25	2.5...25	2.5...25
Stripping length (L,N,PE)		[mm²] 12.5	12.5	12.5	12.5
Tightening torque (L, N, PE)		[N.m] 4.5	4.5	4.5	4.5
Auxiliary contact (TS)					
Contact complement		1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
Minimum load		12 V DC - 0,5 mA	12 V DC - 0,5 mA	12 V DC - 0,5 mA	12 V DC - 0,5 mA
Maximum load		250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A
Connection cross-section		1.5	1.5	1.5	1.5
Miscellaneous characteristics					
Stocking and operating temperature		[°C] -40 to +85	-40 to +85	-40 to +85	-40 to +85
Maximal Altitude		[m] 4000	4000	4000	4000
Humidity Rate HR		95%	95%	95%	95%
Degree of protection		IP 20	IP 20	IP 20	IP 20
Fire resistance according to UL 94		V0	V0	V0	V0
Dimensions	height x width	[mm] 95 x 54 x 86	95 x 54 x 86	95 x 54 x 86	95 x 54 x 86
	depth	[inches] 3.74 x 2.12 x 3.38	3.74 x 2.12 x 3.38	3.74 x 2.12 x 3.38	3.74 x 2.12 x 3.38
With auxiliary contact (TS)	height x width	[mm] 110 x 54 x 86	110 x 54 x 86	110 x 54 x 86	110 x 54 x 86
	depth	[inches] 4.33 x 2.12 x 3.38	4.33 x 2.12 x 3.38	4.33 x 2.12 x 3.38	4.33 x 2.12 x 3.38
Replacement cartridges					
Phase Product ID		OVR PV T1-T2 5-1000 C QS 2CTB812052R1000	OVR PV T1-T2 12.5-1000 C QS 2CTB812122R1000	OVR PV T1-T2 5-1500 C QS 2CTB812052R1500	OVR PV T1-T2 10-1500 C QS 2CTB812102R1500
		-	OVR PV T1-T2 12.5-1000 M C QS 2CTB812122R1001	-	OVR PV T1-T2 10-1500 M C QS 2CTB812102R1501

Protection and safety

OVR PV surge protective devices Photovoltaic networks

Specifically designed for photovoltaic DC installations, the OVR PV family provide a safe and reliable surge and lightning protection of solar panels and converters.

The OVR PV QS surge protective devices comply with EN 50539-11 and UL 1449 4th Edition.

Type T1+T2 PV

Pro- tected lines	Impulse current Iimp 10/350	Total disch. current Itotal 10/350	Max. dischar. current Imax 8/20	Nominal current In	Voltage protec- tion level Up	Max. cont. operat- ing volt- age Ucpv	Bbn 3660308	Order details		Weight 1 piece
	kA	kA	kA	kA	kV	V	EAN	Type code	Order code	kg
1+1 DC	2	-	40	20	2.8/1.4	600	526502	OVR PV T2 40-600 P QS	2CTB804153R2800	0.38
1+1 DC	2	-	40	20	2.8/1.4	600	526519	OVR PV T2 40-600 P TS QS	2CTB804153R2900	0.39
1+1 DC	2	-	40	20	2.8/1.4	600	527318	OVR PV T2 40-600 P QS BULK (30)	2CTB804153Z2800	0.38
1+1 DC	2	-	40	20	2.8/1.4	600	527325	OVR PV T2 40-600 P TS QS BULK (30)	2CTB804153Z2900	0.39
1+1 DC	-	-	40	20	3.8	1100	526243	OVR PV T2 40-1000 P QS	2CTB804153R2400	0.38
1+1 DC	2	-	40	20	3.8	1100	526434	OVR PV T2 40-1000 P TS QS	2CTB804153R2500	0.39
1+1 DC	2	-	40	20	3.8	1100	526748	OVR PV T2 40-1000 P QS BULK (30)	2CTB804153Z2400	0.36
1+1 DC	2	-	40	20	3.8	1100	526755	OVR PV T2 40-1000 P TS QS BULK (30)	2CTB804153Z2500	0.39
2+2 DC	2	-	40	20	3.8	1100	526199	OVR PV T2 40-1000 P TS TWIN QS	2CTB804153R2300	0.65
2+2 DC	2	-	40	20	3.8	1100	527295	OVR PV T2 40-1000 P TS TWIN QS BULK (4)	2CTB804153Z2300	0.65
1+1 DC	5	5	40	20	3.8/3.8	1100	4,05E+12	OVR PV T1-T2 5-1000 P QS	2CTB812050R1000	0.397
1+1 DC	5	5	40	20	3.8/3.8	1100	4,05E+12	OVR PV T1-T2 5-1000 P TS QS	2CTB812051R1000	0.406
1+1 DC	6,25	12.5	40	20	3.8/3.8	1100	4,05E+12	OVR PV T1-T2 12.5-1000 P QS	2CTB812120R1000	0.453
1+1 DC	6,25	12.5	40	20	3.8/3.8	1100	4,05E+12	OVR PV T1-T2 12.5-1000 P TS QS	2CTB812121R1000	0.462
1+1 DC	5	5	30	20	5/5	1500	4,05E+12	OVR PV T1-T2 5-1500 P QS	2CTB812050R1500	0.488
1+1 DC	5	5	30	20	5/5	1500	4,05E+12	OVR PV T1-T2 5-1500 P TS QS	2CTB812051R1500	0.497
1+1 DC	5	10	30	20	5/5	1500	4,05E+12	OVR PV T1-T2 10-1500 P QS	2CTB812100R1500	0.488
1+1 DC	5	10	30	20	5/5	1500	4,05E+12	OVR PV T1-T2 10-1500 P TS QS	2CTB812101R1500	0.497
1+1 DC	2	-	40	10	4.5	1500	526465	OVR PV T2 40-1500 P QS	2CTB804153R2600	0.47
1+1 DC	2	-	40	10	4.5	1100	526472	OVR PV T2 40-1500 P TS QS	2CTB804153R2700	0.48
1+1 DC	2	-	40	10	4.5	1500	527332	OVR PV T2 40-1500 P QS BULK (30)	2CTB804153Z2600	0.47
1+1 DC	2	-	40	10	4.5	1500	527301	OVR PV T2 40-1500 P TS QS BULK (30)	2CTB804153Z2700	0.48



OVR PV T1-T2-5-1000 P TS QS



OVR PV T1-T2-10-1500 P TS QS

Protection and safety

OVR WT surge protective devices - Wind turbine networks

Technical features

Types			
with auxiliary contact (TS)		OVR WT 3L 690 P TS	OVR WT 3L 690
Technology		Varistor + GDT	Varistor + GDT
Electrical features			
Standard		IEC 61643-11/EN 61643-11	IEC 61643-11/EN 61643-11
Type/test class		T1+2/I - II	T1+2/I - II
Protected lines		3	3
System network		TNC-IT	TNC-IT
Type of current		AC 47-63 Hz	AC 47-63 Hz
Nominal system voltage Un	[V]	400/690	400/690
Peak repetitive voltage withstand Urp (L-PE/L-L)	[V]	3000/3400	3000/3400
Max. cont. operating voltage Uc (L-PE/L-L)	[V]	1260/2520	1260/2520
Maximal discharge current I _{max} (8/20)	[kA]	40	40
Maximum impulse current I _{imp} (10/350)	[kA]	2	2
Nominal discharge current I _n (8/20)	[kA]	20	20
Follow current interrupting rating I _{fi}	[kA]	-	-
Voltage protection level Up at I _n	[kV]	6	6
Voltage protection level Up at 3 kA	[kV]	4.4	4.4
Voltage protection level Up at 5 kA		-	-
Voltage protection level Up at 10 kA		-	-
TOV (Temporary overvoltage) withstand Ut (L-N: 5s./N-PE: 200ms)	[V]	-	-
U _{oc}		-	-
Response time	[ns]	≤100	≤100
Short-circuit withstand capability I _{sc}	[kA]	50	50
Backup protection maximum fuse (gG)	[A]	≤125	≤125
rating circuit breaker (B or C curve)	[A]	≤125	≤125
Pluggable cartridge		Yes	Yes
Integrated thermal disconnecter		Yes	Yes
State indicator		Yes	Yes
Safety reserve		No	No
Auxiliary contact (TS)		Yes	Yes
Installation			
Wire range (L, N, PE) solid wire	[mm ²]	2.5 ... 25	2.5 ... 25
stranded wire	[mm ²]	2.5 ... 16	2.5 ... 16
Stripping length (L, N, PE)	[mm]	11	11
Tightening torque (L, N, PE)	[Nm]	2.5	2.5
Contacts information		-	-
Min. load		-	-
Max. load		-	-
Connection cross-section	[mm ²]		
Miscellaneous characteristics			
Stocking and operating temperature	[°C]	-40 to +80	-40 to +80
Maximal Altitude	[m]	5000	5000
Degree of protection		IP 20	IP 20
Fire resistance according to UL 94		V0	V0
Dimensions			
height x width x depth	[mm]		
	[inches]		
Dimensions with auxiliary contact (TS)			
height x width x depth	[mm]	100 x 178 x 65	220 x 275 x 40
	[inches]	3.94 x 7.01 x 2.56	8.66 x 10.82 x 1.57
Replacement Cartridges			
Phase Product ID		OVR T2 40-440 C/2CTB803854R0400	OVR T2 40-440 C/2CTB803854R0400

Protection and safety

OVR WT surge protective devices - Wind turbine networks



OVR WT 3L 690 P TS



OVR WT 3L 690 P

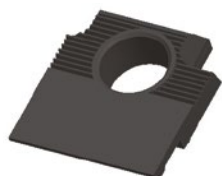
Due to their height, wind turbines have especially high exposure to lightning, they need high capacity and reliable lightning and surge protection. The OVR WT family takes into consideration the specificity of wind installations with a high peak repetitive voltage withstand (U_{rp} up to 3 kV) ensure a safe protection to Wind applications. It can be DIN mounted with the OVR.

Type 1+2 WT

Pro- tected lines	Impulse current I _{imp} 10/350	Max. dis- charge current I _{max} 8/20	Nomi- nal current I _n	Volt- age pro- tec- tion level U _p	Max. cont. oper- ating volt- age U _{cpv}	Bbn	Order details		Weight 1 piece
	kA	kA	kA	kV	V	366030	Type code	Order code	kg
3	2	40	20	6	400/ 690	518507	OVR WT 3L 690 P TS	2CTB235402R0000	1.67
3	2	40	20	6	400/ 690		OVR WT 3L 690 P (enclosed)	2CTB235401R0000	2.5

Protection and safety

Accessories for OVR



Accessory for
Cartridge Lock

Accessory for Cartridge Lock

This accessory can be fitted into the front of the socket of the SPD of the QS and PV range (for other families please consult us), QS and PV range, to guarantee an even higher withstand to vibrations and shocks, it reinforces mechanical lock between the cartridges and the socket (they are already locked by the pins in the back of the cartridge). It's recommended for stressful environments as the nazelle of the wind turbines. It's sold on packs of 50.

	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	EAN	Type code	Order code	kg	
Accessory for Cartridge Lock (x50)			2CTB814355Z1200	0.01	



Accessory for
Auxiliary contact lock

Accessory for Auxiliary contact lock

This accessory can be fitted into the top of the auxiliary contact module and guarantees an even higher withstand to stressful environments. It reinforces the mechanical lock between the auxiliary contact module and the socket of the SPD. It's recommended in environments where the cables of the auxiliary contact can suffer pulls due to the limited length of the auxiliary cables that restrict any potential movements. It's sold on packs of 50. It can not be used on single pole devices. Please order it for multipole versions.

	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	EAN	Type code	Order code	kg	
Accessory for Auxiliary contact lock (x50)			2CTB814355R2700	0.01	

Label for Surge Protected Installations

This label allows the user to identify the panels where surge protection devices are fitted. It's meant to be used in the inside of the panel door and clearly states that the cartridges need to be removed to perform insulation tests. It's sold in packs of 100.

	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	EAN	Type code	Order code	kg	
Label for Surge Protected Installations (x 100)			2CTB813860R1500	0.01	



Busbar

Bus bar

For TNC, IT, TNS or TT systems using single pole Type 1 SPDs assembled together, we have 2 different bus bars than can be used, as listed here below.

These both products are sold in packs of 50.

	Bbn 3660308	Order details		Price 1 piece	Weight 1 piece
	EAN	Type code	Order code	kg	
Busbar for Type 1, TT/TNS 3+1 configurations (x 50)	516091		2CTB815102R0400	0.03	
Busbar for Type 1, TNC or IT 3-0 configurations (x 50)	524751		2CTB815141R0700	0.03	



Notes

Lined area for notes, consisting of multiple horizontal lines.

Protection and safety

OVR surge protective devices – UL Version Selection tables

Choosing the correct model

1) Determine the service voltage

Consult qualified personnel if the facility or operation service voltage is unknown.

2) Select the SPD maximum continuous operating voltage (MCOV, Uc)

The MCOV should correspond to the service voltage.

Example: If the service voltage is 480 V Delta, an SPD with 550 V or 660 V MCOV will be required.

Surge protection devices must also provide a level of protection compatible with the withstand voltage of the equipment. This withstand voltage depends on the type of equipment and its sensitivity. The incoming surge protector may not provide adequate protection by itself, as certain electrical phenomena may greatly increase its residual voltage if cable lengths exceed 10 m. A second SPD may be necessary.

3) Select the SPD surge capacity (Imax)

Surge capacity is the amount of energy the SPD can withstand from a single surge event. The higher the surge capacity, the longer the device will protect the system. A second surge protector may be required if the surge capacity of the first is not capable of diverting all surge current to ground. See coordination below.

4) Remote monitoring (Optional)

Integrated auxiliary contact for remote monitoring available on models with "TS" designation. Consult "Selection tables" on next page for help in the selection of SPDs.

Complete facility protection

Installing surge protection at the main distribution panel is only the beginning of protecting the entire operation. As most transient surges are created internally, it is necessary to install surge protection at sub-distribution panels (equipment protection) to be fully protected. Stepping down the I_{max} level from the service entrance panel toward equipment to be protected is recommended.

For example, if a 40 kA I_{max} SPD is installed in the main distribution panel, then 15 kA I_{max} SPDs should be installed in sub-distribution panels for equipment protection.

Coordination

It may be necessary to add a second surge protector, wired to the incoming unit, to achieve the required voltage protection and/or surge capacity. For Type 2 or 4 SPDs, installing this second unit a minimum of 1 m from the first unit will allow the two to work together, achieving the required protection.

Wiring rules

The impedance of the cables increases the voltage across the connected equipment. Therefore, the length of the cable between the surge protector and the equipment should be minimized.

The surge protective device should be installed as close to the equipment to be protected as possible. If this is not possible (the equipment is over 30 m from the panel), then a second surge protector must be installed.

Protected lines	Impulse current I _{imp} 10/350 kA	Max. discharge current I _{max} 8/20 kA	Nominal discharge current I _n kA	Follow current interrupting rating I _{fi} kA	Voltage protection Rating VPR kV	Nominal voltage U _n V	Max. cont. operating voltage MCOV V	Type	Order code
Type 2 - Pluggable - Single Pole networks									
1	–	15	5	–	0.6	120	150	OVR T2 15-150 P U	2CTB802341R0000
1	–	15	5	–	1	277 ±15%	320	OVR T2 15-320 P U	2CTB802341R0400
1	–	40	20	–	0.6	120	150	OVR T2 40-150 P U	2CTB802341R2000
1	–	40	20	–	0.6	120	150	OVR T2 40-150 P TS U	2CTB802341R2100
1	–	40	20	–	1	277 ±15%	320	OVR T2 40-320 P U	2CTB802341R2400
1	–	40	20	–	1	277 ±15%	320	OVR T2 40-320 P TS U	2CTB802341R2500
1	–	40	10	–	1.3	347 ±15%	440	OVR T2 40-440 P TS U	2CTB802341R2900
1	–	40	10	–	1.7	480 ±15%	550	OVR T2 40-550 P TS U	2CTB802341R3300
1	–	40	10	–	1.9	600 ±15%	660	OVR T2 40-660 P TS U	2CTB802341R3700
Neutral									
1	–	70	20	0.1	1.2	230	275	OVR T2 70 N P U	2CTB802341R8000
Cartridges									
1	–	–	–	–	–	120 ±15%	175	OVR T2 15-150 C U	2CTB802348R2500
1	–	–	–	–	–	277 ±15%	320	OVR T2 15-320 C U	2CTB802348R2700
1	–	–	–	–	–	120 ±15%	175	OVR T2 40-150 C U	2CTB802348R3500
1	–	–	–	–	–	277 ±15%	320	OVR T2 40-320 C U	2CTB802348R3700
1	–	–	–	–	–	347 ±15%	440	OVR T2 40-440 C U	2CTB802348R3900
1	–	–	–	–	–	480 ±15%	550	OVR T2 40-550 C U	2CTB802348R4100
1	–	–	–	–	–	600 ±15%	660	OVR T2 40-660 C U	2CTB802348R4300
1	–	–	–	–	–	230	275	OVR T2 70 N C U	2CTB802348R6500

Protection and safety

OVR surge protective devices – UL Version

Selection tables

Pro- tected lines	Impulse current Iimp 10/350 kA	Max. discharge current Imax 8/20 kA	Nominal discharge current In kA	Follow current interrupting rating Ifi kA	Voltage protection Rating VPR kV	Nominal voltage Un V	Max. cont. operating voltage MCOV V	Type	Order code
Type 2 - Pluggable - Delta networks									
3	–	15	5	–	1	277 ±15%	320	OVR T2 3L 15-320 P U	2CTB802345R0400
3	–	40	20	–	1	277 ±15%	320	OVR T2 3L 40-320 P TS U	2CTB802345R2500
3	–	40	10	–	1.7	480 ±15%	550	OVR T2 3L 40-550 P TS U	2CTB802345R3300
Cartridges									
1	–	–	–	–	–	277 ±15%	320	OVR T2 15-320 C U	2CTB802348R2700
1	–	–	–	–	–	277 ±15%	320	OVR T2 40-320 C U	2CTB802348R3700
1	–	–	–	–	–	480 ±15%	550	OVR T2 40-550 C U	2CTB802348R4100
Type 2 - Pluggable - Single Phase networks									
2	–	15	5	–	1.2	120	150	OVR T2 1N 15-150 P U	2CTB802342R0000
2	–	15	5	–	1.2	277	320	OVR T2 1N 15-320 P U	2CTB802342R0400
2	–	40	20	–	1.2	120	150	OVR T2 1N 40-150 P U	2CTB802342R2000
2	–	40	20	–	1.2	120	150	OVR T2 1N 40-150 P U (x10)	2CTB802342R8000
2	–	40	20	–	1.2	120	150	OVR T2 1N 40-150 P TS U	2CTB802342R2100
2	–	40	20	–	1.2	277	320	OVR T2 1N 40-320 P TS U	2CTB802342R2500
2	–	40	10	–	1.2	347	440	OVR T2 1N 40-440 P TS U	2CTB802342R2900
2	–	40	10	–	1.2	480	550	OVR T2 1N 40-550 P TS U	2CTB802342R3300
2	–	40	10	–	1.2	600	660	OVR T2 1N 40-660 P TS U	2CTB802342R3700
Cartridges									
1	–	–	–	–	–	120 ±15%	175	OVR T2 15-150 C U	2CTB802348R2500
1	–	–	–	–	–	277 ±15%	320	OVR T2 15-320 C U	2CTB802348R2700
1	–	–	–	–	–	120 ±15%	175	OVR T2 40-150 C U	2CTB802348R3500
1	–	–	–	–	–	277 ±15%	320	OVR T2 40-320 C U	2CTB802348R3700
1	–	–	–	–	–	347 ±15%	440	OVR T2 40-440 C U	2CTB802348R3900
1	–	–	–	–	–	480 ±15%	550	OVR T2 40-550 C U	2CTB802348R4100
1	–	–	–	–	–	600 ±15%	660	OVR T2 40-660 C U	2CTB802348R4300
Type 2 - Pluggable - Split Phase networks									
2	–	15	5	–	0.6	120 ±15%	175	OVR T2 2L 15-150 P U	2CTB802343R0000
2	–	15	5	–	1	277 ±15%	320	OVR T2 2L 15-320 P U	2CTB802343R0400
3	–	15	5	–	0.7	120 ±15%	175	OVR T2 2N 15-150 P U	2CTB802344R0000
3	–	15	5	–	1.1	277 ±15%	320	OVR T2 2N 15-320 P U	2CTB802344R0400
2	–	40	20	–	0.6	120 ±15%	175	OVR T2 2L 40-150 P TS U	2CTB802343R2100
2	–	40	20	–	1	277 ±15%	320	OVR T2 2L 40-320 P TS U	2CTB802343R2500
3	–	40	20	–	0.7	120 ±15%	175	OVR T2 2N 40-150 P TS U	2CTB802344R2100
3	–	40	20	–	1.1	277 ±15%	320	OVR T2 2N 40-320 P TS U	2CTB802344R2500
3	–	40	10	–	1.4	347 ±15%	440	OVR T2 2N 40-440 P TS U	2CTB802344R2900
3	–	40	10	–	1.8	480 ±15%	550	OVR T2 2N 40-550 P TS U	2CTB802344R3300
3	–	40	10	–	2	600 ±15%	660	OVR T2 2N 40-660 P TS U	2CTB802344R3700
Cartridges									
1	–	–	–	–	–	120 ±15%	175	OVR T2 15-150 C U	2CTB802348R2500
1	–	–	–	–	–	277 ±15%	320	OVR T2 15-320 C U	2CTB802348R2700
1	–	–	–	–	–	120 ±15%	175	OVR T2 40-150 C U	2CTB802348R3500
1	–	–	–	–	–	277 ±15%	320	OVR T2 40-320 C U	2CTB802348R3700
1	–	–	–	–	–	347 ±15%	440	OVR T2 40-440 C U	2CTB802348R3900
1	–	–	–	–	–	480 ±15%	550	OVR T2 40-550 C U	2CTB802348R4100
Type 2 - Pluggable - Grounded Wye networks									
3	–	15	5	–	0.6	120 ±15%	175	OVR T2 3L 15-150 P U	2CTB802345R0000
4	–	15	5	–	0.6	120 ±15%	175	OVR T2 3N 15-150 P U	2CTB802346R0000
4	–	15	5	–	1.2	277 ±15%	320	OVR T2 3N 15-320 P U	2CTB802346R0400
3	–	40	20	–	0.6	120 ±15%	175	OVR T2 3L 40-150 P TS U	2CTB802345R2100
3	–	40	10	–	1.3	347 ±15%	440	OVR T2 3L 40-440 P TS U	2CTB802345R2900
4	–	40	20	–	1.2	120 ±15%	175	OVR T2 3N 40-150 P TS U	2CTB802346R2100
4	–	40	20	–	1.2	277 ±15%	320	OVR T2 3N 40-320 P TS U	2CTB802346R2500
4	–	40	10	–	1.2	347 ±15%	440	OVR T2 3N 40-440 P TS U	2CTB802346R2900
4	–	40	10	–	1.2	480 ±15%	550	OVR T2 3N 40-550 P TS U	2CTB802346R3300
4	–	40	10	–	1.2	600 ±15%	660	OVR T2 3N 40-660 P TS U	2CTB802346R3700
Cartridges									
1	–	–	–	–	–	120 ±15%	175	OVR T2 15-150 C U	2CTB802348R2500
1	–	–	–	–	–	120 ±15%	175	OVR T2 40-150 C U	2CTB802348R3500
1	–	–	–	–	–	347 ±15%	440	OVR T2 40-440 C U	2CTB802348R3900
1	–	–	–	–	–	277 ±15%	320	OVR T2 15-320 C U	2CTB802348R2700
1	–	–	–	–	–	277 ±15%	320	OVR T2 40-320 C U	2CTB802348R3700
1	–	–	–	–	–	480 ±15%	550	OVR T2 40-550 C U	2CTB802348R4100
1	–	–	–	–	–	600 ±15%	660	OVR T2 40-660 C U	2CTB802348R4300

Protection and safety

OVR Type 2 surge protective devices - Single pole



OVR T2 40-150 P U



OVR T2 40-440 P TS U



OVR T2 70 N P U

Descripton

Single pole devices provide great flexibility for any kind of network configuration.

OVR T2 devices provide the best protection as they are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (VPR). They are characterized by their capacity to safely discharge current with 8/20 μ s wave form.

Ordering details

Pro- tected lines	Max dis- charge current I_{max} 8/20	Nomi- nal dis- charge current I_n	Voltage protec- tion rating VPR	Nominal voltage U_n	Max. cont. operat- ing voltage MCOV	Bbn 3660308 EAN	Type	Order code	Weight Pkg (1 pce) kg
Pluggable									
1	15	5	0.6	120	150	518514	OVR T2 15-150 P U	2CTB802341R0000	0.12
1	15	5	1	277 $\pm 15\%$	320	518521	OVR T2 15-320 P U	2CTB802341R0400	0.12
1	40	20	0.6	120	150	518958	OVR T2 40-150 P U	2CTB802341R2000	0.12
1	40	20	0.6	120	150	518958	OVR T2 40-150 P TS U	2CTB802341R2100	0.12
1	40	20	1	277 $\pm 15\%$	320	518965	OVR T2 40-320 P U	2CTB802341R2400	0.12
1	40	20	1	277 $\pm 15\%$	320	518545	OVR T2 40-320 P TS U	2CTB802341R2500	0.12
1	40	10	1.3	347 $\pm 15\%$	440	518552	OVR T2 40-440 P TS U	2CTB802341R2900	0.12
1	40	10	1.7	480 $\pm 15\%$	550	518569	OVR T2 40-550 P TS U	2CTB802341R3300	0.12
1	40	10	1.9	600 $\pm 15\%$	660	518576	OVR T2 40-660 P TS U	2CTB802341R3700	0.12
Neutral - Pluggable									
1	70	20	1.2	230	275	518583	OVR T2 70 N P U	2CTB802341R8000	0.12

Protection and safety

OVR Type 2 surge protective devices - Single phase networks



OVR T2 1N 40-150 P U



OVR T2 1N 40-660 P TS U

Description

Single phase devices are composed by a MOV pole plus a spark gap one. The spark gap pole guarantees the lowest voltage protection rating and has to be connected to the Neutral.
OVR T2 devices provide the best protection as they are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (VPR). They are characterized by their capacity to safely discharge current with 8/20 μ s wave form.

Ordering details

Pro- tected lines	Max dis- charge current Imax 8/20	Nominal dis- charge current In	Voltage protec- tion rating VPR	Nominal voltage Un	Max. cont. operat- ing voltage MCOV, Uc	Bbn 3660308	Type	Order code	Weight Pkg (1 pce)
	kA	kA	kV	V	V	EAN			kg
Pluggable									
2	15	5	1.2	120	150	519238	OVR T2 1N 15-150 P U	2CTB802342R0000	0.24
2	15	5	1.2	277	320	519245	OVR T2 1N 15-320 P U	2CTB802342R0400	0.24
2	40	20	1.2	120	150	520869	OVR T2 1N 40-150 P U	2CTB802342R2000	0.24
2	40	20	1.2	120	150	520876	OVR T2 1N 40-150 P U (x10)	2CTB802342R8000	0.24
2	40	20	1.2	120	150	819252	OVR T2 1N 40-150 P TS U	2CTB802342R2100	0.24
2	40	20	1.2	277	320	519269	OVR T2 1N 40-320 P TS U	2CTB802342R2500	0.24
2	40	10	1.2	347	440	519276	OVR T2 1N 40-440 P TS U	2CTB802342R2900	0.24
2	40	10	1.2	480	550	519283	OVR T2 1N 40-550 P TS U	2CTB802342R3300	0.24
2	40	10	1.2	600	660	519290	OVR T2 1N 40-660 P TS U	2CTB802342R3700	0.24

(x10) packaging of 10 pieces.

Protection and safety

OVR Type 2 surge protective devices - Single pole

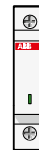


General technical data

Type			OVR T2 15-150 P U	OVR T2 15-320 P U	OVR T2 40-150 P U
with auxiliary contact (TS)			–	–	OVR T2 40-150 P TS U
Technology			Varistor	Varistor	Varistor
Electrical features					
Standard			UL 1449	UL 1449	UL 1449
Type / test class (UL 1449)			1	1	1
Protected lines			1	1	1
System network			–	–	–
Type of current / frequency			AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			±15%	±15%	±15%
Nominal system voltage Un			120 V	277 V	120 V
Maximum continuous operating voltage MCOV			150 V	320 V	150 V
Maximal discharge current (8/20) Imax			15 kA	15 kA	40 kA
Nominal discharge current (8/20) In			5 kA	5 kA	20 kA
Voltage protection rating (L-N / N-G / L-G) VPR			0.6 kV	1 kV	0.6 kV
Response time			< 25 ns	< 25 ns	< 25 ns
Short circuit withstand SCCR			200 kA	200 kA	200 kA
Back up protection fuse (gG - gL)			≤ 100 A	≤ 100 A	≤ 100 A
maximum rating	circuit breaker (B or C Curve)		≤ 125 A	≤ 125 A	≤ 125 A
Pluggable cartridges			Yes	Yes	Yes
Integrated QuickSafe® technology			Yes	Yes	Yes
State indicator			Yes	Yes	Yes
Safety reserve			–	–	–
Auxiliary contact (TS)			No	No	Yes (TS option)
Installation					
Wire range (L,N,PE)	solid wire		2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²
	stranded wire		2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²
Stripping length (L,N,PE)			12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm
Tightening torque (L,N,PE)			2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm
Auxiliary contact (TS)					
Contact information			–	–	1 NO – 1 NC
Min. load			–	–	12 V DC – 10 mA
Max. load			–	–	250 V AC – 1 A
Connection cross section			–	–	1.5 / 16 mm²
Miscellaneous characteristics					
Stocking temperature			-40...+80 °C	-40...+80 °C	-40...+80 °C
Maximal Altitude			5 000 m	5 000 m	5 000 m
Operating temperature			-40...+176 °C	-40...+176 °C	-40...+176 °C
Degree of protection			NEMA 1	NEMA 1	NEMA 1
Fire resistance according to UL 94			V0	V0	V0
Dimensions	mm	h x w x d	88 x 17.8 x 64.8 mm	88 x 17.8 x 64.8 mm	88 x 17.8 x 64.8 mm
	inches	h x w x d	3.46 x 0.7 x 2.55 in	3.46 x 0.7 x 2.55 in	3.46 x 0.7 x 2.55 in
Dimensions with auxiliary contact (TS)	mm	h x w x d	–	–	96 x 17.8 x 64.8 mm
	inches	h x w x d	–	–	3.78 x 0.7 x 2.55 in
Replacement cartridges					
Phase product ID	Type		OVR T2 15-150 C U	OVR T2 15-320 C U	OVR T2 40-150 C U
	Order code		2CTB802348R2500	2CTB802348R2700	2CTB802348R3500
Neutral product ID	Type		–	–	–
	Order code		–	–	–

Protection and safety

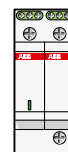
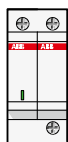
OVR Type 2 surge protective devices - Single pole



OVR T2 40-320 P U	–	–	–	OVR T2 70 N P U
OVR T2 40-320 P TS U	OVR T2 40-440 P TS U	OVR T2 40-550 P TS U	OVR T2 40-660 P TS U	–
Varistor	Varistor	Varistor	Varistor	Spark gap
UL 1449	UL 1449	UL 1449	UL 1449	UL 1449
1	1	1	1	4
1	1	1	1	1
–	–	–	–	–
AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
±15%	±15%	±15%	±15%	+15%
277 V	347 V	480 V	600 V	230 V
320 V	440 V	550 V	660 V	275 V
40 kA	40 kA	40 kA	40 kA	70 kA
20 kA	10 kA	10 kA	10 kA	20 kA
1 kV	1.3 kV	1.7 kV	1.9 kV	1.2 kV
< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns
200 kA	200 kA	200 kA	200 kA	200 kA
≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A
≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	No
Yes	Yes	Yes	Yes	Yes
–	–	–	–	–
Yes (TS option)	Yes	Yes	Yes	No
2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²
2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²
12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm
2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm
1 NO – 1 NC	1 NO – 1 NC	1 NO – 1 NC	1 NO – 1 NC	–
12 V DC – 10 mA	12 V DC – 10 mA	12 V DC – 10 mA	12 V DC – 10 mA	–
250 V AC – 1 A	250 V AC – 1 A	250 V AC – 1 A	250 V AC – 1 A	–
1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²	–
–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C	–40...+80 °C
5 000 m	5 000 m	5 000 m	5 000 m	5 000 m
–40...+176 °C	–40...+176 °C	–40...+176 °C	–40...+176 °C	–40...+176 °C
NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1
V0	V0	V0	V0	V0
88 x 17.8 x 64.8 mm	–	–	–	88 x 17.8 x 64.8 mm
3.46 x 0.7 x 2.55 in	–	–	–	3.46 x 0.7 x 2.55 in
96 x 17.8 x 64.8 mm	96 x 17.8 x 64.8 mm	96 x 17.8 x 64.8 mm	96 x 17.8 x 64.8 mm	–
3.78 x 0.7 x 2.55 in	3.78 x 0.7 x 2.55 in	3.78 x 0.7 x 2.55 in	3.78 x 0.7 x 2.55 in	–
OVR T2 40-320 C U	OVR T2 40-440 C U	OVR T2 40-550 C U	OVR T2 40-660 C U	–
2CTB802348R3700	2CTB802348R3900	2CTB802348R4100	2CTB802348R4300	–
–	–	–	–	OVR T2 70 N C U
–	–	–	–	2CTB802348R6500

Protection and safety

OVR Type 2 surge protective devices - Single phase networks



General technical data

Type			OVR T2 1N 15-150 P U	OVR T2 1N 15-320 P U	OVR T2 1N 40-150 P U
with auxiliary contact (TS)			–	–	OVR T2 1N 40-150 P TS U
Electrical features					
Standards			UL 1449	UL 1449	UL 1449
Type / test class (UL 1449)			4	4	4
Protected lines			2	2	2
Type of current / frequency			AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network			±15%	±15%	±15%
Nominal system voltage Un			120 V	277 V	120 V
Maximum continuous operating voltage MCOV			150 V	320 V	150 V
Maximal discharge current (8/20) Imax			15 kA	15 kA	40 kA
Nominal discharge current (8/20) In			5 kA	5 kA	20 kA
Voltage protection rating (L-N / N-G / L-G) VPR			1.2 kV	1.2 kV	1.2 kV
Response time			< 25 ns	< 25 ns	< 25 ns
Short circuit withstand	SCCR		200 kA	200 kA	200 kA
Back up protection maximum rating	fuse (gG - gL)		≤ 100 A	≤ 100 A	≤ 100 A
	circuit breaker (B or C curve)		≤ 125 A	≤ 125 A	≤ 125 A
Pluggable cartridges			Yes	Yes	Yes
Integrated QuickSafe® technology			Yes	Yes	Yes
State indicator			Yes	Yes	Yes
Safety reserve			–	–	–
Auxiliary contact (TS)			No	No	Yes (TS option)
Installation					
Wire range (L,N,PE)	solid wire		2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²
	stranded wire		2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²
Stripping length (L,N,PE)			12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm
Tightening torque (L,N,PE)			2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm
Auxiliary contact (TS)					
Contact information					2 NO – 2 NC
Min. load					12 V DC – 10 mA
Max. load					250 V AC – 1 A
Connection cross section					1.5 / 16 mm²
Miscellaneous characteristics					
Stocking temperature			-40...+80 °C	-40...+80 °C	-40...+80 °C
Maximal Altitude			5 000 m	5 000 m	5 000 m
Operating temperature			-40...+176 °C	-40...+176 °C	-40...+176 °C
Degree of protection			NEMA 1	NEMA 1	NEMA 1
Fire resistance according to UL 94			V0	V0	V0
Dimensions	mm	h x w x d	90.5 x 35.6 x 64.8 mm	90.5 x 35.6 x 64.8 mm	90.5 x 35.6 x 64.8 mm
	inches	h x w x d	3.56 x 1.4 x 2.55 in	3.56 x 1.4 x 2.55 in	3.56 x 1.4 x 2.55 in
Dimensions with auxiliary contact (TS)	mm	h x w x d	–	–	98.5 x 35.6 x 64.8 mm
	inches	h x w x d	–	–	3.88 x 1.4 x 2.55 in
Replacement cartridges					
Phase product ID	Type		OVR T2 15-150 C U	OVR T2 15-320 C U	OVR T2 40-150 C U
	Order code		2CTB802348R2500	2CTB802348R2700	2CTB802348R3500
Neutral product ID	Type		OVR T2 70 N C U	OVR T2 70 N C U	OVR T2 70 N C U
	Order code		2CTB802348R6500	2CTB802348R6500	2CTB802348R6500

Protection and safety

OV R Type 2 surge protective devices - Single phase networks



—	—	—	—
OV R T2 1N 40-320 P TS U	OV R T2 1N 40-440 P TS U	OV R T2 1N 40-550 P TS U	OV R T2 1N 40-660 P TS U
UL 1449	UL 1449	UL 1449	UL 1449
4	4	4	4
2	2	2	2
AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
±15%	±15%	±15%	±15%
277 V	347 V	480 V	600 V
320 V	440 V	550 V	660 V
40 kA	40 kA	40 kA	40 kA
20 kA	10 kA	10 kA	10 kA
1.2 kV	1.2 kV	1.2 kV	1.2 kV
< 25 ns	< 25 ns	< 25 ns	< 25 ns
200 kA	200 kA	200 kA	200 kA
≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A
≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
—	—	—	—
Yes	Yes	Yes	Yes
2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²
2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²
12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm
2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm
2 NO – 2 NC	2 NO – 2 NC	2 NO – 2 NC	2 NO – 2 NC
12 V DC – 10 mA	12 V DC – 10 mA	12 V DC – 10 mA	12 V DC – 10 mA
250 V AC – 1 A	250 V AC – 1 A	250 V AC – 1 A	250 V AC – 1 A
1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²
-40...+80 °C	-40...+80 °C	-40...+80 °C	-40...+80 °C
5 000 m	5 000 m	5 000 m	5 000 m
-40...+176 °C	-40...+176 °C	-40...+176 °C	-40...+176 °C
NEMA 1	NEMA 1	NEMA 1	NEMA 1
V0	V0	V0	V0
—	—	—	—
—	—	—	—
98.5 x 35.6 x 64.8 mm	98.5 x 35.6 x 64.8 mm	98.5 x 35.6 x 64.8 mm	98.5 x 35.6 x 64.8 mm
3.88 x 1.4 x 2.55 in	3.88 x 1.4 x 2.55 in	3.88 x 1.4 x 2.55 in	3.88 x 1.4 x 2.55 in
OV R T2 40-320 C U	OV R T2 40-440 C U	OV R T2 40-550 C U	OV R T2 40-660 C U
2CTB802348R3700	2CTB802348R3900	2CTB802348R4100	2CTB802348R4300
OV R T2 70 N C U	OV R T2 70 N C U	OV R T2 70 N C U	OV R T2 70 N C U
2CTB802348R6500	2CTB802348R6500	2CTB802348R6500	2CTB802348R6500

Protection and safety

OVR Type 2 surge protective devices - Delta networks



OVR T2 3L 15-320 P U



OVR T2 3L 40-320 P TS U

Description

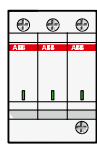
Delta devices provide the protection required by the three phases of a Delta network system. OVR T2 devices provide the best protection as they are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (VPR). They are characterized by their capacity to safely discharge current with 8/20 μs wave form.

Ordering details

Pro- tected lines	Max dis- charge current Imax 8/20	Nominal dis- charge current In	Voltage protec- tion rating VPR	Nominal voltage Un	Max. cont. operat- ing voltage MCOV, Uc	Bbn 3660308	Type	Order code	Weight Pkg (1 pce)
	kA	kA	kV	V	V	EAN			kg
Pluggable									
3	15	5	1	277 ±15%	320	518644	OVR T2 3L 15-320 P U	2CTB802345R0400	0.36
3	40	20	1	277 ±15%	320	518668	OVR T2 3L 40-320 P TS U	2CTB802345R2500	0.36
3	40	10	1.7	480 ±15%	550	518682	OVR T2 3L 40-550 P TS U	2CTB802345R3300	0.36

Protection and safety

OVR Type 2 surge protective devices - Delta networks



General technical data

Type		OVR T2 3L 15-320 P U	–	–
with auxiliary contact (TS)		–	OVR T2 3L 40-320 P TS U	OVR T2 3L 40-550 P TS U
Electrical features				
Standards		UL 1449	UL 1449	UL 1449
Type / test class (UL 1449)		1	1	1
Protected lines		3	3	3
Type of current / frequency		AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		±15%	±15%	±15%
Nominal system voltage Un		277 V	277 V	480 V
Maximum continuous operating voltage MCOV		320 V	320 V	550 V
Maximal discharge current (8/20) I _{max}		15 kA	40 kA	40 kA
Nominal discharge current (8/20) I _n		5 kA	20 kA	10 kA
Voltage protection rating (L-N / N-G / L-G) VPR		1 kV	1 kV	1.7 kV
Response time		< 25 ns	< 25 ns	< 25 ns
Short circuit withstand	SCCR	200 kA	200 kA	200 kA
Back up protection	fuse (gG - gL)	≤ 100 A	≤ 100 A	≤ 100 A
	circuit breaker (B or C curve)	≤ 125 A	≤ 125 A	≤ 125 A
Pluggable cartridges		Yes	Yes	Yes
Integrated QuickSafe® technology		Yes	Yes	Yes
State indicator		Yes	Yes	Yes
Safety reserve		–	–	–
Auxiliary contact (TS)		No	Yes	Yes
Installation				
Wire range (L,N,PE)	solid wire	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²
	stranded wire	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²
Stripping length (L,N,PE)		12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm
Tightening torque (L,N,PE)		2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm
Auxiliary contact (TS)				
Contact information		–	3 NO – 3 NC	3 NO – 3 NC
Min. load		–	12 V DC – 10 mA	12 V DC – 10 mA
Max. load		–	250 V AC – 1 A	250 V AC – 1 A
Connection cross section		–	1.5 / 16 mm ²	1.5 / 16 mm ²
Miscellaneous characteristics				
Stocking temperature		-40...+80 °C	-40...+80 °C	-40...+80 °C
Maximal Altitude		5 000 m	5 000 m	5 000 m
Operating temperature		-40...+176 °C	-40...+176 °C	-40...+176 °C
Degree of protection		NEMA 1	NEMA 1	NEMA 1
Fire resistance according to UL 94		V0	V0	V0
Dimensions	mm	h x w x d 90.5 x 53.4 x 64.8 mm	–	–
	inches	h x w x d 3.56 x 2.1 x 2.55 in	–	–
Dimensions with auxiliary contact (TS)	mm	h x w x d –	98.5 x 53.4 x 64.8 mm	98.5 x 53.4 x 64.8 mm
	inches	h x w x d –	3.88 x 2.1 x 2.55 in	3.88 x 2.1 x 2.55 in
Replacement cartridges				
Phase product ID	Type	OVR T2 15-320 C U	OVR T2 40-320 C U	OVR T2 40-550 C U
	Order code	2CTB802348R2700	2CTB802348R3700	2CTB802348R4100
Neutral product ID	Type	–	–	–
	Order code	–	–	–

Protection and safety

OVR Type 2 surge protective devices - Split phase networks



OVR T2 2L 15-320 P U



OVR T2 2L 40-320 P TS U



OVR T2 2N 15-320 P U



OVR T2 2N 40-440 P TS U

Description

Split phase devices are composed by two MOV poles or two MOV poles plus a spark gap one, depending on the number of lines the customer wants to protect. The spark gap pole guarantees the lowest voltage protection rating and has to be connected to the neutral.

OVR T2 devices provide the best protection as they are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (VPR). They are characterized by their capacity to safely discharge current with 8/20 μ s wave form.

Ordering details

Pro- tected lines	Max dis- charge current I _{max} 8/20	Nominal dis- charge current I _n	Voltage protec- tion rating VPR	Nominal voltage U _n	Max. cont. operat- ing voltage MCOV, U _c	Bbn 3660308	Type	Order code	Weight Pkg (1 pce)
	kA	kA	kV	V	V	EAN			kg
Pluggable									
2	15	5	0.6	120 ±15%	175	518590	OVR T2 2L 15-150 P U	2CTB802343R0000	0.24
2	15	5	1	277 ±15%	320	518606	OVR T2 2L 15-320 P U	2CTB802343R0400	0.24
2	40	20	0.6	120 ±15%	175	518613	OVR T2 2L 40-150 P TS U	2CTB802343R2100	0.24
2	40	20	1	277 ±15%	320	518620	OVR T2 2L 40-320 P TS U	2CTB802343R2500	0.24
3	15	5	0.7	120 ±15%	175	519306	OVR T2 2N 15-150 P U	2CTB802344R0000	0.36
3	15	5	1.1	277 ±15%	320	519313	OVR T2 2N 15-320 P U	2CTB802344R0400	0.36
3	40	20	0.7	120 ±15%	175	519320	OVR T2 2N 40-150 P TS U	2CTB802344R2100	0.36
3	40	20	1.1	277 ±15%	320	519337	OVR T2 2N 40-320 P TS U	2CTB802344R2500	0.36
3	40	10	1.4	347 ±15%	440	519344	OVR T2 2N 40-440 P TS U	2CTB802344R2900	0.36
3	40	10	1.8	480 ±15%	550	519351	OVR T2 2N 40-550 P TS U	2CTB802344R3300	0.36
3	40	10	2	600 ±15%	660	519368	OVR T2 2N 40-660 P TS U	2CTB802344R3700	0.36

Protection and safety

OVR Type 2 surge protective devices - Grounded Wye networks



OVR T2 3L 40-440
P TS U

Description

Wye devices are composed by three MOV poles or three MOV poles plus a spark gap one, depending on the number of lines the customer wants to protect. The spark gap pole guarantees the lowest voltage protection rating and has to be connected to the Neutral.

OVR T2 devices provide the best protection as they are designed to protect electric installations and sensitive equipment against indirect surges with ensuring a low protection level (VPR). They are characterized by their capacity to safely discharge current with 8/20 μ s wave form.

Ordering details

Pro- tected lines	Max dis- charge current I _{max} 8/20	Nominal dis- charge current I _n	Voltage protec- tion rating VPR	Nominal voltage U _n	Max. cont. operat- ing voltage MCOV, U _c	Bbn 3660308	Type	Order code	Weight Pkg (1 pce)
	kA	kA	kV	V	V	EAN			kg
Pluggable									
3	15	5	0.6	120 ±15%	175	518637	OVR T2 3L 15-150 P U	2CTB802345R0000	0.36
3	40	20	0.6	120 ±15%	175	518651	OVR T2 3L 40-150 P TS U	2CTB802345R2100	0.36
3	40	10	1.3	347 ±15%	440	518675	OVR T2 3L 40-440 P TS U	2CTB802345R2900	0.36
4	15	5	1.2	120 ±15%	175	518699	OVR T2 3N 15-150 P U	2CTB802346R0000	0.48
4	15	5	1.2	277 ±15%	320	518705	OVR T2 3N 15-320 P U	2CTB802346R0400	0.48
4	40	20	1.2	120 ±15%	175	518712	OVR T2 3N 40-150 P TS U	2CTB802346R2100	0.48
4	40	20	1.2	277 ±15%	320	518729	OVR T2 3N 40-320 P TS U	2CTB802346R2500	0.48
4	40	10	1.2	347 ±15%	440	518736	OVR T2 3N 40-440 P TS U	2CTB802346R2900	0.48
4	40	10	1.2	480 ±15%	550	518743	OVR T2 3N 40-550 P TS U	2CTB802346R3300	0.48
4	40	10	1.2	600 ±15%	660	518750	OVR T2 3N 40-660 P TS U	2CTB802346R3700	0.48

Protection and safety

OVR Type 2 surge protective devices - Split phase networks

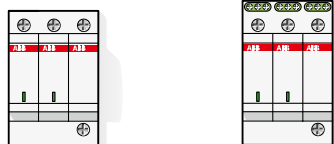


General technical data

Type		OVR T2 2L 15-150 P U	OVR T2 2L 15-320 P U	–	–	OVR T2 2N 15-150 P U
with auxiliary contact (TS)		–	–	OVR T2 2L 40- 150 P TS U	OVR T2 2L 40- 320 P TS U	–
Electrical features						
Standards		UL 1449	UL 1449	UL 1449	UL 1449	UL 1449
Type / test class (UL 1449)		1	1	1	1	4
Protected lines		2	2	2	2	3
Type of current / frequency		AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network		±15%	±15%	±15%	±15%	±15%
Nominal system voltage Un		120 V	277 V	120 V	277 V	120 V
Maximum continuous operating voltage MCOV		175 V	320 V	175 V	320 V	175 V
Maximal discharge current (8/20) Imax		15 kA	15 kA	40 kA	40 kA	15 kA
Nominal discharge current (8/20) In		5 kA	5 kA	20 kA	20 kA	5 kA
Voltage protection rating (L-N / N-G / L-G) VPR		0.6 kV	1 kV	0.6 kV	1 kV	0.7 kV
Response time		< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns
Short circuit withstand SCCR		200 kA	200 kA	200 kA	200 kA	200 kA
Back up protection maximum rating	fuse (gG - gL)	≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A
	circuit breaker (B or C curve)	≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A
Pluggable cartridges		Yes	Yes	Yes	Yes	Yes
Integrated QuickSafe® technology		Yes	Yes	Yes	Yes	Yes
State indicator		Yes	Yes	Yes	Yes	Yes
Safety reserve		–	–	–	–	–
Auxiliary contact (TS)		No	No	Yes	Yes	No
Installation						
Wire range (L,N,PE)	solid wire	2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²
	stranded wire	2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²
Stripping length (L,N,PE)		12.5 / 0.5	12.5 / 0.5	12.5 / 0.5	12.5 / 0.5	12.5 / 0.5
Tightening torque (L,N,PE)		2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm
Auxiliary contact (TS)						
Contact information		–	–	2 NO – 2 NC	2 NO – 2 NC	–
Min. load		–	–	12 V DC – 10 mA	12 V DC – 10 mA	–
Max. load		–	–	250 V AC – 1 A	250 V AC – 1 A	–
Connection cross section		–	–	1.5 / 16 mm²	1.5 / 16 mm²	–
Miscellaneous characteristics						
Stocking temperature		-40...+80 °C	-40...+80 °C	-40...+80 °C	-40...+80 °C	-40...+80 °C
Maximal Altitude		5 000 m	5 000 m	5 000 m	5 000 m	5 000 m
Operating temperature		-40...+176 °C	-40...+176 °C	-40...+176 °C	-40...+176 °C	-40...+176 °C
Degree of protection		NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1
Fire resistance according to UL 94		V0	V0	V0	V0	V0
Dimensions	mm	h x w x d 90.5 x 35.6 x 64.8 mm	90.5 x 35.6 x 64.8 mm	–	–	90.5 x 53.4 x 64.8 mm
	inches	h x w x d 3.56 x 1.4 x 2.55 in	3.56 x 1.4 x 2.55 in	–	–	3.56 x 2.1 x 2.55 in
Dimensions with auxiliary contact (TS)	mm	h x w x d –	–	98.5 x 35.6 x 64.8 mm	98.5 x 35.6 x 64.8 mm	–
	inches	h x w x d –	–	3.88 x 1.4 x 2.55 in	3.88 x 1.4 x 2.55 in	–
Replacement cartridges						
Phase product ID	Type	OVR T2 15-150 C U	OVR T2 15-320 C U	OVR T2 40-150 C U	OVR T2 40-320 C U	OVR T2 15-150 C U
	Order code	2CTB802348R2500	2CTB802348R2700	2CTB802348R3500	2CTB802348R3700	2CTB802348R2500
Neutral product ID	Type	–	–	–	–	OVR T2 70 N C U
	Order code	–	–	–	–	2CTB802348R6500

Protection and safety

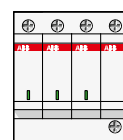
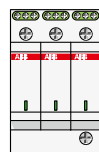
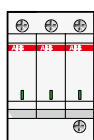
OVR Type 2 surge protective devices - Split phase networks



OVR T2 2N 15-320 P U	-	-	-	-	-
-	OVR T2 2N 40-150 P TS U	OVR T2 2N 40-320 P TS U	OVR T2 2N 40-440 P TS U	OVR T2 2N 40-550 P TS U	OVR T2 2N 40-660 P TS U
UL 1449	UL 1449	UL 1449	UL 1449	UL 1449	UL 1449
4	4	4	4	4	4
3	3	3	3	3	3
AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
±15%	±15%	±15%	±15%	±15%	±15%
277 V	120 V	277 V	347 V	480 V	600 V
320 V	175 V	320 V	440 V	550 V	660 V
15 kA	40 kA	40 kA	40 kA	40 kA	40 kA
5 kA	20 kA	20 kA	10 kA	10 kA	10 kA
1.1 kV	0.7 kV	1.1 kV	1.4 kV	1.8 kV	2 kV
< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns
200 kA	200 kA	200 kA	200 kA	200 kA	200 kA
≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A
≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
-	-	-	-	-	-
No	Yes	Yes	Yes	Yes	Yes
2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²
2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²
12.5 / 0.5	12.5 / 0.5	12.5 / 0.5	12.5 / 0.5	12.5 / 0.5	12.5 / 0.5
2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm
-	3 NO - 3 NC	3 NO - 3 NC	3 NO - 3 NC	3 NO - 3 NC	3 NO - 3 NC
-	12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA
-	250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A
-	1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²
-40...+80 °C	-40...+80 °C	-40...+80 °C	-40...+80 °C	-40...+80 °C	-40...+80 °C
5 000 m	5 000 m	5 000 m	5 000 m	5 000 m	5 000 m
-40...+176 °C	-40...+176 °C	-40...+176 °C	-40...+176 °C	-40...+176 °C	-40...+176 °C
NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1
V0	V0	V0	V0	V0	V0
90.5 x 53.4 x 64.8 mm	-	-	-	-	-
3.56 x 2.1 x 2.55 in	-	-	-	-	-
-	98.5 x 53.4 x 64.8 mm	98.5 x 53.4 x 64.8 mm	98.5 x 53.4 x 64.8 mm	98.5 x 53.4 x 64.8 mm	98.5 x 53.4 x 64.8 mm
-	3.88 x 2.1 x 2.55 in	3.88 x 2.1 x 2.55 in	3.88 x 2.1 x 2.55 in	3.88 x 2.1 x 2.55 in	3.88 x 2.1 x 2.55 in
-	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC	1 NO - 1 NC
OVR T2 15-320 C U	OVR T2 40-150 C U	OVR T2 40-320 C U	OVR T2 40-440 C U	OVR T2 40-550 C U	OVR T2 40-660 C U
2CTB802348R2700	2CTB802348R3500	2CTB802348R3700	2CTB802348R3900	2CTB802348R4100	2CTB802348R4300
OVR T2 70 N C U	OVR T2 70 N C U	OVR T2 70 N C U	OVR T2 70 N C U	OVR T2 70 N C U	OVR T2 70 N C U
2CTB802348R6500	2CTB802348R6500	2CTB802348R6500	2CTB802348R6500	2CTB802348R6500	2CTB802348R6500

Protection and safety

OVR Type 2 surge protective devices - Grounded Wye networks

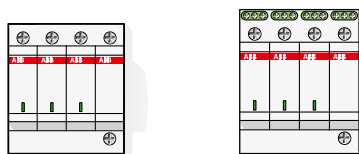


General technical data

Type	OVR T2 3L 15-150 P U	–	–	OVR T2 3N 15-150 P U
with auxiliary contact (TS)	–	OVR T2 3L 40-150 P TS U	OVR T2 3L 40-440 P TS U	–
Electrical features				
Standards	UL 1449	UL 1449	UL 1449	UL 1449
Type / test class (UL 1449)	1	1	1	4
Protected lines	3	3	3	4
Type of current / frequency	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
Voltage regulation of the system network	±15%	±15%	±15%	±15%
Nominal system voltage Un	120 V	120 V	347 V	120 V
Maximum continuous operating voltage MCOV	175 V	175 V	440 V	175 V
Maximal discharge current (8/20) Imax	15 kA	40 kA	40 kA	15 kA
Nominal discharge current (8/20) In	5 kA	10 kA	10 kA	5 kA
Voltage protection rating (L-N / N-G / L-G VPR)	0.6 kV	0.6 kV	1.3 kV	0.6 kV
Response time	< 25 ns	< 25 ns	< 25 ns	< 25 ns
Short circuit withstand	SCCR	200 kA	200 kA	200 kA
Back up protection	fuse (gG - gL)	≤ 100 A	≤ 100 A	≤ 100 A
maximum rating	circuit breaker (B or C curve)	≤ 125 A	≤ 125 A	≤ 125 A
Pluggable cartridges	Yes	Yes	Yes	Yes
Integrated QuickSafe® technology	Yes	Yes	Yes	Yes
State indicator	Yes	Yes	Yes	Yes
Safety reserve	–	–	–	–
Auxiliary contact (TS)	No	Yes	Yes	No
Installation				
Wire range (L,N,PE)	solid wire	2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²	2.5...25 / 4...14 mm²
	stranded wire	2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²	2.5...16 / 6...14 mm²
Stripping length (L,N,PE)		12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm
Tightening torque (L,N,PE)		2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm
Auxiliary contact (TS)				
Contact information	–	4 NO – 4 NC	4 NO – 4 NC	–
Min. load	–	12 V DC – 10 mA	12 V DC – 10 mA	–
Max. load	–	250 V AC – 1 A	250 V AC – 1 A	–
Connection cross section	–	1.5 / 16 mm²	1.5 / 16 mm²	–
Miscellaneous characteristics				
Stocking temperature		-40...+80 °C	-40...+80 °C	-40...+80 °C
Maximal Altitude		5 000 m	5 000 m	5 000 m
Operating temperature		-40...+176 °C	-40...+176 °C	-40...+176 °C
Degree of protection		NEMA 1	NEMA 1	NEMA 1
Fire resistance according to UL 94		V0	V0	V0
Dimensions	mm	h x w x d 90.5 x 53.4 x 64.8 mm	–	90.5 x 71.2 x 64.8 mm
	inches	h x w x d 3.56 x 2.1 x 2.55 in	–	3.56 x 2.8 x 2.55 in
Dimensions with auxiliary contact (TS)	mm	h x w x d –	98.5 x 53.4 x 64.8 mm	–
	inches	h x w x d –	3.88 x 2.1 x 2.55 in	–
Replacement cartridges				
Phase product ID	Type	OVR T2 15-150 C U	OVR T2 40-150 C U	OVR T2 40-440 C U
	Order code	2CTB802348R2500	2CTB802348R3500	2CTB802348R3900
Neutral product ID	Type	–	–	OVR T2 70 N C U
	Order code	–	–	2CTB802348R6500

Protection and safety

OVR Type 2 surge protective devices - Grounded Wye networks



OVR T2 3N 15-320 P U	-	-	-	-	-
-	OVR T2 3N 40-150 P TS U	OVR T2 3N 40-320 P TS U	OVR T2 3N 40-440 P TS U	OVR T2 3N 40-550 P TS U	OVR T2 3N 40-660 P TS U
UL 1449	UL 1449	UL 1449	UL 1449	UL 1449	UL 1449
4	4	4	4	4	4
4	4	4	4	4	4
AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz	AC 47-63 Hz
±15%	±15%	±15%	±15%	±15%	±15%
277 V	120 V	277 V	347 V	480 V	600 V
320 V	175 V	320 V	440 V	550 V	660 V
15 kA	40 kA	40 kA	40 kA	40 kA	40 kA
5 kA	20 kA	20 kA	10 kA	10 kA	10 kA
1 kV	1.2 kV	1.2 kV	1.2 kV	1.2 kV	1.2 kV
< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns
200 kA	200 kA	200 kA	200 kA	200 kA	200 kA
≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A	≤ 100 A
≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A	≤ 125 A
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
-	-	-	-	-	-
No	Yes	Yes	Yes	Yes	Yes
2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²	2.5...25 / 4...14 mm ²
2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²	2.5...16 / 6...14 mm ²
12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm	12.5 / 0.5 mm
2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm	2.8 / 24.5 Nm
-	4 NO - 4 NC	4 NO - 4 NC	4 NO - 4 NC	4 NO - 4 NC	4 NO - 4 NC
-	12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA	12 V DC - 10 mA
-	250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A	250 V AC - 1 A
-	1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²	1.5 / 16 mm ²
-40...+80 °C	-40...+80 °C	-40...+80 °C	-40...+80 °C	-40...+80 °C	-40...+80 °C
5 000 m	5 000 m	5 000 m	5 000 m	5 000 m	5 000 m
-40...+176 °C	-40...+176 °C	-40...+176 °C	-40...+176 °C	-40...+176 °C	-40...+176 °C
NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1
V0	V0	V0	V0	V0	V0
90.5 x 71.2 x 64.8 mm	-	-	-	-	-
3.56 x 2.8 x 2.55 in	-	-	-	-	-
-	98.5 x 71.2 x 64.8 mm	98.5 x 71.2 x 64.8 mm	98.5 x 71.2 x 64.8 mm	98.5 x 71.2 x 64.8 mm	98.5 x 71.2 x 64.8 mm
-	3.88 x 2.8 x 2.55 in	3.88 x 2.8 x 2.55 in	3.88 x 2.8 x 2.55 in	3.88 x 2.8 x 2.55 in	3.88 x 2.8 x 2.55 in
OVR T2 15-320 C U	OVR T2 40-150 C U	OVR T2 40-320 C U	OVR T2 40-440 C U	OVR T2 40-550 C U	OVR T2 40-660 C U
2CTB802348R2700	2CTB802348R3500	2CTB802348R3700	2CTB802348R3900	2CTB802348R4100	2CTB802348R4300
OVR T2 70 N C U	OVR T2 70 N C U	OVR T2 70 N C U	OVR T2 70 N C U	OVR T2 70 N C U	OVR T2 70 N C U
2CTB802348R6500	2CTB802348R6500	2CTB802348R6500	2CTB802348R6500	2CTB802348R6500	2CTB802348R6500

Protection and safety

OVRH series product range



Name	OVRHSP (200, 240, 300, 400)	OVRHSP (120, 160)	OVRHSP (60, 80, 100)	OVRHSR (120, 160)
Connection Ampacity	1,000A and higher	1,000A and below	400A and below	1,000A and below
SPD Type	Type 1	Type 1	Type 1	Type 1
Certifications	UL 1449	UL 1449	UL 1449	UL 1449
Surge Ratings	200, 240, 300, 400kA per phase	120, 160kA per phase	60, 80, 100kA per phase	120, 160kA per phase
LEDs	Yes	Yes	Yes	Yes
Dry Relay Contacts	Standard	Standard	Optional	Standard
EMI Filter	Optional	Optional	Optional	Optional
Surge Counter	Optional	Optional	Not available	Not available
Warranty	10 years	10 years	10 years	10 years

Protection and safety

OVRH series product range



OVRHT3B	OVRHT3C	OVRHS3U	OVRHLD
400A and below	400A and below	400A and below	100A and below
Type 1	Type 1	Type 1 and Type 2	Type 1
UL 1449	UL 1449	UL 1449	UL 1449
50kA per phase	50kA per phase	40kA per phase	20, 25, 30kA per phase
Yes	Yes	Yes	Yes
Not available	Not available	Optional	Not available
Not available	Not available	Not available	Not available
Not available	Not available	Not available	Not available
3 years	3 years	3 years	3 years

Protection and safety

OVRHSP/OVRHSR Facility Wide Protection – 4,000A and below



- Listed to UL 1449 4th Edition for Type 1 and Type 2 SPD applications.
- Fail-safe design with individually fused Metal Oxide Varistors (MOVs) eliminating single point failure, protecting against both overcurrent and overvoltage events.
- 200kAIC short circuit rating permits direct bus connection to most electrical services.
- Low let through voltage ensured by the lowest possible impedance path to ground and equal current sharing during surge events.
- All weather sealed, powder-coated NEMA 4/IP65 housing is designed for any orientation and indoor/outdoor applications.
- 10 years standard warranty.

Technical features

Electrical	
Nominal discharge current rating (I-n)	10kA (60–100) 20kA (120–400)
Operating frequency	47–63Hz
Connection method	Parallel to electrical distribution system
Modes of protection	All modes (L-N, L-G, N-G, L-L)
Fault rating (SCCR)	200kAIC–no upstream over-current protection device (breaker or fuse) required
Standard monitoring (120–400 kA)	Status indicator lights (one per phase), Standard dry (Form “C”) relay contacts, Audible alarm with silence button
Mechanical	
Weight	60, 80, 100 kA: 4.5 kg (10 lbs.) 120, 160 kA: 9 kg (20 lbs.) 200, 240, 300, 400 kA: 18 kg (40 lbs.)
Enclosure type	Powder coated, impact-resistance steel, weather-proof NEMA 4
Installation location	Indoor/outdoor
Mounting method	Dual mounting flanges
Operating environment	-40° to +70°C (-40° to +185°F)
Altitude	Up to 4000 m (13,000 ft.)
Product design	Parallel design with individually fused MOVs
Regulatory	
UL 1449 4th Edition Type	Type 1
UL 1283	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	ETL: 60–100kA models UL: 120–400kA models

Protection and safety

OVRHSP/OVRHSR Facility Wide Protection – 4,000A and below



OVRHSP and OVRHSR

Configuration	Voltage	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
		EAN	Type code	Order code	kg	pc.
1-phase, 2-wire + ground	120V		OVRHSP(SR)xxx1201P			
1-phase, 2-wire + ground	240V		OVRHSP(SR)xxx2401P			
2-phase, 3-wire + ground	240/120 V		OVRHSP(SR)xxx1202S			
3-phase Wye, 4-wire + ground	208Y/120 V		OVRHSP(SR)xxx1203Y			
3-phase Wye, 4-wire + ground	380Y/220 V		OVRHSP(SR)xxx2203Y			
3-phase Wye, 4-wire + ground	415Y/240 V		OVRHSP(SR)xxx2403Y			
3-phase Wye, 4-wire + ground	480Y/277 V		OVRHSP(SR)xxx2773Y			
3-phase Wye, 4-wire + ground	600Y/347 V		OVRHSP(SR)xxx3473Y*			
3-phase High-Leg, 4-wire + ground	240Δ/120 V		OVRHSP(SR)xxx2403H			
3-phase Delta, 3-wire + ground	240V		OVRHSP(SR)xxx2403D			
3-phase Delta, 3-wire + ground	380V		OVRHSP(SR)xxx3803D*			
3-phase Delta, 3-wire + ground	480V		OVRHSP(SR)xxx4803D*			
3-phase Delta, 3-wire + ground	600V		OVRHSP(SR)xxx6003D*			

OVRHSP: Where "xxx" can be 60, 80, 100, 120, 160, 200, 240, 300 or 400

OVRHSR: Where "xxx" can be 120 or 160

*Voltages not available with 60, 80 or 100kA units

Available options	Model number*
Add applicable suffix to end of numbers	
Advanced monitoring (available in 60–100kA units only) (Includes dry relay contacts, audible alarm, alarm silence button, fault light)	1
Transient filter* and advanced monitoring	A
Stainless steel enclosure and advanced monitoring	M
Stainless steel enclosure, transient filter* and advanced monitoring	N
Transient filter* (meets UL 1283) (All models)	3
Stainless steel enclosure (All models)	4
Transient filter* and surge counter (SP 120–400kA only)	B
Transient filter* and stainless steel enclosure (All models)	C
Surge counter and stainless steel enclosure (SP 120–400kA only)	D
Transient filter*, surge counter and stainless steel enclosure (SP 120–400kA only)	T

*Not recommended when using telecommunication rectifiers.

OVRHSR stand alone option

(To be ordered as a separate item)

	Bbn 8012542	Order details	Price 1 piece	Weight 1 piece	Pack unit
	EAN	Type code	Order code	kg	pc.
Flush-mount plate kit		OVRHSR-FMP-120/160			

Protection and safety

OVRHT3B Sub Distribution and Panelboard – 400A and below



- Listed to UL 1449 4th Edition for Type 1 SPD applications.
- 50kA per phase protection.
- Individual thermally fused and protected MOVs.
- Includes pre-wired pigtail conductors.
- Multiple MOVs per phase eliminates single point failure.

Technical features

Electrical	
Nominal discharge current rating (I-n)	20 kA (Earthing systems 10 kA)
Operating frequency	47–63 Hz
Connection methods	Parallel to load (shunt) 914.4 mm (36") of 3.31 mm ² (#12 AWG) wires
Modes of protection	Model dependent
Fault rating (SCCR)	100 kA IC
Standard monitoring	LED status indicator lights
Mechanical	
Weight	23 kg (5 lbs)
Enclosure type	NEMA 4X, non metallic
Installation location	Indoor/Outdoor
Mounting method	12.7 mm (1/2")–14 NPT thread
Operating environment	-35 to +80 °C (-31 to +176 °F)
Altitude	Up to 5000 m (16,400 ft.)
Product design	Individual thermally fused and protected MOVs
Regulatory	
UL 1449 4th edition type	Type 1
UL 96A	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

OVRHT3B Sub Distribution and Panelboard – 400A and below



Configuration	kA per phase	Voltage	Order details		Price 1 piece	Weight 1 piece	Pack unit
			Type code	Order code			
1-phase, 2-wire + ground	50kA	120 V	OVRHT3B501201P	2CJC405120P0000		0.23	1
1-phase, 2-wire + ground	50kA	240 V	OVRHT3B502401P	2CJC405240P0000		0.23	1
1-phase, 2-wire + ground	50kA	277 V	OVRHT3B502771P	2CJC405277P0000		0.23	1
1-phase, 2-wire + ground	50kA	480 V	OVRHT3B504801P	2CJC405480P0000		0.23	1
2-phase, 3-wire + ground	50kA	240/120 V	OVRHT3B501202S	2CJC405120S0000		0.23	1
2-phase, 3-wire + ground	50kA	480/240 V	OVRHT3B502402S	2CJC405240S0000		0.23	1
3-phase High-Leg, 4-wire + ground	50kA	240Δ/120 V	OVRHT3B502403H	2CJC405240H0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	208Y/120 V	OVRHT3B501203Y	2CJC405120Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	380Y/220 V	OVRHT3B502203Y	2CJC405220Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	400Y/230 V	OVRHT3B502303Y	2CJC405230Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	415Y/240 V	OVRHT3B502403Y	2CJC405240Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	480Y/277 V	OVRHT3B502773Y	2CJC405277Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	600Y/347 V	OVRHT3B503473Y	2CJC405347Y0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	240 V	OVRHT3B502403D	2CJC405240D0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	380 V	OVRHT3B503803D	2CJC405380D0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	400 V	OVRHT3B504003D	2CJC405400D0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	480 V	OVRHT3B504803D	2CJC405480D0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	600 V	OVRHT3B506003D	2CJC405600D0000		0.23	1
Earthing Systems							
1-phase, 2-wire + ground (for TNC earthing systems)	50kA	230V	OVRHT3B502301PI	2CJC405230I0000		0.23	1
1-phase, 2-wire + ground (for TNS earthing systems)	50kA	230V	OVRHT3B502301PJ	2CJC405230J0000		0.23	1
1-phase, 2-wire + ground (for IT earthing systems)	50kA	230V	OVRHT3B502301PK	2CJC405230K0000		0.23	1
1-phase, 2-wire + ground (for TT earthing systems)	50kA	230V	OVRHT3B502301PL	2CJC405230L0000		0.23	1
Warranty							
3-year							

Protection and safety

OVRHS3U Sub Distribution and Panelboard – 400A and below



- Listed to UL 1449 4th Edition for Type 1 and Type 2 SPD applications.
- Individual fusing for each Metal Oxide Varistors (MOVs).
- LED indicates proper functioning of L-N and N-G MOVs.

Technical features

Electrical	
Nominal discharge current rating (I-n)	20kA
Operating frequency	47–63Hz
Connection methods	Parallel to load (shunt) 2 mm² (#14 AWG) wires
Modes of protection	Model dependent
Fault rating (SCCR)	100kAIC
Standard monitoring	LED status indicator lights
Mechanical	
Weight	0.9 kg (2 lbs.)
Enclosure type	NEMA 1, non-metallic
Installation location	Indoor
Mounting method	12.7 mm (1/2")–14 NPT thread (Aluminum bracket optional)
Operating environment	–40 to +80 °C (–40 to +176 °F)
Altitude	Up to 5000m (16,400 ft.)
Product design	Individually fused MOVs
Regulatory	
UL 1449 4th edition type	Type 1 and Type 2
UL 1283	Only for model number OVRHS3U802402SR
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

Protection and safety

OVRHS3U Sub Distribution and Panelboard – 400A and below



Type 1

Configuration	kA per phase	Voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				EAN	Type code Order code			
1-phase, 2-wire + ground	40kA	120 V			OVRHS3U401201P			
2-phase, 3-wire + ground	40kA	120/240 V			OVRHS3U401202S			
3-phase Delta, 4-wire + ground	40kA	240 V			OVRHS3U402403D			
3-phase, 4-wire + ground	40kA	120/208 V			OVRHS3U402083Y			
		120 V			OVRHS3U401201P 2CJB504120P0000		0.9	1
		240/120 V			OVRHS3U401202S 2CJB504120S0000		0.9	1
		240 V			OVRHS3U402403D 2CJB504240D0000		0.9	1
		208Y/120 V			OVRHS3U401203Y 2CJB504120Y0000		0.9	1
		240 V			OVRHS3U402401P 2CJB504240P0000		0.9	1
		480 V			OVRHS3U404803D 2CJB504480D0000		0.9	1
		240Δ/120 V			OVRHS3U401203H 2CJB504120H0000		0.9	1
		480Y/277 V			OVRHS3U402773Y 2CJB504277Y0000		0.9	1
		400Y/230 V			OVRHS3U402303Y 2CJB504230Y0000		0.9	1

Type 2

Configuration	kA per phase	Voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				EAN	Type code Order code			
1-phase, 2-wire + ground	40kA	240V			OVRHS3U402401P			
3-phase Delta, 3-wire + ground	40kA	480V			OVRHS3U404803D			
3-phase High-Leg, 4-wire + ground	40kA	120/240V			OVRHS3U401202H			
3-phase, 4-wire + ground	40kA	277/480V			OVRHS3U402773Y			
3-phase, 4-wire + ground	40kA	230/400V			OVRHS3U402303Y			

Available options (Not available on OVRHS3U802402SR unit)	Model number*
1 set of dry relay contacts (all models)	5
1 set of dry relay contacts + mounting bracket (only on OVRHS3U402401P and OVRHS3U402303Y models)	P

Protection and safety

OVRHT3C Sub Distribution and Panelboard – 400A and below



- Listed to UL 1449 4th Edition for Type 1 SPD applications.
- 50kA per phase protection.
- Individual thermally fused and protected MOVs.
- Includes pre-wired pigtail conductors.
- Multiple MOVs per phase eliminates single point failure.

Technical features

Electrical	
Nominal discharge current rating (I-n)	10kA
Operating Frequency	47–63Hz
Connection Methods	Parallel to load 914.4mm (36") of 3.31mm2 (#12 AWG) wires
Modes of protection	Model dependent
Fault rating (SCCR)	100kAIC
Standard monitoring	LED status indicator lights
Mechanical	
Weight	.23 kg (.5 lbs)
Enclosure type	NEMA 4X, non metallic
Installation location	Indoor/Outdoor
Mounting method	12.7mm (1/2")–14 NPT thread
Operating environment	-35° to +80°C (-31° to +176°F)
Altitude	Up to 5000m (16,400 ft.)
Product design	Individual thermally fused and protected MOVs
Regulatory	
UL 1449 4th edition type	Type 1
UL 96A	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

OVRHT3C Sub Distribution and Panelboard – 400A and below

Configuration	kA per phase	Voltage	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
			Type code	Order code			
1-phase, 2-wire + ground	50kA	120V	OVRHT3C501201P	2CJC605120P0000		0.23	1
1-phase, 2-wire + ground	50kA	240V	OVRHT3C502401P	2CJC605240P0000		0.23	1
1-phase, 2-wire + ground	50kA	277V	OVRHT3C502771P	2CJC605277P0000		0.23	1
1-phase, 2-wire + ground	50kA	480V	OVRHT3C504801P	2CJC605480P0000		0.23	1
2-phase, 3-wire + ground	50kA	240 V/120 V	OVRHT3C501202S	2CJC605120S0000		0.23	1
2-phase, 3-wire + ground	50kA	480 V/240 V	OVRHT3C502402S	2CJC605240S0000		0.23	1
3-phase High-Leg, 4-wire + ground	50kA	240Δ/120 V	OVRHT3C502403H	2CJC605240H0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	208Y/120 V	OVRHT3C501203Y	2CJC605120Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	380Y/220 V	OVRHT3C502203Y	2CJC605220Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	400Y/230 V	OVRHT3C502303Y	2CJC605230Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	415Y/240 V	OVRHT3C502403Y	2CJC605240Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	480Y/277 V	OVRHT3C502773Y	2CJC605277Y0000		0.23	1
3-phase Wye, 4-wire + ground	50kA	600Y/347 V	OVRHT3C503473Y	2CJC605347Y0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	240 V	OVRHT3C502403D	2CJC605240D0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	380 V	OVRHT3C503803D	2CJC605380D0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	400 V	OVRHT3C504003D	2CJC605400D0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	480 V	OVRHT3C504803D	2CJC605480D0000		0.23	1
3-phase Delta, 3-wire + ground	50kA	600 V	OVRHT3C506003D	2CJC605600D0000		0.23	1
Earthing Systems							
1-phase, 2-wire + ground (for TNC earthing systems)	50kA	230 V	OVRHT3C502301PI	2CJC605230I0000		0.23	1
1-phase, 2-wire + ground (for TNS earthing systems)	50kA	230 V	OVRHT3C502301PJ	2CJC605230J0000		0.23	1
1-phase, 2-wire + ground (for IT earthing systems)	50kA	230 V	OVRHT3C502301PK	2CJC605230K0000		0.23	1
1-phase, 2-wire + ground (for TT earthing systems)	50kA	230 V	OVRHT3C502301PL	2CJC605230L0000		0.23	1
Warranty							
3-year							

Protection and safety

OVRHLD Equipment Level Protection – 100A and below



- Listed by ETL to UL 1449 4th edition for Type 1 SPD applications.
- Multiple Metal Oxide Varistors (MOVs), with individual current fusing and thermal disconnects for each MOV.
- LED indicates proper functioning of L-N MOVs.

Technical features

Electrical	
Nominal discharge current rating (I-n)	10kA
Operating frequency	47–63Hz
Connection methods	Parallel to load (shunt) 457.2 mm (18") 2mm ² (#14 AWG) wires Direct connect or breaker
Modes of protection	L-N, L-G, N-G
Fault rating (SCCR)	65kAIC
Standard monitoring	LED status indicator lights (one per phase)
Mechanical	
Weight	.5 kg (1 lb.)
Enclosure type	NEMA 1, non-metallic
Installation location	Indoor
Mounting method	NPS thread and aluminum bracket
Operating environment	-40° to +80°C (-40° to +176°F)
Altitude	Up to 5000m (16,400 ft.)
Product design	Individually fused MOVs Overcurrent fusing Thermal fusing
Regulatory	
UL 1449 4th edition type	Type 1
UL 1283	No
IEEE C62.41.1, .2, C62.45	Yes
Listed by	ETL

Configuration	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	EAN	Type code	Order code		kg	pc.
xxkA, yyyV, L-N, L-G (1 LED)		OVRHLDxx-yyy-1				
xxkA, yyyV, L1-N, L2-N (2 LEDs)		OVRHLDxx-yyy-2				
xxkA, yyyV, L1-G, L2-G (2 LEDs)		OVRHLDxx-yyy-3				
xxkA, yyyV, L1-G, N-G (1 LED)		OVRHLDxx-yyy-4				
xxkA, yyyV, L-N, L-G (2 LEDs)		OVRHLDxx-yyy-5				
xxkA, yyyV, L-N (1 LED)		OVRHLDxx-yyy-6				
xxkA, yyyV, L-G (1 LED)		OVRHLDxx-yyy-7				
xxkA, yyyV, N-G (0 LED)		OVRHLDxx-yyy-8				
xxkA, yyyV, L1-L2 (1 LED)		OVRHLDxx-yyy-9				

Model number: Where "xx" can be 20, 25 or 30 and "yyy" can be 120, 127, 230, or 277
 Description: Where "xx" can be 20, 25 or 30 and "yyy" can be 120, 127, 230, or 277

Available option	Model number*
Mounting bracket	6



Notes

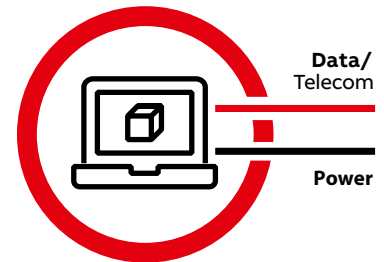
Lined area for notes, consisting of multiple horizontal lines.

The new ABB OVR data and telecom SPD range overview

Protecting critical electronic systems

The new ABB OVR data/telecom range of SPDs are designed to protect equipment connected to data and telephone lines to complement the OVR power SPD products and offer a complete system protection solution (power & data) against surges. The comprehensive range includes protection for twisted pair data lines (including hazardous environments), computer networks, telecom systems including PBX and ISDN, CCTV, TV and RF systems.

To protect the electronic equipment inside a building, all cables that enter or leave the building must be protected. Cables leaving the building can also provide a route back into the building for transients.



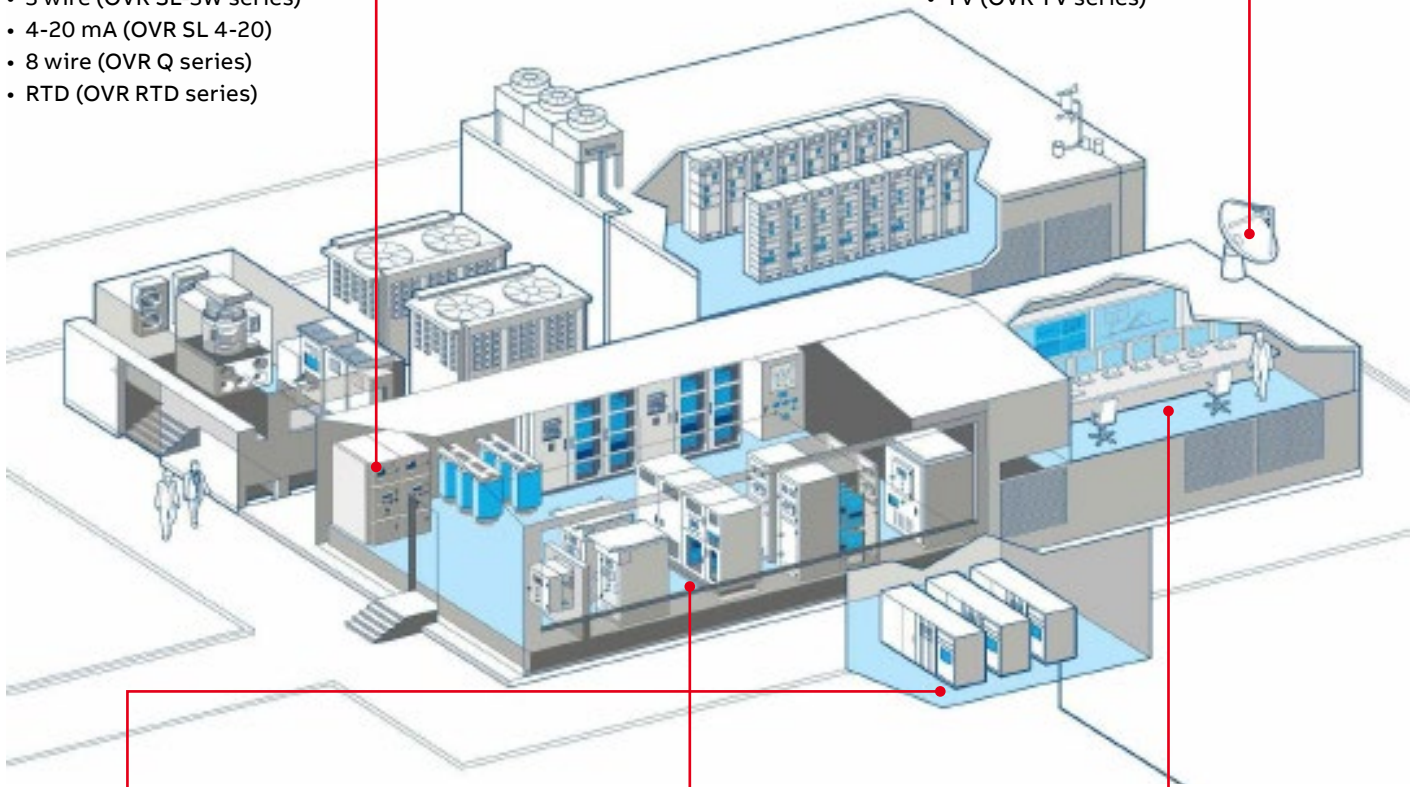
WARNING Equipment is **ONLY** protected if all incoming lines have protection fitted

Data & measurement systems

- 2 wire (OVR SL series)
- 2 wire ATEX (OVR SLX series)
- 2 wire (OVR D/E/H series)
- 3 wire (OVR SL-3W series)
- 4-20 mA (OVR SL 4-20)
- 8 wire (OVR Q series)
- RTD (OVR RTD series)

Transceiver/CCTV systems

- RF (OVR RF series)
- CCTV (OVR CCTV series with OVR 240-16A)
- TV (OVR TV series)



Mains power supply

- See OVR power SPD series

Telecom systems






























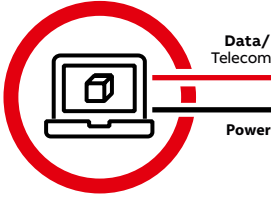
- PBX (OVR KT series)
- RJ11 (OVR TN series)
- RJ45 (OVR ISDN series)
- 2 wire (OVR TN, OVR SLTN)
- 8 wire (OVR TNQ)

Information technology systems

- Cat 6 + PoE (OVR Cat-6 series)
- Cat 5e + PoE (OVR Cat-5e series)
- RS485/HART/Profibus (OVR RS485 series)

Protection and safety

Short Selection Guide – Surge Protection Devices OVR

PROFIBUS Systems						
HART Systems	OVR RS485 Flat/DIN Mount 7TCA085400R0310	OVR SL RS485 Slim DIN Mount 7TCA085400R0310	OVR RS485Q Multiple Lines (DIN Mount) 7TCA085400R0312			
Ethernet		Cat-5 (100 Mbps) OVR Cat-5e 7TCA085400R0289 7TCA085400R0290	Cat-6 (1000 Mbps) OVR Cat-6e 7TCA085400R0291 7TCA085400R0292			
Video						
Surveillance CCTV	5V CCTV with BNC connector, power, and telemetry line 7TCA085400R0296	OVR CCTV/B Video signal 7TCA085400R0296	OVR RS485 Telemetry signal 7TCA085400R0310	OVR 240-16A Power line 7TCA085460R0361	OVR CME4 Earth Bar 7TCA085400R0414	OVR WBX4/GS Enclosure 7TCA085410R0049
4 - 20 mA current loops		OVR SL30L/4-20 7TCA085400R0371				
Coaxial antennas: GSM, UMTS, Radar, Radio, TV, GPS		Female coaxial connector:	OVR RF 441421 BNC 7TCA085450R0066	OVR RF AA1421 7/16 DIN 7TCA085450R0063	OVR RF 111421 N 7TCA085450R0065	
Telephone ISDN DSL		Screw terminals:				
		RJ11, RJ45	RJ11 telephone units	OVR TN/RJ11-6/6 6P6C Connector 7TCA085400R0359	RJ45 network units	OVR ISDN/RJ45-4/8 8P4C Connector 7TCA085400R0359
		PBX Telecom	LSA-PLUS connection	OVR KT1 Single module 7TCA085400R0305	OVR K10T1 10 modules 7TCA085400R0307	OVR KE10 Earth Bar 7TCA085400R0304
TV: Satellite, Cable		OVR CATV/F Cable 7TCA085400R0293	OVR SMATV/F Satellite 7TCA085400R0336	OVR TV/EURO Antenna 7TCA085400R0334		
2 wire systems (30V)		OVR 30E Flat Mount 7TCA085400R0353		OVR SL30 Slim Mount 7TCA085400R0363		OVR 30Q Multiple Lines 7TCA085400R0341
3 wire systems (30V)		OVR SL30/3W Slim Mount 7TCA085400R0331	Protection for different voltages are available			
Hazardous Areas		OVR SL15X 15 Volt 7TCA085400R0386		OVR SL30X 30 Volt 7TCA085400R0387		
ATEX/IEC approved		OVR RTD Flat/DIN Mount 7TCA085400R0313		OVR SL RTD Slim (DIN Mount) 7TCA085400R0315		OVR RTDQ Multiple Lines (DIN Mount) 7TCA085400R0314
Resistance Temperature Detectors (RTD)	 <p>WARNING Equipment is ONLY protected if all incoming lines have protection fitted</p>					

Protection and safety

Data & signal protection

OVR SL Series



LPZ 0 → 3	FULL MODE Bonding + Equipment Protection	LED OPTIONAL INDICATION	SIGNAL TEST CAT D + C + B	e ENHANCED Low let-through voltage	REPLACEABLE PROTECTION MODULE
LOW IN-LINE RESISTANCE 1 Ω	CURRENT RATING 750 mA	HIGH BANDWIDTH	ULTRA SLIM 7 mm WIDTH		

Combined Category D, C, B tested protector (to BS EN 61643) suitable for twisted pair signalling applications which require either a lower in-line resistance, an increased current and/or higher bandwidth. Also suitable for DC power applications less than 0.75 Amps. Available for working voltages of up to 6, 15, 30, 50 and 110 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- Optional LED status indication versions available for low current DC power applications - add L suffix to part number - e.g. OVR SL30L
- Two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- Strong, flame retardant, polycarbonate housing
- High (750 mA) maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Screen terminal enables easy connection of cable screen to earth
- Suitable for earthed or isolated screen systems - add/I suffix to part number for versions that require isolated screens - e.g. OVR SL30/I
- Built-in innovative DIN rail foot with locking feature for simple positioning and clip-on mounting to top hat DIN rails
- 4 mm² terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Convenient earthing through DIN foot and/or earth terminal
- Very low (1 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected

Application

Use these protectors where installation space is at a premium and large numbers of lines require protection (e.g. process control, high speed digital communication equipment or systems with long signal lines).

Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel).

Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Replacement modules:

OVR SLXX/M

Standard module replacement where XX is voltage rating (06, 15, 30, 50 or 110)

OVR SLXXL/M

LED module replacement where XX is voltage rating, as above

OVR SL/B

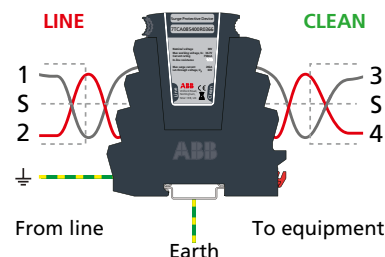
Base replacement (common for standard and LED modules)

OVR SL/I/B

Base replacement with isolated screen from earth

Weatherproof enclosure:

OVR WBX SLQ



NOTE: The OVR SL 'Slim Line' Series is also available for protection of 3-wire, RS 485 and RTD applications (OVR SL/3W, OVR SL RS485 & OVR SL RTD). The OVR SL X Series has approvals for use in hazardous areas. For telecommunication applications use OVR SLTN Series.

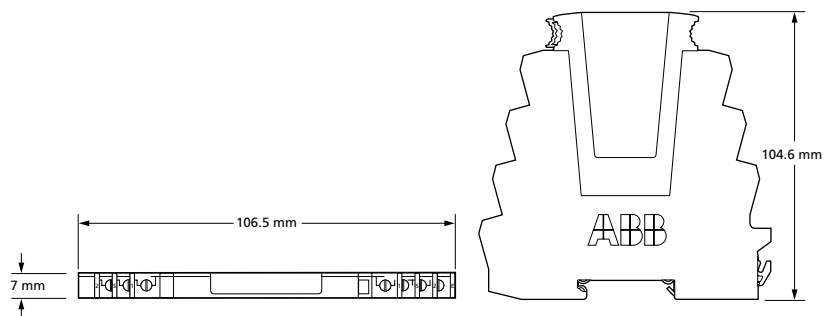
Protection and safety

Data & signal protection

OVR SL Series

OVR SL Series - Technical specification

Electrical specification	OVR SL06	OVR SL15	OVR SL30	OVR SL50	OVR SL110
ABB order code	7TCA085400R0360	7TCA085400R0361	7TCA085400R0363	7TCA085400R0364	7TCA085400R0362
Nominal voltage ⁽¹⁾	6 V	15 V	30 V	50 V	110 V
Maximum working voltage U _c (RMS/DC) ⁽²⁾	5 V/7.79 V	11 V/16.7 V	25 V/36.7 V	40 V/56.7 V	93 V/132 V
Current rating (signal)	750 mA				
In-line resistance (per line ±10%)	1.0 Ω				
Bandwidth (-3 dB 50 Ω system)	45 MHz	45 MHz	45 MHz	45 MHz	45 MHz
Transient specification	OVR SL06	OVR SL15	OVR SL30	OVR SL50	OVR SL110
Let-through voltage (all conductors) ⁽³⁾ Up					
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	36.0 V	38.4 V	63.0 V	90.3 V	185 V
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	26.2 V	29.4 V	51.3 V	77.2 V	175 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21	16.0 V	26.8 V	45.4 V	68.3 V	165 V
5 kV, 10/700 μs ⁽⁴⁾	17.0 V	27.5 V	46.3 V	69.1 V	170 V
Maximum surge current					
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire	1.25 kA			
	– Per pair	2.5 kA			
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA			
	– Per pair	20 kA			
Mechanical specification	OVR SL06	OVR SL15	OVR SL30	OVR SL50	OVR SL110
Temperature range	-40 to +80 °C				
Connection type	Screw terminal - maximum torque 0.8 Nm				
Conductor size (stranded)	4 mm ²				
Earth connection	Via DIN rail or 4 mm ² earth terminal - maximum torque 0.8 Nm				
Case material	FR Polymer UL-94 V-0				
Weight	– Unit	0.08 kg			
	– Packaged (per 10)	0.85 kg			
Dimensions	See diagram below				



⁽¹⁾ Nominal voltage (RMS/DC or AC peak) measured at < 10 μA (OVR SL15, OVR SL30, OVR SL50, OVR SL110 and LED variants) and < 200 μA (OVR SL06 and OVR SL06L)

⁽²⁾ Maximum working voltage (RMS/DC or AC peak) measured at < 1 mA leakage

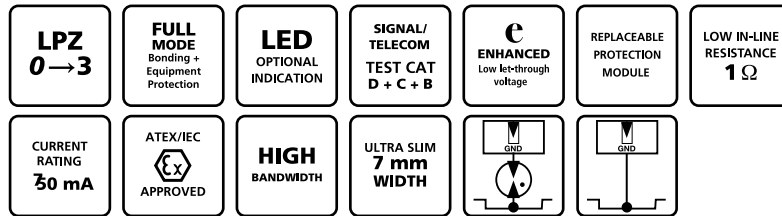
⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Data & signal protection

OVR SL X Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable for twisted pair signalling applications within hazardous environments (ATEX/ IECEx approved). Available for working voltages of up to 15 and 30 Volts. For use at boundaries up to LPZ 0 to protect against flashover through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Approved for use in hazardous environments for the protection of Intrinsically Safe circuits (Classification: II 2(1)G, Ex ia (ia Ga) IIC T4 Gb)
- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- Optional LED status indication versions available for low current DC power applications
- Negligible self-capacitance and self-inductance offering minimal interference when protecting Intrinsically Safe circuits
- Very low (1 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- High (750 mA) maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Screen terminal enables easy connection of cable screen to earth
- Suitable for earthed or isolated screen systems - add/I suffix to part number for versions that require isolated screens
- Built-in innovative DIN rail foot with locking feature for simple positioning and clip-on mounting to top hat DIN rails
- 4 mm² terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Approval references for OVR SL X Series: IECEx SIR 10.0030X, Sira 10ATEX2063X

Application

Use these protectors in hazardous environments where installation space is at a premium and large numbers of lines require protection (e.g. process control, 4-20 mA loops, fire and gas detectors and shut-down systems). Suitable for high speed digital communication equipment or systems with long signal lines. See Application Note OVR AN013.

Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Replacement modules:

OVR SL15X/M, OVR SL30X/M
Standard module replacement for 15 and 30 V protectors respectively

OVR SL15XL/M, OVR SL30XL/M

LED module replacement for 15 and 30 V protectors respectively

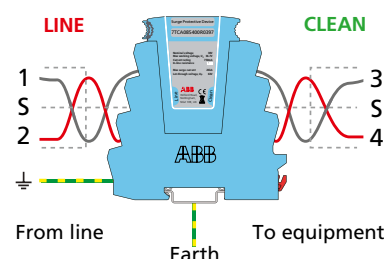
OVR SLX/B Base replacement (common for standard and LED modules)

OVR SLX/I/B

Base replacement with isolated screen from earth

Weatherproof enclosure:

OVR WBX SLQ



NOTE: Use the standard OVR SL 'Slim Line' Series for non-hazardous areas. The OVR SL Series is also available for protection of 3-wire, RS 485, RTD & telecommunication applications (OVR SL/3W, OVR SL RS485, OVR SL RTD & OVR SL TN).

Protection and safety

Data & signal protection

OVR SL X Series

OVR SL X Series - Technical specification

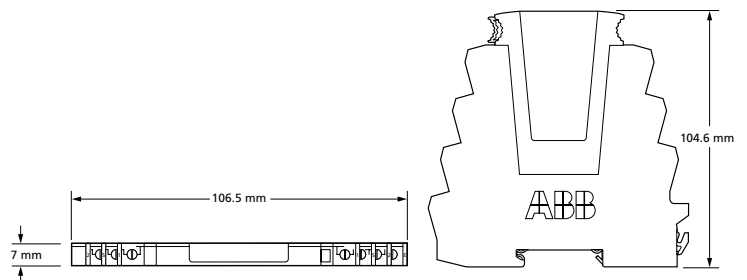
Electrical specification		OVR SL15X	OVR SL30X
ABB order code		7TCA085400R0386	7TCA085400R0387
Nominal voltage ⁽¹⁾		15 V	30 V
Maximum working voltage U _c (RMS/DC) ⁽²⁾		11 V/16.7 V	25 V/36.7 V
Current rating (signal)		750 mA	
In-line resistance (per line ±10%)		1.0 Ω	
Bandwidth (-3 dB 50 Ω system)		45 MHz	
Intrinsically safe specification		OVR SL15X	OVR SL30X
Maximum voltage U _i		30 V	
Maximum power P _i	- Per -40 °C < Ta < 40 °C	1.3 W	
	- Per -40 °C < Ta < 60 °C	1.2 W	
	- Per -40 °C < Ta < 80 °C	1.0 W	
Capacitance C _i		0 μF	
Inductance L _i		0 μH	
Certificate number		IECEX SIR 10.0030X, Sira 10ATEX2063X	
Classification		Ex II 2 (1) G, Ex ia (ia Ga) IIC T4 Gb	
Transient specification		OVR SL15X	OVR SL30X
Let-through voltage (all conductors) ⁽³⁾ Up			
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21		38.4 V	63.0 V
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21		29.4 V	51.3 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21		26.8 V	45.4 V
5 kV, 10/700 μs ⁽⁴⁾		27.5 V	46.3 V
Maximum surge current			
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	- Per signal wire	1.25 kA	
	- Per pair	2.5 kA	
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	- Per signal wire	10 kA	
	- Per pair	20 kA	
Mechanical specification		OVR SL15X	OVR SL30X
Temperature range		-40 to +80 °C	
Connection type		Screw terminal - maximum torque 0.8 Nm	
Conductor size (stranded)		4 mm ²	
Earth connection		Via DIN rail or 4 mm ² earth terminal - maximum torque 0.8 Nm	
Case material		FR Polymer UL-94 V-0	
Weight	- Unit	0.08 kg	
	- Packaged (per 10)	0.85 kg	
Dimensions		See diagram below	

⁽¹⁾ Nominal voltage (RMS/DC or AC peak)
measured at < 10 μA

⁽²⁾ Maximum working voltage (RMS/DC or AC peak)
measured at < 1 mA leakage

⁽³⁾ The maximum transient voltage let-through of the
protector throughout the test (±10%), line to line &
line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly
CCITT) K.20, K.21 and K.45, Telcordia
GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/
IS-968-A:2002 (formerly FCC Part 68)



Protection and safety

Data & signal protection

OVR D Series



LPZ
0 → 3

FULL
MODE
Bonding +
Equipment
Protection

SIGNAL
TEST CAT
D + C + B

ENHANCED
Low let-through
voltage

LOW IN-LINE
RESISTANCE
9.4 Ω

CURRENT
RATING
300 mA

Combined Category D, C, B tested protector (to BS EN 61643) suitable for most twisted pair signalling applications. Available for working voltages of up to 6, 15, 30, 50 and 110 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Low in-line resistance minimizes unnecessary reductions in signal strength
- Strong, flame retardant, ABS housing
- Supplied ready for flat mounting on base or side
- Built-in DIN rail foot for simple clip-on mounting to top hat DIN rails
- Colour coded terminals give a quick and easy installation check - grey for the dirty (line) end and green for the clean end
- Screen terminal enables easy connection of cable screen to earth
- Substantial earth stud to enable effective earthing
- Integral earthing plate for enhanced connection to earth via a OVR CME kit

Application

Use on twisted pair lines, e.g. those found in process control equipment, modems and computer communications interfaces.

Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Combined Mounting/Earthing kits:

OVR CME 4 Mount & earth
up to 4 protectors

OVR CME 8 Mount & earth
up to 8 protectors

OVR CME 16 Mount & earth
up to 16 protectors

OVR CME 32 Mount & earth
up to 32 protectors

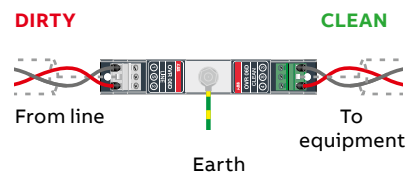
Weatherproof enclosures:

OVR WBX 4, OVR WBX 4/GS
For use with a OVR CME 4
and up to 4 protectors

OVR WBX 8, OVR WBX 8/GS
For use with a OVR CME 8
and up to 8 protectors

OVR WBX 16/2/G
For use with one or two OVR CME
16 and up to 32 protectors

Install in series (in-line)



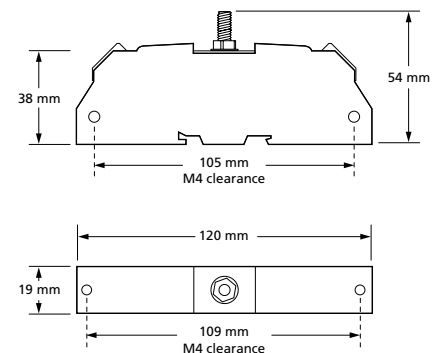
Protection and safety

Data & signal protection

OVR D Series

OVR D Series - Technical specification

Electrical specification	OVR 06D	OVR 15D	OVR 30D	OVR 50D	OVR 110D
ABB order code	7TCA085400R0288	7TCA085400R0349	7TCA085400R0351	7TCA085400R0352	7TCA085400R0347
Nominal voltage ⁽¹⁾	6 V	15 V	30 V	50 V	110 V
Maximum working voltage U _c (RMS/DC) ⁽²⁾	5 V/7.79 V	13 V/19 V	26 V/37.1 V	41 V/58 V	93 V/132 V
Current rating (signal)	300 mA				
In-line resistance (per line ±10%)	9.4 Ω	9.4 Ω	9.4 Ω	9.4 Ω	9.4 Ω
Bandwidth (-3 dB 50 Ω system)	800 kHz	2.5 MHz	4 MHz	6 MHz	9 MHz
Transient specification	OVR 06D	OVR 15D	OVR 30D	OVR 50D	OVR 110D
Let-through voltage (all conductors)(3) Up					
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	12.0 V	25.0 V	44.0 V	78.0 V	155 V
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	11.5 V	24.5 V	43.5 V	76.0 V	150 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21	10.0 V	23.0 V	42.5 V	73.0 V	145 V
5 kV, 10/700 μs ⁽⁴⁾	10.5 V	23.8 V	43.4 V	74.9 V	150 V
Maximum surge current					
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire – Per pair	2.5 kA 5 kA			
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire – Per pair	10 kA 20 kA			
Mechanical specification	OVR 06D	OVR 15D	OVR 30D	OVR 50D	OVR 110D
Temperature range	-40 to +80 °C				
Connection type	Screw terminal - maximum torque 0.5 Nm				
Conductor size (stranded)	2.5 mm ²				
Earth connection	M6 stud				
Case material	FR Polymer UL-94 V-0				
Weight	– Unit – Packaged (per 10)	0.08 kg 0.85 kg			
Dimensions	See diagram below				



⁽¹⁾ Nominal voltage (RMS/DC or AC peak)

measured at < 5 μA (OVR 15D, OVR 30D, OVR 50D, OVR 110D) and < 200 μA (OVR 06D)

⁽²⁾ Maximum working voltage (RMS/DC or AC peak) measured at < 1 mA leakage (OVR 15D, OVR 30D, OVR 50D, OVR 110D), < 10 mA (OVR 06D)

⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Data & signal protection

OVR E Series



LPZ 0→3	FULL MODE Bonding + Equipment Protection	HIGH BANDWIDTH	SIGNAL/ TELECOM TEST CAT D + C + B	e ENHANCED Low let-through voltage	LOW IN-LINE RESISTANCE 1 Ω	CURRENT RATING 1.25 A
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Combined Category D, C, B tested protector (to BS EN 61643) suitable for twisted pair signalling applications which require either a lower in-line resistance, an increased current or a higher bandwidth than the OVR D Series. Also suitable for DC power applications less than 1.25 Amps. Available for working voltages of up to 6, 15, 30, 50 and 110 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Very low (1 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- High (1.25 A) maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Screen terminal enables easy connection of cable screen to earth
- Strong, flame retardant, ABS housing
- Built-in DIN rail foot for simple clip-on mounting to top hat DIN rails
- Colour coded terminals give a quick and easy installation check - grey for the dirty (line) end and green for clean
- Substantial earth stud to enable effective earthing
- Supplied ready for flat mounting on base or side
- Integral earthing plate for enhanced connection to earth via OVR CME kit

Application

Use these units to protect resistance sensitive, higher frequency or running current systems, e.g. high speed digital communications equipment or systems with long signal lines.

Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

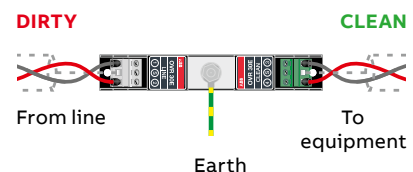
Combined Mounting/Earthing kits:

OVR CME 4 Mount & earth
up to 4 protectors
OVR CME 8 Mount & earth
up to 8 protectors
OVR CME 16 Mount & earth
up to 16 protectors
OVR CME 32 Mount & earth
up to 32 protectors

Weatherproof enclosures:

OVR WBX 4, OVR WBX 4/GS
For use with a OVR CME 4
and up to 4 protectors
OVR WBX 8, OVR WBX 8/GS
For use with a OVR CME 8
and up to 8 protectors
OVR WBX 16/2/G
For use with one or two OVR CME
16 and up to 32 protectors

Install in series (in-line)



NOTE: Slim Line (OVR SL) and ATEX (OVR SLX) are available. For many twisted pair data and signal applications, the lower cost OVR D Series may be suitable. For applications requiring higher current (1.25 A to 4 A) or ultra-low in-line resistance, the OVR H Series protectors may be more suitable.

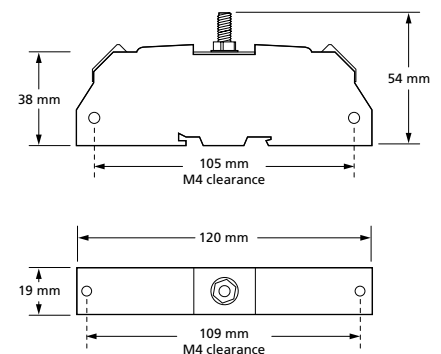
Protection and safety

Data & signal protection

OVR E Series

OVR E Series - Technical specification

Electrical specification	OVR 06E	OVR 15E	OVR 30E	OVR 50E	OVR 110E
ABB order code	7TCA085400R0346	7TCA085400R0350	7TCA085400R0353	7TCA085400R0354	7TCA085400R0348
Nominal voltage ⁽¹⁾	6 V	15 V	30 V	50 V	110 V
Maximum working voltage U _c (RMS/DC) ⁽²⁾	5 V/7.79 V	11 V/16.7 V	25 V/36.7 V	40 V/56.7 V	93 V/132 V
Current rating (signal)	1.25 A				
In-line resistance (per line ±10%)	1.0 Ω				
Bandwidth (-3 dB 50 Ω system)	45 MHz				
Transient specification	OVR 06E	OVR 15E	OVR 30E	OVR 50E	OVR 110E
Let-through voltage (all conductors) ⁽³⁾ Up					
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	36.0 V	39.0 V	60.0 V	86.0 V	180 V
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	26.2 V	28.0 V	49.0 V	73.5 V	170 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21	16.0 V	25.5 V	43.5 V	65.0 V	160 V
5 kV, 10/700 μs ⁽⁴⁾	17.0 V	26.2 V	44.3 V	65.8 V	165 V
Maximum surge current					
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire	2.5 kA			
	– Per pair	5 kA			
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA			
	– Per pair	20 kA			
Mechanical specification	OVR 06E	OVR 15E	OVR 30E	OVR 50E	OVR 110E
Temperature range	-40 to +80 °C				
Connection type	Screw terminal - maximum torque 0.5 Nm				
Conductor size (stranded)	2.5 mm ²				
Earth connection	M6 stud				
Case material	FR Polymer UL-94 V-0				
Weight	– Unit	0.08 kg			
	– Packaged (per 10)	0.85 kg			
Dimensions	See diagram below				



⁽¹⁾ Nominal voltage (RMS/DC or AC peak)

measured at < 10 μA (OVR 15E, OVR 30E, OVR 50E, OVR 110E) and < 200 μA (OVR 06E)

⁽²⁾ Maximum working voltage (RMS/DC or AC peak)

measured at < 5 mA leakage (OVR 15E, OVR 30E, OVR 50E, OVR 110E) and < 10 mA (OVR 06E)

⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Data & signal protection

OVR H Series



LPZ
0→3

FULL
MODE
Bonding +
Equipment
Protection

**SIGNAL/
TELECOM**
TEST CAT
D + C + B

e
ENHANCED
Low let-through
voltage

**LOW IN-LINE
RESISTANCE**
0.05 Ω

**CURRENT
RATING**
4 A

Combined Category D, C, B tested protector (to BS EN 61643) suitable for twisted pair signalling applications which require either a lower in-line resistance or an increased current than the OVR D or E Series. Also suitable for DC power applications less than 4 Amps. Available for working voltages of up to 6, 15, 30, 50 and 110 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Ultra-low (< 0.05 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- Very high (4 A) maximum running current
- Strong, flame retardant ABS housing
- Supplied ready for flat mounting on base or side
- Built-in DIN rail foot for simple clip-on mounting to top hat DIN rails
- Colour coded terminals give a quick and easy installation check - grey for the dirty (line) end and green for clean
- Screen terminal enables easy connection of cable screen to earth
- Substantial earth stud to enable effective earthing
- Integral earth plate enables enhanced connection to earth via OVR CME kit

Application

Use these applications to protect resistance sensitive or higher running current systems, e.g. systems with long signal lines, or DC power applications.

Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Combined Mounting/Earthing kits:

OVR CME 4 Mount & earth
up to 4 protectors

OVR CME 8 Mount & earth
up to 8 protectors

OVR CME 16 Mount & earth
up to 16 protectors

OVR CME 32 Mount & earth
up to 32 protectors

Weatherproof enclosures:

OVR WBX 4, OVR WBX 4/GS

For use with a OVR CME 4

and up to 4 protectors

OVR WBX 8, OVR WBX 8/GS

For use with a OVR CME 8

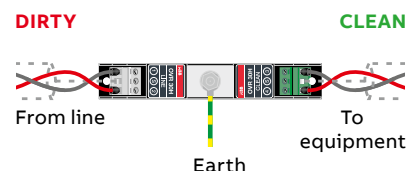
and up to 8 protectors

OVR WBX 16/2/G

For use with one or two OVR CME

16 and up to 32 protectors

Install in series (in-line)



NOTE: For some data and signal applications with lower current, higher in-line resistance or higher bandwidth requirements, the OVR D or E Series protectors or the Slim Line OVR SL Series may be more suitable.

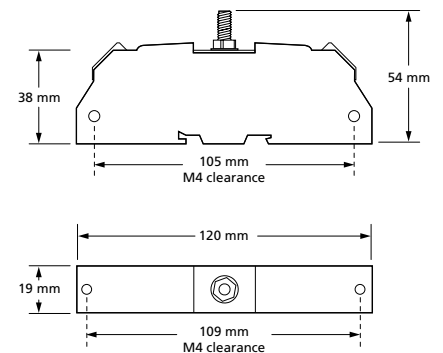
Protection and safety

Data & signal protection

OVR H Series

OVR H Series - Technical specification

Electrical specification	OVR 06H	OVR 15H	OVR 30H	OVR 50H	OVR 110H
ABB order code	7TCA085400R0355	7TCA085400R0357	7TCA085400R0358	7TCA085400R0359	7TCA085400R0356
Nominal voltage ⁽¹⁾	6 V	15 V	30 V	50 V	110 V
Maximum working voltage U _c (RMS/DC) ⁽²⁾	5 V/7.79 V	11 V/16.7 V	25 V/36.7 V	40 V/56.7 V	93 V/132 V
Current rating (signal)	4 A				
In-line resistance (per line ±10%)	0.05 Ω				
Bandwidth (-3 dB 50 Ω system)	160 KHz	140 KHz	130 KHz	120 KHz	120 KHz
Transient specification	OVR 06H	OVR 15H	OVR 30H	OVR 50H	OVR 110H
Let-through voltage (all conductors) ⁽³⁾ Up					
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	12.0 V	27.5 V	46.0 V	67.0 V	150 V
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	11.0 V	26.5 V	45.0 V	66.5 V	145 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21	10.5 V	25.5 V	43.5 V	65.0 V	140 V
5 kV, 10/700 μs ⁽⁴⁾	10.8 V	26.2 V	44.3 V	65.8 V	145 V
Maximum surge current					
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire	2.5 kA			
	– Per pair	5 kA			
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA			
	– Per pair	20 kA			
Mechanical specification	OVR 06E	OVR 15E	OVR 30E	OVR 50E	OVR 110E
Temperature range	-40 to +80 °C				
Connection type	Screw terminal - maximum torque 0.5 Nm				
Conductor size (stranded)	2.5 mm ²				
Earth connection	M6 stud - maximum torque 0.5 Nm				
Case material	FR Polymer UL-94 V-0				
Weight	– Unit	0.08 kg			
	– Packaged (per 10)	0.85 kg			
Dimensions	See diagram below				



⁽¹⁾ Nominal voltage (RMS/DC or AC peak)

measured at < 10 μA (OVR 15H, OVR 30H, OVR 50H, OVR 110H) and < 200 μA (OVR 06H)

⁽²⁾ Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA leakage (OVR 15H, OVR 30H, OVR 50H, OVR 110H) and < 10 mA (OVR 06H)

⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Data & signal protection

OVR SL 3-Wire Series



LPZ 0 → 3	FULL MODE Bonding + Equipment Protection	REPLACEABLE PROTECTION MODULE	SIGNAL/ TELECOM TEST CAT D + C + B	e ENHANCED Low let-through voltage	LOW IN-LINE RESISTANCE 1 Ω
CURRENT RATING 500 mA	HIGH BANDWIDTH	ULTRA SLIM 7 mm WIDTH			

Combined Category D, C, B tested protector (to BS EN 61643) suitable for 3-wire signalling applications which require either a lower in-line resistance, an increased current and/or higher bandwidth. Also suitable for DC power applications less than 0.5 Amps. Available for working voltages of up to 6, 15, 30, 50 and 110 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- Two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- Very low (1 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- High (500 mA) maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Strong, flame retardant, polycarbonate housing
- Built-in innovative DIN rail foot with locking feature for simple positioning and clip-on mounting to top hat DIN rails
- 4 mm² terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Convenient earthing through DIN foot and/or earth terminal

Application

Use these protectors for 3-wire systems where installation space is at a premium and large numbers of lines require protection (e.g. process control, high speed digital communication equipment or systems with long signal lines).

Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Replacement modules:

OVR SLXX/3W/M

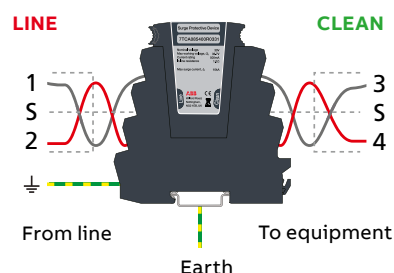
Standard module replacement where XX is voltage rating (06, 15, 30, 50 or 110)

OVR SL/3W/B

Base replacement

Weatherproof enclosure:

OVR WBX SLQ



NOTE: The OVR SL 'Slim Line' Series is also available for protection of 2-wire systems up to 110 V, RS 485, RTD and telecommunication applications (OVR SL Series, OVR SL RS485, OVR SL RTD and OVR SL TN). The OVR SL X Series has approvals for use in hazardous areas.

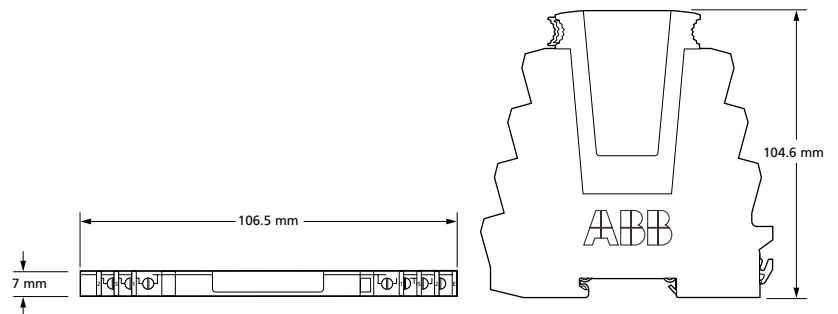
Protection and safety

Data & signal protection

OVR SL 3-Wire Series

OVR SL 3-Wire Series - Technical specification

Electrical specification	OVR SL06/3W	OVR SL15/3W	OVR SL30/3W	OVR SL50/3W	OVR SL110/3W
ABB order code	7TCA085400R0328	7TCA085400R0330	7TCA085400R0331	7TCA085400R0332	7TCA085400R0329
Nominal voltage ⁽¹⁾	6 V	15 V	30 V	50 V	110 V
Maximum working voltage U _c (RMS/DC) ⁽²⁾	5 V/7.79 V	11 V/16.7 V	25 V/36.7 V	40 V/56.7 V	93 V/132 V
Current rating (signal)	500 mA				
In-line resistance (per line ±10%)	1.0 Ω				
Bandwidth (-3 dB 50 Ω system)	45 MHz				
Transient specification	OVR SL06/3W	OVR SL15/3W	OVR SL30/3W	OVR SL50/3W	OVR SL110/3W
Let-through voltage (all conductors) ⁽³⁾ Up					
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	36.0 V	38.4 V	63.0 V	90.3 V	185 V
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	26.2 V	29.4 V	51.3 V	77.2 V	175 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21	16.0 V	26.8 V	45.4 V	68.3 V	165 V
5 kV, 10/700 μs ⁽⁴⁾	17.0 V	27.5 V	46.3 V	69.1 V	170 V
Maximum surge current					
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire	1.25 kA			
	– Per pair	2.5 kA			
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA			
	– Per pair	20 kA			
Mechanical specification	OVR SL06/3W	OVR SL15/3W	OVR SL30/3W	OVR SL50/3W	OVR SL110/3W
Temperature range	-40 to +80 °C				
Connection type	Screw terminal - maximum torque 0.8 Nm				
Conductor size (stranded)	4 mm ²				
Earth connection	Via DIN rail or 4 mm ² earth terminal - maximum torque 0.8 Nm				
Case material	FR Polymer UL-94 V-0				
Weight	– Unit	0.08 kg			
	– Packaged (per 10)	0.85 kg			
Dimensions	See diagram below				



⁽¹⁾ Nominal voltage (RMS/DC or AC peak) measured at < 10 μA (OVR SL15/3W, OVR SL30/3W, OVR SL50/3W, OVR SL110/3W) and < 200 μA (OVR SL06/3W)

⁽²⁾ Maximum working voltage (RMS/DC or AC peak) measured at < 1 mA leakage

⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Data & signal protection

OVR SL LED 4-20 mA Series



LPZ 0→3	FULL MODE Bonding + Equipment Protection	REPLACEABLE PROTECTION MODULE	SIGNAL/ TELECOM TEST CAT D + C + B	e ENHANCED Low let-through voltage	LOW IN-LINE RESISTANCE 1 Ω
CURRENT RATING 75 mA	ULTRA SLIM 7 mm WIDTH	LED INDICATION			

Combined Category D, C, B tested protector (to BS EN 61643) suitable for twisted pair 4-20 mA loop systems with innovative LED protector status indication. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment (e.g. transmitters, monitors, controllers).

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Innovative LED indication of protection status provides easy visual checking and quick maintenance
- Ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- Two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- Very low (1 Ω) in-line resistance for minimal system interference
- High (75 mA) maximum running current - can also be used on 10-50 mA systems (e.g. process control)
- Screen terminal enables easy connection of cable screen to earth
- Strong, flame retardant, polycarbonate housing
- Built-in innovative DIN rail foot with locking feature for simple positioning and clip-on mounting to top hat DIN rails
- 4 mm² terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Convenient earthing through DIN foot and/or earth terminal

Application

Use these protectors on 4-20 mA loop systems - ideal where installation space is at a premium and large numbers of lines require protection, or for systems with long signal lines.

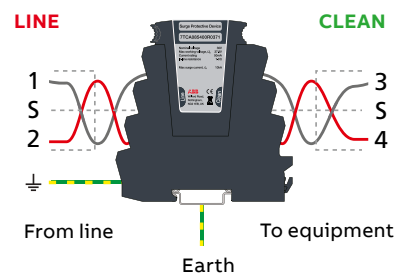
Installation

Connect in series with the 4-20 mA current loop either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

OVR SL30L/4-20/M
Module replacement
OVR SL/B
Base replacement

Weatherproof enclosure:
OVR WBX SLQ



TECHNICAL NOTE: 4-20 mA current loops can serve multiple devices over a long distance. The devices and wiring produce a voltage drop (also known as "loop drops") but these do not reduce the 4-20 mA current as long as the power supply voltage is greater than the sum of the voltage drops around the loop at the maximum signalling current of 20 mA. For design considerations, each OVR SL30L/4-20 device installed within the loop introduces a 1.7 V loop drop.

NOTE: The OVR SL 'Slim Line' Series is also available for protection of systems up to 110 V as well as 3-wire, RS 485, RTD & telecommunication applications (OVR SL/3W, OVR SL RS485, OVR SL RTD & OVR SL TN). The OVR SL X Series has approvals for use in hazardous areas.

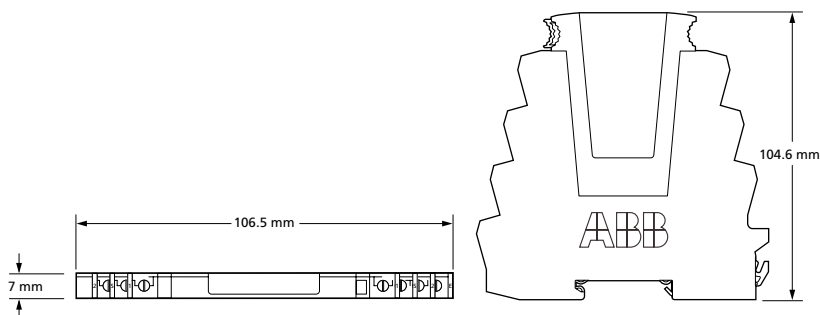
Protection and safety

Data & signal protection

OVR SL LED 4-20 mA Series

OVR SL LED 4-20 mA Series - Technical specification

Electrical specification		OVR SL30L/4-20
ABB order code		7TCA085400R0371
Nominal voltage ⁽¹⁾		30 V
Maximum working voltage U _c (RMS/DC) ⁽²⁾		25 V/36.7 V
Current rating (signal) ⁽³⁾		75 mA
In-line resistance (per line ±10%)		1.0 Ω
Series voltage drop ⁽⁴⁾		1.7 V
Bandwidth (-3 dB 50 Ω systems)		45 MHz
Transient specification		OVR SL30L/4-20
Let-through voltage (all conductors) ⁽⁵⁾ Up		
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21		63.0 V
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21		51.3 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21		45.4 V
5 kV, 10/700 μs ⁽⁶⁾		46.3 V
Maximum surge current		
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire	1.25 kA
	– Per pair	2.5 kA
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA
	– Per pair	20 kA
Mechanical specification		OVR SL30L/4-20
Temperature range		-40 to +80 °C
Connection type		Screw terminal - maximum torque 0.8 Nm
Conductor size (stranded)		4 mm ²
Earth connection		Via DIN rail or 4 mm ² earth terminal - maximum torque 0.8 Nm
Case material		FR Polymer UL-94 V-0
Weight	– Unit	0.08 kg
	– Packaged (per 10)	0.85 kg
Dimensions		See diagram below



(1) Nominal voltage (RMS/DC or AC peak) measured at < 10 μA

(2) Maximum working voltage (RMS/DC or AC peak) measured at < 1 mA leakage

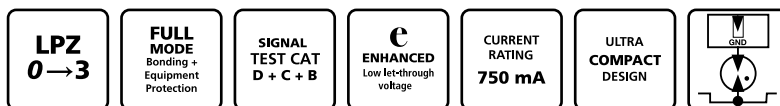
(3) The minimum current for LED indicator operation is 2 mA

(4) At 20 mA

(5) The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

(6) Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

OVR Q Series



Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Almost twice as space efficient as smallest competitor
- Standard DIN module (18mm) depth
- Removable (plug-in) terminals allow pre-wiring of cable looms, for easier installation
- Suitable for earthed or isolated screen systems
- Built-in DIN rail foot for clip-on mounting to top hat or G DIN rails
- Optional flat mounting on side
- 2.5 mm² terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Very low resistance to minimizes unwanted signal strength reductions
- Strong, flame retardant, ABS housing
- Colour coded terminals (grey for line, green for clean) give a quick and easy installation check
- Screen terminal enables easy connection of cable screen, maintaining continuity through the SPD between the input and output connectors.
- Simple, yet substantial, connection to earth via DIN rail

Use these protectors where installation space is at a premium and large numbers of lines require protection.

Connect in series with the signal or data line either near where it enters or leaves the building or close to the equipment being protected. Install in a cabinet/cubicle close to the system's earth star point.

Weatherproof enclosure: **OVR WBX SLQ**

The diagram illustrates the function of a Surge Protective Device (SPD). On the left, a 'DIRTY' power line (indicated by red text) carries multiple colored lines representing different conductors. These lines enter a central SPD unit. The SPD unit is labeled 'Surge Protective Device' and 'OVR 300 (Type 2 test)'. It features a CE mark and technical specifications: 'IEC 61643-11 Ed. 2', 'UL 1449, V. 1', and 'UL 9550, V. 1'. A red arrow points from the SPD to the 'Earth' (ground) terminal at the bottom. On the right, the lines exit the SPD and are labeled 'CLEAN' (indicated by green text). These lines then lead to the 'To equipment' terminal. The overall flow is from 'From line' to 'Earth' and then 'To equipment'.

NOTE: The OVR Q Series is also available for protection of RS 485 and RTD applications (OVR RS485Q, OVR RTDQ). Protectors for individual data and signal lines are available (OVR D Series and Slim Line OVR SL Series). Alternatively, for individual protectors with higher current or bandwidth use the OVR E and OVR H Series. For telecommunication applications use OVR TNQ Series.

Protection and safety

Data & signal protection

OVR Q Series

OVR Q Series - Technical specification

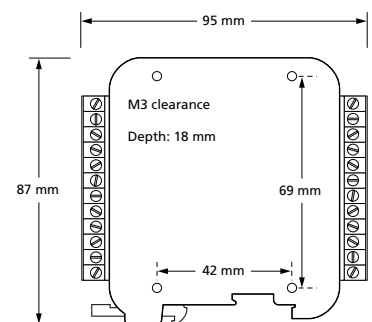
Electrical specification	OVR 06Q	OVR 15Q	OVR 30Q	OVR 50Q	OVR 110Q
ABB order code	7TCA085400R0333	7TCA085400R0340	7TCA085400R0341	7TCA085400R0342	7TCA085400R0343
Nominal voltage ⁽¹⁾	6 V	15 V	30 V	50 V	110 V
Maximum working voltage U _c (RMS/DC) ⁽²⁾	5 V/7.79 V	13 V/18.8 V	26 V/37.8 V	41 V/57.8 V	93 V/132 V
Current rating (signal)	750 mA	750 mA	750 mA	750 mA	750 mA
In-line resistance (per line ±10%)	1.0 Ω	1.0 Ω	1.0 Ω	1.0 Ω	1.0 Ω
Bandwidth (-3 dB 50 Ω system)	45 MHz	45 MHz	45 MHz	45 MHz	45 MHz
Transient specification	OVR 06Q	OVR 15Q	OVR 30Q	OVR 50Q	OVR 110Q
Let-through voltage (all conductors) ⁽³⁾ Up					
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	15.0 V	28.0 V	53.0 V	84.0 V	188 V
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	12.5 V	26.5 V	48.0 V	76.0 V	175 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21	10.0 V	23.0 V	43.5 V	64.5 V	145 V
5 kV, 10/700 μs ⁽⁴⁾	10.8 V	26.2 V	44.3 V	65.8 V	150 V
Maximum surge current					
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire	2.5 kA			
	– Per pair	5 kA			
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA			
	– Per pair	20 kA			
Mechanical specification	OVR 06Q	OVR 15Q	OVR 30Q	OVR 50Q	OVR 110Q
Temperature range	-40 to +80 °C				
Connection type	Pluggable 12 way screw terminal - maximum torque 0.6 Nm				
Conductor size (stranded)	2.5 mm ²				
Earth connection	Via DIN rail or M5 threaded hole in base of unit				
Case material	FR Polymer UL-94 V-0				
Weight	– Unit	0.1 kg			
	– Packaged (each)	0.12 kg			
	– Packaged (per 10)	1.3 kg			
Dimensions	See diagram below				

⁽¹⁾ Nominal voltage (RMS/DC or AC peak) measured at < 5 μA (OVR 15Q, OVR 30Q, OVR 50Q, OVR 110Q) and < 200 μA (OVR 06Q)

⁽²⁾ Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA leakage (OVR 15Q, OVR 30Q, OVR 50Q, OVR 110Q)

⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)



Protection and safety

Data & signal protection

OVR RTD Series



LPZ 0 → 3	FULL MODE Bonding + Equipment Protection	OVR SL RTD ULTRA SLIM 7 mm WIDTH	SIGNAL/ TELECOM TEST CAT D + C + B	ENHANCED Low let-through voltage	OVR RTDQ ULTRA COMPACT 18 mm WIDTH	LOW IN-LINE RESISTANCE	OVR SL RTD HIGH BANDWIDTH
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Combined Category D, C, B tested protector (to BS EN 61643) suitable for 3-wire RTD systems to protect monitoring equipment. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3. Available as standard OVR RTD format, or compact OVR RTDQ and Slim Line OVR SL RTD versions for installations where a high number of lines require protection.

Features & benefits

- Protects all three wires on a 3-wire RTD system with a single protector
- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Low in-line resistance minimizes reductions in signal strength
- Built-in DIN rail foot for simple mounting to top hat DIN rails
- Convenient earthing through DIN foot and/or earth terminal
- OVR RTD can be flat mounted on base or side
- OVR RTD and OVR RTDQ have colour coded terminals for quick and easy installation check
- OVR SL RTD has ultra slim 7mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- OVR SL RTD includes two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement

For further information on RTD applications, see separate Application Note OVR AN001 (contact us for a copy).

Installation

Connect in series with the signal line either near where it enters or leaves the building or close to the equipment being protected ensuring it is very close to the system's earth star

point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Replacement module for OVR SL RTD:

OVR SLRTD/M

Standard module replacement

OVR SLRTD/B

Base replacement

Combined Mounting/Earthing kits for OVR RTD:

OVR CME 4 For up to 4 x OVR RTD

OVR CME 8 For up to 8 x OVR RTD

OVR CME 16 For up to 16 x OVR RTD

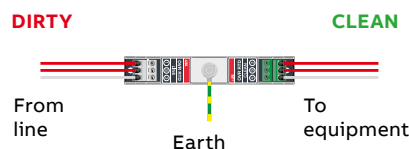
OVR CME 32 For up to 32 x OVR RTD

If protectors cannot be incorporated within an existing panel or enclosure, OVR WBX enclosures are available for up to 4, 8, 16 or 32 protectors and their associated OVR CME kit.

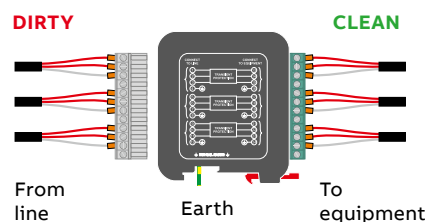
Weatherproof enclosure:

OVR WBX SLQ (OVR SLRTD and OVR RTD Q)

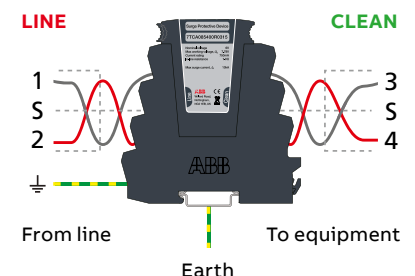
OVR RTD installed in series



OVR RTDQ installed in series (in-line)



OVR SL RTD installed in series



NOTE: For 2-wire or 4-wire RTD applications, use one or two OVR 06D or OVR SL06 protectors respectively.

Protection and safety

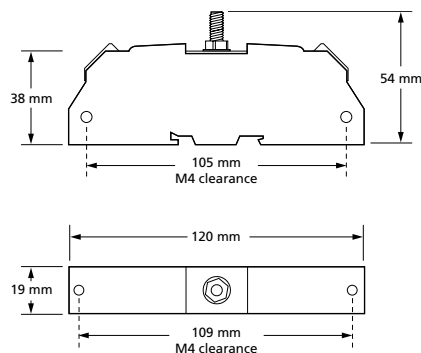
Data & signal protection

OVR RTD Series

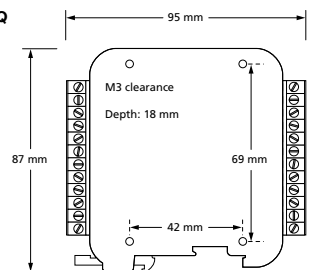
OVR RTD, RTDQ & SL RTD Series - Technical specification

Electrical specification	OVR RTD	OVR SL RTD	OVR RTDQ
ABB order code	7TCA085400R0313	7TCA085400R0315	7TCA085400R0314
Nominal voltage ⁽¹⁾	6 V		
Maximum working voltage U _c (RMS/DC) ⁽²⁾	5 V/7.79 V		
Current rating (signal)	200 mA	500 mA	700 mA
In-line resistance (per line ±10%)	10 Ω	1.0 Ω	1.0 Ω
Bandwidth (-3 dB 50 Ω system)	800 kHz	1.5 MHz	800 kHz
Transient specification	OVR RTD	OVR SL RTD	OVR RTDQ
Let-through voltage (all conductors) ⁽³⁾ Up			
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	12.0 V	17.9 V	15.0 V
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	11.5 V	12.1 V	12.5 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21	10.0 V	11.0 V	10.0 V
5 kV, 10/700 μs ⁽⁴⁾	10.5 V	11.3 V	10.5 V
Maximum surge current			
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire – Per pair	2.5 kA 5 kA	2.5 kA 5 kA
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire – Per pair	10 kA 20 kA	
Mechanical specification	OVR RTD	OVR SL RTD	OVR RTDQ
Temperature range	-40 to +80 °C		
Connection type	Screw terminal - max. torque 0.5 Nm	Screw terminal - max. torque 0.8 Nm	Pluggable 12 way screw terminal
Conductor size (stranded)	2.5 mm ²	4 mm ²	2.5 mm ²
Earth connection	M6 stud - max. torque 0.5 Nm	Via DIN rail or 4 mm ² earth terminal - max. torque 0.8 Nm	Via DIN rail or M5 threaded hole in base of unit - max. torque 0.6 Nm
Case Material	FR Polymer UL-94 V-0		
Weight	– Unit	0.08 kg	0.08 kg
	– Packaged (per 10)	0.85 kg	0.85 kg
Dimensions	See diagram below		

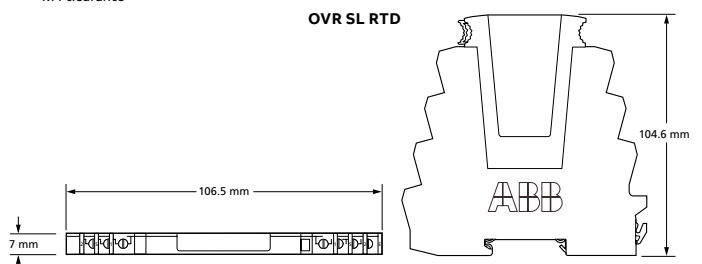
OVR RTD



OVR RTDQ



OVR SL RTD



⁽¹⁾ Nominal voltage (RMS/DC or AC peak) measured at < 200 μA

⁽²⁾ Maximum working voltage (RMS/DC or AC peak) measured at < 10 mA

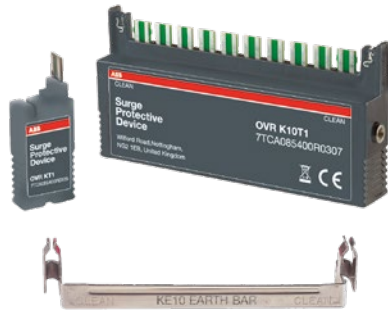
⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Telecoms & computer line protection

OVR KT & KE Series



LPZ 0→3	FULL MODE Bonding + Equipment Protection	SIGNAL/ TELECOM TEST CAT D + C + B	e ENHANCED Low let-through voltage	HIGH BANDWIDTH	LOW IN-LINE RESISTANCE 4.4 Ω
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Combined Category D, C, B tested protector (to BS EN 61643) suitable for use on ten line LSA-PLUS disconnection modules to PBX telephone exchanges, ISDN and other telecoms equipment with LSA-PLUS disconnection modules. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Low cost protection for large numbers of data and signal lines
- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Colour of housing distinguishes electrically different protectors - avoids confusion when installed together on the same distribution frame
- Quick and easy plug-in installation, with 'bump' location feedback
- Under power line cross conditions/PTC versions offer safe disconnection during fault duration. Unit auto-resets once fault corrected
- At larger installations OVR K10T1 and OVR K10T1/PTC provide all in one protection for all ten lines on LSA-PLUS disconnection modules
- Use the OVR KE10 to provide trouble free earthing for up to ten OVR KT1 and OVR KT1/PTC (per disconnection module)
- OVR K10T1 and OVR K10T1/PTC have an integral earth connection, and an external M4 earth bush for use with non-metallic LSA-Plus frames
- OVR KT1/PTC and OVR K10T1/PTC have resettable overcurrent protection and are rated for power cross faults
- OVR KT1, OVR KT1/PTC, OVR K10T1 and OVR K10T1/PTC are suitable for telecoms applications in accordance with Telcordia and ANSI Standards

Application

- For PSTN (e.g POTS, dial-up, lease line, T1/E1, *DSL and Broadband) and U interface ISDN lines, use OVR KT1 (or OVR KT1/PTC) and OVR K10T1 (or OVR K10T1/PTC)
- Protect single lines with OVR KT1 or OVR KT1/PTC
- Protect all ten lines on a disconnection module with OVR K10T1 or OVR K10T1/PTC

Installation

Install protectors on all lines that enter or leave each building (including extensions to other buildings). Identify the lines requiring protection and plug-in the protector (ensuring the correct orientation) for a series connection. Plug OVR K10T1 or OVR K10T1/PTC directly into each disconnection module requiring protection.

OVR KT1 and OVR KT1/PTC must be installed via the OVR KE10 earth bar. Clip an OVR KE10 on to the disconnection module and plug an OVR KT1 or OVR KT1/PTC in to each line on the module that needs protecting. In the unlikely situation that the protector is damaged, it will sacrifice itself and fail short circuit, taking the line out of commission, indicating it needs replacing and preventing subsequent transients from damaging equipment.

For further information on global telephony applications, see separate Application Note OVR AN005 (contact us for a copy).

NOTE: For individual telephone lines and lines at unmanned sites the high performance OVR TN or plug-in OVR TN/JP or OVR TN/RJ11 Series should be used. For plug-in S/T interface ISDN protection, use the ISDN Series protectors.

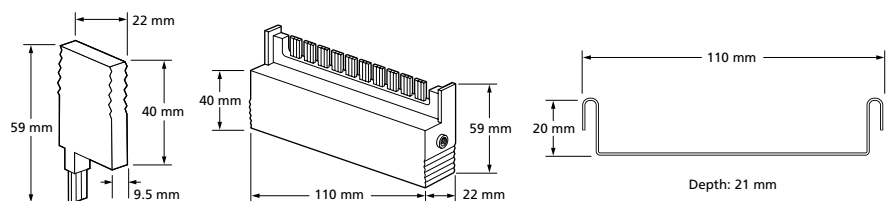
Protection and safety

Telecoms & computer line protection

OVR KT & KE Series

OVR KT & KE Series - Technical specification

Electrical specification		OVR KT1	OVR KT1/PTC	OVR K10T1	OVR K10T1/PTC	
ABB order code		7TCA085400R0305	7TCA085400R0306	7TCA085400R0307	7TCA085400R0410	
Maximum working voltage U_c ⁽¹⁾	– line to line	296 V	296 V	296 V	296 V	
	– line to earth	296 V	296 V	296 V	296 V	
Current rating (signal)		300 mA	145 mA	300 mA	145 mA	
In-line resistance (per line $\pm 10\%$)		4.4 Ω				
Bandwidth (-3 dB 50 Ω system)		20 MHz	20 MHz	20 MHz	20 MHz	
Transient specification		OVR KT1	OVR KT1/PTC	OVR K10T1	OVR K10T1/PTC	
Let-through voltage (all conductors) ⁽²⁾ Up						
C2 test 4 kV 1.2/50 μ s, 2 kA 8/20 μ s to BS EN/EN/IEC 61643-21	– line to line	395 V	395 V	395 V	395 V	
	– line to earth	395 V	395 V	395 V	395 V	
C1 test 1 kV, 1.2/50 μ s, 0.5 kA 8/20 μ s to BS EN/EN/IEC 61643-21	– line to line	390 V	390 V	390 V	390 V	
	– line to earth	390 V	390 V	390 V	390 V	
B2 test 4 kV 10/700 μ s to BS EN/EN/IEC 61643-21	– line to line	298 V	298 V	298 V	298 V	
	– line to earth	298 V	298 V	298 V	298 V	
5 kV, 10/700 μ s ⁽³⁾	– line to line	300 V	300 V	300 V	27 V	
	– line to earth	300 V	300 V	300 V	80 V	
Maximum surge current ⁽⁴⁾						
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21	– line to line	1 kA				
	– line to earth	2 kA				
8/20 μ s to ITU-T K.45:2003, IEEE C62.41.2:2002	– line to line	5 kA				
	– line to earth	10 kA				
Power Faults specification		OVR KT1	OVR KT1/PTC	OVR K10T1	OVR K10T1/PTC	
Power/Line Cross and Power Induction - tests to: ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, UL 60950/IEC 950						
Power/line cross		–	110/230 Vac (15 min)	–	110/230 Vac (15 min)	
Power induction		–	600 V, 1 A (0.2 sec)	–	600 V, 1 A	
Mechanical specification		OVR KT1, OVR KT1/PTC		OVR K10T1, OVR K10T1/PTC		OVR KE10
Temperature range		-40 to +80 °C				–
Connection type		To LSA-PLUS disconnection modules (BT part number 237A)				–
Earth connection		Via OVR KE10 earth bar		Via integral earth clip/external M4 bush		–
Material		FR Polymer UL-94 V-0				Stainless Steel
Weight	– Unit	0.01 kg		0.10kg		0.01 kg
	– Packaged	0.12 kg (per 10)		0.12kg		0.10kg (per 10)
Dimensions		See diagram below				



⁽¹⁾ Maximum working voltage (DC or AC peak) at 10 μ A for OVR KT1, OVR KT1/PTC, OVR K10T1, OVR K10T1/PTC

⁽²⁾ The maximum transient voltage let-through of the protector throughout the test ($\pm 10\%$), line to line & line to earth, both polarities. Response time < 10 ns

⁽³⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

⁽⁴⁾ The installation and connections external to the protector may limit the capability of the protector

Protection and safety

Telecoms & computer line protection

OVR TN/RJ11 & ISDN/RJ45 Series



LPZ 0→3	FULL MODE Bonding + Equipment Protection	SIGNAL/ TELECOM TEST CAT D + C + B	ENHANCED Low let-through voltage	LOW IN-LINE RESISTANCE 4.4 Ω	CURRENT RATING 300 mA
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Combined Category D, C, B tested protector (to BS EN 61643) suitable to protect telephony equipment plugged into a Modem (RJ11) or ISDN (RJ45) socket. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Substantial earth connection to enable effective earthing
- Supplied in a sturdy ABS housing ready for flat mounting, or vertically via TS35 'Top Hat' DIN rail
- OVR TN/RJ11-2/6, OVR TN/RJ11-4/6 and OVR TN/RJ11-6/6 are suitable for telecommunication applications in accordance with Telcordia and ANSI Standards (see Application Note OVR AN005)

Application

- For PSTN (e.g. POTS, dial-up, lease line, T1/E1, *DSL and Broadband) use TN/RJ11
 - OVR TN/RJ11... are suitable for use on telephone lines with a maximum (or ringing) voltage of up to 296 Volts
 - For telephone lines with RJ11 connections protect the middle 2 (of 6) conductors with OVR TN/RJ11-2/6, the middle 4 (of 6) with OVR TN/RJ11-4/6 or all 6 with OVR TN/RJ11-6/6
 - For S/T interface ISDN lines, use OVR ISDN/RJ45-4/8 and OVR ISDN/RJ45-8/8
 - For S/T interface ISDN lines with RJ45 connections protect the middle 4 (of 8) conductors (paired 3&6, 4&5) with OVR ISDN/RJ45-4/8, or all 8 (outside pairs 1&2, 7&8) with OVR ISDN/RJ45-8/8
- For further information on RJ45 ISDN applications, see separate Application Note OVR AN002 and for global telephony applications, see separate Application Note OVR AN005 (contact us for a copy).

Installation

Connect in series with the telephone or ISDN line. These units are usually installed close to the equipment being protected and within a short distance of a good electrical earth.

Accessories

OVR CAT5e/UTP-1
1 metre cable with RJ45 connections

Plug-in series connection for OVR TN/RJ11-2/6, 4/6 & 6/6



Plug-in series connection for OVR ISDN/RJ45-4/8 & 8/8



NOTE: For non-ISDN wire-in applications the high performance OVR TN, OVR SLTN or OVR TNQ can be used. Protect PBX telephone exchanges and other equipment with LSA-PLUS connections using OVR KT series.

Protection and safety

Telecoms & computer line protection

OVR TN/RJ11 & ISDN/RJ45 Series

OVR TN/RJ11 & ISDN/RJ45 Series - Technical specification

Electrical specification	OVR TN/ RJ11-2/6	OVR TN/ RJ11-4/6	OVR TN/ RJ11-6/6	OVR ISDN/ RJ45-4/8	OVR ISDN/ RJ45-8/8
ABB order code	7TCA085400R0337	7TCA085400R0338	7TCA085400R0339	7TCA085460R0359	7TCA085460R0360
Nominal voltage	296 V	296 V	296 V	5 V	5 V/58 V ⁽²⁾
Maximum working voltage U _c ⁽¹⁾	296 V	296 V	296 V	58 V	58 V
Current rating (signal)	300 mA				
In-line resistance (per line ±10%)	4.4 Ω				
Bandwidth (-3 dB 50 Ω system)	20 MHz	20 MHz	20 MHz	19 MHz	19 MHz
Transient specification	OVR TN/ RJ11-2/6	OVR TN/ RJ11-4/6	OVR TN/ RJ11-6/6	OVR ISDN/ RJ45-4/8	OVR ISDN/ RJ45-8/8
Let-through voltage (all conductors) ⁽³⁾ Up					
C2 test 4 kV 1.2/50 µs, – line to line	395 V	395 V	395 V	28 V	28 V/88 V ⁽⁵⁾
2 kA 8/20 µs to BS EN/EN/IEC 61643-21 – line to earth	395 V	395 V	395 V	88 V	88 V
C1 test 1 kV, 1.2/50 µs, – line to line	390 V	390 V	390 V	23 V	23 V/63 V ⁽⁵⁾
0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21 – line to earth	390 V	390 V	390 V	63 V	63 V
B2 test 4 kV 10/700 µs – line to line	298 V	298 V	298 V	26 V	26 V/65 V ⁽⁵⁾
to BS EN/EN/IEC 61643-21 – line to earth	298 V	298 V	298 V	65 V	65 V
5 kV, 10/700 µs ⁽⁴⁾ – line to line	300 V	300 V	300 V	27 V	27 V/80 V ⁽⁵⁾
– line to earth	300 V	300 V	300 V	80 V	80 V
Maximum surge current ⁽⁶⁾					
D1 test 10/350 µs to BS EN/EN/IEC 61643-21	1 kA				
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002:	10 kA				
Mechanical specification	OVR TN/ RJ11-2/6	OVR TN/ RJ11-4/6	OVR TN/ RJ11-6/6	OVR ISDN/ RJ45-4/8	OVR ISDN/ RJ45-8/8
Temperature range	-40 to +80 °C				
Connection type	RJ11 plug and socket	RJ11 plug and socket	RJ11 plug and socket	RJ45 plug and socket	RJ45 plug and socket
Earth connection	M4/DIN rail				
Case Material	FR Polymer UL-94 V-0				
Weight	– Unit	0.15 kg			
	– Packaged	0.2 kg			
Dimensions	See diagram below				

⁽¹⁾ Maximum working voltage (DC or AC peak) measured at < 10 µA leakage for OVR TN/RJ11 products and < 5 µA for OVR ISDN/RJ45 products

⁽²⁾ Maximum working voltage is 5 V for pairs 3/6 & 4/5, and 58 V for pairs 1/2 & 7/8

⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

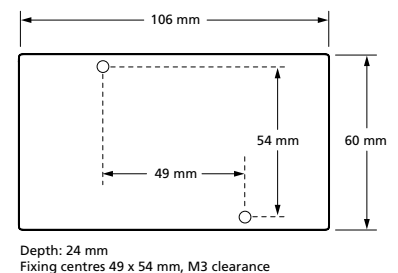
⁽⁵⁾ The first let-through voltage value is for pairs 3/4 & 5/6, and the second value is for pairs 1/2 & 7/8

⁽⁶⁾ The installation and connectors external to the protector may limit the capability of the protector

OVR ISDN/RJ45-4/8, 8/8
cable length: 0.5 m



OVR TN/RJ11-2/6, 4/6, 6/6
cable length: 1 m



Protection and safety

Data & signal protection

OVR TN, TNQ & SL TN Series



FULL MODE Bonding + Equipment Protection	OVR SLTN ULTRA SLIM 7 mm WIDTH	LPZ 0 → 3	ENHANCED Low let-through voltage	OVR TNQ ULTRA COMPACT 18 mm WIDTH
SIGNAL/ TELECOM TEST CAT D + C + B	LOW IN-LINE RESISTANCE	HIGH BANDWIDTH		

Combined Category D, C, B tested protector (to BS EN 61643) specifically designed for telecommunications applications in accordance with Telcordia and ANSI standards (see Application Note OVR AN005). For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3. Available as standard OVR TN format, or compact OVR TNQ and Slim Line OVR SL TN versions for installations where a high number of lines require protection.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- 20 MHz bandwidth greatly exceeds VDSL2+ (50Mbps ~ 7MHz) maximum speeds
- Low in-line resistance minimizes reductions in signal strength
- Built-in DIN rail foot for simple mounting to top hat DIN rails
- Convenient earthing through DIN foot and/or earth terminal
- OVR TN can be flat mounted on base or side
- OVR TN and OVR TNQ have colour coded terminals for quick and easy installation check
- OVR SL TN has ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- OVR SL TN includes two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- OVR SL TN includes optional LED status indication (add L suffix to part number - i.e. OVR SL TNL)

Application

Connect in series with the signal line either near where it enters or leaves the building or close to the equipment being protected ensuring it is very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Replacement module for OVR SL TN:
OVR SLTN/M
Standard module replacement

Combined Mounting/Earthing kits for OVR RS485:

OVR CME 4 For up to 4 x OVR TN

OVR CME 8 For up to 8 x OVR TN

OVR CME 16 For up to 16 x OVR TN

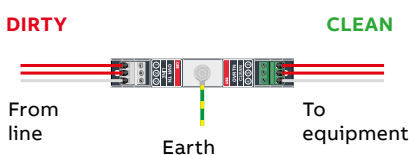
OVR CME 32 For up to 32 x OVR TN

If protectors cannot be incorporated within an existing panel or enclosure, OVR WBX enclosures are available for up to 4, 8, 16 or 32 protectors and their associated OVR CME kit.

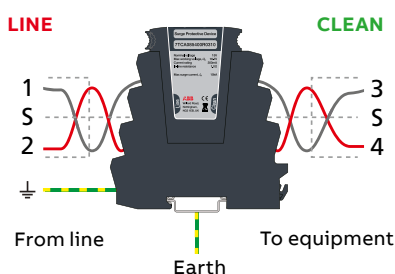
Weatherproof enclosure:

OVR WBX SLQ (OVR SLTN and OVR TNQ)

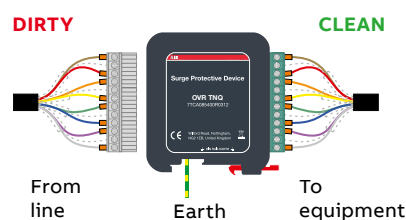
OVR TN installed in series



OVR SL TN installed in series



OVR TNQ installed in series (in-line)



NOTE: The OVR KT Series is also available for telecommunications application using LSA-PLUS disconnection modules. Plug-in solutions are also available for RJ11 connections (see OVR TN RJ11 Series).

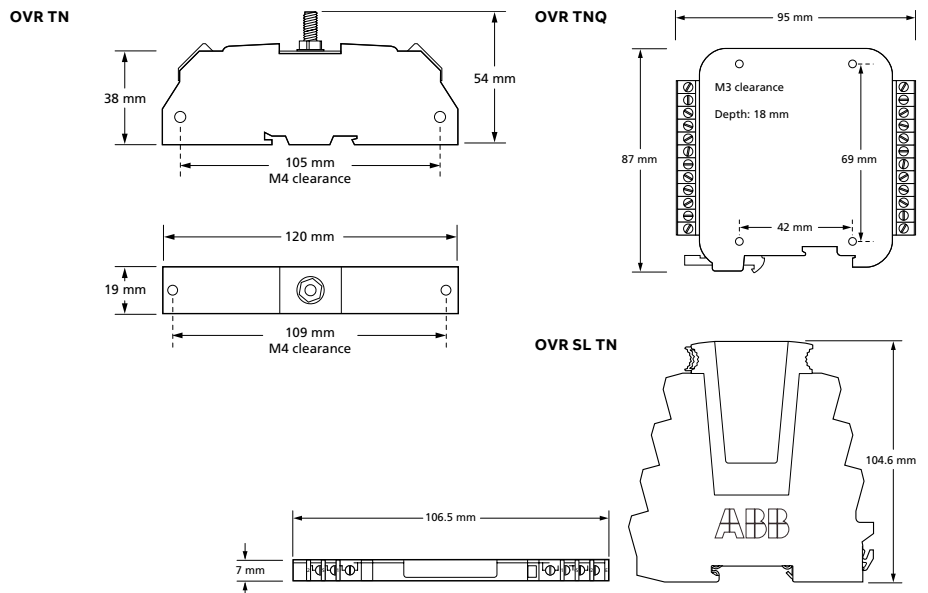
Protection and safety

Data & signal protection

OVR TN, TNQ & SL TN Series

OVR TN, TNQ & SL TN Series - Technical specification

Electrical specification		OVR TN	OVR SL TN, OVR SL TNL	OVR TNQ
ABB order code		7TCA085400R0345	7TCA085400R0323, 7TCA085400R0418	7TCA085400R0344
Nominal voltage ⁽¹⁾		–		
Maximum working voltage U _c (RMS/DC) ⁽²⁾		–/296 V		
Current rating (signal)		300 mA		
In-line resistance (per line ±10%)		4.4 Ω		
Bandwidth (-3 dB 50 Ω system)		20 MHz		
Transient specification		OVR TN	OVR SL TN, OVR SL TNL	OVR TNQ
Let-through voltage (all conductors) ⁽³⁾ Up				
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21		395 V		
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21		390 V		
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21		298 V		
5 kV, 10/700 μs ⁽⁴⁾		300 V		
Maximum surge current				
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire	2.5 kA	1.25 kA	2.5 kA
	– Per pair	5 kA	2.5 kA	5 kA
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA		
	– Per pair	20 kA		
Mechanical specification		OVR TN	OVR SL TN, OVR SL TNL	OVR TNQ
Temperature range		-40 to +80 °C		
Connection type		Screw terminal - max. torque 0.5 Nm	Screw terminal - max. torque 0.8 N	Pluggable 12 way screw terminal
Conductor size (stranded)		2.5 mm ²	4 mm ²	2.5 mm ²
Earth connection		M6 stud	Via DIN rail or 4 mm ² earth terminal - max. torque 0.8 Nm	Via DIN rail or M5 threaded hole in base of unit
Case Material		FR Polymer UL-94 V-0		
Weight	– Unit	0.08 kg		0.1 kg
	– Packaged (per 10)	0.85 kg		1.3 kg
Dimensions		See diagram below		



⁽¹⁾ Nominal voltage (RMS/DC or AC peak) measured at < 10 μA

⁽²⁾ Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA

⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Telecom & computer line protection

OVR Cat-5 & Cat-6 Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable to protect twisted pair Ethernet networks, including Power over Ethernet (PoE), with RJ45 connections. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Suitable for systems signalling on up to eight wires of either shielded or unshielded twisted pair cable
- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Unlike some competing devices, the ethernet SPDs provide effective protection without impairing the system's normal operation
- Low capacitance circuitry prevents the start-up signal degradation associated with other types of network protector
- Low in-line resistance minimizes unnecessary reductions in signal strength to maximize signalling distance
- Sturdy ABS housing with convenient holes for flat mounting, or vertically via TS35 'Top Hat' DIN rail
- Substantial earth connection to enable effective earthing
- Will protect all PoE powering modes A and B.

Application

Use these protectors on network cables that travel between buildings to prevent damage to equipment, e.g. computers, servers, repeaters and hubs. Suitable for computer networks up to Cat-6A cabling.

- To protect up to 100baseT networks with Cat-5/Cat-5e cabling use OVR Cat-5e
- To protect up to 1000baseT/10GbaseT networks with Cat-6/Cat-6A cabling use OVR Cat-6

- To protect up to 100baseT Power over Ethernet (PoE) networks with Cat-5/Cat-5e use OVR Cat-5e/PoE
- To protect up to 1000baseT/10GbaseT Power over Ethernet (PoE) networks with Cat-6/Cat-6A cabling use OVR Cat-6/PoE

For further application information, see separate Application Note OVR AN004 (contact us for a copy).

Installation

Connect in series with the network cable, either:

- Near to where it enters or leaves the building, or
- As it enters the network hub, or
- Close to the equipment being protected

This should be close to the system's earth star point (to enable a good connection to earth).

Accessories

OVR CAT5e/UTP-1
1 metre cable with unshielded RJ45 connections

OVR CAT6/STP-2
2 metre screened cable with shielded RJ45 connections

Plug-in series connection



TECHNICAL NOTE: The interfaces used in Ethernet networks incorporate an isolation transformer which gives these systems an in-built immunity to transients between line and earth of 1,500 Volts or more.

NOTE: To protect datacomms systems based on twisted pairs, use the OVR D, E or H Series. Local protection for networked equipment is also available.

Protection and safety

Telecom & computer line protection

OVR Cat-5 & Cat-6 Series

OVR Cat-5 & Cat-6 Series - Technical specification

Electrical Specification		OVR Cat-5e	OVR Cat-5e/PoE	OVR Cat-6	OVR Cat-6/PoE
ABB order code		7TCA085400R0289	7TCA085400R0290	7TCA085400R0291	7TCA085400R0292
Maximum working voltage U_c ⁽¹⁾	– data ⁽²⁾	5 V			
	– power ⁽³⁾	–	58 V	–	58 V
Current rating		300 mA	600 mA ⁽⁴⁾	300 mA	600 mA ⁽⁴⁾
In-line resistance (per line ±25%)	– data ⁽²⁾	1.5 Ω			
	– power	–	1.5 Ω	–	–
Maximum data rate		100 Mbps	100 Mbps	1000 Mbps	1000 Mbps
Networking standards		10/100baseT	10/100baseT	10/100/1000/10GbaseT	10/100/1000/10GbaseT
		TIA Cat-5e	TIA Cat-5/PoE	TIA Cat-6	TIA Cat-6
		IEEE 802.3i	IEEE 802.3i	IEEE 802.3i	IEEE 802.3i
		IEEE 802.3u	IEEE 802.3u	IEEE 802.3u	IEEE 802.3u
		–	IEEE 802.3af	IEEE 802.3ab	IEEE 802.3ab
		–	IEEE 802.3at	IEEE 802.3an	IEEE 802.3an
		–	–	–	IEEE 802.3af
		–	–	–	IEEE 802.3at
Transient specification		OVR Cat-5e	OVR Cat-5e/PoE	OVR Cat-6	OVR Cat-6/PoE
Let-through voltage (all conductors) ⁽⁵⁾ Up					
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	– line to line	120 V	120 V/116 V ⁽⁶⁾	120 V	120 V/116 V ⁽⁶⁾
	– line to earth ⁽⁶⁾	700 V			
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	– line to line	74 V	74 V/95 V ⁽⁶⁾	74 V	74 V/95 V ⁽⁶⁾
	– line to earth ⁽⁶⁾	600 V			
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21	– line to line	21 V	21 V/87 V ⁽⁶⁾	21 V	21 V/87 V ⁽⁶⁾
	– line to earth(6)	550 V			
5 kV, 10/700 μs ⁽⁷⁾	– line to line	25 V	25 V/90 V ⁽⁶⁾	25 V	25 V/90 V ⁽⁶⁾
	– line to earth ⁽⁶⁾	600 V			
Maximum surge current ⁽⁹⁾					
D1 test 10/350 μs to BS EN/EN/IEC 61643-21		1 kA			
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002		10 kA			
Mechanical specification		OVR Cat-5e, OVR Cat-5e/PoE		OVR Cat-6, OVR Cat-6/PoE	
Temperature range		-40 to +80 °C			
Connection type		RJ45 sockets			
Cable (supplied)		0.5 m Cat-5e UTP patch lead		0.5 m Cat-6 STP patch lead	
Earth connection		M4/DIN rail			
Case Material		FR Polymer UL-94 V-0			
Weight	– Unit	0.15 kg			
	– Packaged	0.2 kg			
Dimensions		See diagram below			

⁽¹⁾ Maximum working voltage (DC or AC peak) measured at 1 mA leakage

⁽²⁾ Data pairs 1/2 and 3/6 are protected as standard. Pairs 4/5 and 7/8 are also protected on Cat-6 barriers

⁽³⁾ PoE protectors transmit power Mode A and Mode B power

⁽⁴⁾ Based on 30W of transmitted PSE power, to IEEE 802.3at.

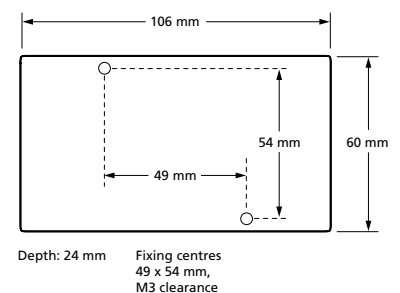
⁽⁵⁾ The maximum transient voltage let-through of the protector throughout the test ($\pm 10\%$), line to line & line to earth. Response time <10 ns (on all protected pairs)

⁽⁶⁾ The interfaces used in network systems incorporate an isolation transformer that inherently provides an inbuilt immunity to transients between line and earth of 1,500 Volts or more

⁽⁷⁾ Test to IEC 61000-4-5:2014, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 6:2011, ANSI TIA/EIA/IS-968-A:2005 (formerly FCC Part 68).

⁽⁸⁾ The first number is for the data pair, with the second number for the power pair

⁽⁹⁾ The installation and connectors may limit the capability of the protector



Protection and safety

Data & signal protection

OVR RS485, RS485Q & SL RS485 Series



FULL MODE Bonding + Equipment Protection	OVR SL RS485 ULTRA SLIM 7 mm WIDTH	LPZ 0 → 3	ENHANCED Low let-through voltage	OVR RS485Q ULTRA COMPACT 18 mm WIDTH
SIGNAL/TELECOM TEST CAT D + C + B	LOW IN-LINE RESISTANCE	HIGH BANDWIDTH		

Combined Category D, C, B tested protector (to BS EN 61643) specifically designed for RS 485 and Fieldbus applications, such as Profibus DP. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3. Available as standard OVR RS485 format, or compact OVR RS485Q and Slim Line OVR SL RS485 versions for installations where a high number of lines require protection.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- 45 MHz bandwidth greatly exceeds 12 Mbps maximum speeds
- Low in-line resistance minimizes reductions in signal strength
- Suitable for earthed or isolated screen systems
- Built-in DIN rail foot for simple mounting to top hat DIN rails
- Convenient earthing through DIN foot and/or earth terminal
- OVR RS485 can be flat mounted on base or side
- OVR RS485 and OVR RS485Q have colour coded terminals for quick and easy installation check
- OVR SL RS485 has ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- OVR SL RS485 includes two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- OVR SL RS485 includes optional LED status indication
- Add L suffix to part number - i.e. OVR SL RS485L

Application

Connect in series with the signal line either near where it enters or leaves the building or close to the equipment being protected ensuring it is very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

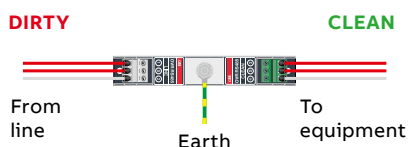
Replacement module for OVR SL RS485:
OVR SLRS485/M
 Standard module replacement
OVR SLRS485/B
 Base replacement

Combined Mounting/Earthing kits for OVR RS485:
OVR CME 4 For up to 4 x OVR RS485
OVR CME 8 For up to 8 x OVR RS485
OVR CME 16 For up to 16 x OVR RS485
OVR CME 32 For up to 32 x OVR RS485

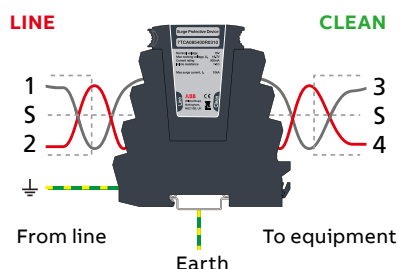
If protectors cannot be incorporated within an existing panel or enclosure, OVR WBX enclosures are available for up to 4, 8, 16 or 32 protectors and their associated OVR CME kit.

Weatherproof enclosure:
OVR WBX SLQ (OVR SL RS485 and OVR RS485Q)

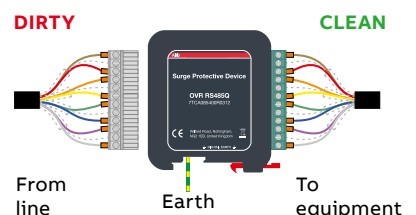
OVR RS485 installed in series



OVR SL RS485 installed in series



OVR RS485Q installed in series (in-line)



NOTE: The OVR SL 'Slim Line' Series is also available for protection of 3-wire and RTD applications (OVR SL/3W & OVR SL RTD). The OVR SL X Series has approvals for use in hazardous areas.

Protection and safety

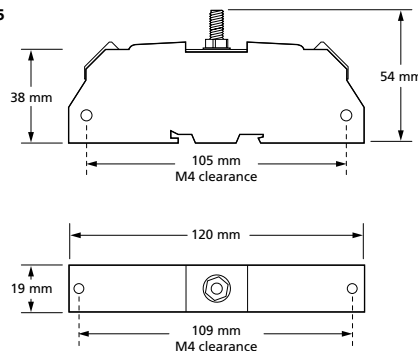
Data & signal protection

OVR RS485, RS485Q & SL RS485 Series

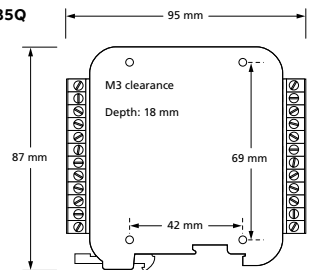
OVR RS485, RS485Q & SL RS485 Series - Technical specification

Electrical specification		OVR RS485	OVR SL RS485	OVR RS485Q
ABB order code		7TCA085400R0311	7TCA085400R0310	7TCA085400R0312
Nominal voltage ⁽¹⁾		15 V		
Maximum working voltage U _c (RMS/DC) ⁽²⁾		11 V/16.7 V		
Current rating (signal)		300 mA		
In-line resistance (per line ±10%)		1 Ω		
Bandwidth (-3 dB 50 Ω system)		45 MHz		
Transient specification		OVR RS485	OVR SL RS485	OVR RS485Q
Let-through voltage (all conductors) ⁽³⁾ Up				
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21		55.0 V		
C1 test 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21		42.0 V		
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21		27.2 V		
5 kV, 10/700 μs ⁽⁴⁾		28.2 V		
Maximum surge current				
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	– Per signal wire	2.5 kA	1.25 kA	2.5 kA
	– Per pair	5 kA	2.5 kA	5 kA
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA		
	– Per pair	20 kA		
Mechanical specification		OVR RS485	OVR SL RS485	OVR RS485Q
Temperature range		-40 to +80 °C		
Connection type		Screw terminal - max. torque 0.5 Nm	Screw terminal - max. torque 0.8 N	Pluggable 12 way screw terminal
Conductor size (stranded)		2.5 mm ²	4 mm ²	2.5 mm ²
Earth connection		M6 stud	Via DIN rail or 4 mm ² earth terminal - max. torque 0.8 Nm	Via DIN rail or M5 threaded hole in base of unit
Case Material		FR Polymer UL-94 V-0		
Weight	– Unit	0.08 kg		0.1 kg
	– Packaged (per 10)	0.85 kg		1.3 kg
Dimensions		See diagram below		

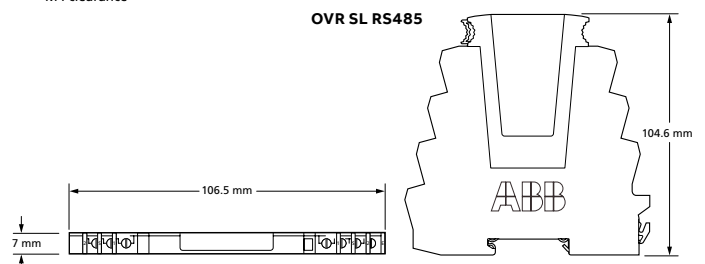
OVR RS485



OVR RS485Q



OVR SL RS485



⁽¹⁾ Nominal voltage (RMS/DC or AC peak) measured at < 10 μA

⁽²⁾ Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA

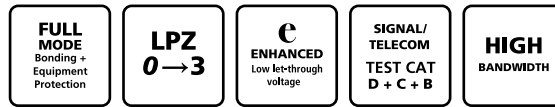
⁽³⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Specific systems protection

OVR RF Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable for RF systems using coaxial cables at frequencies between DC and 2.7 GHz and where DC power is present. Suitable for RF systems with power up to 1.9 kW. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Wide bandwidth means a single product is suitable for a range of applications
- Very low attenuation and near unity VSWR over a wide range of frequencies ensure the protectors do not impair system performance
- Available with N, 7/16 DIN and BNC connectors
- Easily mounted and earthed via fixtures on the base of the unit that accept M3 and M5 screws or via mounting brackets
- Additional mounting plates give increased flexibility
- Robust aluminium housing

Application

Use on coaxial cables to protect RF transmitter and receiver systems, including electronics located at the antenna or dish. Typical examples include cell sites, military communications, satellite earth stations, pager systems and emergency services communications systems.

Installation

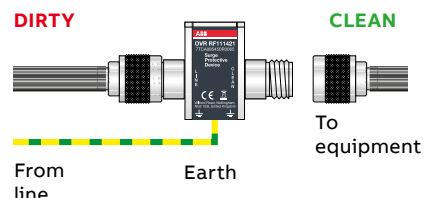
In a building, connect in series with the coaxial cable near where it enters or leaves the structure, or close to the equipment being protected. This should be as close as possible to the system's earth star point (to enable a good connection to earth). On a mast, connect in series with the coaxial cable near the antenna/dish being protected. Install in a radio communications room, an existing cabinet or a suitable enclosure.

Accessories

OVR RF BK1 Straight mounting plates
OVR RF BK2 90° angled mounting plates
OVR RF BK3 Bulkhead through mounting plate (single)

OVR RF BK4 Bulkhead through mounting plate (for 4 products)
OVR RF GDT-4 Replacement gas discharge tube

OVR RF 111421 with N female connectors installed in series



NOTE: These protectors are based on a continuous transmission line with a GDT connected between this line and screen/earth, and are suited for applications where DC is required to pass to the equipment. OVR CCTV/B and OVR CCTV/T are suitable for use on coaxial (or twisted pair) CCTV lines. For coaxial CATV lines, use the OVR CATV/F.

Protection and safety

Specific systems protection

OVR RF Series

OVR RF Series - Technical specification

Electrical specification	OVR RF 111421	OVR RF AA1421	OVR RF 441421
Gas Discharge Tube voltage	350 V		
Maximum working voltage U_c (RMS)	200 V		
Characteristic impedance	50 Ω		
Bandwidth	DC-2.7 GHz		
Voltage standing wave ratio	≤ 1.1		
Insertion loss over bandwidth	≤ 0.1 dB		
Maximum power ⁽¹⁾	650 W		
Transient specification	OVR RF 111421	OVR RF AA1421	OVR RF 441421
Let-through voltage (all conductors) ⁽²⁾ Up			
C2 test 4 kV 1.2/50 μ s, 2 kA 8/20 μ s to BS EN/EN/IEC 61643-21	< 800 V		
C1 test 1 kV 1.2/50 μ s, 0.5 kA 8/20 μ s to BS EN/EN/IEC 61643-21	< 650 V		
B2 test 4 kV 10/700 μ s to BS EN/EN/IEC 61643-21	< 550 V		
5 kV, 10/700 μ s ⁽³⁾	< 580 V		
Maximum surge current ⁽⁴⁾			
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21	2.5 kA		
8/20 μ s to ITU-T K.45:2003, IEEE C62.41.2:2002	20 kA		
Mechanical specification	OVR RF 111421	OVR RF AA1421	OVR RF 441421
ABB order code	7TCA085450R0065	7TCA085450R0063	7TCA085450R0066
Temperature range	-40 to +80 °C		
Connection type	N female	7/16 DIN female	BNC female
Conductor size (stranded)	Via mounting fixtures		
Case Material	Aluminium body, nickel plated. Brass connectors, white bronze plated		
Weight			
– Unit	120 g	190 g	90 g
– Packaged	140 g	210 g	110 g
Dimensions	See diagram below		

OVR RF BK1 (ABB order code: 7TCA085400R0416)

Straight mounting bracket, 53 x 26.3 x 3 mm
2 x M4 clearance mounting holes, 16.3 mm apart

OVR RF BK2 (ABB order code: 7TCA085400R0064)

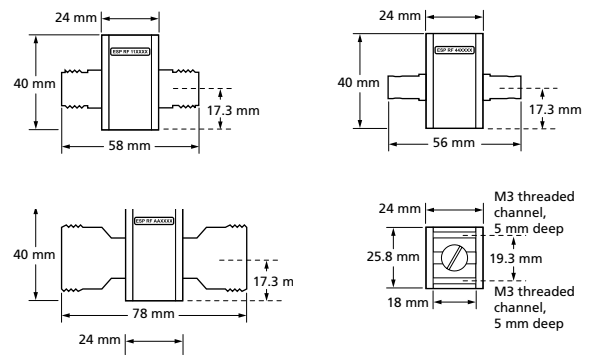
90° mounting bracket, 33 x 26.3 x 3 mm, 20 x 26.3 x 3 mm
2 x M4 clearance mounting holes, 16.3 mm apart, 14 mm from fold line

OVR RF BK3 (ABB order code: 7TCA085400R0412)

90° mounting bracket, 50 x 24 x 1.5 mm, 60 x 24 x 1.5 mm
2 x M5 clearance mounting holes, 40 mm apart

OVR RF BK4 (ABB order code: 7TCA085400R0413)

90° quad mounting bracket, 50 x 24 x 1.5 mm, 210 x 24 x 1.5 mm
5 x M5 clearance mounting holes, various spacings
Mounting brackets supplied with screws for fixing to protector



⁽¹⁾ Power levels have been de-rated to allow for real life 'worst case' conditions, calculated with VSWR as 2:1

⁽²⁾ The maximum transient voltage let-through of the protector throughout the test ($\pm 10\%$) ($\pm 10\%$). Response time < 10 ns. This let-through voltage represents a deviation from the applied signal voltage, present at the time of the test

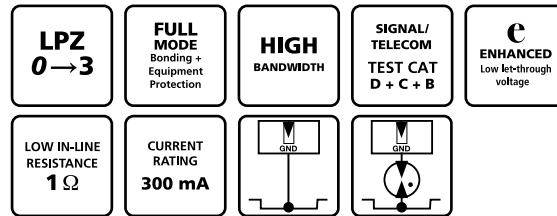
⁽³⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

⁽⁴⁾ The installation and connections external to the protector may limit the capability of the protector

Protection and safety

Specific systems protection

OVR CCTV Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable for coaxial CCTV cables with BNC connectors (OVR CCTV/B) or twisted pair CCTV lines (OVR CCTV/T) on systems with either an earthed or an isolated screen. Not suitable for use on broadcast, satellite or cable TV systems. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- 100 MHz bandwidth prevents the degradation of high frequency signals
- Low in-line resistance to minimize unnecessary reductions in signal strength and maximizes signalling distance
- Very low reflection coefficient/VSWR ensure that the protector doesn't disrupt system operations
- Suitable for either earthed or isolated screen systems
- Sturdy, conductive ABS housing for 2 way shielding - preventing emissions & providing signals with immunity from external interference
- Convenient holes for flat mounting on base or side
- Built-in DIN rail foot for easy installation on a top hat DIN rail
- OVR CCTV/T has colour coded terminals for a quick and easy installation check - grey for the dirty (line) end and green for the clean end
- Substantial earth stud to enable effective earthing
- Integral earthing plate for enhanced connection to earth via OVR CME kit

Application

Use these protectors on the video cable to outdoor CCTV cameras and central control and monitoring equipment.

Installation

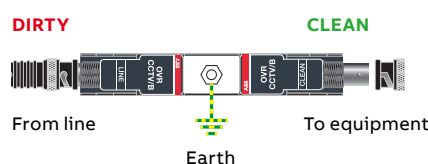
Connect in series with the CCTV cable in a convenient place close to the equipment being protected. For outdoor CCTV cameras, protectors should be mounted in the junction box, or in a separate enclosure, close to the camera. Protect central control and monitoring equipment inside the building by installing protectors on all incoming or outgoing lines, either:

- a) near where they enter or leave the building, or
- b) close to the equipment being protected (or actually within its control panel).

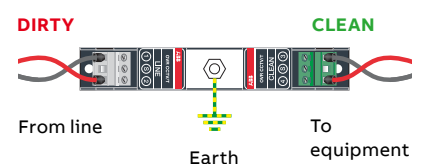
Accessories

When CCTV protectors are installed in groups, or alongside protectors for signal and mains power lines, these can be mounted and earthed simultaneously on a OVR CME kit. An OVR CME 4 will accommodate the video, telemetry and power protectors to a camera. If protectors cannot be incorporated within an existing panel or enclosure, OVR WBX enclosures are available for up to 4, 8, 16 or 32 protectors and their associated OVR CME kit. The OVR WBX 4/GS is a secure IP66 enclosure suitable for a OVR CME 4 and associated protectors.

Series connection for OVR CCTV/B



Series connection for OVR CCTV/T



NOTE: Camera telemetry or control lines should be protected with a suitable Lightning Barrier from the OVR D or E Series. Protectors for the power supply to individual cameras (e.g. OVR 240-16A) and the mains supply to the control room are available. For coaxial RF (OVR RF Series) cable protectors and CATV systems (OVR CATV/F) are also available.

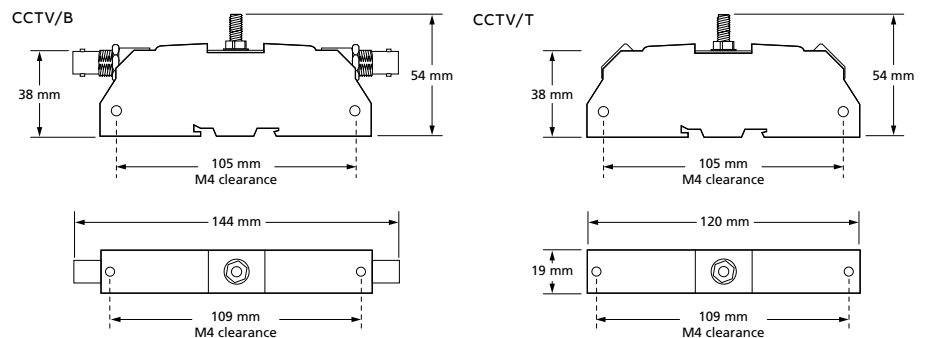
Protection and safety

Specific systems protection

OVR CCTV Series

OVR CCTV Series - Technical specification

Electrical specification	OVR CCTV/B	OVR CCTV/ B-15V	OVR CCTV/ B-30V	OVR CCTV/ B-50V	OVR CCTV/T	OVR CCTV/T-15V	OVR CCTV/ T-30V	OVR CCTV/ T-50V
ABB order code	7TCA085400R0296	7TCA085400R0297	7TCA085400R0299	7TCA085400R0300	7TCA085400R0301	7TCA085400R0302	7TCA085400R0298	7TCA085400R0303
Nominal voltage ⁽¹⁾ (peak-peak)	1 V				2 V			
Maximum working voltage U _c ⁽²⁾ (peak)	7.79 V	16.7 V	36.7 V	56.7 V	7.79 V	16.7 V	36.7 V	56.7 V
Current rating (signal)	300 mA							
In-line resistance (±10%)	1 Ω inserted in coax inner				1 Ω per line			
Bandwidth (-3 dB 75 Ω system) ⁽³⁾	> 100 MHz							
Voltage standing wave ratio	< 1.2:1							
Transient specification	OVR CCTV/B	OVR CCTV/ B-15V	OVR CCTV/ B-30V	OVR CCTV/ B-50V	OVR CCTV/T	OVR CCTV/T-15V	OVR CCTV/ T-30V	OVR CCTV/ T-50V
Let-through voltage (all conductors)(4) Up								
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	39.5 V	55.0 V	78.0 V	105.0 V	39.5 V	55.0 V	78.0 V	105.0 V
C1 test 1 kV 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	26.0 V	42.0 V	66.5 V	93.5 V	26.0 V	42.0 V	66.5 V	93.5 V
B2 test 4 kV 10/700 μs to BS EN/ EN/IEC 61643-21	16.0 V	27.2 V	47.5 V	73.6 V	16.0 V	27.2 V	47.5 V	73.6 V
5 kV, 10/700 μs ⁽⁵⁾	17.0 V	28.2 V	49.5 V	76.2 V	17.0 V	28.2 V	49.5 V	76.2 V
Maximum surge current ⁽⁶⁾								
D1 test 10/350 μs to BS EN/EN/ IEC 61643-21	– Per signal wire – Per pair	2.5 kA –			2.5 kA 5 kA			
8/20 μs to ITU (formerly CCITT)	– Per signal wire – Per pair	10 kA –			10 kA 20 kA			
Mechanical specification	OVR CCTV/B variants				OVR CCTV/T variants			
Temperature range	-40 to +80 °C							
Connection type	Coaxial BNC female				Screw terminal			
Conductor size (stranded)	Not applicable				2.5 mm ²			
Earth connection	M6 stud							
Case Material	ABS UL94 V-0				ABS UL94 V-0			
Weight	– Unit	0.08 kg						
	– Packaged	0.9 kg						
Dimensions	See diagram below							



⁽¹⁾ Nominal voltage (DC or AC peak)
measured at < 10 μA leakage

⁽²⁾ Maximum working voltage (DC or
AC peak) measured at 5 mA leakage

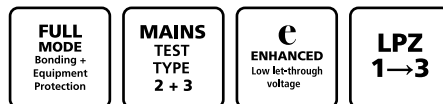
⁽³⁾ Capacitance < 30 pF

⁽⁴⁾ The maximum transient voltage let-through of the
protector throughout the test (±10%), line to line
& line to earth. Screen to earth let-through voltage
will be up to 600 V (with 5 kV 10/700 test), when
protector is configured for use with non-earthed
or isolated screen systems. Response time < 10 ns

⁽⁵⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly
CCITT) K.20, K.21 and K.45, Telcordia
GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/
IS-968-A:2002 (formerly FCC Part 68)

⁽⁶⁾ The installation and connectors external to the
protector may limit the capability of the protector

OVR 240-16A



Features & benefits

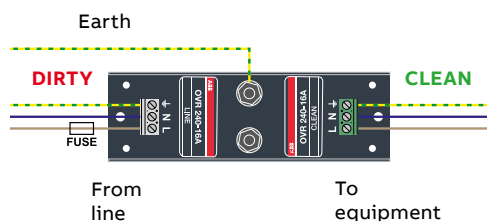
- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all sets of conductors (phase to neutral, phase to earth, neutral to earth - Full Mode protection) allowing continuous operation of equipment
- Repeated protection in lightning intense environments
- Compact size for easy incorporation in the protected system
- Removable DIN rail foot for simple clip-on mounting to top hat DIN rails
- Colour coded terminals give a quick and easy installation check - grey for the dirty (line) end and green for the clean end
- Robust housing and substantial earth stud fixing holes ready for flat mounting
- Maintenance free

Use these protectors on low current mains power supplies, e.g. CCTV cameras, alarm panels and telemetry equipment.

Connect in-line with the power supply usually either within the equipment panel (or for CCTV cameras, in an enclosure close by), or on the fused connection that supplies equipment. To protect equipment inside a building from transients entering on an outgoing feed (e.g. to CCTV cameras or to site lighting) the protector should be installed as close to where the cable leaves the building as possible. Protectors should be installed either within an existing cabinet/cubicle or in a separate enclosure.

If several OVR 240-16A protectors are to be installed together, or if one is in use alongside OVR SPDs for video or signal lines, these can be simultaneously mounted and earthed on a OVR CME kit and housed in a suitable OVR WBX enclosure.

Note how the protector can also be earthed from its earth stud.



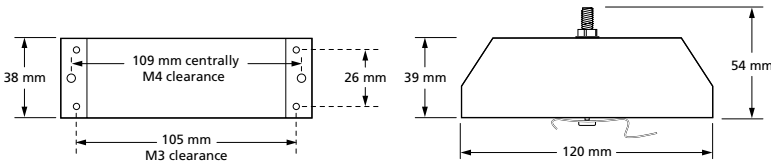
Protection and safety

Mains power protection

OVR 240-16A

OVR 240-16A - Technical specification

Electrical specification		OVR 240-16A
ABB order code		7TCA085460R0361
Nominal voltage - Phase-Neutral U _o (RMS)		240 V
Maximum voltage - Phase-Neutral U _c (RMS)		280 V
Working voltage (RMS)		200-280 V
Frequency range		47-63 Hz
Current rating (supply)		16 A or less
Max. back-up fuse (see installation instructions)		≤ 16 A
Leakage current (to earth)		< 0.5 mA
Transient specification		OVR 240-16A
Type 2 (BS EN/EN), Class II (IEC)		
Nominal discharge current 8/20 μs (per mode) I _n		5 kA
Let-through voltage U _p at I _n ⁽¹⁾		750 V
Maximum discharge current I _{max} (per mode) ⁽²⁾		10 kA
Type 3 (BS EN/EN), Class III (IEC)		
Let-through voltage at U _{oc} of 6 kV 1.2/50 μs and I _{sc} of 3 kA 8/20 μs (per mode) ^(1, 3)		600 V
Electrical specification		OVR 240-16A
Temperature range		-40 to +80 °C
Connection type		Screw terminal - maximum torque 0.5 Nm
Conductor size (stranded)		4 mm ²
Earth connection		Via M6 stud or earth terminal -maximum torque 0.5 Nm
Degree of protection (IEC 60529)		IP20
Case material		Steel
Weight	– Unit	0.23 kg
	– Packaged	0.25 kg
Dimensions		See diagrams below



⁽¹⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), phase to neutral, phase to earth and neutral to earth

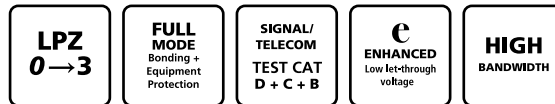
⁽²⁾ The electrical system, external to the unit, may constrain the actual current rating achieved in a particular installation

⁽³⁾ Combination wave test within IEC/BS EN 61643, IEEE C62.41-2002 Location Cats C1 & B3, SS 555:2010, AS/NZS 1768-2007, UL 1449 mains wire-in

Protection and safety

Specific systems protection

OVR TV Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable to protect Cable, Terrestrial and Satellite TV systems. For use on lines running within buildings at boundaries up to LPZ 0 to through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Low attenuation and high return loss over a wide range of frequencies ensures the protectors do not impair system performance
- Substantial earth termination
- Supplied ready for flat mounting
- Strong metal housing

Application

Use to protect analogue and digital Cable, Terrestrial and Satellite TV installations. OVR CATV/F, OVR MATV/F, OVR SMATV/F and OVR TV/F are suitable for systems using F connectors. OVR TV/EURO is suitable for systems using EURO-TV connectors.

- For protecting terrestrial antenna feeds use OVR TV/F or OVR TV/EURO
- For protecting satellite feeds use OVR SMATV/F

- For protecting distributed combined TV feeds use OVR MATV/F
- For protecting cable TV feeds use OVR CATV/F

For further information on TV applications, see separate Application Note OVR AN006 (contact us for a copy).

Installation

Connect in series with the coaxial cable either near where it enters or leaves each building or close to equipment being protected.



NOTE: Protectors for coaxial (or twisted pair) CCTV Lines are available. For coaxial RF lines, use the OVR RF Series. Transients can also be conducted into TV systems via the mains power supplies - use suitable OVR mains protection.

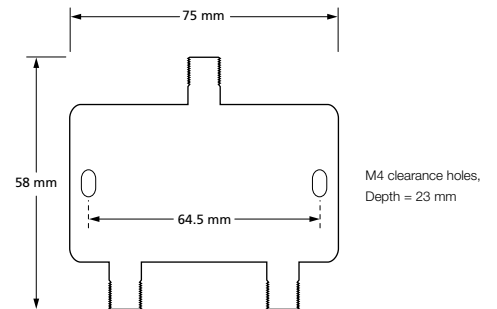
Protection and safety

Specific systems protection

OVR TV Series

OVR TV Series - Technical specification

Electrical specification		OVR CATV/F	OVR MATV/F	OVR SMATV/F	OVR TV/F	OVR TV/EURO
ABB order code		7TCA085400R0293	7TCA085400R0308	7TCA085400R0336	7TCA085400R0335	7TCA085400R0334
Maximum working voltage(1)		140 V	18.9 V	18.9 V	6.4 V	6.4
Maximum operating current		4 A	800 mA	800 mA	300 mA	300 mA
Characteristic impedance		75 Ω				
Bandwidth		5-860 MHz	5-3224 MHz	860-3224 MHz	5-860 MHz	5-860 MHz
Insertion loss	- 5-860 MHz	< 0.5 dB	< 0.3 dB	-	< 0.3 dB	< 0.3 dB
	- 860-2150 MHz	-	< 1.5 dB	< 1.5 dB	-	-
	- 2150-3224 MHz	-	< 2.2 dB	< 2.2 dB	-	-
Return loss (VSWR)	- 5-860 MHz	> 20 dB (< 1.2:1)	> 32 dB (< 1.05:1)	-	> 32 dB (< 1.05:1)	> 32 dB (< 1.05:1)
	- 860-2150 MHz	-	> 20 dB (< 1.2:1)	> 20 dB (< 1.2:1)	-	-
	- 2150-3224 MHz	-	< 2.2 dB	< 2.2 dB	-	-
Transient specification		OVR CATV/F	OVR MATV/F	OVR SMATV/F	OVR TV/F	OVR TV/EURO
Let-through voltage (all conductors)(2) Up						
C2 test 4 kV 1.2/50 μ s, 2 kA 8/20 μ s to BS EN/EN/IEC 61643-21		270 V	70 V	70 V	65 V	65 V
C1 test 1 kV 1.2/50 μ s, 0.5 kA 8/20 μ s to BS EN/EN/IEC 61643-21		265 V	60 V	60 V	50 V	50 V
B2 test 4 kV 10/700 μ s to BS EN/EN/IEC 61643-21		245 V	45 V	45 V	30 V	30 V
5 kV, 10/700 μ s(3)		250 V	50 V	50 V	35 V	35 V
Maximum surge current						
8/20 μ s to ITU-T K.45:2003, IEEE C62.41.2:2002		3 kA				
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21		500 A	750 A	750 A	750 A	750 A
Mechanical specification		OVR CATV/F	OVR MATV/F	OVR SMATV/F	OVR TV/F	OVR TV/EURO
Temperature range		-40 to +80 °C				
Connection type		F female				Euro-TV
Earth connection		~ 9.5 mm (3/8") diameter earth stud				
Case Material		Diecast				
Weight	- Unit	0.14 kg				
	- Packaged	0.15 kg				
Dimensions		See diagram below				



(1) Maximum working voltage (DC or AC peak) measured at < 5 μ A (OVR CATV/F) and < 50 mA (OVR MATV/F, OVR SMATV/F, OVR TV/EURO, OVR TV/F)

(2) The maximum transient voltage let-through of the protector throughout the test ($\pm 10\%$) line to earth. Response time < 10 ns

(3) Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Protector accessories

OVR WBX Series



OVR WBX Series

OVR WBX Series

A range of moisture and dirt resistant enclosures for the convenient installation of any OVR protector. For signalling applications they can be used with their associated OVR CME with grey base and either a see-through or grey (part number/G or/GS) lid.

Features & benefits

- Tough polycarbonate enclosures
- Weatherproof with IP resistance to dirt and water of IP56 or more
- Clear lid enables easy visual inspection of the protector's visual status indication (OVR WBX 4, OVR WBX 8)
- Grey lid for applications not needing regular protector inspection (OVR WBX 4/GS, OVR WBX 8/GS and OVR WBX 16/2/G)
- For external CCTV and other installations requiring added security the OVR WBX 4/GS and OVR WBX 8/GS are supplied with an opaque lid and special secure head screws (plus tool)
- Supplied complete with metal base (mounting) plate with pre-prepared mounting positions and fixing hardware for easy installation

Application

Use OVR WBX enclosures when your OVR protector(s) can't be installed within the existing equipment panel or enclosure and for added protection in damp and dirty environments.

Installation

The protector(s), or OVR CME kit, are mounted on the metal base plate, which in turn mounts in the enclosure.

OVR WBX Series - Technical specification

Enclosure part no.

OVR WBX 4 or the secure OVR WBX 4/GS
OVR WBX 8 or the secure OVR WBX 8/GS
OVR WBX 16/2/G
OVR WBX SLQ or OVR WBX SLQ/G

For use with following protectors

1 OVR CME 4 and associated protectors
1 OVR CME 8 and associated protectors
1 or 2 OVR CME 16 and associated protectors
Up to 6 x OVR**Q, or up to 15 x OVR SL**

		OVR WBX 4 OVR WBX 4/GS	OVR WBX 8 OVR WBX 8/GS	OVR WBX 16/2/G	OVR WBX SLQ OVR WBX SLQ/G
ABB Order Code		7TCA085410R0048 7TCA085410R0049	7TCA085410R0050 7TCA085410R0051	7TCA085410R0047	7TCA085400R0326 7TCA085400R0327
Weight	– Unit	0.9 kg	1.3 kg	6.4 kg	0.7 kg
	– Packaged	0.95 kg	1.35 kg	7.6 kg	1.0 kg
Dimensions					
Length	– Internal	246 mm	225 mm	460 mm	230 mm
	– External	255 mm	235 mm	474 mm	250 mm
Width	– Internal	171 mm	225 mm	380 mm	105 mm
	– External	180 mm	235 mm	396 mm	125 mm
Depth	– Internal	119 mm	100 mm	120 mm	110 mm
	– External	125 mm	117 mm	128 mm	125 mm
Fixing centres (mm)		240 x 165	215 x 215	380 x 310	235 x 110
IP rating		IP66	IP66	IP56	IP67
Temperature range		-15 to +75 °C	-15 to +75 °C	-25 to +60 °C	-40 to +80 °C
Flammability		UL 94 V2	UL 94 V2	UL 94 V0	UL 746C 5V

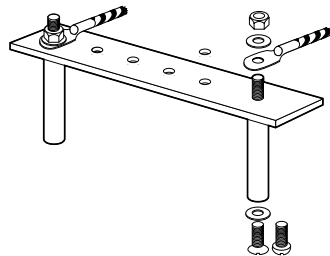
Protection and safety

Protector accessories

OVR CME Series



OVR CME Series



Assembly of OVR CME kit
Earth connection (not supplied)

OVR CME Series

Enables groups of protectors to be simultaneously mounted and earthed via their earth stud. Suitable for installing protectors with one or two earth studs on their top face. Available with 4, 8, 16 and 32 mounting holes.

Features & benefits

- Enables quick and easy installation of protectors for added convenience
- Speedy installation of groups of protectors saves time and money
- Individual protectors can be changed without needing to remove others
- Sturdy construction
- Supplied with a choice of flat and round ended fixing screws to suit your application

Application

Use OVR CME kits to simultaneously mount and earth groups of single and double earth stud protectors. Each single earth stud protector requires one OVR CME mounting position and each double earth stud protector requires two OVR CME mounting positions, this includes:

- High conductivity copper with electro-tin plating and nylon insulating pillars, for low impedance to earth

Single earth stud protectors which are:

- | | | | |
|------------|------------|------------|--------------|
| – OVR 06D | – OVR 06E | – OVR 06H | – OVR TN |
| – OVR 15D | – OVR 15E | – OVR 15H | – OVR RTD |
| – OVR 30D | – OVR 30E | – OVR 30H | – OVR CCTV/B |
| – OVR 50D | – OVR 50E | – OVR 50H | – OVR CCTV/T |
| – OVR 110D | – OVR 110E | – OVR 110H | – OVR RS485 |

Double earth stud protectors which are:

- OVR 240-16A

Once you know how many OVR CME mounting positions you require choose a OVR CME kit to suit:

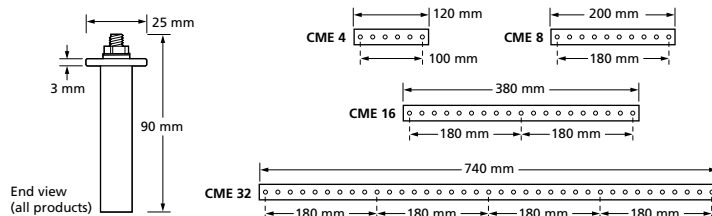
- OVR CME 4 has 4 mounting positions
- OVR CME 8 has 8 mounting positions
- OVR CME 16 has 16 mounting positions
- OVR CME 32 has 32 mounting positions

Accessories

Enclosures suitable for a OVR CME 4 and its associated protectors: (OVR WBX 4/GS), OVR CME 8 and protectors (OVR WBX 8/GS) or one or two OVR CME 16 and protectors (OVR WBX 16/2/G)

Installation

The earth bar is supported by a series of mounting pillars (which are fixed to the cubicle or box base). Protectors are attached to the OVR CME's earth bar via their earth stud(s) and earthed with shared connections to earth. We suggest one earth connection per mounting pillar.



OVR CME Series - Technical specification

	OVR CME 4	OVR CME 8	OVR CME 16	OVR CME 32
ABB order code	7TCA085400R0414	7TCA085400R0415	7TCA085410R0045	7TCA085410R0046
Hole size	6.5 mm with 20 mm spacings			
Weight	0.1 kg	0.15 kg	0.3 kg	0.6 kg
Dimensions	See diagram opposite			

Protection and safety

Protector accessories

Accessories



Slim Line replacement base/module

Slim Line replacement base/module

Replacement: Base & module for the Slim Line Series of protectors

Part no. ABB Order Code	Description
Slim Line protector replacement base	
OVR SL/B 7TCA085400R0320	For use with standard and 4-20 mA Slim Line Series
OVR SL/I/B 7TCA085400R0321	Isolated screen version for use with standard and 4-20 mA Slim Line Series
OVR SLX/B 7TCA085400R0325	For use with Slim Line Intrinsically Safe (ATEX) Series
OVR SLX/I/B 7TCA085400R0374	Isolated screen version for use with Slim Line Intrinsically Safe (ATEX) Series
OVR SL/3W/B 7TCA085400R0319	For use with Slim Line 3-wire Series
OVR SLRTD/B 7TCA085400R0318	For use with Slim Line RTD Series
OVR SL RS485/B 7TCA085400R0316	For use with Slim Line RS485 Series
Slim Line protector replacement module	
OVR SLXX/M	For use with Slim Line Series - replace 'XX' with relevant voltage, i.e. 06, 15, 30, 50, 110
OVR SL06/M (7TCA085400R0375), OVR SL15/M (7TCA085400R0376), OVR SL30/M (7TCA085400R0377), OVR SL50/M (7TCA085400R0378), OVR SL110/M (7TCA085400R0379)	
OVR SLTN/M 7TCA085400R0324	For use with Slim Line TN Series
OVR SL15X/M 7TCA085400R0380	For use with Slim Line Intrinsically Safe (ATEX) Series, 15 V
OVR SL30X/M 7TCA085400R0381	For use with Slim Line Intrinsically Safe (ATEX) Series, 30 V
OVR SLRTD/M 7TCA085400R0322	For use with Slim Line RTD Series
OVR SLRS485/M 7TCA085400R0317	For use with Slim Line RS485 Series
Slim Line LED protector replacement module	
OVR SLXXL/M	For use with Slim Line LED Series - replace 'XX' with relevant voltage, i.e. 06, 15, 30, 50, 110
OVR SL06L/M (7TCA085400R0399), OVR SL15L/M (7TCA085400R0411), OVR SL30L/M (7TCA085400R0400), OVR SL50L/M (7TCA085400R0401), OVR SL110L/M (7TCA085400R0402)	
OVR SL30L/4-20/M 7TCA085400R0373	For use with Slim Line LED Series, 4-20 mA
OVR SL15XL/M 7TCA085400R0404	For use with Slim Line Intrinsically Safe (ATEX) LED Series, 15 V
OVR SL30XL/M 7TCA085400R0403	For use with Slim Line Intrinsically Safe (ATEX) LED Series, 30 V
OVR SLXX/3W/M	For use with Slim Line 3-wire LED Series – replace 'XX' with relevant voltage, i.e. 06, 15, 30, 50, 110
OVR SL06/3W/M (7TCA085400R0405), OVR SL15/3W/M (7TCA085400R0406), OVR SL30/3W/M (7TCA085400R0407), OVR SL50/3W/M (7TCA085400R0409), OVR SL110/3W/M (7TCA085400R0408)	
OVR SLTNL/M	For use with Slim Line TN LED Series
XXXXXXXXXXXXXX	



OVR RF mounting plates

OVR RF mounting plates

Use with: Any ESP RF protector to assist installation

Part no. ABB Order Code	Description
OVR RF BK1 7TCA085400R0416	Straight Mounting plate
OVR RF BK2 7TCA085450R0064	90° Mounting plate
OVR RF BK3 7TCA085400R0412	Bulkhead through mounting plate (single)
OVR RF BK4 7TCA085400R0413	Bulkhead through mounting plate (4 protectors)



OVR RF GDT-4

OVR RF GDT-4

Replacement: Gas Discharge Tubes for use with standard RF protectors

Part no. ABB Order Code	Description	Voltage
OVR RF GDT-4 7TCA085400R0309	Gas Discharge Tube	350 V



Cable assembly

Use with: OVR ISDN/RJ45-*/8 or OVR Cat-5e or OVR Cat-6 protector range

Part no. ABB Order Code	Description	Length
OVR CAT5e/UTP-1 7TCA085400R0294	Cable assembly for OVR Cat-5e with unshielded RJ45 connections	1 m
OVR CAT6/STP-2 7TCA085400R0295	Cable assembly for OVR Cat-6 with shielded RJ45 connections	2 m

Cable assembly with RJ45 connections for the OVR ISDN/RJ45-4/8 or OVR ISDN/RJ45-8/8 plug-in ISDN protectors for use if the standard 0.5m cable is insufficient

E 90. Uncompromising performance

A safe and smart range designed for quick, flexible and error-proof installation

Compactness

The compact dimensions enable to close the switchboard door even when the fuse holder is open, thus ensuring total safety during maintenance.

Reliability

Venting grooves and cooling chambers improve heat dissipation even in multiple-pole configurations.

Completeness

The fuse tripping can be easily displayed, thanks to the special blown fuse indicator light.



Universal use

Screw holes have increased diameter to accommodate insulated screwdrivers and electric screwdrivers.

E 90. Uncompromising performance

A safe and smart range designed for quick, flexible and error-proof installation



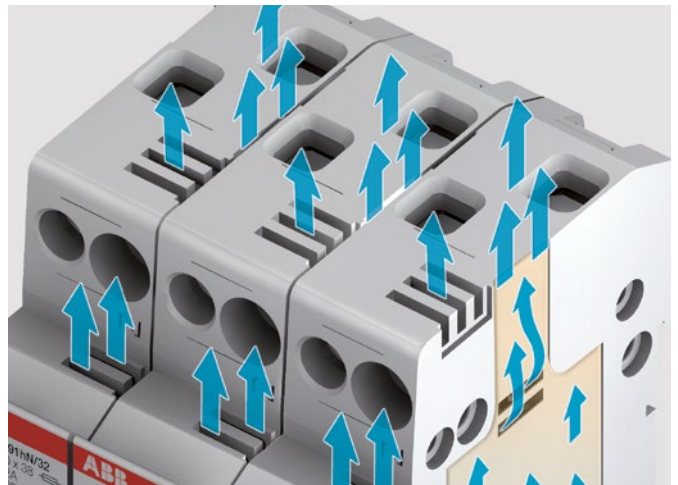
Fuseholder profile has been designed for maximum ease of use: the 90° flip hinge with ergonomic knob, makes the replacement of fuses easier even in small spaces or when wearing protective gloves.



The compact dimensions enable to close the switchboard door even when the fuseholder is open, thus ensuring total safety during maintenance.



With the Prozidriv PZ2 screws tightening can be performed by exerting less torque than conventional screws, and the same electric screwdriver can be used for all terminals. Moreover, the PS connection busbars facilitate the connecting operations, making the wiring both simple and safe and providing complete integration with S 200 and SN 201 System pro M compact® circuit-breakers.



Venting grooves and cooling chambers improve heat dissipation even in multiple-pole configurations. The reduced operating temperature inside fuseholders ensures durability and reliability of the devices over time.

Protection and safety

E 90 fuse switch disconnectors



E 90

Technical features

Type		E 90/20	E 90/32
Rated current	A	20	32
Type of current		AC	
Fuse	[mm]	8 x 31	10 x 38
Max power dissipation accepted	[W]	2.5	3
Rated frequency	[Hz]	50-60	
Tightening torque	[Nm]	PZ2 2-2.5*	
Protection degree		IP20	
Terminals cross-section	[mm ²]	25	
Cross-section rigid copper conductors	1 wire	1.5-25 mm ² (16-10 AWG)	
	2 wires	-	5 mm ² (10 AWG)
Cross-section stranded copper conductors	1 wire	1.5-16 mm ² (16-3 AWG)	
	2 wires	-	2-5 mm ² (14-10 AWG)
Operating temperature	[°C]	-5/+40 ⁽¹⁾	
Storage temperature	[°C]	-25/+70 ⁽²⁾	
Altitude	[m]	2000	
Voltage range for LED indicator light		24-1000 AC/DC (only s version)	
Padlockable (when open)		■	■
Sealable (when closed)		■	■
IEC 60947-3			
Utilization category		AC-22B	AC-22B
Markings	[V]	400	400

⁽¹⁾ for lower temperature verify fuse technical characteristics, for higher temperature refer to derating table in Chapter 5 of Electrical installation solutions for buildings - Technical details

⁽²⁾ for more than 24h max temperature is +55 °C

** PZ2 2.8 Nm in case of rigid copper conductors, 2 wires

Shock and vibration

Vibration withstand on the 3 main axis:

- Sinusoidal vibration testing according to IEC 60068-2-6: 2 to 13 Hz x = 1mm peak; 13 to 100 Hz y = 0.7g peak
- Random vibration testing according to IEC 61373: Category 1 Class B

Shock withstand

- Shock testing according to IEC 60068-2-27 : 15g/11 ms/18 shocks
- Shock testing according to IEC 61373: Category 1 Class B

Materials

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

The E 90 series is environmental friendly and protects the health of people: all used materials are conform to the RoHS and REACH directives and they completely exclude hazardous substances and halogen.

Protection and safety

E 90 fuse switch disconnectors



E 92



E 94

E 90 fuse switch disconnectors

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

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

Thanks to cURus approval, they can be installed in UL certified machines.

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

Poles	Rated current	Modules	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				Type code	Order code			
In			EAN					
1	32	1	009238	E 91/32	2CSM200923R1801		0.061	6
1	32	1	024835	E 91/32s	2CSM202483R1801		0.062	6
1+N	32	2	008934	E 91N/32	2CSM200893R1801		0.130	3
1+N	32	2	515036	E 91N/32s	2CSM251503R1801		0.132	3
2	32	2	008835	E 92/32	2CSM200883R1801		0.122	3
2	32	2	514930	E 92/32s	2CSM251493R1801		0.132	3
3	32	3	047537	E 93/32	2CSM204753R1801		0.183	2
3	32	3	020639	E 93/32s	2CSM202063R1801		0.184	2
3+N	32	4	047339	E 93N/32	2CSM204733R1801		0.252	1
3+N	32	4	514831	E 93N/32s	2CSM251483R1801		0.255	1
4	32	4	047230	E 94/32	2CSM204723R1801		0.244	1
4	32	4	020530	E 94/32s	2CSM202053R1801		0.248	1

s: version with blown fuse indicator light

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

Poles	Rated current	Modules	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				Type code	Order code			
In			EAN					
1	20	1	009832	E 91/20	2CSM200983R1801		0.061	6
1	20	1	024231	E 91/20s	2CSM202423R1801		0.062	6
2	20	2	009535	E 92/20	2CSM200953R1801		0.122	3
2	20	2	896234	E 92/20s	2CSM289623R1801		0.062	3
3	20	3	009436	E 93/20	2CSM200943R1801		0.183	2
3	20	3	896135	E 93/20s	2CSM289613R1801		0.184	2

s: version with blown fuse indicator light

Protection and safety

E 90h fuseholders



E 91hN



E 93hN



Fuse indicator LED

Technical features

Type		E 90hN/20	E 90hN/32
Rated current	[A]	20	32
Type of current		AC	
Fuse	[mm]	8 x 31	10 x 38
Max power dissipation accepted	[W]	2.6	3.2
Rated frequency	[Hz]	50-60	
Tightening torque	[Nm]	PZ2 0.8-1.2	
Protection degree		IP20	
Terminals cross-section	[mm ²]	16	
Cross-section rigid copper conductors	[mm ²]	1.5-16	
Cross-section stranded copper conductors	[mm ²]	1.5-10	
Operating temperature	[°C]	-5/+40 ⁽¹⁾	
Storage temperature	[°C]	-25/+70 ⁽²⁾	
Altitude	[m]	2000	
Voltage range for LED indicator light		24-1000 AC/DC (only s version)	
Padlockable (when open)		■	
Sealable (when closed)		■	
IEC 60269-3			
Rated voltage	[V]	400	

⁽¹⁾ for lower temperature verify fuse technical characteristics, for higher temperature refer to derating table in Chapter 5 of Electrical installation solutions for buildings - Technical details

⁽²⁾ for more than 24h max temperature is +55 °C

E 90h fuseholders

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

E 90h fuseholders for 10.3 x 38 mm fuses

Poles	Rated current	Modules	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code	Order code		kg	pc.
1+N	32	1	009139	E 91hN/32	2CSM200913R1801		0.070	6
1+N	32	1	065739	E 91hN/32s	2CSM206573R1801		0.071	6
3+N	32	3	047438	E 93hN/32	2CSM204743R1801		0.192	2
3+N	32	3	743439	E 93hN/32s	2CSM274343R1801		0.200	2

s: version with blown fuse indicator light

E 90h fuseholders for 8.5 x 31.5 mm fuses

Poles	Rated current	Modules	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code	Order code		kg	pc.
1+N	20	1	009634	E 91hN/20	2CSM200963R1801		0.070	6
1+N	20	1	007036	E 91hN/20s	2CSM200703R1801		0.071	6
3+N	20	3	009337	E 93hN/20	2CSM200933R1801		0.192	2
3+N	20	3	896036	E 93hN/20s	2CSM289603R1801		0.200	2

s: version with blown fuse indicator light

Protection and safety

E 90 PV fuse disconnectors



E 90 PV

Technical features

Type		E 90/32 PV	E 90/32 PV according to UL
Rated current	[A]	30	
Type of current		DC	
Fuse	[mm]	10 x 38	
Max power dissipation accepted	[W]	3	
Rated frequency	[Hz]	-	
Tightening torque		PZ2 2-2.5 Nm	PZ2 18-22 lb-in
Protection degree		IP20	
Terminals cross-section	[mm ²]	25	
Cross-section rigid copper conductors		1.5 - 25 mm ²	n..a.
Cross-section stranded copper conductors		1.5 - 16 mm ²	8÷3 AWG
Operating temperature	[°C]	-5/+40 ⁽¹⁾	
Storage temperature	[°C]	-25/+70 ⁽²⁾	
Altitude	[m]	2000	
Voltage range for LED indicator light		24-1000 AC/DC (only s version)	
Can be padlocked (open)		■	
Can be sealed (closed)		■	
IEC 60947-3			
Utilization category		DC-20B	
Rated voltage	[V]	1000	

⁽¹⁾ for lower temperature verify fuse technical characteristics, for higher temperature refer to derating table in Chapter 5 of Electrical installation solutions for buildings - Technical details

⁽²⁾ for more than 24h max temperature is +55 °C

E 90 PV fuse disconnectors

E 90 PV series fuse disconnectors, designed for operating voltages of 1000 V DC with utilization category DC-20B, are particularly suited for protection against overcurrents of photovoltaic systems. The single-pole or two-pole E 90 PV disconnectors for 10.3 x 38 mm cylindrical fuse links offer a reliable, compact and affordable solution for photovoltaic installations. Versions with blown fuse indicator allow to check whether the fuse is still working correctly or not.

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

Poles	Rated current	Modules	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				In	EAN	Type code	Order code	
1	32	1	047131	E 91/32 PV	2CSM204713R1801		0.061	6
1	32	1	046936	E 91/32s PV	2CSM204693R1801		0.062	6
2	32	2	047032	E 92/32 PV	2CSM204703R1801		0.122	3
2	32	2	569138	E 92/32s PV	2CSM256913R1801		0.233	3

s: version with blown fuse indicator light

Protection and safety

E 90 PV 1500 fuse holder



E 90 PV 1500

Technical features

Type	E90/32 PV1500	
Reference standards	-	IEC 60269-1,-2,-6 UL 4248-19
Rated current	[A]	32 (acc. IEC) / 30 (acc. UL)
Rated operational voltage	[V]	1500 V DC
Fuse size	[mm]	10×85 and 10/14×85
Max. power dissipation accepted	[W]	6
Tightening torque	[Nm]	PZ2 2-2.5 Nm (PZ2 18-22 lb-in)
Protection degree	-	IP20
Cross section rigid copper conductors (1 wire)	[mm²]	16-10 AWG
Cross section stranded copper conductors (1 wire)	[mm²]	0.75 – 25 (18-4 AWG)
Cable temperature	[°C]	max 90 (acc. UL)
Operating temperature	[°C]	> -5
Storage temperature	[°C]	> -25
Approvals	-	UL , CCC

E 90 PV fuse holder

The E 90 PV 1500 series of fuse holders has been designed for applications up 1500 V DC. Thanks to their rated voltage up to 1500 V DC they are the ideal solution for protecting cells and inverters. In case of maintenance, they ensure isolation of circuits and strings up to 1500 V in direct current, in total safety. The main features of E 90 PV 1500 fuse holders include venting grooves and cooling chambers which improved heat dissipation.

E 90 PV fuse holder for 10 × 85 mm and 10/14 × 85 mm fuses

Poles	Rated current	Width	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				In	EAN	Type code	Order code	
1	32	22.5	020417	E91/32 PV1500e	2CSM202041R1801		0.080	5
1	32	22.5	743613	E91/32 PV1500e	2CSM274361U1801		0.080	60

Protection and safety

E 90 50/125 fuse disconnectors



E 90 50/125

Technical features

Type		E 90/50	E 90/125
Rated current	[A]	50	100*
Type of current		AC	
Fuse	[mm]	14 x 51	22 x 58
Max power dissipation accepted	[W]	5	9.5
Rated frequency	[Hz]	50-60	
Tightening torque	[Nm]	PZ2 3-3.5	PZ2 3.5-4
Protection degree		IP20**	
Terminals cross-section	[mm ²]	35	50
Cross-section rigid copper conductors	[mm ²]	2.5 - 35	4 - 50
Cross-section stranded copper conductors	[mm ²]	2.5 - 25	4 - 35
Can be sealed closed		■	
Can be padlocked open		■	
IEC 60947-3			
Utilization category		AC-20B	
Rated voltage	[V]	690	

* 125A with fuses of type aM and in combination with a device which guarantees protection against overload

** The protection degree IP20 is obtained also as standalone unit with respect to wire size of 10mm²

90 50/125 fuse disconnectors

The E 90 50/125 fuse disconnector range is specifically intended for industrial circuit protection when currents are from 50 A to 125 A. They can, respectively, carry any type of cylindrical fuses 14x51 and 22x58 mm. The E 90 50/125 fuseholders can be sealed or padlocked in open position to ensure operator safety during maintenance operations. Versions with blown fuse indicator (LED) allow checking whether the fuse is still working correctly or not.

E 90/50 fuse disconnectors for 14 x 51 mm fuses (AC-20B)

Poles	Rated current In	Modules	Bbn 8012542 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				Type code	Order code			
1	50	1.5	790228	E 91/50	2CSM279022R1801		0.095	4
1	50	1.5	372028	E 91/50s	2CSM237202R1801		0.095	4
1+N	50	3	779827	E 91N/50	2CSM277982R1801		0.19	2
1+N	50	3	023920	E 91N/50s	2CSM202392R1801		0.19	2
2	50	3	779728	E 92/50	2CSM277972R1801		0.19	2
2	50	3	070320	E 92/50s	2CSM207032R1801		0.19	2
3	50	4.5	779629	E 93/50	2CSM277962R1801		0.285	1
3	50	4.5	574828	E 93/50s	2CSM257482R1801		0.285	1
3+N	50	6	779520	E 93N/50	2CSM277952R1801		0.38	1
3+N	50	6	563020	E 93N/50s	2CSM256302R1801		0.38	1

E 90/125 fuse disconnectors for 22 x 58 mm fuses (AC-20B)

Poles	Rated current In	Modules	Bbn 8012542 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				Type code	Order code			
1	100	2	775720	E 91/125	2CSM277572R1801		0.135	4
1	100	2	896326	E 91/125s	2CSM289632R1801		0.135	4
1+N	100	4	773528	E 91N/125	2CSM277352R1801		0.27	2
1+N	100	4	049425	E 91N/125s	2CSM204942R1801		0.27	2
2	100	4	771326	E 92/125	2CSM277132R1801		0.27	2
2	100	4	049326	E 92/125s	2CSM204932R1801		0.27	2
3	100	6	775027	E 93/125	2CSM277502R1801		0.405	1
3	100	6	049227	E 93/125s	2CSM204922R1801		0.405	1
3+N	100	8	965329	E 93N/125	2CSM296532R1801		0.54	1
3+N	100	8	049128	E 93N/125s	2CSM204912R1801		0.54	1

s: version with blown fuse indicator light

Protection and safety

E 90 CC fuseholders



E 91



E 93

Technical features

Type		E 90/30 CC
Rated voltage	[V]	600
Rated current	[A]	30
Type of current		AC/DC
Rated frequency	[Hz]	60
Fuse		class CC
Tightening torque	[Nm]	PZ2 2-2.5*
	[lb-in]	PZ2 18-22**
Terminals cross-section	[mm ²]	25
Cross-section rigid copper conductors	1 wire	1.5-25 mm ² (16-10 AWG)
	2 wires	5 mm ² (10 AWG)
Cross-section stranded copper conductors	1 wire	1.5-16 mm ² (16-3 AWG)
	2 wires	2-5 mm ² (14-10 AWG)
Voltage range for LED indicator light (only s version)	[V]	24 - 1000 AC/DC
Can be sealed closed		■
Can be padlocked open		■

* PZ2 2.8 Nm in case of rigid copper conductors, 2 wires

** PZ2 24,5 lb-in in case of rigid copper conductors, 2 wires

The E 90 fuse carriers for Class CC cylindrical fuse links are specifically designed for the North American market in compliance with the UL standards. In accordance with the reference standards UL 4248-1 and UL 4248-4, they come in voltage and current ratings up to 600V and 30A. They are available in 1P, 1P+N, 2P, 3P, 3P+N and 4P versions. They can be padlocked open and sealed closed.

The E 90 fuse carriers are the ideal solution for process control and industrial systems, automation systems, industrial installations and control circuits. The versions with blown fuse indicator light provide a visual signal of the fuse break condition

E 90 for class CC cartridge fuses

Poles	Rated current	Modules	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				Type code	Order code			
1	30	1	998723	E 91/30 CC	2CSM299872R1801		0.061	6
1	30	1	998822	E 91/30s CC	2CSM299882R1801		0.062	6
1+N	30	2	998921	E 91N/30 CC	2CSM299892R1801		0.13	3
1+N	30	2	999027	E 91N/30s CC	2CSM299902R1801		0.13	3
2	30	2	999126	E 92/30 CC	2CSM299912R1801		0.122	3
2	30	2	999225	E 92/30s CC	2CSM299922R1801		0.122	3
3	30	3	999324	E 93/30 CC	2CSM299932R1801		0.183	2
3	30	3	999423	E 93/30s CC	2CSM299942R1801		0.183	2
3+N	30	4	999522	E 93N/30 CC	2CSM299952R1801		0.252	1
3+N	30	4	999621	E 93N/30s CC	2CSM299962R1801		0.252	1
4	30	4	999720	E 94/30 CC	2CSM299972R1801		0.244	1
4	30	4	999829	E 94/30s CC	2CSM299982R1801		0.244	1

s: version with blown fuse indicator light

Protection and safety

E 90 J fuse fuseholders



E 90 Class J

Technical features

Type		E 90/30 J	E 90/60 J
Rated current	[A]	30	60
Rated voltage	[V]	600	
Type of current		AC/DC	
Fuse		Class J 1-30A	Class J 31-60A
Rated frequency	[Hz]	60	
Tightening torque	[Nm]	PZ2 3.5-4	
Terminals cross-section	[mm²]	50	
Cross-section rigid copper conductors	[AWG]	14-10	
Cross-section stranded copper conductors	[AWG]	14-8	
Can be sealed closed		■	
Can be padlocked open		■	

E 90 Class J

The E 90 Class J fuse carriers are the ideal solution for industrial systems, industrial installations and control circuits. They are specifically designed for the North American market in compliance with the UL standards. In accordance with the reference standard UL 4248-8, they come in voltage and current ratings up to 600V and 30/60A. They are available in 1P, 2P and 3P versions. The versions with blown fuse indicator light provide a visual signal of the fuse break condition. They can be padlocked open and sealed closed to ensure operator safety during maintenance operations.

E 90/30 fuse disconnectors for Class J fuses

Poles	Rated current	Modules	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code	Order code		kg	pc.
1	30	2	048220	E 91/30 J	2CSM204822R1801		0.135	4
2	30	4	048121	E 92/30 J	2CSM204812R1801		0.27	2
3	30	6	048022	E 93/30 J	2CSM204802R1801		0.405	1
1	30	2	047926	E 91/30s J	2CSM204792R1801		0.135	4
2	30	4	047827	E 92/30s J	2CSM204782R1801		0.27	2
3	30	6	047728	E 93/30s J	2CSM204772R1801		0.405	1

E 90/60 fuse disconnectors for Class J fuses

Poles	Rated current	Modules	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	In		EAN	Type code	Order code		kg	pc.
1	60	2.5	047629	E 91/60 J	2CSM204762R1801		0.175	3
2	60	5	049821	E 92/60 J	2CSM204982R1801		0.35	1
3	60	7.5	049722	E 93/60 J	2CSM204972R1801		0.525	1
1	60	2.5	049623	E 91/60s J	2CSM204962R1801		0.175	3
2	60	5	049524	E 92/60s J	2CSM204952R1801		0.35	1
3	60	7.5	738824	E 93/60s J	2CSM273882R1801		0.525	1

s: version with blown fuse indicator light

Protection and safety

Cylindrical fuses E 9F gG



E 9F8

Technical features

Rated voltage	[V]	400, 500, 690 AC
Rated current	[A]	0.5...125
Breaking capacity	[kA]	20, 80, 120
Overall dimensions	[mm]	8.5x31.5 , 10.3x38 , 14x51 , 22x58
Weight	[g]	4, 7, 18, 48
Reference standards		IEC 60269-2; ROHS 2002/98/CE
Marks		LLOYD, BV

E 9F 8 gG cylindrical fuses 8.5 x 31.5 mm

Type	Rated current [A]	Rated voltage [V AC]	Breaking capacity [kA]
E 9F8 GG1	1	400	20
E 9F8 GG2	2	400	20
E 9F8 GG4	4	400	20
E 9F8 GG6	6	400	20
E 9F8 GG8	8	400	20
E 9F8 GG10	10	400	20
E 9F8 GG12	12	400	20
E 9F8 GG16	16	400	20
E 9F8 GG20	20	400	20



E 9F10

E 9F 10 gG cylindrical fuses 10.3 x 38 mm

Type	Rated current [A]	Rated voltage [V AC]	Breaking capacity [kA]
E 9F10 GG05	0.5	500	120
E 9F10 GG1	1	500	120
E 9F10 GG2	2	500	120
E 9F10 GG4	4	500	120
E 9F10 GG6	6	500	120
E 9F10 GG8	8	500	120
E 9F10 GG10	10	500	120
E 9F10 GG12	12	500	120
E 9F10 GG16	16	500	120
E 9F10 GG20	20	500	120
E 9F10 GG25	25	500	120
E 9F10 GG32	32	400	120

Protection and safety

Cylindrical fuses E 9F gG



E 9F14

E 9F 14 gG cylindrical fuses 14 x 51 mm

Type	Rated current [A]	Rated voltage [V AC]	Breaking capacity [kA]
E 9F14 GG2	2	690	120
E 9F14 GG4	4	690	120
E 9F14 GG6	6	690	120
E 9F14 GG8	8	690	120
E 9F14 GG10	10	690	120
E 9F14 GG12	12	690	120
E 9F14 GG16	16	690	120
E 9F14 GG20	20	690	120
E 9F14 GG25	25	690	120
E 9F14 GG32	32	500	120
E 9F14 GG40	40	500	120
E 9F14 GG50	50	400	120



E 9F22

E 9F 22 gG cylindrical fuses 22 x 58 mm

Type	Rated current [A]	Rated voltage [V AC]	Breaking capacity [kA]
E 9F22 GG4	4	690	120
E 9F22 GG6	6	690	120
E 9F22 GG8	8	690	120
E 9F22 GG10	10	690	120
E 9F22 GG12	12	690	120
E 9F22 GG16	16	690	120
E 9F22 GG20	20	690	120
E 9F22 GG25	25	690	120
E 9F22 GG32	32	690	120
E 9F22 GG40	40	690	120
E 9F22 GG50	50	690	120
E 9F22 GG63	63	690	120
E 9F22 GG80	80	690	120
E 9F22 GG100	100	500	120
E 9F22 GG125	125	500	120

Protection and safety

Cylindrical fuses E 9F gG

E 9F gG cylindrical fuses

The E 9F gG cylindrical fuses, coupled with E 90 and E 90 50/125 fuse disconnectors, are the ideal solution for protection against overload and short-circuit. They feature a fast tripping curve that is ideal for protecting electronic devices, transformers and electric cables. The E 9F gG series is available for all the main sizes (8.5 x 31.5 mm, 10.3 x 38 mm, 14 x 51 mm e 22 x 58 mm) and with a wide range of rated current values (from 1 A to 125 A and up to 690 V AC). All the E 9F series fuses conform to the RoHS directive and are type-approved in accordance with the most important international naval marks.

E 9F 8 gG cylindrical fuses 8.5 x 31.5 mm

Rated current	Size	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	mm	EAN	Type code	Order code		kg	pc.
1	8.5x31.5	575733	E 9F8 GG1	2CSM257573R1801		0.004	10
2	8.5x31.5	563938	E 9F8 GG2	2CSM256393R1801		0.004	10
4	8.5x31.5	586630	E 9F8 GG4	2CSM258663R1801		0.004	10
6	8.5x31.5	574835	E 9F8 GG6	2CSM257483R1801		0.004	10
8	8.5x31.5	563037	E 9F8 GG8	2CSM256303R1801		0.004	10
10	8.5x31.5	775737	E 9F8 GG10	2CSM277573R1801		0.004	10
12	8.5x31.5	773535	E 9F8 GG12	2CSM277353R1801		0.004	10
16	8.5x31.5	771333	E 9F8 GG16	2CSM277133R1801		0.004	10
20	8.5x31.5	775034	E 9F8 GG20	2CSM277503R1801		0.004	10

E 9F 10 gG cylindrical fuses 10.3 x 38 mm

Rated current	Size	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	mm	EAN	Type code	Order code		kg	pc.
0.5	10.3x38	773337	E 9F10 GG05	2CSM277333R1801		0.007	10
1	10.3x38	771135	E 9F10 GG1	2CSM277113R1801		0.007	10
2	10.3x38	587231	E 9F10 GG2	2CSM258723R1801		0.007	10
4	10.3x38	575436	E 9F10 GG4	2CSM257543R1801		0.007	10
6	10.3x38	563631	E 9F10 GG6	2CSM256363R1801		0.007	10
8	10.3x38	586333	E 9F10 GG8	2CSM258633R1801		0.007	10
10	10.3x38	574538	E 9F10 GG10	2CSM257453R1801		0.007	10
12	10.3x38	562733	E 9F10 GG12	2CSM256273R1801		0.007	10
16	10.3x38	775430	E 9F10 GG16	2CSM277543R1801		0.007	10
20	10.3x38	773238	E 9F10 GG20	2CSM277323R1801		0.007	10
25	10.3x38	771036	E 9F10 GG25	2CSM277103R1801		0.007	10
32	10.3x38	587132	E 9F10 GG32	2CSM258713R1801		0.007	10

Protection and safety

Cylindrical fuses E 9F gG

E 9F 14 gG cylindrical fuses 14 x 51 mm

Rated current	Size	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	mm	EAN	Type code	Order code		kg	pc.
2	14x51	775232	E 9F14 GG2	2CSM277523R1801		0.018	10
4	14x51	773030	E 9F14 GG4	2CSM277303R1801		0.018	10
6	14x51	770831	E 9F14 GG6	2CSM277083R1801		0.018	10
8	14x51	910039	E 9F14 GG8	2CSM291003R1801		0.018	10
10	14x51	909835	E 9F14 GG10	2CSM290983R1801		0.018	10
12	14x51	909637	E 9F14 GG12	2CSM290963R1801		0.018	10
16	14x51	587835	E 9F14 GG16	2CSM258783R1801		0.018	10
20	14x51	576037	E 9F14 GG20	2CSM257603R1801		0.018	10
25	14x51	564232	E 9F14 GG25	2CSM256423R1801		0.018	10
32	14x51	586937	E 9F14 GG32	2CSM258693R1801		0.018	10
40	14x51	575139	E 9F14 GG40	2CSM257513R1801		0.018	10
50	14x51	563334	E 9F14 GG50	2CSM256333R1801		0.018	10

E 9F 22 gG cylindrical fuses 22 x 58 mm

Rated current	Size	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	mm	EAN	Type code	Order code		kg	pc.
4	22x58	571834	E 9F22 GG4	2CSM257183R1801		0.048	10
6	22x58	592839	E 9F22 GG6	2CSM259283R1801		0.048	10
8	22x58	581031	E 9F22 GG8	2CSM258103R1801		0.048	10
10	22x58	569237	E 9F22 GG10	2CSM256923R1801		0.048	10
12	22x58	594031	E 9F22 GG12	2CSM259403R1801		0.048	10
16	22x58	582236	E 9F22 GG16	2CSM258223R1801		0.048	10
20	22x58	570431	E 9F22 GG20	2CSM257043R1801		0.048	10
25	22x58	595335	E 9F22 GG25	2CSM259533R1801		0.048	10
32	22x58	583530	E 9F22 GG32	2CSM258353R1801		0.048	10
40	22x58	571735	E 9F22 GG40	2CSM257173R1801		0.048	10
50	22x58	593935	E 9F22 GG50	2CSM259393R1801		0.048	10
63	22x58	582137	E 9F22 GG63	2CSM258213R1801		0.048	10
80	22x58	570332	E 9F22 GG80	2CSM257033R1801		0.048	10
100	22x58	595236	E 9F22 GG100	2CSM259523R1801		0.048	10
125	22x58	583431	E 9F22 GG125	2CSM258343R1801		0.048	10

Protection and safety

Cylindrical fuses E 9F aM



E 9F8 aM

Technical features

Rated voltage	[V]	400, 500, 690 AC
Rated current	[A]	0.5...125
Breaking capacity	[kA]	20, 80, 120
Overall dimensions	[mm]	8.5x31.5, 10.3x38, 14x51, 22x58
Weight	[g]	4, 7, 18, 48
Reference standards		IEC 60269-2; ROHS 2002/98/CE
Marks		LLOYD, BV

E 9F8 aM cylindrical fuses 8.5 x 31.5 mm

Type	Rated current [A]	Rated voltage [V AC]	Breaking capacity [kA]
E 9F1 AM1	1	400	20
E 9F8 AM2	2	400	20
E 9F8 AM4	4	400	20
E 9F8 AM6	6	400	20
E 9F8 AM8	8	400	20
E 9F8 AM10	10	400	20



E 9F10 aM

E 9F10 aM cylindrical fuses 10.3 x 38 mm

Type	Rated current [A]	Rated voltage [V AC]	Breaking capacity [kA]
E 9F10 AM05	0.5	500	120
E 9F10 AM1	1	500	120
E 9F10 AM2	2	500	120
E 9F10 AM4	4	500	120
E 9F10 AM6	6	500	120
E 9F10 AM8	8	500	120
E 9F10 AM10	10	500	120
E 9F10 AM12	12	500	120
E 9F10 AM16	16	500	120
E 9F10 AM20	20	500	120
E 9F10 AM25	25	400	120
E 9F10 AM32	32	400	120

Protection and safety

Cylindrical fuses E 9F aM



E 9F14 aM

E 9F14 aM cylindrical fuses 14 x 51 mm

Type	Rated current [A]	Rated voltage [V AC]	Breaking capacity [kA]
E 9F14 AM1	1	690	120
E 9F14 AM2	2	690	120
E 9F14 AM4	4	690	120
E 9F14 AM6	6	690	120
E 9F14 AM8	8	690	120
E 9F14 AM10	10	690	120
E 9F14 AM12	12	690	120
E 9F14 AM16	16	690	120
E 9F14 AM20	20	690	120
E 9F14 AM25	25	690	120
E 9F14 AM32	32	500	120
E 9F14 AM40	40	500	120
E 9F14 AM45	45	500	120
E 9F14 AM50	50	400	120



E 9F22 aM

E 9F22 aM cylindrical fuses 22 x 58 mm

Type	Rated current [A]	Rated voltage [V AC]	Breaking capacity [kA]
E 9F22 AM6	6	690	120
E 9F22 AM8	8	690	120
E 9F22 AM10	10	690	120
E 9F22 AM12	12	690	120
E 9F22 AM16	16	690	120
E 9F22 AM20	20	690	120
E 9F22 AM25	25	690	120
E 9F22 AM32	32	690	120
E 9F22 AM40	40	690	120
E 9F22 AM50	50	690	120
E 9F22 AM63	63	690	120
E 9F22 AM80	80	690	120
E 9F22 AM100	100	500	120
E 9F22 AM125	125	500	120

Protection and safety

Cylindrical fuses E 9F aM

E 9F aM cylindrical fuses

The E 9F aM cylindrical fuses, coupled with E 90 and E 90 50/125 fuse disconnectors, are the ideal solution for protection against overload and short-circuit. They feature a delayed tripping curve and are therefore ideal for protecting industrial motors that require high inrush current during the starting phase. The E 9F aM series is available for all the main sizes (8.5 x 31.5 mm, 10.3 x 38 mm, 14 x 51 mm e 22 x 58 mm) and with a wide range of rated current values (from 1 A to 125 A and up to 690 V AC). All the E 9F series fuses conform to the RoHS directive and are type-approved in accordance with the most important international naval marks.

E 9F 8 aM cylindrical fuses 8.5 x 31.5 mm

Rated current	Size	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	mm	EAN	Type code	Order code		kg	pc.
1	8.5x31.5	772835	E 9F8 AM1	2CSM277283R1801		0.004	10
2	8.5x31.5	770633	E 9F8 AM2	2CSM277063R1801		0.004	10
4	8.5x31.5	587439	E 9F8 AM4	2CSM258743R1801		0.004	10
6	8.5x31.5	575634	E 9F8 AM6	2CSM257563R1801		0.004	10
8	8.5x31.5	563839	E 9F8 AM8	2CSM256383R1801		0.004	10
10	8.5x31.5	586531	E 9F8 AM10	2CSM258653R1801		0.004	10

E 9F 10 aM cylindrical fuses 10.3 x 38 mm

Rated current	Size	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	mm	EAN	Type code	Order code		kg	pc.
0.5	10.3x38	574736	E 9F10 AM05	2CSM257473R1801		0.007	10
1	10.3x38	562931	E 9F10 AM1	2CSM256293R1801		0.007	10
2	10.3x38	775638	E 9F10 AM2	2CSM277563R1801		0.007	10
4	10.3x38	773436	E 9F10 AM4	2CSM277343R1801		0.007	10
6	10.3x38	771234	E 9F10 AM6	2CSM277123R1801		0.007	10
8	10.3x38	587330	E 9F10 AM8	2CSM258733R1801		0.007	10
10	10.3x38	575535	E 9F10 AM10	2CSM257553R1801		0.007	10
12	10.3x38	563730	E 9F10 AM12	2CSM256373R1801		0.007	10
16	10.3x38	586432	E 9F10 AM16	2CSM258643R1801		0.007	10
20	10.3x38	574637	E 9F10 AM20	2CSM257463R1801		0.007	10
25	10.3x38	562832	E 9F10 AM25	2CSM256283R1801		0.007	10
32	10.3x38	775539	E 9F10 AM32	2CSM277553R1801		0.007	10

Protection and safety

Cylindrical fuses E 9F aM

E 9F 14 aM cylindrical fuses 14 x 51 mm

Rated current	Size	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	mm	EAN	Type code	Order code		kg	pc.
1	14x51	575337	E 9F14 AM1	2CSM257533R1801		0.018	10
2	14x51	563532	E 9F14 AM2	2CSM256353R1801		0.018	10
4	14x51	586234	E 9F14 AM4	2CSM258623R1801		0.018	10
6	14x51	574439	E 9F14 AM6	2CSM257443R1801		0.018	10
8	14x51	562634	E 9F14 AM8	2CSM256263R1801		0.018	10
10	14x51	775331	E 9F14 AM10	2CSM277533R1801		0.018	10
12	14x51	773139	E 9F14 AM12	2CSM277313R1801		0.018	10
16	14x51	770930	E 9F14 AM16	2CSM277093R1801		0.018	10
20	14x51	587033	E 9F14 AM20	2CSM258703R1801		0.018	10
25	14x51	575238	E 9F14 AM25	2CSM257523R1801		0.018	10
32	14x51	563433	E 9F14 AM32	2CSM256343R1801		0.018	10
40	14x51	586135	E 9F14 AM40	2CSM258613R1801		0.018	10
45	14x51	574330	E 9F14 AM45	2CSM257433R1801		0.018	10
50	14x51	562535	E 9F14 AM50	2CSM256253R1801		0.018	10

E 9F 22 aM cylindrical fuses 22 x 58 mm

Rated current	Size	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	mm	EAN	Type code	Order code		kg	pc.
6	22x58	586036	E 9F22 AM6	2CSM258603R1801		0.048	10
8	22x58	574231	E 9F22 AM8	2CSM257423R1801		0.048	10
10	22x58	562436	E 9F22 AM10	2CSM256243R1801		0.048	10
12	22x58	775133	E 9F22 AM12	2CSM277513R1801		0.048	10
16	22x58	772934	E 9F22 AM16	2CSM277293R1801		0.048	10
20	22x58	770732	E 9F22 AM20	2CSM277073R1801		0.048	10
25	22x58	774938	E 9F22 AM25	2CSM277493R1801		0.048	10
32	22x58	772736	E 9F22 AM32	2CSM277273R1801		0.048	10
40	22x58	770534	E 9F22 AM40	2CSM277053R1801		0.048	10
50	22x58	594130	E 9F22 AM50	2CSM259413R1801		0.048	10
63	22x58	582335	E 9F22 AM63	2CSM258233R1801		0.048	10
80	22x58	570530	E 9F22 AM80	2CSM257053R1801		0.048	10
100	22x58	595434	E 9F22 AM100	2CSM259543R1801		0.048	10
125	22x58	583639	E 9F22 AM125	2CSM258363R1801		0.048	10

Protection and safety

Cylindrical fuses E 9F gPV



E 9F PV

Type		E9F PV	E9F PV 1500
Reference standards	-	IEC 60269-6; ROHS 2002/98/CE, UL	IEC 60269-6; ROHS 2002/98/CE, UL
Rated current	[A]	1...30	4...32
Rated operational voltage	[V]	1000 DC	1500 DC
Breaking capacity	[kA]	10	50
Overall dimensions	[mm]	10.3 x 38	10 x 85

E 9F PV cylindrical fuses for photovoltaic applications

The E9F PV series of cylindrical fuses has been specifically designed for protecting direct current circuits up to 1500 V DC. Those fuses are the best way to protect the strings, inverters and surge arresters in photovoltaic installations.

The range of E9F PV fuses is available in the 10.3 x 38 mm size for up to 30 A rated current values at a nominal voltage of 1000 V DC or in the 10x85 mm size up to 32 A rated current at a nominal voltage of 1500 V DC.

E 9F PV cylindrical fuses 10.3 x 38 mm

Rated current	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	EAN	Type code	Order code		kg	pc.
1 A	134568	E 9F1 PV	2CSM213456R1801		0.007	10
2 A	134667	E 9F2 PV	2CSM213466R1801		0.007	10
3 A	134766	E 9F3 PV	2CSM213476R1801		0.007	10
4 A	134865	E 9F4 PV	2CSM213486R1801		0.007	10
5 A	134964	E 9F5 PV	2CSM213496R1801		0.007	10
6 A	135060	E 9F6 PV	2CSM213506R1801		0.007	10
7 A	135169	E 9F7 PV	2CSM213516R1801		0.007	10
8 A	135268	E 9F8 PV	2CSM213526R1801		0.007	10
10 A	135367	E 9F10 PV	2CSM213536R1801		0.007	10
12 A	135466	E 9F12 PV	2CSM213546R1801		0.007	10
15 A	135565	E 9F15 PV	2CSM213556R1801		0.007	10
20 A	135664	E 9F20 PV	2CSM213566R1801		0.007	10
25 A	135763	E 9F25 PV	2CSM213576R1801		0.007	10
30 A	135862	E 9F30 PV	2CSM213586R1801		0.007	10

E9F PV cylindrical fuses 10 x 85 mm

Rated current	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
In	EAN	Type code	Order code		kg	pc.
4 A	339410	E9F4 PV1500	2CSM233941R1801		0.010	5
5 A	052852	E9F5 PV1500	2CSM205285R1801		0.010	5
6 A	052951	E9F6 PV1500	2CSM205295R1801		0.010	5
7 A	053057	E9F7 PV1500	2CSM205305R1801		0.010	5
8 A	053156	E9F8 PV1500	2CSM205315R1801		0.010	5
10 A	053255	E9F10 PV1500	2CSM205325R1801		0.010	5
12 A	053354	E9F12 PV1500	2CSM205335R1801		0.010	5
15 A	053453	E9F15 PV1500	2CSM205345R1801		0.010	5
20 A	068754	E9F20 PV1500	2CSM206875R1801		0.010	5
25 A	068952	E9F25 PV1500	2CSM206895R1801		0.010	5
30 A	069058	E9F30 PV1500	2CSM206925R1801		0.010	5
32 A	069256	E9F32 PV1500	2CSM206925R1801		0.010	5

Protection and safety

ILTS-E D0 Fuse-switch-disconnectors



ILTS-E1



ILTS-E1



ILTS-E3



ILTS-E/H11



ILTS-E/RE

Technical data

Reference standards	DIN VDE 0638, EN 60947-3, EN 660269-3-1
Approval	VDE
No. of poles	1, 2, 3 pole and 3 pole+N
Rated voltage	400 V AC, per pole 65 V DC (2 pole 130 V DC)
Operating current I _n	acc. to fuse link D0 2-63 A
Rated frequency	50/60 Hz
Rated short circuit capacity	50 kA for AC (8 kA for DC)
Power loss	5.5 W/pole
Utilization category	AC 22 B: 400 V AC 63 A according to IEC/EN 60947-3 (all versions) DC 22 B: 65 V DC 63 A according to IEC/EN 60947-3 (1 pole) DC 22 B: 130 V DC 63 A according to IEC/EN 60947-3 (2 pole)
Leakage current resistance	CTI 200
Ambient temperature	- 5 °C up to + 40 °C
Casing material	thermoplast; halogen-, phosphor-, silicone- and CFC-free
Fire classification	UL 94 (self-extinguishing)
Shock protection	according to DIN EN 50 274 (DIN VDE 0660 Part 514) BGV A3
Connection capacity	1.5 – 35 mm ² finely stranded, directly clamped or with connector sleeve Twin-function terminal for simultaneous connection of two conductors (35 mm ² and 16 mm ²) or conductor and busbar
Pick-up torque	2.5 – 3 Nm
Auxiliary switch indicating contact position	
Contacts	1 NO contact + 1 NC contact
Contact rating	AC 13: 2 A/400 V, 6 A/230 V DC 13: 1 A/220 V, 6 A/24 V

Switch-disconnector ILTS-E for D0 2-63 A fuse links “Drawer technology”

User-friendly fuse-switch-disconnector in “drawer technology”:

- Snap action
- Fuse can be replaced only if the system is de-energized.
- Captive fuse carrier
- For D02 fuse links, D01 fuse link with reducing piece
- Twin box terminal on both sides
- User-friendly installation of cross-wiring in lower terminal
- Auxiliary switch to indicate switching position

Fuse-switch-disconnector

Poles	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
		EAN	Type code			
1	65347 3	ILTS-E1	2CDE101001R1901		0.210	3
2	65348 0	ILTS-E2	2CDE102001R1901		0.420	2
3	65349 7	ILTS-E3	2CDE103001R1901		0.630	1
3+N*	65350 3	ILTS-E3+N	2CDE103101R1901		0.790	1
Reducing piece	65407 4	ILTS-E/RE	2CDE000011R1901		0.001	20
Auxiliary switch 1NO/1NC	65671 9	LTS-E/H11	2CDE000012R1901		0.050	1

* N conductor leading make contact, late closing

Protection and safety

ISS D0 Fuse carriers



ISS 16/1



ISS 63/1



ISS 16/3



ISS 63/3

Technical features

Size	D01	D02
Current type	AC (50 Hz)/DC	AC (50 Hz)/DC
Rated voltage	400 V AC/250 V DC	400 V AC/250 V DC
Rated current	16 A	63 A
Rated short-circuit current	50 kA (AC) 8 kA (DC)	50 kA (AC) 8 kA (DC)
For fuse links with losses per phase up to	2.5 W	5.5 W

D0 fuse carrier ISS with integrated red cover

D0 fuse base for NEOZED fuse links D01/D02. Touch-protection according to DGUV regulation 3. Twin box terminal on both sides for connection of two different conductor cross-sections or conductors and busbars.

Conductor cross-sections incoming and outgoing 1.5 – 35 mm², stranded. With integrated terminal cover. A separate cover for distribution board installation is not required.

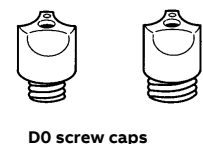
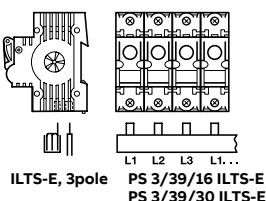
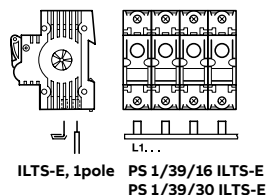
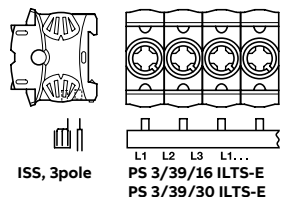
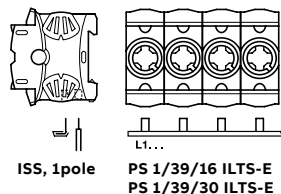
- IEC 60269-3/VDE 0636-3
- 1/3-pole
- Fuse links, connector sleeves VDE 0636-3
- Snap clip device for rail mounting to EN 60715
- Twin function terminal
- Connection cross-section 1.5 – 35 mm²
- Tightening torque 2.5 – 3 Nm

D0 fuse carrier

Poles	Screw cover/fuse	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
			EAN	Type code			
1	E14 D01	65579 8	ISS 16/1	2CDE111001R1902		0.08	9
1	E18 D02	65581 1	ISS 63/1	2CDE161001R1902		0.08	9
3	E14 D01	65580 4	ISS 16/3	2CDE113001R1902		0.24	9
3	E18 D02	65582 8	ISS 63/3	2CDE163001R1902		0.24	9

Protection and safety

Busbars and accessories for ILTS-E and ISS



Busbars for fuse-switch-disconnector ILTS-E and fuse carrier ISS: 1pole or 3pole

End caps:

PS 1/39/16 ILTS-E: END 1.1

PS 1/39/30 ILTS-E: PS-END 3.2

PS 3/39/16 ILTS-E: PS-END

PS 3/39/30 ILTS-E: PS-END 3

Busbars

Cross-section	Length	No. of poles	Cu factor	Bbn 4012233	Order details		Price 1 piece	Weight 1 piece	Pack unit
mm ²	mm			EAN	Type code	Order code		kg	pc.
16	1040	39 x 1	0.43	66956 6 ⁽¹⁾	PS 1/39/16 ILTS-E	2CDL010101R1639	15	0.23	10
30	1040	39 x 1	0.74	66957 3 ⁽¹⁾	PS 1/39/30 ILTS-E*	2CDL010101R3039	15	0.487	5
16	1040	39 x 3	1.3	66958 0 ⁽¹⁾	PS 3/39/16 ILTS-E	2CDL030101R1639	15	0.59	10
30	1040	39 x 3	1.95	66959 7 ⁽¹⁾	PS 3/39/30 ILTS-E*	2CDL030101R3039	15	1.222	5

⁽¹⁾ bbn-Nr. 40 16779 * Not compatible with ISS

End caps

Cross-section	Length	No. of poles	Cu factor	Bbn 4012233	Order details		Price 1 piece	Weight 1 piece	Pack unit
mm ²	mm			EAN	Type code	Order code		kg	pc.
		1		63891 3	END 1.1	2CDL2000011R0011	15	0.001	50
		2/3		51472 9	PS-END	2CDL2000001R0001	15	0.001	50
		2/3		65430 2	PS-END 3	2CDL2000001R3001	15	0.001	50
		1		66960 3	PS-END 3.2	2CDL2000001R3003	15	0.001	50

D0 fuses and accessories

D0 fuse links to DIN VDE 0636-3, IEC/EN 60269-3 suitable for D01/E14

Rated current	Colour code	Power loss	Bbn 4012233	Order details		Price 1 piece	Weight 1 piece	Pack unit
A		W	EAN	Type code	Order code		kg	pc.
2	pink	1.5	60480 7	D01 x 2 gG	GMN977120P0011	13	0.006	10
4	brown	1.5	60490 6	D01 x 4 gG	GMN977120P0012	13	0.006	
6	green	1.5	60500 2	D01 x 6 gG	GMN977120P0013	13	0.006	
10	red	1.8	60510 1	D01 x 10 gG	GMN977120P0014	13	0.006	
16	grey	2.1	60520 0	D01 x 16 gG	GMN977120P0015	13	0.006	

Suitable for D02/E18

Rated current	Colour code	Power loss	Bbn 4012233	Order details		Price 1 piece	Weight 1 piece	Pack unit
A		W	EAN	Type code	Order code		kg	pc.
20	blue	2.3	60530 9	D02 x 20 gG	GMN977120P0017	13	0.011	10
25	yellow	2.6	60540 8	D02 x 25 gG	GMN977120P0018	13	0.012	
35	black	2.9	60550 7	D02 x 35 gG	GMN977120P0019	13	0.013	
50	white	3.5	60560 6	D02 x 50 gG	GMN977120P0020	13	0.014	
63	copper	4.2	60570 5	D02 x 63 gG	GMN977120P0021	13	0.015	

Protection and safety

Busbars and accessories for ILTS-E and ISS



Connector sleeves
D 01 D 02
2-10 A 2-50 A



FD 1713

D0 screw caps acc. to DIN VDE 0636-3, IEC/EN 60269-3, 400 V AC Plastic version, RAL 7037

Rated current	Colour code	Power loss	Bbn 4012233	Order details		Price 1 piece	Weight 1 piece	Pack unit
A		W	EAN	Type code	Order code		kg	pc.
16	for D01	–	60790 7	D01 DIN 49 525 K	GMN977130P0011	13	0.015	20
63	for D02	–	60800 3	D02 DIN 49 525 K	GMN977130P0012	13	0.015	20

D0 connector sleeves to DIN VDE 0636-3, IEC/EN 60269-3 Suitable for D01/E14

Rated current	Colour code	Power loss	Bbn 4012233	Order details		Price 1 piece	Weight 1 piece	Pack unit
A		W	EAN	Type code	Order code		kg	pc.
2	pink	–	60600 9	D01 x 2	GMN977125P0001	13	0.001	50
4	brown		60610 8	D01 x 4	GMN977125P0002	13	0.001	
6	green		60620 7	D01 x 6	GMN977125P0003	13	0.001	
10	red		60630 6	D01 x 10	GMN977125P0004	13	0.001	

Suitable for D02/E18

Rated current	Colour code	Power loss	Bbn 4012233	Order details		Price 1 piece	Weight 1 piece	Pack unit
A		W	EAN	Type code	Order code		kg	pc.
2	pink	–	60640 5	D02 x 2	GMN977125P0011	13	0.001	50
4	brown		60650 4	D02 x 4	GMN977125P0012	13	0.001	
6	green		60660 3	D02 x 6	GMN977125P0013	13	0.001	
10	red		60670 2	D02 x 10	GMN977125P0014	13	0.001	
16	grey		60680 1	D02 x 16	GMN977125P0015	13	0.001	
20	blue		60690 0	D02 x 20	GMN977125P0016	13	0.001	
25	yellow		60700 6	D02 x 25	GMN977125P0017	13	0.001	
35	black		60710 5	D02 x 35	GMN977125P0018	13	0.001	
50	white		60720 4	D02 x 50	GMN977125P0019	13	0.001	

Spring clip for use of D01 fuses in D02 screw caps

Rated current	Colour code	Power loss	Bbn 4012233	Order details		Price 1 piece	Weight 1 piece	Pack unit
A		W	EAN	Type code	Order code		kg	pc.
			15120 7	FD 1713	GMN977130P0004	13	0.001	50

Protection and safety

Electronic Protection Devices for use behind 24 V DC Switch Mode Power Supplies



EPD

Operating data

Operating voltage UB	24 V DC (18...32 V)			
Current rating IN	fixed current ratings: 0.5, 1, 2, 3, 4, 6, 8, 10, 12 A			
Closed current IO	ON condition: typically 20...30 mA depending on signal output			
Staus indication by means of	multico- lour LED	Green	- unit is ON (S1 = ON) - load circuit/Power-is switched on MOSFET	
		Orange	- in the event of overload or short circuit until electronic disconnection	
		Red	- unit electronically disconnected - load circuit/Power-MOSFET OFF - undervoltage (UB < 8 V) - after switch-on till the end of the delay period	
			OFF	- manually switched off (S1 = OFF) or device is dead
			potential-free auxiliary contact F	
			ON/OFF/condition of switch S1	

Load circuit

Load output	Power-MOSFET switching output (high slide switch)
Overload disconnection	typically 1.1 x IN (1.05...1.35 x IN)
Short-circuit current IK	active current limitation (see table 1)
Trip time	see time/current characteristics
For electronic disconnection	typically 3 s at ILoad > 1.1 x IN typically 100 ms...3 s at ILoad > 1.8 x IN (or 1.5 x IN/1.3 x IN,)
Temperature disconnection	internal temperature monitoring with electronic disconnection
Low voltage monitoring load output	with hysteresis, no reset required: load »OFF« at UB < 8 V
Starting delay tStart	typically 0.5 sec after every switch-on and after applying US
Disconnection of load circuit	electronic disconnection
Free-wheeling circuit	suitable external free-wheeling circuit to be used with inductive load
Several load outputs must not be connected in parallel	

Signal output F

Electrical data	potential-free auxiliary contact max. 30 V DC/0.5 A, min. 10 V DC/10 mA
ON condition LED green	voltage UB applied, switch S1 is in ON position no overload, no short circuit
OFF condition LED off	device switched off (switch S1 is in OFF position) no voltage UB applied
Fault condition LED orange	overload condition > 1.1 x IN up to electronic disconnection
Aux. contact	single signal, make contact contact open, terminal 13-14
Fault	signal output fault conditions - no operating voltage UB - ON/OFF switch S1 is in OFF position - red LED lighted (electronic disconnection)

Protection and safety

Electronic Protection Devices for use behind 24 V DC Switch Mode Power Supplies

General data

Fail-Safe element	backup fuse for EPD24 not required because of the integral redundant fail-safe element
Housing material	moulded
Mounting	symmetrical rail to EN 50022-35x7.5
Ambient temperature	0...+50 °C (without condensation, see EN 60204-1)
Storage temperature	-20...+70 °C
Humidity	96 hrs/95% RH/40 °C to IEC 60068-2-78, test Cab. climate class 3K3 to EN 60721
Vibration	3g, test to IEC 60068-2-6 test Fc
Protection degree	housing: IP20 DIN 40050 terminals: IP20 DIN 40050
EMC (EMC directive, CE logo)	emission: EN 61000-6-3 susceptibility: EN 61000-6-2
Isolations coordination (IEC 60934)	0.5 kV/pollution degree 2 reinforced insulation in operating area
Dielectric strength	max. 32 V DC (load circuit)
Isolation resistance (OFF condition)	n/a, only electronic disconnection
Approvals/Declarations of conformity	UL 2367 Solid State Overcurrent Protectors UL 1604, (class I, division 2, groups A, B, C, D) UL 508 CSA C22.2 No. 213 (class I, division 2) CSA C22.2 No. 142 CSA C22.2 No. 14 CE logo
Dimensions (B x H x T)	12.5 x 80 x 83 mm
Weight	approx. 65g

Terminals Line+/LOAD+/0V

Screw terminals	M4
Max. cable cross section flexible with wire end ferrule w/wo plastic sleeve	0.5 – 10 mm ²
Multi-lead connection (2 identical cables) rigid/flexible	0.5 – 4 mm ²
Flexible with wire end ferrule without plastic sleeve	0.5 – 2.5 mm ²
Flexible with TWIN wire end ferrule with plastic sleeve	0.5 – 6 mm ²
Wire stripping length	10 mm
Tightening torque (EN 60934)	1.5 – 1.8 Nm

Terminals aux. contacts

Screw terminals	M3
Max. cable cross section flexible with wire end ferrule w/wo plastic sleeve	0.25 - 2.5 mm ²
Wire stripping length	8 mm
Tightening torque (EN 60934)	0.5 Nm

Protection and safety

Electronic Protection Devices for use behind 24 V DC Switch Mode Power Supplies



EPD24

The protection devices EPD24 extend the ABB product range of modular DIN rail components by electronic overcurrent protection modules for selective protection of 24V DC load circuits.

This protection is achieved by a combination of active electronic current limitation in the case of a short circuit and an overload deactivation from $1.1 \times I_n$ upwards.

If a fault occurs in a load circuit, the protection device EPD24 will detect this rapidly and reliably, disable the power output transistor and hence interrupt the current flow in the defective circuit. The maximum possible overcurrent is always limited to $1.5 \dots 1.8$ times the selected rated current. An activation of capacitive loads up to $20.000 \mu F$ is possible, deactivation only occurring in the case of overloads or short circuits. Selective deactivation of the defective current circuit means undefined error states and a complete system stop are prevented.

Features

- Selective load protection, one electronic trip characteristics.
- Active current limitation for safe connection of capacitive loads up to $20.000 \mu F$ and on overload/short circuit.
- Current ratings $0.5 A \dots 12 A$.
- Reliable overload disconnection with $1.1 \times I_N$
- Manual ON/OFF button
- Clear status and failure indication through LED and auxiliary contact.
- Integral fail-safe element adjusted to current rating.
- Width per unit only 12.5 mm.
- Rail mounting
- Ease of wiring through busbar LINE+ and 0 V as well as signal bars.
- UL- and CSA-approvals allow international use of the devices.

Rated current I_n	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
		Type code	Order code			
A	EAN					
0.5	829960	EPD24-TB-101-0.5A	2CDE601101R2905		0.065	4
1	829984	EPD24-TB-101-1A	2CDE601101R2001		0.065	4
2	830003	EPD24-TB-101-2A	2CDE601101R2002		0.065	4
3	830027	EPD24-TB-101-3A	2CDE601101R2003		0.065	4
4	830041	EPD24-TB-101-4A	2CDE601101R2004		0.065	4
6	830065	EPD24-TB-101-6A	2CDE601101R2006		0.065	4
8	830089	EPD24-TB-101-8A	2CDE601101R2008		0.065	4
10	830102	EPD24-TB-101-10A	2CDE601101R2010		0.065	4
12	830126	EPD24-TB-101-12A	2CDE601101R2012		0.065	4

Accessories

	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
		Type code	Order code			
Busbars for LINE+ and 0 V, grey insulation, length 500 mm ¹⁾	830140	EPD-BB500	2CDE605100R0500		0.20	10
Signal Bars for aux. contacts, grey insulation, length 21 mm	830164	EPD-SB21	2CDE605200R0021		0.04	10

¹⁾ Max. load with one line entry $I_{max} = 50 A$ (recommended: center-feeding)
Max. load with two line entries $I_{max} = 63 A$

Protection and safety

SQZ3 phase and sequence relay



SQZ3

Technical features

Supply voltage	[Vn]	400 V AC
Frequency	[Hz]	50/60
Contact type	[A]	1 CO, 250 V, 10 A (cosφ=1) safety switching
Minimum voltage adjustment trimmer	[%]	100 to 70 % of Vn
Intervention delay adjustment trimmer	[s]	2 to 20 (only for min. voltage)
Protection degree	[IP]	20
Operating temperature	[°C]	-10...+55
Power consumption	[W]	1.5
Modules	[n°]	3

SQZ3 phase and sequence relay

SQZ3 relay performs the following continue monitoring functions on three-phase networks at 400 V AC:

- phase sequence
- phase failure
- minimum voltage (adjustable up to 70 % of Vn).

If one of the three failures is detected, the output relay (safety switching contact) intervenes with a delay adjustable from 2 to 20 seconds for minimum voltage only and controls the following:

- acoustic alarms
- motor controlling contactors
- circuit-breakers with coils.

	Bbn	Order details		Price	Weight	Pack
	8012542	Type code	Order code	1 piece	1 piece	unit
	EAN				kg	pc.
	372004	SQZ3	2CSM111310R1331		0.300	1

Protection and safety

E 236 undervoltage monitoring relays



E 236-US 1



E 236-US 2

Technical features

		US 1	US 2
Rated voltage		250 V AC	
Rated frequency		48-63 Hz	
Measuring range:	supply voltage	3N 400/230 V AC (terminals N-L1-L2-L3)	
	overload capacity	3N 459/265 V AC	
Switching capacity		device in series (distance < 5 mm): 750 VA (3 A/250 V AC); device not in series (distance > 5 mm): 1250 VA (5 A/250 V AC)	
Rated insulation voltage		250 V AC (corresponds with IEC 664-1)	
Rated surge voltage		4 kV	
Tripping delay		ca. 100 ms	
Clearance and creepage distance		> 6 mm (between contact and electronics)	
Mechanical service life		20 x 10 ⁶ operations	
Electrical service life at 10000 VA		2 x 10 ⁵ operations	
Max. switching rate		max. 6/min (1000 VA Ohmic load); max. 60/min (100 VA Ohmic load)	
Ambient temperature		-25 °C/-13 °F to +55 °C/131 °F	
Overvoltage category		III	
Accuracy in non-changing environment:	setting tolerance (US 2)	≤ 5 %	
	repeat accuracy	±1 %	
	temperature effect	≤ 0.1 %/°C	
Max terminals cross-section		4 mm ²	
Specifications		VDE 0110 and VDE 0435	
EMC tests		EM 50081-1 and EN 50082-2	
Displays		LED green= supply voltage applied; LED yellow= relay status	
Power loss		1.7 W	

E 236 undervoltage monitoring relays

Function

The green LED is lit when the supply voltage is applied. If each phase voltage exceeds 195 V (US1) or exceeds the preset threshold value (US2) with respect to the neutral including the hysteresis when switching the device on, the relay switches immediately into the working position. The yellow LED is lit. If at least one phase voltage falls below the threshold value, the relay goes back into its normal position and the yellow LED goes out.

If also phase 2 fails, the green LED goes out, too.

It is indispensable to connect the neutral conductor!

Application - devices with 2CO contacts

For the control of three-phase undervoltage (each phase to neutral) of switchgear, also for installations according to DIN VDE 0100-718 (power installations in hospitals and rooms used for medical purposes outside of hospitals) and DIN VDE 0108-100 (power installations and safety supply in buildings where many people gather).

US 1: 3 phases to neutral with fixed threshold at 195 V; hysteresis fixed 5 %

US 2: 3 phases to neutral with fixed threshold at 160 – 240 V; hysteresis fixed 5 %

Contact	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
		EAN	Type code	Order code		
2CO	511087	E 236-US 1	2CDE165000R2001		0.095	5
2CO	511094	E 236-US 2	2CDE165010R2001		0.095	5

Protection and safety

E 236 undervoltage monitoring relays



E 236

Technical features

		US 1.1	US 2.1	US 1.1D
Supply circuit				
Supply voltage (= measured voltage)		3N~ 400/230 V AC (terminals N-C1-C2-C3)		
Overvoltage permanent		3N~ 459/265 V AC		
Rated frequency		48 – 63 Hz (AC sinus)		
Rated surge voltage:		4 kV		
Overvoltage category		III		
Output circuit (isolated two-way-switch)				
Rated voltage		250 V AC		
Switching capacity		1250 VA (5 A/250 V AC)		
Continuous current		1250 VA (5 A/250 V AC)		
Fuse protection		5 A flink		
Serviceable life, mechanical		15x106 switchover cycles		
Serviceable life, electric		2x105 switchover cycles at 1.000 VA resistive load		
Max. switching rate		max. 6/min at 1.000 VA resistive load		
		max. 60/min at 100 VA resistive load		
Trip delay		ca. 200 ms		
Pick-up delay (US 1.1D)		0.1 – 10 min		
Accuracy under constant conditions		≤ 5 % of full scale value		
– setting accuracy (US 2.1/1.1D)		≤ 2 %		
– repeat accuracy		≤ 1 %		
– temperature effect		≤ 1 %		
Ambient temperature		– 25° to + 55 °C		
Terminals		1 x 0.5 to 2.5 mm² with/without connector sleeve		
		1 x 4 mm² without connector sleeve		
		2 x 0.5 to 1.5 mm² with/without connector sleeve		
		2 x 2.5 mm² without connector sleeve		
Pick-up torque		max. 1 Nm		
Mounting position		optional		
Vibration resistance		10 to 55 Hz 0.35 mm (IEC 68-2-6)		
Shock resistance		15 g 11 ms (IEC 68-2-27)		
Reference standards		VDE 0110 und VDE 0435		
EMC tests		EN 61000-6-2 and EN 61000-6-4		
Back-up fuse		≤ 16 A		
Displays	green LED U/t ON	all 3 voltages ok		
	green LED U/t flashes	time-out indication		
	yellow LED ON/OFF	position of output relay		

All measured inputs have to be connected to one phase each. If no three-phase measurement should be carried out, measured inputs have to be connected to one phase to apply the required voltage to all measured inputs. If a load causes inverse voltage exceeding the threshold value U_s , phase failures cannot be identified.

A neutral conductor must be connected in any case!

Protection and safety

E 236 undervoltage monitoring relays



E 236-US 1.1



E 236-US 2.1



E 236-US 1.1D

Devices for panel installation onto mounting rails (35 mm) according to DIN EN 60715

mounting depth: 68 mm

mounting width: 17.5 mm = 1 module

color: gray, RAL 7035

Application - devices with 1CO contact

For three-phase undervoltage monitoring (each phase connected to a neutral conductor) of switchgear. Devices with fixed threshold value (US 1.x and US 1.1 D) also for installations according to

DIN VDE 0100-718 (for medical purposes) and DIN VDE 0108-100 (power installations and safety supply in installations for gathering of people).

US 1.1: 3 phases to neutral conductor with fixed threshold value at 195 V; hysteresis fixed at 5 %

US 2.1: 3 phases to neutral conductor with threshold value range of 160 – 240 V; hysteresis fixed at 5 %

US 1.1D: 3 phases to neutral conductor with fixed threshold value at 195 V; hysteresis fixed at 5 %, but with switch-on delay of 0.1 (6 sec.) to 10 min

Undervoltage monitoring device with pick-up delay E 236-US 1.1D

If the measurement of the voltage of all phases connected exceeds the switching threshold U_s , including the hysteresis, the time delay (t) starts to run and the (green LED U/t) flashes. Upon expiry of the time delay (t), the output relay R picks up (yellow LED on, green LED U/t flashes). If the measured voltage of one of the connected phases falls below the switching threshold U_s , the output relay de-energizes (yellow LED is off, green LED U/t is off).

Contact	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
		EAN	Type code	Order code		
1 two-way switch	651776	E 236-US 1.1	2CDE165001R2001		0.05	10
1 two-way switch	651783	E 236-US 2.1	2CDE165011R2001		0.05	10
1 two-way switch	651790	E 236-US 1.1D	2CDE165001R2011		0.05	10

Protection and safety

ISL industrial insulation monitoring devices



ISL

Technical features ISL-A

		ISL-A		
		A 24-48	A 115 and A 230	A 600
Power consumption	[VA]	3	4	6
ALARM threshold	[kW]	30 - 300 (5 levels, selectable)		
TRIP threshold	[kW]	10 - 60 (5 levels by switches)	10 - 100 (5 levels selectable)	30 - 300 (adjustable by potentiometer)
LED indications	ON	■	■	■
	TRIP	■	■	■
	ALARM		■	
	+/-	■	■	■
Max trip delay	[s]	0.2	2	2.5
Max measuring current	[mA]	0.5	1.8	1.5
Internal impedance	[kW]	50	ISL-A 115: 200 kΩ L+/L- 100 kΩ L/PE ISL-A 230: 400 kΩ L+/L- 200 kΩ L/PE	880 kW L+/L - 450 kW L/PE
TRIP relay output		1 NO-C-NC	2 NO-C-NC	1 NO-C-NC
ALARM relay output		2 NO-C-NC		
Relay contact capacity		max 250 V, 5 A		
Programmed functions	Alarm output	■		
	Fail safe	■		
	Reset	■		
Insulation		2.5 kV60 sec./ 6 kV imp 1.2/50 μs	2.5 kV 60 sec./ 4 kV imp 1.2/50 μs	2.5 kV 60 sec./ 6 kV imp 1.2/50 μs
Operating temperature	[°C]	-10 ÷ 60		
Storage temperature	[°C]	-20 ÷ 70		
Relative humidity		≤ 90%		
Max terminal cross-section	[mm²]	4	2.5	2.5
Protection degree		IP40 front, IP20 enclosure		
Modules	[n°]	3	6	6
Weight	[g]	200	400	400
Reference standards		EN 61010-1, EN 61557-8, EN 61326-1		

Protection and safety

ISL industrial insulation monitoring devices



ISL-A

Technical features ISL-C and ISL-MOT

		ISL-C			ISL-MOT
		C 230	C 440	C 600	MOT 1000
Auxiliary power supply	[V]	220-240 V AC	220-240 V AC	100÷130 V AC/ 220÷240 V AC	220- 240 V AC
Power consumption	[VA]	3	3	5	3
TRIP threshold	[kW]	100	10 -150 (5 levels)	10-100 (5 levels)	0.1-10 MW (8 levels)
LED indications	ON	■	■	■	■
	TRIP	■	■	■	■
	ALARM			■	
Max trip delay	[s]	1	4	5	0.2
Max measuring current	[mA]	0.1		0.25	0.0015
Max measuring voltage	[V]	12 V DC		48	20
Internal impedance	[kW]	250	250	200	AC: 1000 DC: 1500
TRIP relay output		1 NO-C-NC	1 NO-C-NC	2 NO-C-NC	1 NO-C-NC
Relay contact capacity		max 250 V, 5 A			
Insulation		2.5 kV60 sec./4 kV imp 1.2/50 µs			
Operating temperature	[°C]	-10 ÷ 60			
Storage temperature	[°C]	-20 ÷ 70			
Relative humidity		≤ 95%			
Max terminal cross-section	[mm²]	4	4	2.5	4
Protection degree		IP40 front, IP20 enclosure			
Modules	[n°]	3	3	6	3
Weight	[g]	200	200	500	200
Reference standards		EN 61010-1, EN 61557-8, EN 61326-1			

Insulation monitoring devices for voltageless network

Monitored line voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
		Type code	Order code			
20-700 V AC/DC	943204	ISL-MOT 1000	2CSM808000R1500		0.300	1

Protection and safety

ISL industrial insulation monitoring devices



ISL-A



ISL-C

Insulation monitoring devices

In IT electrical distribution networks with isolated neutral, the high insulation impedance prevents earth faults from generating currents that would dangerously elevate the potential of exposed conductive parts. Therefore, in case of earth leakage in an IT network it is not necessary to interrupt the supply, but it is still essential to continually monitor the insulation level in order to detect faults and restore optimal functioning of the system.

In industrial installations, IT networks are used when operational continuity is an intrinsic requirement of the production process, due to both technical and economic considerations. Such applications include: metalworking and chemical industries, explosion risk locations, railway lines and vehicles, uninterruptible power supplies, cinema sets, emergency lines, fire water pumps and emergency lighting.

Insulation monitoring devices for AC networks

Max. monitored line voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
		Type code	Order code			
220-240 V AC	942801	ISL-C 230	2CSM444000R1500		0.300	1
380-415 V AC	942900	ISL-C 440	2CSM545000R1500		0.300	1
60-760 V AC	943006	ISL-C 600	2CSM656000R1500		0.500	1

Insulation monitoring devices for DC networks

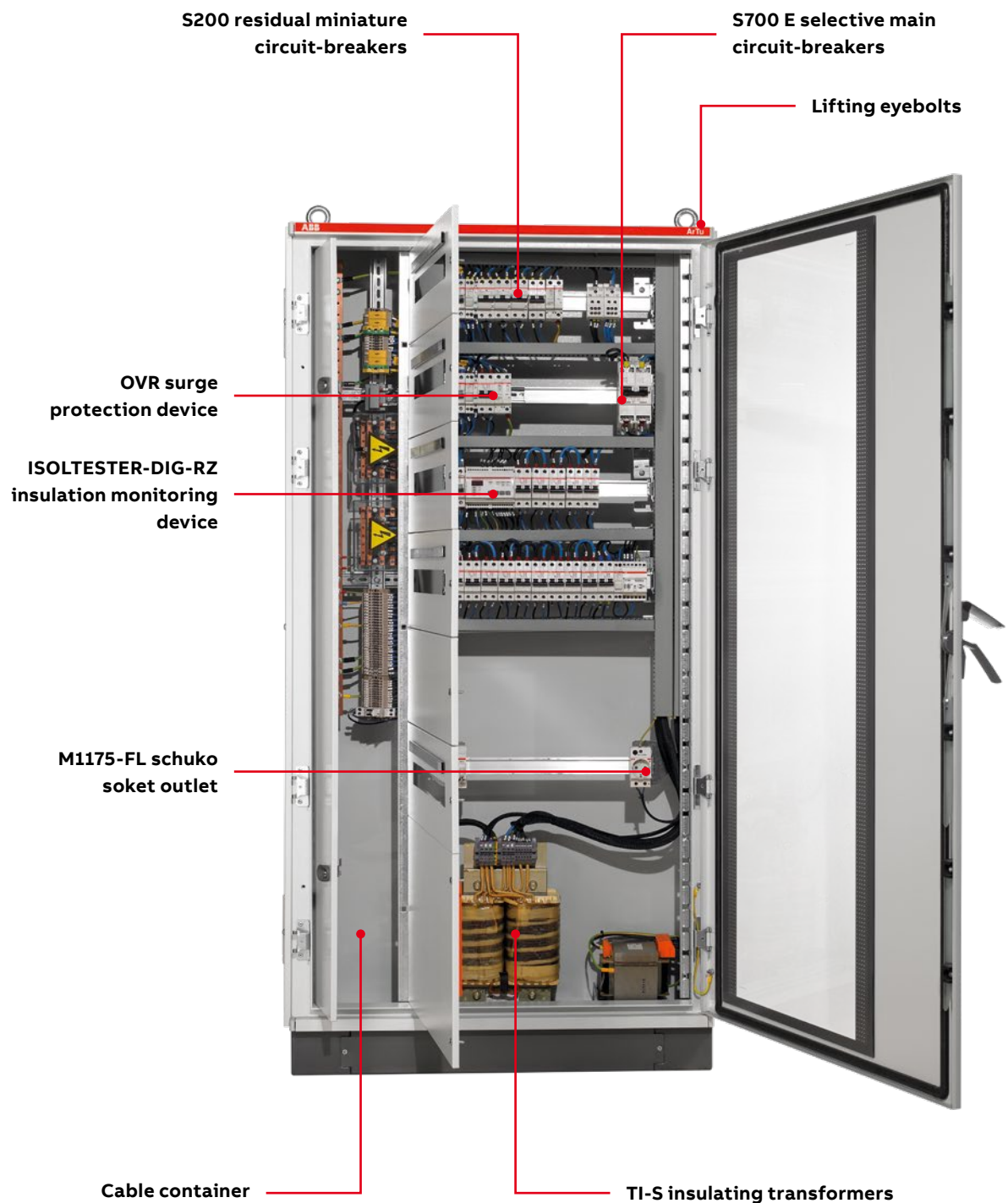
Max. monitored line voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
		Type code	Order code			
100-144 V DC	942603	ISL-A 115	2CSM222000R1500		0.500	1
220 V DC	942702	ISL-A 230	2CSM333000R1500		0.500	1
400-600 V DC	498537	ISL-A 600	2CSM249853R1500		0.500	1

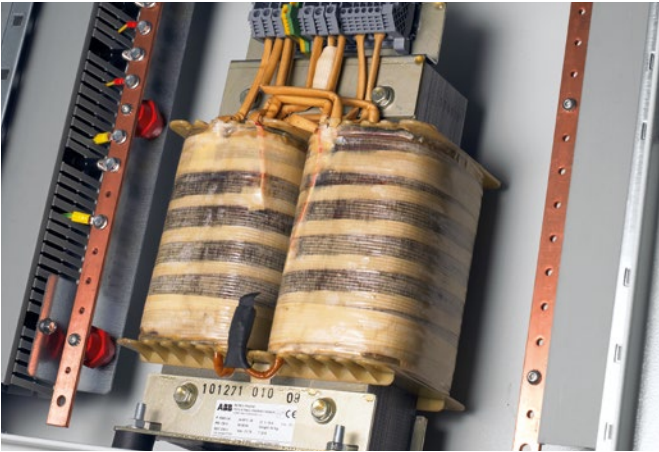
Insulation monitoring devices for AC/DC networks

Monitored line voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
		Type code	Order code			
24-28 V AC/DC	942504	ISL-A 24-48	2CSM111000R1500		0.300	1

H+ Line. Operational continuity

A wide range which ensure safety and reliability in hospital segment



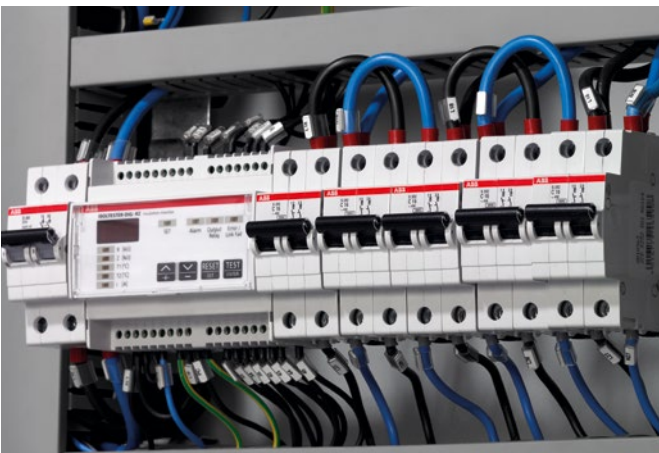


Specifically designed and assembled for medical use according to the IEC EN 61558-2-15, it ensures protection against indirect contacts without the need to interrupt the circuit automatically upon the first grounding fault. Thanks to its two PT100 temperature probes, on primary and secondary winding, it is possible to monitor the transformer over temperature produced by any eventual overload, and therefore anticipating any breakdown. The transformer is mounted on the base of the switchboard in order to ease handling and installation operations.



Artu K series floor standing switchboards are equipped with a cable container that makes installation and wiring easier, both for the electrical systems distributed along the false ceiling, as under the floor. It is possible to reach any terminal block in a comfortable way.

Finally, there is a copper equipotential bonding busbar which may lodge up to 20 additional connections, providing grounding connections to all the external masses which are present in the medical premises, and avoiding the creation of further cascade sub-nodes that are not allowed.



This is an insulation monitoring device for group 2 medical locations fully compliant with the IEC 60364-7-710 reference standard. It integrates all the performances established by the reference standard, such as overload and overcurrent monitoring, together with traditional IT system earthing insulation measurement.



Floor standing QSO switchboards are composed of modular ArTu K series enclosures. The switchboards are equipped with venting grooves that guarantee proper natural convection, useful to dissipate the heat produced by the transformer during its normal functioning.

Protection and safety

H+Line products

Solutions for the hospital sector

ABB's extensive experience in the hospital field is certified by several installations in leading hospitals, which represent the current leading-edge in safety and technology. Over the years, ABB has developed an increasingly more complete product with higher performance to meet the needs of more demanding customers and guarantee patient and operator safety.

H+Line products are specifically designed for group 2 medical environments in full compliance with Standard IEC 60364-7-710, specifically:

- Intensive therapy wards, operating theatres, cardio surgical rooms, ICU...
- Day hospitals, clinics, rest homes, dental and veterinary clinics, etc.






- H like Hospital
- + like health and first aid
- + like the countless advantages of ABB products



Protection and safety

H+Line products

H+Line product range

ISOLTESTER		Insulation monitoring device for IT-M 230 V circuits
SELVTESTER		Insulation monitoring device for SELV 24 V circuits which supply scialitic lamps.
QSD		Remote signalling panel for visual and acoustic fault indication.
TI		Medical insulating transformers for insulated protection systems.
QSO		Wall mounting and floor standing switchboards for medical locations.

Valid assistance for consultants

Everyone knows what the regulations say. ABB tells you what they don't say. The "Practical guide to group 2 medical locations" is designed to be a useful daily tool for consultants and installers to help them in each group 2 hospital electrical system designing and installation. The document was developed together with ABB customers with the intent to support key regulatory questions with practical solutions, considerations and recommendations on system design. This way, the "Practical guide to group 2 medical locations" is a valid tool, with plenty of examples, to support consultants in their daily job.

Protection and safety

ISOLTESTER-DIG insulation monitoring devices



ISOLTESTER-DIG

Technical features

	ISOLTESTER-DIG-RZ	ISOLTESTER-DIG-PLUS/RS
Aux supply	115 - 230 V 50-60Hz	
Power consumption	5 VA max	6 VA max
Rated voltage	24 ÷ 230 V 50-60 Hz	24 ÷ 250 V AC/DC
Measurement current	1 mA max	
Measurement voltage	24 V max	
Control signal	Continuous with digital filter	Composite codified (PLUS only)
Internal impedance	200 kΩ	
Insulation measurement	0 ÷ 999 kΩ resolution 1 kΩ accuracy 5% ± 1 digit	
Impedance measurement	0 ÷ 999 kΩ resolution 1 kΩ	
Temperature measurement	PT100 with 2 or 3 wires, PTC 0 ÷ 200 °C, resolution 1 °C, accuracy 2% ± 1 digit	
Current measurement	CT .../5 A external accuracy 5% ± 1 digit, (adjustable transformation rate 1÷40)	
Capacity measurement	no	0 ÷ 9.9 μF (PLUS only) resolution 0.1 μF (PLUS only)
Thresholds	Resistance: 50 ÷ 500 kΩ Impedance: 50 ÷ 500 kΩ Thermal overload: 30 ÷ 200 °C with PT100 Electrical overload: 1 ÷ 99.9 A	
Signals	incorrect wiring (link fail) open/short circuit for temp sensor PT100 internal error	
Output	QSD supply (max 2 QSD), max 24 V DC Signals to QSD aux relay for low resistance, NO-C-NC 5A 250 V AC -	QSD supply (max 4 QSD), max 24 V DC programmable aux relay, NO-C-NC 5A 250 V AC Serial output RS485, ModbusRTU protocol
Modules	6	
Weight	0.4 kg	0.5 kg
Mechanical features	fire resistant plastic case sealable transparent front cover	
Terminals	screw terminals 2.5 mm ²	
Protection degree	IP20, IP50 when the cover is closed	
Operating temperature	-10 ÷ 60 °C	
Storage temperature	-25 ÷ 70 °C	
Relative humidity	≤ 95 %	
Insulation	2.5 kV 60 sec.	
Reference standards	CEI-EN 61010-1 CEI-EN 61557-8 IEC 60364-7-710 UNE 20615 CEI-EN 61326-1	

Protection and safety

ISOLTESTER-DIG insulation monitoring devices



ISOLTESTER-DIG

Assuring operational continuity in medical environments, even in presence of first earthing fault, it's mandatory in operating theatre group 2 medical locations. For this reason an IT distribution system with insulating transformer is used to supply medical equipment.

ISOLTESTER-DIG

ISOLTESTER range of insulation monitoring device allows IT-M network monitoring, assuring safety for patients and medical personnel avoiding supply interruption in case of first earthing fault according to IEC 60364-7-710 Standard.

The ISOLTESTER-DIG range assures safety to patients and medical personnel, signalling when a fault to earth occurs. Thanks to its innovative technology it is used to sense the insulation level of the network by far more efficiently compared to traditional insulation monitoring devices.

H+Line

Advanced features	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
		EAN	Type code	Order code		
		884507	ISOLTESTER-DIG-RZ	2CSM244000R1501	0.500	1
RS485, Max-Min values, Programmable relay	568339		ISOLTESTER-DIG-RS	2CSM256833R1521	0.500	1
RS485, Max-Min values, Programmable relay, Noise immunization (with codified signal)	884606		ISOLTESTER-DIG-PLUS	2CSM341000R1501	0.500	1

Protection and safety

SELVTESTER insulation monitoring devices for insulated networks at 24 V AC/DC



SELVTESTER

H+Line

Technical features

Network voltage and auxiliary power supply	24 V 50-60 Hz/DC ± 20%
Max power dissipation	3 VA – 3 W
Measurement current	max. 0.5 mA
Internal impedance	50 kohm
Threshold	programmable to 10 ÷ 50 kohm (4 levels using microswitches)
Activation delay	about 1 second
Signals	led ON, led ALARM +, led ALARM -
Output	for up to 2 QSD-230/24-C, max. 24 V 1 A remote panels
Operating temperature	-10 ÷ 60 °C
Storage temperature	-20 ÷ 70 °C
Relative humidity	≤ 95%
Insulation	2.5 kV 60 sec./4 kV imp. 1.2/50µs
Terminal cross-section	4 mm²
Protection degree	IP20, IP40 when the cover is closed
Modules	3
Weight	200 g
Reference standards	IEC 60364-7-710, EN 61326-1, EN 61010-1

SELVTESTER for insulated networks at 24 V AC/DC

It is used to monitor permanently the insulation of safety extremely low voltage circuits (up to 24 V) especially scialitic lamps.

Function	Bbn	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
	8012542	Type code	Order code			
Insulation monitoring	EAN 884705	SELVTESTER-24	2CSM211000R1511		0.250	1

Protection and safety

QSD remote signalling panel



QSD

H+Line

Technical features

Signals	Green LED network ON Red LED overload ALARM Yellow LED insulation ALARM intermittence 2 Hz dB ALARM, acoustic signaller, emission 2400 Hz
Buttons	TEST and MUTE buttons
Terminal cross-section	2.5 mm ²
Protection degree	IP30
Installation type	universal flush mounted box
Weight	200g
Operating temperature	-10 ÷ 60 °C
Storage temperature	-25 ÷ +80 °C
Relative humidity	≤ 95 %
Insulation	2500 Vrms 50 Hz 60 s
Cables cross-section	0.35 mm ² for 300 m
Compatibility	ISOLTESTER-DIG-RZ, ISOLTESTER-DIG-RS, ISOLTESTER-DIG, PLUS, SELVTESTER-24
Reference standards	safety EN 61010-1 product EN 61557-8/IEC 60364-7-710/ UNE 20615 electromagnetic compatibility EN 61326-1

QSD remote signalling panel

They are installed in combination with insulation monitoring devices, to remotely report the signals generated by these devices. They can be installed together with ISOLTESTER-DIG and SELVTESTER-24 and they are compatible also with former versions of insulating monitoring devices. Flush mounting box is already included in the packaging.

Version	Bbn	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
	8012542	EAN	Type code	Order code		
Horizontal	730637	QSD-DIG 230/24	2CSM273063R1521		0.800	1
Vertical	570936	QSD-DIG 230/24 V	2CSM257093R1521		0.800	1

Protection and safety

TI switchboards and devices for medical locations



TI

H+Line

Technical characteristics

		TI 3 TI 3-S	TI 5 TI 5-S	TI 7.5 TI 7.5-S	TI 10 TI 10-S
Power	[kVA]	3	5	7.5	10
Rated frequency	[Hz]	50-60			
Power dissipation	[W]	120	150	260	320
Electrical protection class		1			
Thermal insulation class	[°C]	B 130	B 130	F 155	F 155
Operating temperature	[°C]	max 40			
Primary winding voltage	[V]	230			
Secondary winding voltage	[V]	230			
No load current	[A]	< 0.39	< 0.65	< 0.98	< 1.3
Short circuit voltage drop		<3%			
Inrush current	[A]	< 221	< 369	< 553	< 738
Power loss	[W]	120	150	260	320
Winding separation		double insulation			
Metallic shield		■			
Reference standard		IEC-EN 61558-1, IEC-EN 61558-2-15, IEC-EN 62041			
Dimensions	[mm]	205x340x150	240x380x150	240x380x160	277x380x260

Insulating transformers for medical locations

Permanently connected to an IT power supply system, single-phase medical insulating transformers provide galvanic separation between the distribution network and the user load in accordance with IEC EN 61558-2-15 concerning power supply group 2 medical locations.




Rated output	PT100	Bbn 801254	Order details		Price 1 piece	Weight 1 piece	Pack unit
kVA		EAN	Type code	Order code		kg	pc.
3		2896005	TI 3	2CSM110000R1541		29.5	1
5		2896104	TI 5	2CSM120000R1541		44.0	1
7.5		2896203	TI 7.5	2CSM130000R1541		50.5	1
10		2521204	TI 10	2CSM140000R1541		73.0	1
3	■	2521402	TI 3-S	2CSM210000R1541		29.5	1
5	■	2521501	TI 5-S	2CSM220000R1541		44.0	1
7.5	■	2521600	TI 7.5-S	2CSM230000R1541		50.5	1
10	■	2521709	TI 10-S	2CSM240000R1541		73.0	1

Accessories

	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	EAN	Type code	Order code		kg	pc.
Shock absorber	2557920	AMM	2CSM900000R1541		1	4

Protection and safety

QSO selection table

Series	Type	Power [kVA]	Installation type	IT-M section feeder lines	TN-S section feeder lines	PT100	OVR	Unifix L	I/O KNX	SELV 24 V line
S 	QSO 3S Classic	3	wall mounted	2x10A+5x16A+1x25A	-	■				
	QSO 5S Classic	5	wall mounted	2x10A+5x16A+1x25A	-	■				
	QSO 3S Premium	3	wall mounted	2x10A+5x16A+1x25A	1x10A+2x16A	■				
	QSO 5S Premium	5	wall mounted	2x10A+5x16A+1x25A	1x10A+2x16A	■				
M 	QSO 3M Classic	3	floor standing	3x10A+7x16A	1x10A	■				
	QSO 5M Classic	5	floor standing	3x10A+7x16A	1x10A	■				
	QSO 7.5M Classic	7.5	floor standing	3x10A+7x16A	1x10A	■				
	QSO 3M Premium	3	floor standing	6x10A+8x16A+1x25	1x10A+2x16A	■	■			■
	QSO 5M Premium	5	floor standing	6x10A+8x16A+1x25	1x10A+2x16A	■	■			■
	QSO 7.5M Premium	7.5	floor standing	6x10A+8x16A+1x25	1x10A+2x16A	■	■			■
L 	QSO 10L Classic	10	floor standing	6x10A+9x16A	1x10A+2x16A	■				
	QSO 7.5L Premium	7.5	floor standing	6x10A+11x16A+3x25A+1x32A	1x10A+2x16A	■	■			■
	QSO 10L Premium	10	floor standing	6x10A+11x16A+3x25A+1x32A	1x10A+2x16A	■	■		■	■

Protection and safety

QSO switchboards and components for medical locations



QSO

Technical features				
	QSO wall type		QSO floor type	
Rated operational voltage (Ue)	230 V ~ ± 15%			
Rated frequency	50 - 60 Hz			
Number of phases	1 + N ~/PE			
Rated voltage of auxiliary service circuits	24 - 230 V ~			
Rated insulation voltage (UI)	300 V - *2500 V			
Earthing system	TT/TN-S			
Maximum prospective short circuit current to the input terminals (Icc)	10 kA RMS Sym ***			
Max. altitude	2000 m a.s.l.			
Pollution degree	1 **			
Degree of protection against impacts (IK code) EN 50102 I	K 09 (5 kg - 200mm)			
Degree of relative humidity at temperature °C	50% with max. temp. +40 °C			
Operating temperature	-5 °C - +55 °C			
Storage temperature	-25 °C - +40 °C			
Protection degree EN 60529	QSO 3S Classic	IP 40	QSO 3M Classic	IP 54
	QSO 5S Classic	IP 40	QSO 5M Classic	IP 54
	QSO 3S Premium	IP 40	QSO 5M Premium	IP 54
	QSO 5S Premium	IP 40	QSO 7.5M Premium	IP 54
			QSO 10L Classic	IP 54
			QSO 7.5L Premium	IP 54
			QSO 10L Premium	IP 54

* Dielectric strength test voltage.
** Corresponds to no pollution or only dry and non-conductive pollution.
*** Value conditioned by upstream coordination with NH 00 100A gL-gG fuses

Protection and safety

QSO switchboards and components for medical locations



QSO S



QSO M



QSO L

Electrical switchboard for medical locations

QSO switchboards for operating theatres represent the ideal solution for distribution within group 2 medical locations, in compliance with the requirements of IEC standard 64-8/7-710. Three series are available: S, M and L. Each one can be customized with two layouts. The CLASSIC version contains the instrumentation essential for protection against direct contacts, while the PREMIUM version also has, depending on the type of switchboard, additional devices intended for:

- emergency power cut-off of operating theatre circuits outside of the patient area (lighting, radiology sockets, etc.)
- 24 V SELV line for supplying scialytic lamps
- overvoltage protection
- Unifix L fast-wiring system
- I/O module for managing xon alarms through KNX protocol

ABB provides, for its switchboards for operating theatres, the declaration of conformity required to commission the system, ensuring the installer that the system is built in compliance with technical standards. To ensure the best efficiency of the QSO will be delivered in a new wooden packing.

S series switchboards for medical locations

Applications: surgery clinics, post-op recovery rooms, analysis laboratories, dental offices, veterinary clinics

Power kVA	Installation type	TN-S section feeder lines	IT-M section feeder lines	Bbn 801254 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
					Type code	Order code			
3	wall mounted		2x10A +5x16A +1x25A	2611226	QSO 3S Classic	2CSM261122R1551		73	1
5	wall mounted		2x10A +5x16A +1x25A	2736929	QSO 5S Classic	2CSM273692R1551		87.5	1
3	wall mounted	1x10A +2x16A	2x10A +5x16A +1x25A	2736028	QSO 3S Premium	2CSM273602R1551		75	1
5	wall mounted	1x10A +2x16A	2x10A +5x16A +1x25A	2736820	QSO 5S Premium	2CSM273682R1551		90	1

M series switchboards for medical locations

Applications: Day hospital rooms, medium sized operating theatres, ICU rooms

Power kVA	Installation type	TN-S section feeder lines	IT-M section feeder lines	Bbn 801254 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
					Type code	Order code			
3	floor standing	1x10A	3x10A +7x16A	2735922	QSO 3M Classic	2CSM273592R1551		126	1
5	floor standing	1x10A	3x10A +7x16A	2736721	QSO 5M Classic	2CSM273672R1551		141	1
7.5	floor standing	1x10A	3x10A +7x16A	2735823	QSO 7.5M Classic	2CSM273582R1551		147.5	1
3	floor standing	1x10A +2x16A	6x10A +8x16A +1x25A	2736622	QSO 3M Premium	2CSM273662R1551		127	1
5	floor standing	1x10A +2x16A	6x10A +8x16A +1x25A	2735724	QSO 5M Premium	2CSM273572R1551		142	1
7.5	floor standing	1x10A +2x16A	6x10A +8x16A +1x25A	2736523	QSO 7.5M Premium	2CSM273652R1551		147.5	1

H+Line

Protection and safety

QSO switchboards and components for medical locations

L series switchboards for medical locations
Applications: operating theatres, intensive care rooms, cardiac operating rooms

Power kVA	Instal- lation type	TN-S section feeder lines	IT-M section feeder lines	Bbn 801254 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
					Type code	Order code			
10	floor standing	1x10A +2x16A	6x10A +9x16A	2735625	QSO 10L Classic	2CSM273562R1551		190	1
7.5	floor standing	1x10A +2x16A	6x10A +11x16A +3x25A +1x32A	2736424	QSO 7.5L Premium	2CSM273642R1551		168	1
10	floor standing	1x10A +2x16A	6x10A +11x16A +3x25A +1x32A	2735526	QSO 10L Premium	2CSM273552R1551		193.5	1