

Quick Product List



Surge Protection



ISKRA ZAŠČITE

BE ON THE SAFE SIDE

BE SAFETEC[®] Technology



NO BACK-UP FUSE NEEDED



NO LEAKAGE CURRENT



TOV IMMUNITY



UP TO 20 YEARS WARRANTY



CONTROLLED DISCONNECTION



ISKRA ZAŠČITE

















BE ON THE SAFE SIDE

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Surge Protective Devices for Low Voltage Power Systems

TECHNICAL CHARACTERISTICS







Category IEC/EN/VDE	Description	Product Name	Product Photo	Network Type				U _c (V _{AC})	I _n per pole (8/20) (kA)	I _{max} per pole (8/20) (kA)	U _{oc} /I _{sc} per pole (1.2/50, 8/20) (kV/kA)	I _{imp} per pole (10/350) (kA)	Back-up fuse	Remote signalization of failure	Housing IP 20 Dimensions DIN 43880	
				TN-C	TN-S	TT	IT									
Class I, II Type 1, 2 B+C 	SINGLE-POLE Surge Protective Devices I _{imp} : up to 50kA (10/350)	SAFETEC BS(R) 50	 NEW	✓	✓	✓**	✓	150, 275, 440 *	25	100	/	50	/	✓	Compact 4TE	
		SAFETEC BS(R) 25	 NEW	✓	✓	✓**	✓	150, 275, 440 *	25	100	/	25	/	✓	Compact 2TE	
		SAFETUBE BS 100	 NEW			✓		255	100	100	/	100	/		Compact 2TE	
	SINGLE-POLE N-PE Surge Protective Devices I _{imp} : up to 100kA (10/350)	SAFETUBE BS 50	 NEW			✓		255	50	100	/	50	/		Compact 2TE	
Class I, II Type 1, 2 B+C 	MULTI-POLE Single-phase Surge Protective Devices I _{imp} : 25kA per pole (10/350)	SAFEBLOC BS(R) 50 (2+0)	 NEW		✓			150, 275, 440 *	25	100	/	25	/	✓	Compact 4TE	
		SAFEBLOC BS(R) 50 (1+1)	 NEW			✓		150, 275, 440 * (L-N) 255 (N-PE)	25/50 (L-N/N-PE)	100/100 (L-N/N-PE)	/	25/50 (L-N/N-PE)	/	✓	Compact 3TE	
	MULTI-POLE Three-phase Surge Protective Devices I _{imp} : 25kA per pole (10/350)	SAFEBLOC BS(R) 75 (3+0)	 NEW	✓				150, 275, 440 *	25	100	/	25	/	✓	Compact 8TE	
		SAFEBLOC BS(R) 100 (4+0)	 NEW		✓			150, 275, 440 *	25	100	/	25	/	✓	Compact 8TE	
		SAFEBLOC BS(R) 100 (3+1)	 NEW			✓		150, 275, 440 * (L-N) 255 (N-PE)	25/100 (L-N/N-PE)	100/100 (L-N/N-PE)	/	25/100 (L-N/N-PE)	/	✓	Compact 8TE	
	MULTI-POLE Single-phase Surge Protective Devices I _{imp} : 12.5kA per pole (10/350)	SAFEBLOC BS(R) 25 (2+0)	 NEW		✓			150, 275, 440 *	20	50	/	12.5	/	✓	Compact 2TE	
		SAFEBLOC BS(R) 25 (1+1)	 NEW			✓		150, 275, 440 * (L-N) 255 (N-PE)	20/50 (L-N/N-PE)	50/100 (L-N/N-PE)	/	12.5/50 (L-N/N-PE)	/	✓	Compact 2TE	
		MULTI-POLE Three-phase Surge Protective Devices I _{imp} : 12.5kA per pole (10/350)	SAFEBLOC BS(R) 37.5 (3+0)	 NEW	✓				150, 275, 440 *	20	50	/	12.5	/	✓	Compact 3TE
			SAFEBLOC BS(R) 50 (4+0)	 NEW		✓			150, 275,440 *	20	50	/	12.5	/	✓	Compact 4TE
			SAFEBLOC BS(R) 50 (3+1)	 NEW			✓		150, 275, 440 * (L-N) 255 (N-PE)	20/50 (L-N/N-PE)	50/100 (L-N/N-PE)	/	12.5/50 (L-N/N-PE)	/	✓	Compact 4TE

* Other values on customer request

** For L-N protection mode in TT system

Surge Protective Devices for Low Voltage Power Systems

TECHNICAL CHARACTERISTICS





















Category IEC/EN/VDE	Description	Product Name	Product Photo	Network Type				U _c (V _{AC})	I _n per pole (8/20) (kA)	I _{max} per pole (8/20) (kA)	U _{oc} /I _{sc} per pole (1.2/50, 8/20) (kV/kA)	I _{imp} per pole (10/350) (kA)	Back-up fuse	Remote signalization of failure	Housing IP 20 Dimensions DIN 43880
				TN-C	TN-S	TT	IT								
Class I, II Type 1, 2 B+C	SINGLE-POLE Surge Protective Devices I _{imp} : up to 50kA (10/350)	PROTEC BS(R) 50		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	25	100	/	50	500 A gL	✓	Compact 2TE, 4TE
		PROTEC BS(R) 35		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	25	100	/	35	315 A gL	✓	Compact 2TE, 3TE
		PROTEC BS(R) 25		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	25	100	/	25	250 A gL	✓	Compact 2TE
		PROTEC B2N(R) 12.5		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	20	50	/	12.5	160 A gL	✓	Compact 1TE
	SINGLE-POLE N-PE Surge Protective Devices I _{imp} : up to 100kA (10/350)	PROTUBE BS 100, 50				✓		255	100, 50	100, 100	/	100, 50	/		Compact 2TE
		PROTUBE B2N(R) 50				✓		255	50	100	/	50	/	✓	Compact 1TE
Class I, II, III Type 1, 2, 3 B+C+D	MULTI-POLE Single-phase Surge Protective Devices I _{imp} : up to 50kA per pole (10/350)	PROBLOC BS(R) 100 (1+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	25/100 (L-N/N-PE)	100/100 (L-N/N-PE)	/	50/100 (L-N/N-PE)	250 A gL	✓	Compact 4TE, 8TE
		PROBLOC BS(R) 50 (2+0)			✓			150, 275, 320, 385, 440 *	25	100	/	25	250 A gL	✓	Compact 2TE, 4TE
		PROBLOC BS(R) 50 (1+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	25/50 (L-N/N-PE)	100/100 (L-N/N-PE)	/	25/50 (L-N/N-PE)	250 A gL	✓	Compact 3TE
	MULTI-POLE Three-phase Surge Protective Devices I _{imp} : 25kA per pole (10/350)	PROBLOC BS(R) 75 (3+0)		✓				150, 275, 320, 385, 440 *	25	100	10/5	25	250 A gL	✓	Compact 3TE, 8TE
		PROBLOC BS(R) 100 (4+0)			✓			150, 275, 320, 385, 440 *	25	100	10/5	25	250 A gL	✓	Compact 4TE, 8TE
		PROBLOC BS(R) 100 (3+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	25/100 (L-N/N-PE)	100/100 (L-N/N-PE)	10/5	25/100 (L-N/N-PE)	250 A gL	✓	Compact 5TE, 8TE
	MULTI-POLE Single-phase Surge Protective Devices I _{imp} : 12.5kA per pole (10/350)	PROBLOC BS(R) 25 (2+0)			✓			150, 275, 320, 385, 440 *	20	50	/	12.5	250 A gL	✓	Compact 2TE
		PROBLOC BS(R) 25 (1+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	20/50 (L-N/N-PE)	50/100 (L-N/N-PE)	/	12.5/50 (L-N/N-PE)	250 A gL	✓	Compact 2TE
	MULTI-POLE Three-phase Surge Protective Devices I _{imp} : 12.5kA per pole (10/350)	PROBLOC BS(R) 37.5 (3+0)		✓				150, 275, 320, 385, 440 *	20	50	10/5	12.5	250 A gL	✓	Compact 3TE
PROBLOC BS(R) 50 (4+0)				✓			150, 275, 320, 385, 440 *	20	50	10/5	12.5	250 A gL	✓	Compact 4TE	
PROBLOC BS(R) 50 (3+1)					✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	20/50 (L-N/N-PE)	50/100 (L-N/N-PE)	10/5	12.5/50 (L-N/N-PE)	250 A gL	✓	Compact 4TE	

* Other values on customer request

** For L-N protection mode in TT system

Surge Protective Devices for Low Voltage Power Systems

TECHNICAL CHARACTERISTICS

Category IEC/EN/VDE	Description	Product Name	Product Photo	Network Type				U _c (V _{AC})	I _n per pole (8/20) (kA)	I _{max} per pole (8/20) (kA)	U _{oc} /I _{sc} per pole (1.2/50, 8/20) (kV/kA)	I _{imp} per pole (10/350) (kA)	Back-up fuse	Remote signalization of failure	Housing IP 20 Dimensions DIN 43880
				TN-C	TN-S	TT	IT								
Class I, II, III Type 1, 2, 3 B+C+D	SINGLE-POLE Surge Protective Devices I _{imp} : 12.5kA per pole (10/350)	PROTEC B2S(R) 12.5		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	25	60	10/5	12.5	160 A gL	✓	Modular 1TE
	MULTI-POLE Single-phase Surge Protective Devices I _{imp} : 12.5kA per pole (10/350)	PROTEC B2S(R) 25 (2+0)			✓			150, 275, 320, 385, 440 *	25	60	10/5	12.5	160 A gL	✓	Modular 2TE
		PROTEC B2S(R) 25 (1+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	25/30 (L-N/N-PE)	60/50 (L-N/N-PE)	10/5	12.5/50 (L-N/N-PE)	160 A gL	✓	Modular 2TE
	MULTI-POLE Three-phase Surge Protective Devices I _{imp} : 12.5kA per pole (10/350)	PROTEC B2S(R) 37,5 (3+0)		✓				150, 275, 320, 385, 440 *	25	60	10/5	12.5	160 A gL	✓	Modular 3TE
		PROTEC B2S(R) 50 (4+0)			✓			150, 275, 320, 385, 440 *	25	60	10/5	12,5	160 A gL	✓	Modular 4TE
		PROTEC B2S(R) 50 (3+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	25/30 (L-N/N-PE)	60/50 (L-N/N-PE)	10/5	12.5/50 (L-N/N-PE)	160 A gL	✓	Modular 4TE
Class II Type 2 C 	SINGLE-POLE Surge Protective Devices I _{max} : 40kA(8/20)	SAFETEC C(R) 40		✓	✓	✓**	✓	150, 275, 440 *	20	40	/	/	/	✓	Modular 1TE
	MULTI-POLE Single-phase Surge Protective Devices I _{max} : 40kA per pole (8/20)	SAFETEC C(R) 80 (2+0)			✓			150, 275, 440 *	20	40	/	/	/	✓	Modular 2TE
		SAFETEC C(R) 80 (1+1)				✓		150, 275, 440 * (L-N) 255 (N-PE)	20/20 (L-N/N-PE)	40/40 (L-N/N-PE)	/	/	/	✓	Modular 2TE
	MULTI-POLE Three-phase Surge Protective Devices I _{max} : 40kA per pole (8/20)	SAFETEC C(R) 120 (3+0)		✓				150, 275, 440 *	20	40	/	/	/	✓	Modular 3TE
		SAFETEC C(R) 160 (4+0)			✓			150, 275, 440 *	20	40	/	/	/	✓	Modular 4TE
		SAFETEC C(R) 160 (3+1)				✓		150, 275, 440 * (L-N) 255 (N-PE)	20/20 (L-N/N-PE)	40/40 (L-N/N-PE)	/	/	/	✓	Modular 4TE
Class II Type 2 C	SINGLE-POLE Surge Protective Devices I _{max} : 40kA(8/20)	PROTEC C(R) 40		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	20	40	/	/	125 A gL	✓	Modular 1TE
	SINGLE-POLE N-PE Surge Protective Devices I _{max} : 40kA (8/20)	PROTUBE C 40				✓		255	20	40	/	/	/		Modular 1TE
	MULTI-POLE Single-phase Surge Protective Devices I _{max} : 40kA per pole (8/20)	PROTEC C(R) 80 (2+0)			✓			150, 275, 320, 385, 440 *	20	40	/	/	125 A gL	✓	Modular 2TE
		PROTEC C(R) 80 (1+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	20/20 (L-N/N-PE)	40/40 (L-N/N-PE)	/	/	125 A gL	✓	Modular 2TE
	MULTI-POLE Three-phase Surge Protective Devices I _{max} : 40kA per pole (8/20)	PROTEC C(R) 120 (3+0)		✓				150, 275, 320, 385, 440 *	20	40	/	/	125 A gL	✓	Modular 3TE
		PROTEC C(R) 160 (4+0)			✓			150, 275, 320, 385, 440 *	20	40	/	/	125 A gL	✓	Modular 4TE
		PROTEC C(R) 160 (3+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	20/20 (L-N/N-PE)	40/40 (L-N/N-PE)	/	/	125 A gL	✓	Modular 4TE

* Other values on customer request

** For L-N protection mode in TT system

Surge Protective Devices for Low Voltage Power Systems

TECHNICAL CHARACTERISTICS



Category IEC/EN/VDE	Description	Product Name	Product Photo	Network Type				U _c (V _{AC})	I _n per pole (8/20) (kA)	I _{max} per pole (8/20) (kA)	U _{oc} /I _{sc} per pole (1.2/50, 8/20) (kV/kA)	I _{imp} per pole (10/350) (kA)	Back-up fuse	Remote signalization of failure	Housing IP 20 Dimensions DIN 43880
				TN-C	TN-S	TT	IT								
Class II Type 2 C	SINGLE-POLE Surge Protective Devices I _{max} : up to 40kA (8/20)	PROTEC C(R) 20		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	10	20	/	/	100 A gL	✓	Modular 1TE
		PROTEC CN(R) 40		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	20	40	/	/	125 A gL	✓	Compact 1TE
		PROTEC CN(R) 20		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	10	20	/	/	100 A gL	✓	Compact 1TE
		PROTUBE CN 40				✓		255	20	40	/	/	/		Compact 1TE
	MULTI-POLE Single-phase Surge Protective Devices I _{max} : 40kA per pole (8/20)	PROTEC CM(R) 80 (2+0)			✓			150, 275, 320, 385, 440 *	15	40	/	/	100 A gL	✓	Modular 1TE
		PROTEC CM(R) 80 (1+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	15/20 (L-N/N-PE)	40	/	/	100 A gL	✓	Modular 1TE
		PROTEC CM(R) 80A (1+1)				✓		150, 275, 320, 385, 440 * (L-N) 255 (N-PE)	15/20 (L-N/N-PE)	40	/	/	100 A gL	✓	Modular 1TE
	SINGLE-POLE Single-phase Surge Protective Devices I _{max} : up to 40kA (8/20)	PROTEC CG(R) 40		✓	✓	✓	✓	150, 275, 385	20	40	/	/	125 A gL	✓	Modular 1TE
		PROTEC CG(R) 20		✓	✓	✓	✓	150, 275, 385	10	20	/	/	125 A gL	✓	Modular 1TE
		PROTEC CMG(R) 40 (2+0)			✓	✓	✓	150, 275	10 (L/N-PE, L/N)	20 (L/N-PE, L/N)	/	/	125 A gL	✓	Modular 1TE
Class III Type 3 D	SINGLE & MULTI-POLE Surge Protective Devices U _{oc} /I _{sc} : up to 10kV/5kA (1.2/50, 8/20)	PROTEC D(R) 10		✓	✓	✓**	✓	150, 275, 320, 385, 440 *	/	10	10/5	/	63 A gL	✓	Modular 1TE
		PROTEC DM(R) 20 (2+0)		✓	✓		✓	150, 275, 320, 385, 440 *	/	10	10/5	/	63 A gL	✓	Modular 1TE
		PROTEC DMG(R) 20 (2+0)		✓	✓		✓	320	/	10	10/5	/	63 A gL	✓	Modular 1TE
	Cable ducts	MPE-ZE50			✓	✓	✓	320	/	5	5/2.5	/	35 A gL	LED	
	Cable ducts, wiring socket	MPE-MINI			✓	✓	✓	275	/	/	6/3	/	16 A gL	Buzzer	Compact
	Power socket	ZE 200 PS			✓	✓	✓	275	/	/	6/3	/	16 A gL	Green and red light	Compact
	PCB	VTC 10		✓	✓		✓	150, 275, 320, 440	/	10	10/5	/	/	Disconnecter	

* Other values on customer request

** For L-N protection mode in TT system

Surge Protective Devices for Low Voltage Power Systems





TECHNICAL CHARACTERISTICS

Category IEC/EN/VDE	Description	Product Name	Product Photo	Network Type				U _c (V _{AC})	U _n (V)	I _L (A)	U _{oc} /I _{sc} (1.2/50, 8/20) (kV/kA)	Thermal protection	Remote signalization of failure	Housing IP 20 Dimensions DIN 43880
				TN-C	TN-S	TT	IT							
Class III Type 3 C	MULTI-POLE Surge Protective Devices with Filter	PROFILT D 10A, 16A, 25A, 30A			✓	✓	✓	275/50 (60)Hz	230/50 (60)Hz	10, 16, 25, 30	6/3	✓	Red light	Compact 4TE
		PROFILT D 8A			✓	✓		275/50 (60)Hz	230/50 (60)Hz	8	6/3	✓	Red light	Compact 2TE

Surge Protective Devices for DC Power Supplies (See page 18, Surge Protective Devices for Data / Signal Systems)



Surge Protective Devices for Overhead Power Lines

TECHNICAL CHARACTERISTICS

Category IEC/EN/VDE	Description	Product Name	Product Photo	Network Type				U _c (V _{AC})	I _n per pole (8/20) (kA)	I _{max} per pole (8/20) (kA)	U _{oc} /I _{sc} per pole (1.2/50, 8/20) (kV/kA)	I _{imp} per pole (10/350) (kA)	Remote signalization of failure	Housing
				TN-C	TN-S	TT	IT							
Class II Type 2 A	SINGLE-POLE Surge Protective Devices for Overhead Power Lines I _{max} : up to 40kA (10/350)	PROTEC AQ 40		✓	✓		✓	150, 275, 320, 385, 440 *	20	40	/	/	✓	Compact IP20
		PROTEC AQS 40		✓	✓		✓	150, 275, 320, 440 *	20	40	/	/	✓	Compact IP67
		PROTEC A 30		✓	✓		✓	150, 275, 320, 385, 440 *	15	30	/	/	✓	Compact IP20
		PROTEC AQ 25		✓	✓		✓	150, 275, 320, 385, 440 *	10	25	/	/	✓	Compact IP20

Isolating Spark Gap (ISG) for Equipotential Bonding











TECHNICAL CHARACTERISTICS

Category IEC/EN/VDE	Description	Product Name	Product Photo	Applications	U _{sdcn} (100 V/s) (V)	U _{si} (1kV/μs) (V)	I _{max} (8/20) (kA)	Capacitance (pF)	Resistance (GΩ)	Housing
	• Isolation Spark Gaps • Equipotential bonding • I _{max} = 100kA	EPZ 100		- Lightning potential bonding - Petrochemical industry	350, 500	1000	1000	< 10	1	IP67
	Ex nC IIC IECEX BAS07. 0021U II 3G Baseefa 07ATEX0107U - 30°C < Ta < 70°C, IP 67	EPZ 10 Ex			350, 500	1000	1000	< 10	1	IP67

* Other values on customer request




Surge Protective Devices for Photovoltaic Systems

TECHNICAL CHARACTERISTICS




Category IEC/EN/VDE	Description	Product Name	Product Photo	U_{CPV} (V _{DC})	I_{scWPV} (A)	I_n (+) - PE/(-) - PE (kA) (8/20)	I_{max} (+) - PE/(-) - PE (kA) (8/20)	I_{imp} per pole (kA) (10/350)	TOV withstand for unlimited time	Back-up fuse	Remote signalization of failure	Housing IP 20 Dimensions DIN 43880
Class I, II Type 1, 2 B+C	MULTI-POLE SPD for PV Systems I_{imp} : 12.5kA per pole (10/350)	SAFETEC BS(R) 12.5 PV  		600, 1000, 1500	1000	20	40	12.5	1.5 x U_{CPV}	/	✓	Compact 4TE
		PV PROTEC BS(R) 12.5		550, 1000	/	20	40	12.5	/	/	✓	Compact 4TE
Class II Type 2 C	MULTI-POLE SPD for PV Systems I_{max} : 40kA per pole (8/20)	SAFETEC C(R) PV 		75, 300, 600, 1000	1000	10, 20, 20, 20	20, 40, 40, 40	/	1.5 x U_{CPV}	/	✓	Modular 2TE
		SAFETEC C(R) Y PV 		1000, 1200, 1500	1000	20, 20, 20	40, 40, 40	/	1.5 x U_{CPV}	/	✓	Modular 3TE
		PV PROTEC C(R) 40		100, 550	/	20, 20	40, 40	/	/	/	✓	Modular 2TE
		PV PROTEC C(R) 40		1000	/	20	40	/	/	/	✓	Modular 3TE

Surge Protective Devices for Wind Turbine Systems

TECHNICAL CHARACTERISTICS
















Category IEC/EN/VDE	Description	Product Name	Product Photo	U_C (V _{AC})	I_n (kA) (8/20)	I_{max} per pole (kA) (8/20)	I_{imp} per pole (kA) (10/350)	TOV withstand for unlimited time	Back-up fuse	Remote signalization of failure	Housing IP 20 Dimensions DIN 43880
Class I Type 1 B	SINGLE-POLE SPD for WT Systems I_{imp} : up to 25kA (10/350)	SAFETEC BS(R) 25 WT  		440, 600, 690, 750	40	80	25	1.5 x U_C	/	✓	Compact 4TE
		SAFETEC BS(R) 12.5 WT 		440, 600, 690, 750	20	40	12.5	1.5 x U_C	/	✓	Compact 2TE
		WT PROTEC BS(R) 25		440, 600, 690, 750	40	80	25	/	250	✓	Compact 4TE
		WT PROTEC BS(R) 12.5		440, 600, 690, 750	20	40	12.5	/	250	✓	Compact 2TE
Class II Type 2 C	MULTI-POLE SPD for WT Systems I_{max} : 25kA per pole (8/20)	SAFETEC C(R) 750 (3+0) WT 		440, 600, 690, 750	12.5/37.5 (L-PEN/L1+L2+L3-PEN)	25/75 (L-PEN/L1+L2+L3-PEN)	/	1.5 x U_C	/	✓	Modular 3TE











Surge Protective Devices for Low Voltage Power Systems

Description	Product Name	Product Photo	Network Type		Phases	U _c (V _{AC})	I _L (A)	I _n per pole (8/20) (kA)	I _{max} per pole (8/20) (kA)	U _{oc} /I _{sc} (1.2/50, 8/20) (kV/kA)	I _{imp} per pole (10/350) (kA)	Surge filter	Box dimensions (W x H x D - mm)	Housing material/ Degree of protection	
			TN-C	TN-S											TT
Class I, II Type 1, 2 B+C <ul style="list-style-type: none"> Surge Protection for advanced applications in electronic technology Ideal for primary service protection applications High surge current rating Efficient low-pass filtering Reduced let-through voltage Reduced dv/dt 	PROFILT PSF 3/40/xxxTT 50kA			✓	✓	3	320, 385	40	50	150	/	50	✓	40 x 50 x 21	Steel IP 65
	PROFILT PSF 3/63/xxxTT 50kA			✓	✓	3	320, 385	63	50	150	/	50	✓	40 x 50 x 21	Steel IP 65
	PROFILT PSF 1/40/xxxTT 50kA			✓	✓	1	320, 385	40	50	150	/	50	✓	40 x 30 x 15.5	Steel IP 65
	PROFILT PSF 1/63/xxxTT 50kA			✓	✓	1	320, 385	63	50	150	/	50	✓	40 x 30 x 15.5	Steel IP 65
	PROFILT PSF 3/40/xxxTT 25kA			✓	✓	3	320, 385	40	25	100	/	25	✓	40 x 50 x 21	Steel IP 65
	PROFILT PSF 3/63/xxxTT 25kA			✓	✓	3	320, 385	63	25	100	/	25	✓	40 x 50 x 21	Steel IP 65
	PROFILT PSF 1/40/xxxTT 25kA			✓	✓	1	320, 385	40	25	100	/	25	✓	40 x 30 x 15.5	Steel IP 65
	PROFILT PSF 1/63/xxxTT 25kA			✓	✓	1	320, 385	63	25	100	/	25	✓	40 x 30 x 15.5	Steel IP 65
Class II Type 2 C <ul style="list-style-type: none"> Surge protection in moisture and water-resistant enclosures 	PBS-C80 (2+0)-F16			✓		1	320	16	20	40	/	/	/	9.8 x 24.8 x 11.4	Tech. polymer IP 65
	PBS-C80 (1+1)-F16					✓	1	320	16	20/20 (L-N/N-PE)	40/40 (L-N/N-PE)	/	/	/	9.8 x 24.8 x 11.4
Class III Type 3 D <ul style="list-style-type: none"> Surge protection in moisture and water-resistant enclosures 	PBS-D10 (2+0)-F16			✓		1	320	16	/	/	10/5	/	/	9.8 x 24.8 x 11.4	Tech. polymer IP 65
Class II Type 2 C <ul style="list-style-type: none"> Surge protection in moisture and water-resistant enclosures 	PBL-C160 (4+0)-F16			✓		3	320	16	20	40	/	/	/	34 x 33.5 x 17.5	Tech. polymer IP 44
	PBL-C160 (3+1)-F16					✓	3	320	16	20/20 (L-N/N-PE)	40/40 (L-N/N-PE)	/	/	/	34 x 33.5 x 17.5
Class III Type 3 D <ul style="list-style-type: none"> Surge protection in moisture and water-resistant enclosures 	PBL-D40 (4+0)-F16			✓		3	320	16	/	/	10/5	/	/	34 x 33.5 x 17.5	Tech. polymer IP 44
Class II Type 2 C <ul style="list-style-type: none"> Surge protection in moisture and water-resistant enclosures 	PBL-C160 (4+0)-F16			✓		3	320	/	20	40	/	/	/	14.3 x 21 x 10	Tech. polymer IP 65
	PBL-C160 (3+1)-F16					✓	3	320	/	20/20 (L-N/N-PE)	40/40 (L-N/N-PE)	/	/	/	14.3 x 21 x 10
Class III Type 3 D <ul style="list-style-type: none"> Surge protection in moisture and water-resistant enclosures 	PBL-D40 (4+0)-F16			✓		3	320	/	/	/	10/5	/	/	14.3 x 21 x 10	Tech. polymer IP 65

Surge Protective Devices for Data / Signal Systems


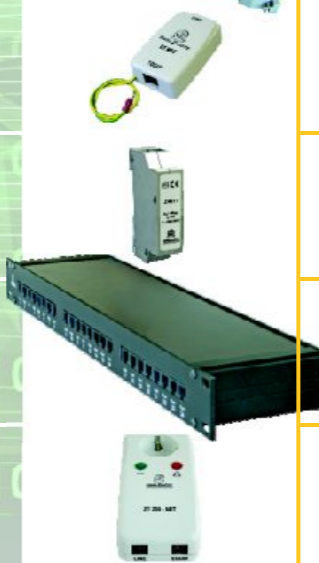

TECHNICAL CHARACTERISTICS

Product Group	Description	Product Name	Product Photo	Connection/Signal	U_n (V _{DC})	U_c (V _{DC})	I_L at 25°C (A)	I_n (8/20) (kA)	I_{max} (8/20) (kA)	Housing IP 20 Dimensions DIN 43880
Data/Signal Lines	• Single-pair SPD • Coarse and Fine Protection • Over-current Protection	SMH-SH	 NEW	- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	10	20	Modular 12mm
	• Single-pair SPD • Coarse and Fine Protection • Over-current Protection	SMH-RC	 NEW	- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	10	20	Modular 12mm
	• Single-pair SPD; 2-pair SPD • Coarse and Fine Protection	SMI, SMI2	 NEW	- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	20	30	Modular 12mm
	• Single-pair SPD • Coarse and Fine Protection • Over-current Protection	SMH-TC		- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	10	20	Modular 12mm
	• 2-pair SPD • Coarse and Fine Protection • Over-current Protection	SMH2-TC		- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	10	20	Modular 12mm
	• Single-pair SPD • Coarse and Fine Protection	NMH-TC		- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	10	20	Compact 12mm
	• 2-pair SPD • Coarse and Fine Protection	NMH2-TC		- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	0.8	10	20	Compact 12mm
	• Single-pair SPD, 2-pair SPD • Coarse and Fine Protection • Over-current Protection	IM-TD		- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	0.145, 1	10	20	Modular 1TE
	• Single-pair SPD • Coarse and Fine Protection	IMH-TC		- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	10	20	Modular 1TE
	• Single-pair SPD • Coarse and Fine Protection • Insulation Resistance to Earth	SMH-SG		- Analogue tel. line - RS 232, - RS 485 - Thermal probe PT 100	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	10	20	Modular 12mm
	• Single-pair SPD • Coarse and Fine Protection • Insulation Resistance to Earth	VMS-TC		- Analogue tel. line - RS 485 - Thermal probe PT 100	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	10	20	Modular 1TE
	• Single-pair SPD • Coarse and Fine Protection	VMO		- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	5, 12, 15, 24, 30, 48, 60, 110	6, 15, 18, 28, 33, 52, 64, 170	1	20	30	Modular 1TE
	• Single-pair SPD • Coarse Protection Only • Coordination Elements	SMH-TDR		- Analogue tel. line	110	170	0.3	10	20	Modular 12mm
	• 2-pair SPD • Coarse Protection only • Coordination Elements	SMH2-TDR		- Analogue tel. Line	110	170	0.3	10	20	Modular 12mm
	• Single-pair SPD • Coarse Protection only • Coordination Elements	VM-TDR		- Analogue tel. Line	110	170	0.3	10	20	Modular 1TE





Product Group	Description	Product Name	Product Photo	Connection/Signal	U _n (V _{DC})	U _c (V _{DC})	I _L at 25°C (A)	I _n (8/20) (kA)	I _{max} (8/20) (kA)	Housing IP 20 Dimensions DIN 43880	
Data/Signal Lines	• Single-pair SPD • Fine Protection only	SMH2-DF	 NEW	- 20 mA current loop	5, 12, 24, 60	7, 15, 28, 64	1	0.5	1	Modular 12mm	
	• Single-pair SPD • Fine Protection only	IM-VF		- 20 mA current loop	24	31	10	0.5	1	Compact 6mm	
	• Single-pair SPD • Fine Protection only	IM-DF		- 20 mA current loop	5, 12, 24, 60	7, 15, 28, 64	10	0.5, 0.5, 0.25, 0.1	/	Compact 6mm	
	• Single-pair SPD • Coarse and Fine Protection • Increased Sparkover Voltage • Overcurrent Protection	SMH-20K			- Analogue tel. Line - 20 mA current loop - Thermal probe PT 100	230	320	5	10	20	Modular 12mm
		SMH-20D			24, 60	28, 64	0.145	10	20	20	
	• 2-pair SPD • Coarse and Fine Protection • Increased Sparkover Voltage • Overcurrent Protection	SMH2-20K			- Analogue tel. Line - 20 mA current loop - Thermal probe PT 100	230	320	5	10	20	Modular 12mm
		SMH2-20D				24, 60	28, 64	0.145	10	20	20
	• SPD for DC power supplies and data lines • Coarse and Fine Protection	SMH-TC+PS			- DC power supply + 1 data line - CAN bus	24	28	1	10	20	Modular 12mm
• Single-pair SPD, PCB assembly • Coarse and Fine Protection • Over-current Protection	LZ-SMH		- 20 mA current loop - Analogue tel. line - RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100, - TTL	12, 24	15, 28	1	10	20	/		
xDSL Technologies	• Single-pair SPD • For xDSL Transmission • Coarse and Fine Protection	IM-xDSL		- Analogue tel. line - xDSL (VDSL class 1 only)	120	170	0.2	10	20	Modular 1TE	
DC Power Supplies	• Single-pair SPD • For DC Power Supplies • Coarse and Fine Protection	SMH-PS		- DC power system	12, 24, 48	15, 28, 52	4	10	20	Modular 12mm	
	• Single-pair SPD • For DC Power Supplies • Coarse and Fine Protection	VM-DC		- DC power system	12, 24	15, 28	10	10	20	Modular 1TE	
	• SPD for DC Power Supplies • Class I/Type 1/B • I _{imp} = 10kA • Mechanical Flag + Remote Contacts (R)	DC PROTEC B(R) 10			- DC power system	24, 48	30, 60	/	20	60	Compact 4TE
		DC PROTEC C(R) 40			- DC power system	24, 48	30, 60	/	20	40	Compact 2TE
	• DC and AC Power Supplies • Class III / Type 3 / D • U _{OC} /I _{SC} (1.2/50, 8/20)= 4kV/2kA, 6kV/3kA • Remote contacts + LED	PROTEC DMDR 20			- DC and AC power system	24, 48, 60, 120	34/44, 60, 75, 150V _{AC} /DC	/	1.2, 2.5, 2.5, 4	3, 6, 6, 10	Modular 1TE
	• Single-pole SPD • Class II/Type 2/C • Mechanical Flag + Remote Contacts (R)	PROTEC C(R) 40			- DC and AC power system	/	75/100V _{AC} /DC	/	20	40	Modular 1TE
	• Single-pole SPD • Class II/Type 2/C • Mechanical Flag + Remote Contacts (R)	PROTEC CN(R) 40			- DC and AC power system	/	75/100V _{AC} /DC	/	20	40	Compact 1TE

Surge Protective Devices for Data / Signal Systems

TECHNICAL CHARACTERISTICS


















Product Group	Description	Product Name	Product Photo	Connection/Signal	U_n (V _{DC})	U_c (V _{DC})	I_L at 25°C (A)	I_n (8/20) (kA)	I_{max} (8/20) (kA)	Housing IP 20 Dimensions DIN 43880
Data Protocol	<ul style="list-style-type: none"> 4-wire SPD (2 lines) Coarse and Fine Protection 	VM-RS		- RS 422 - V.11 - RS 485	5	6	0.5	20	/	Compact 2TE
	<ul style="list-style-type: none"> D-SUB, 9-pole SPD All Pins Protected 	IM-DB 9		- RS 232	12	15	/	0.1 (line-line)	0.2 (line-line)	Compact
	<ul style="list-style-type: none"> D-SUB, 15-pole SPD Coarse and Fine Protection 	IM-DB 15RS		- RS 422 - V.11 - X.21	5	6	0.5	20	/	Compact
Local Area Networks	<ul style="list-style-type: none"> LAN Protector (1 way) All 4 Pairs Protected Freq. < 100MHz, Cat. 5 Capable Termination: RJ45, Cat. 5 Connectors 	LZ-NET LZ-NET PoE LZ-NET STP		- LAN (up to Cat. 5)	5 48 5	6 58 6	/	0.3 (line-line; line-PG) 0.06 (line-line; line-PG) 0.3 (line-line; line-PG)	/	Compact
	<ul style="list-style-type: none"> LAN Protector (1 way) All 4 Pairs Protected Freq. < 250MHz, Cat. 6 Capable Termination: RJ45, Shielded 	LZ-NET 6		- LAN (up to Cat. 6)	48	48	1	0.15 (line-line) 10 (lines-PG)	/	Compact 19mm
	<ul style="list-style-type: none"> LAN Protector 19" Rack Patch Panel up to 24 way All 4 Pairs Protected Freq. < 100MHz, Cat. 5 Capable Termination: RJ45, Cat. 5 Connectors 	LZ-24NET 19 LZ-24NET 19 PoE		- LAN (up to Cat. 5)	5 48	6 58	/	0.3 (line-line; line-PG) 0.06 (line-line; line-PG)	/	Compact /
	<ul style="list-style-type: none"> Combined POWER/LAN Protector All 4 Pairs in the UTB Protected Freq. < 100MHz, Cat. 5 Capable Termination: RJ45, Cat. 5 Connectors 	ZE 200 NET		- LAN (up to Cat. 5)	5 230V / 50Hz	6 275V / 50Hz	/	0.3 (line-line; line-PG) 3kA (L(N) - PE, L-N) 10kA (L+N-PE)	/	Compact /
Combined Plug-in Surge Protection	<ul style="list-style-type: none"> Combined POWER/LAN Protector All 4 Pairs in the UTB Protected Freq. < 100MHz, Cat. 5 Capable Termination: RJ45, Cat. 5 Connectors Compact, Ergonomic Packaging 	ZES-76 TEL-TV		- TV, telephone line	110 (Tel.); 50 (Coax.) 230V / 50Hz	170 (Tel.); 70 (Coax.) 275V / 50Hz	/	2.5 (Tel.); 5 (Coax)	/	Compact /
	<ul style="list-style-type: none"> Combined POWER/DATA Protector Coax Protected Tel. Protected Termination: RJ11, IEC Connector Compact, Ergonomic Packaging 	ZES-7 TEL-TV		- TV, telephone line	110 (Tel.); 50 (Coax.) 230V / 50Hz	170 (Tel.); 70 (Coax.) 275V / 50Hz	/	2.5 (Tel.); 5 (Coax.)	/	Compact /
	<ul style="list-style-type: none"> Combined POWER/DATA Protector Coax Protected Tel. Protected Termination: RJ11, IEC Connector Master-slave Function 	ZES 1M+5S		- TV, telephone line	110 (Tel.); 50 (Coax.) 230V / 50Hz	170 (Tel.); 70 (Coax.) 275V / 50Hz	/	2.5 (Tel.); 5 (Coax.)	/	Compact /
	<ul style="list-style-type: none"> Combined POWER/DATA Protector Coax Protected Tel. Protected Termination: RJ11, IEC Connector Master-slave Function (USB, Hub) 	ZES 1M+4S TEL-NET TUSB Hub		- TV, telephone line - LAN (up to Cat. 5)	110 230V / 50Hz	170 275V / 50Hz	/	2.5	/	Compact /
	<ul style="list-style-type: none"> POWER Protector $U_{oc} = 3kV$ Compact, Ergonomic Packaging 	ZES 6			230V / 50Hz	275V / 50Hz	/	/	/	Compact /

Product Group	Description	Product Name	Product Photo	Connection/Signal	U_n (V _{DC})	U_c (V _{DC})	I_L at 25°C (A)	I_n (8/20) (kA)	I_{max} (8/20) (kA)	Termination
Coaxial/RF	<ul style="list-style-type: none"> Coaxial BNC Protector For CCTV and Arcnet Coarse and Fine Protection Indirect Shield Earthing 	ZV-BNC		- Arcnet	5, 12	6, 14	0.1	10	/	BNC - Type M-F and F-F
	<ul style="list-style-type: none"> Coaxial Protector For TV and Cable TV Direct Shield Earthing 	ZV-1 ZV1-F		- TV - Cable TV	48 48	66 60	0.1 0.1	5 5	/ /	IEC F
	<ul style="list-style-type: none"> Coaxial Protector For RF Antenna System Freq.: DC to 2.4GHz GDT 	CCP-BNC		- Analog video	/	70, 180, 280	/	10	20	BNC - Type M-F and F-F
	<ul style="list-style-type: none"> Coaxial Protector For Base Station RF Antenna System Freq.: DC to 2.5GHz GDT 	CCP-7/16		- GSM - GPS - Radio systems	/	70, 180, 280	/	10	20	7/16 - Type M-F
	<ul style="list-style-type: none"> Coaxial Protector For RF Antenna System Freq.: DC to 2.4GHz GDT 	CCP-N		- GSM - GPS - Radio systems	/	70, 180, 280	/	10	20	N - Type M-F and F-F
	<ul style="list-style-type: none"> Coaxial Protector For RF Antenna System Freq.: DC to 6.0GHz GDT 	CCP-N-6G		- GSM - GPS - Radio systems	/	180	/	10	20	N - Type M-F and F-F
	<ul style="list-style-type: none"> Coaxial Protector For RF Antenna System Freq.: DC to 600MHz GDT 	CCP-UHF		- Radio systems	/	70, 180, 280	/	10	20	UHF - Type M-F and F-F
	<ul style="list-style-type: none"> Coaxial Protector For RF Antenna System (USA CCTV and CATV System) Freq.: DC to 2.0GHz GDT 	CCP-F		- Cable TV	/	70, 180	/	10	20	F - Type M-F and F-F
	<ul style="list-style-type: none"> Coaxial Protector For RF Antenna System (EU CCTV and CATV System) Freq.: DC to 2.0GHz GDT 	CCP-TV		- TV	/	70, 180	/	10	20	TV - Type M-F and F-F
	<ul style="list-style-type: none"> Coaxial Protector For RF Antenna System Freq.: DC to 865-965MHz, 1700-1950MHz 	CCP-L/4-7/16		- GSM	/	0	/	15	30	L/4-7/16 - Type M-F and F-F
<ul style="list-style-type: none"> Coaxial Protector For RF Antenna System Freq.: DC to 865-965MHz, 1700-1950MHz 	CCP-L/4-N		- GSM	/	0	/	15	30	L/4-N - Type M-F and F-F	



















Product Group	Description	Product Name	Product Photo	Connection/Signal	U_n (V _{DC})	U_c (V _{DC})	I_L at 25°C (A)	I_n (8/20) (kA)	I_{max} (8/20) (kA)	Housing dim. Degree of protection
Ex	<ul style="list-style-type: none"> • Single-pair SPD • For Hazardous Areas (Ex) • Coarse and Fine Protection • Insulation Resistance to Earth II 1 G EEx ia IIC T4 Baseefa 04 ATEX 0209X	IM-15Ex IM-30Ex		- Hazardous Areas	15 30	18 33	0.5 0.5	10 10	20 20	1TE IP20
Line Fitting	<ul style="list-style-type: none"> • Single-pair SPD • For 3/4" Pipe Installations • Coarse and Fine Protection • $t_A < 1ns$ 	PLP		- 20mA current loop	24	28	0.145	10 10	20 20	IP 55
Terminal Connection	<ul style="list-style-type: none"> • OEM PCB module • Single-pair SPD • Coarse Protection Only • PCB Hybrid • Flying Leads or Screw Terminals 	IM-GD		- Analogue tel. line - xDSL (VDSL class 1 only) - EIB	110	120	6	5	10	IP20
PCB Mounting	<ul style="list-style-type: none"> • OEM PCB module • Single-pair SPD • Coarse and Fine Protection • PCB Hybrid • PCB Pins 	IM-NF		- RS 232, - RS 422, - V.11, - RS 485 - Thermal probe PT 100 - TTL	5, 15, 24	6, 18, 28	0.145	5	10	IP20

Surge Protective Modules for Telecommunications

















TECHNICAL CHARACTERISTICS

Product Group	Description	Product Name	Product Photo	Applications	U_c (V _{DC})	I_L at 20°C (mA)	I_n (8/20) (kA)	I_{max} (8/20) (kA)	Thermal protection	Overcurrent protection
LPA 02 I	<ul style="list-style-type: none"> Simple protection modules for ISKRA strips Single-pair or 10-pair Overvoltage and overcurrent protection Coarse protection - longitudinal and transversal direction Protection level: < 900V Response time: 100ns 	LPA 02 IM		Telecommunication - POTS - ADSL - xDSL - ISDN S0, S2M, U - P-MUX - PCM-E1 - PCM 100V - Modem Analogue - Modem DatexP Data Transmission - RS 232 - RS 485 - Ethernet - Token Ring Measuring Technology - TTL - TTY 24V	180	300	5	10	TC	/
		LPA 02 I			180	300	5	10	TD	/
		LPA 02 I 10M			180	300	5	10	TD	/
		LPA 02 I-PTC			180	150	5	10	TD	PTC
		LPA 02 I 10-PTC			180	150	5	10	TD	PTC
		LPA 02 I/BT-HIB2			180	60	5	10	TD	PTC
LPA 02 K	<ul style="list-style-type: none"> Simple protection modules for KRONE strips Single-pair or 10-pair Overvoltage and overcurrent protection Coarse protection - longitudinal and transversal direction Protection level: < 900V Response time: 100ns 	MGZ LL/K10		180	/	/	10	TC	/	
		LPA 02 K1M-TK		180	300	5	10	TC	/	
		LPA 02 K1		180	300	5	10	TD	/	
		LPA 02 K10		180	300	5	10	TD	/	
		LPA 02 K1-PTC		180	150	5	10	TD	PTC	
		LPA 02 K10-PTC		180	150	5	10	TD	PTC	
		LPA 02 K1/BT-HIB2		180	60	5	10	TD	PTC	
		LPA 02 K1M-TK-PTC		180	150	5	10	TC	PTC	
		LPA 02 M/PTC-BPO		245	60	5	10	/	PTC	
LPA 04 K1M	<ul style="list-style-type: none"> Complex protection modules for KRONE strips Single-pair Overvoltage and overcurrent protection Coarse and fine protection Thermal protection Protection level: 15 - 600V Response time: 1 - 25ns 	LPA 04 K1M-TK-E 5, 12, 15, 24, 48, 60, 110		6, 12, 18, 28, 85, 100, 180	150	5	10	TC	PTC	
		LPA 04 K1M-TK-C 5, 12, 15, 24, 48, 60, 110		6, 12, 18, 28, 85, 100, 180	150	5	10	TC	PTC	

* TC - thermal clip, TD - thermal decoupler, PTC - resistor with a positive temperature coefficient

Product Group	Description	Product Name	Product Photo	Applications	U _c (V _{DC})	I _L at 20°C (mA)	I _n (8/20) (kA)	I _{max} (8/20) (kA)	Thermal protection	Overcurrent protection
LPA 08 I	<ul style="list-style-type: none"> • Complex protection modules for ISKRA strips • Single-pair or 10-pair • Overvoltage and overcurrent protection • Coarse protection - longitudinal and transversal direction • Fine protection - longitudinal and transversal direction • Protection level: < 400V, < 600V • Response time: 1ns, 5ns, 25ns 	LPA 08 I		Telecommunication - POTS - ADSL - xDSL - ISDN S0, S2M, U - P-MUX - PCM-E1 - PCM 100V - Modem Analogue - Modem DatexP Data Transmission - RS 232 - RS 485 Measuring Technology - TTL - TTY 24V	180	150	5	10	TD	/
		LPA 08 I-PTC			180	150	5	10	TD	PTC
		LPA 08 I10-PTC			180	150	5	10	TD	PTC
		LPA 08 I-BT/PTC			180	150	5	10	TD	PTC
		LPA 08 I-SID			180	150	5	10	TD	/
		LPA 08 I-PTC-SID			180	150	5	10	TD	PTC
		LPA 08 I-BT-HIB2			180	60	5	10	TD	hibrid PTC
		LPA 08 I-BT-HIB-T			180	60	5	10	TD	hibrid PTC
LPA 08 K	<ul style="list-style-type: none"> • Complex protection modules for KRONE strips • Single-pair or 10-pair • Overvoltage and overcurrent protection • Coarse protection - longitudinal and transversal direction • Fine protection - longitudinal and transversal direction • Protection level: < 400V, < 600V • Response time: 1ns, 5ns, 25ns 	LPA 08 K1		180	150	5	10	TD	/	
		LPA 08 K10		180	150	5	10	TD	/	
		LPA 08 K1-PTC		180	150	5	10	TD	PTC	
		LPA 08 K10-PTC		180	150	5	10	TD	PTC	
		LPA 08 K1-SID		180	150	5	10	TD	/	
		LPA 08 K10-SID		180	150	5	10	TD	/	
		LPA 08 K1-PTC-SID		180	150	5	10	TD	PTC	
		LPA 08 K10-PTC-SID		180	150	5	10	TD	PTC	
		LPA 08 K1/BT-HIB2		180	60	5	10	TD	hibrid PTC	
		LPA 08 K1/BT-HIB-T		180	60	5	10	TD	hibrid PTC	






* TC - thermal clip, TD - thermal decoupler, PTC - resistor with a positive temperature coefficient

Product Group	Description	Product Name	Product Photo	Applications	U_c (V _{DC})	I_L at 20°C (mA)	I_n (8/20) (kA)	I_{max} (8/20) (kA)	Thermal protection	Overcurrent protection
LPA 08 I	<ul style="list-style-type: none"> Complex protection modules for ISKRA strips Single-pair or 10-pair Overvoltage and overcurrent protection Coarse protection - longitudinal and transversal direction Fine protection - longitudinal and transversal direction Protection level: < 100V - < 700V Response time: 1ns, 5ns, 25ns 	LPA 08 I-PCM		Telecommunication - POTS - ADSL - xDSL - ISDN S0, S2M, U - P-MUX - PCM-E1 - PCM 100V - Modem Analogue - Modem DatexP Data Transmission - RS 232 - RS 485 Measuring Technology - TTL - TTY 24V	180	200	5	10	TD	/
		LPA 08 I-PCM10			280	200	5	10	TD	/
		LPA 08 I-2Mbit/s			8	200	5	10	TD	/
		LPA 08 I-xDSL			180	200	5	10	TD	/
		LPA 08 I-PTC-xDSL			180	150	5	10	TD	PTC
		LPA 08 IL			160	150	5	10	TD	PTC
LPA 08 K	<ul style="list-style-type: none"> Complex protection modules for KRONE strips Single-pair or 10-pair Overvoltage and overcurrent protection Coarse protection - longitudinal and transversal direction Fine protection - longitudinal and transversal direction Protection level: < 100V - < 700V Response time: 1ns, 5ns, 25ns 	LPA 08 K1-PCM		180	200	5	10	TD	/	
		LPA 08 K10-PCM		180	200	5	10	TD	/	
		LPA 08 K1-PCM10		280	200	5	10	TD	/	
		LPA 08 K10-PCM10		280	200	5	10	TD	/	
		LPA 08 K1-2Mbit/s		8	200	5	10	TD	/	
		LPA 08 K1-xDSL		180	200	5	10	TD	/	
		LPA 08 K1-PTC-xDSL		180	150	5	10	TD	PTC	
		LPA 08 K1M-TK-T110		180	150	5	10	TC	PTC	
		LPA 08 K1 PTC-VAR		180	60	5	10	TD	PTC	
		LPA 08 K1L		160	150	5	10	TD	PTC	

* TC - thermal clip, TD - thermal decoupler, PTC - resistor with a positive temperature coefficient






Surge Protective Modules for Telecommunications

TECHNICAL CHARACTERISTICS

Product Group	Description	Product Name	Product Photo	Applications	U_c (V _{DC})	I_L at 20°C (mA)	I_n (8/20) (kA)	I_{max} (8/20) (kA)	Thermal protection	Overcurrent protection
LPA2 02	<ul style="list-style-type: none"> Complex protection modules for small ISKRA strips 2-pair Overvoltage and overcurrent protection Coarse protection - longitudinal and transversal direction Fine protection - longitudinal and transversal direction Protection level: < 900V Response time: 100ns 	LPA2 02 IH		Telecommunication - POTS - ADSL - xDSL - ISDN S0, S2M, U - P-MUX - PCM-E1 - PCM 100V - Modem Analogue - Modem DatexP Data Transmission - RS 232 - RS 485 - Ethernet - Token Ring Measuring Technology - TTL - TTY 24V	180	300	5	10	TD	/
		LPA2 02 IH-R			180	200	5	10	TD	/
		LPA2 02 I-PTC			180	150	5	10	TD	PTC
LPA2 08	<ul style="list-style-type: none"> Protection level: < 300V Response time: 5ns 	LPA 08 I-PTC D			180	150	5	10	TD	PTC
		LPA 08 IH-RD			180	200	5	10	TD	/










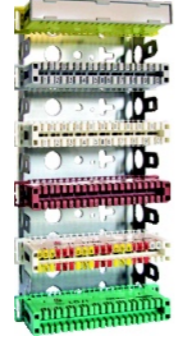
DSL Low-pass Filter for POTS & ISDN









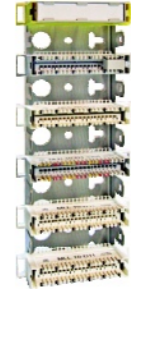
TECHNICAL CHARACTERISTICS

Product Group	Description	Product Name	Product Photo	Applications	No. of splitters (LPF)	Used for disconnection strip	Overvoltage protection	Overcurrent protection	Thermal protection	Cut frequency (kHz)	Loop current (mA)
LPF COMBO	<ul style="list-style-type: none"> Low pass filter for POTS and ISDN ISDN : 135 Ω (2B1Q) POTS : 600 Ω Single-pair Overvoltage and overcurrent protection (optional) Coarse protection - longitudinal and transversal direction (optional) Thermal protection (optional) ETSI standard TS 101 952-1-4 	LPF1-LL/K-COMBO		Telecommunication - POTS - ISDN - ADSL - ADSL2 - VDSL - VDSL2	1	LL/K; LL/I	NO	NO	NO	138	100
		LPF-MLL/I COMBO			1	MLL/I 4LPF	NO	NO	NO	138	100
		LPF-MLL/I P.C.PTC-COMBO			1	MLL/I 4LPF	YES	YES	YES	138	100
LPF POTS	<ul style="list-style-type: none"> Low pass filter for POTS POTS : 600 Ω Single-pair Standards: ITU-T G.992.1, ITU-T G.992.3, ITU-T G.993.2 	LPF1-KH-DSL-POTS		Telecommunication - POTS - ADSL - ADSL2 - VDSL - VDSL2	1	LL/K; LL/I	NO	NO	NO	25	60
		LPF-MLL/I-POTS			1	MLL/I 4LPF	NO	NO	NO	25	60

* TC - thermal clip, TD - thermal decoupler, PTC - resistor with a positive temperature coefficient









Equipment for Telephone Exchanges

Product Group	Description	Product Name	Product Photo	Use
Standard STRIPS	<ul style="list-style-type: none"> Terminal strips Designed for use on the exchange side only The 3x6 version - for digital 2Mbit/s transmissions The K version - Krone compatible 	LR/I		<ul style="list-style-type: none"> Connecting telephone lines Insertion of measuring or marking modules or disconnecting plugs
		LR/K		
		LR/I 3x6		
	<ul style="list-style-type: none"> Disconnecting strips Installed as termination on both the line and exchange side of wiring Earthing contact The 3x6 version - for digital 2Mbit/s transmissions The K version - Krone compatible 	LL/I		<ul style="list-style-type: none"> Connecting telephone lines Installation of overvoltage protection modules Testing of lines Disconnection specific lines and line labeling
		LL/K		
		LL/I 3x6		
	<ul style="list-style-type: none"> Switching strips Designed for use on the line side only Earthing contact No signal without inserted protective module 	LS/I		<ul style="list-style-type: none"> Connecting telephone lines Installation of overvoltage protection modules
	<ul style="list-style-type: none"> Earthing strips 	LO/I		<ul style="list-style-type: none"> Equipotential bonding earth points
	<ul style="list-style-type: none"> Inscription strips 	LN/I		<ul style="list-style-type: none"> Labeling
	Earthing Mounting Frame	<ul style="list-style-type: none"> For 1 - 11 strips Frame height 22 mm Stainless steel 	NMI	

Product Group	Description	Product Name	Product Photo	Use	
Small STRIPS	<ul style="list-style-type: none"> Terminal strips Designed for use on the exchange side only The 3x6 version - for digital 2Mbit/s transmissions 	MLR 10/I		<ul style="list-style-type: none"> Connecting telephone lines Insertion of measuring or marking modules or disconnecting plugs 	
		MLR 10/I 3x6			
	<ul style="list-style-type: none"> Disconnecting strips Installed as termination on both the line and exchange side of wiring Earthing contact The 3x6 version - for digital 2Mbit/s transmissions 	MLL 10/I		<ul style="list-style-type: none"> Connecting telephone lines Installation of overvoltage protection modules Testing of lines Disconnection specific lines and line labeling 	
		MLL 10/I 3x6			
	<ul style="list-style-type: none"> Switching strips Designed for use on the line side only Earthing contact No signal without inserted protective module 	MLS 10/I		<ul style="list-style-type: none"> Connecting telephone lines Installation of overvoltage protection modules Testing of lines 	
	<ul style="list-style-type: none"> Earthing strips 	MLO 10/I		<ul style="list-style-type: none"> Equipotential bonding earth points 	
	<ul style="list-style-type: none"> Inscription strips 	MLN 10/I		<ul style="list-style-type: none"> Labeling 	
	<ul style="list-style-type: none"> Disconnecting strip Installed as termination on both the line and exchange side of wiring Earthing contact 	MLL 4LPF		<ul style="list-style-type: none"> Connecting xDSL telephone lines Installation of overvoltage protection modules Testing of lines Disconnection specific lines and line labeling 	
	Earthing Mounting Frame	<ul style="list-style-type: none"> For 1 - 11 strips Frame height 12 mm Stainless steel 	NMIM		<ul style="list-style-type: none"> Mounting the various types of small strips Earthing link for the overvoltage protection Entry for the cable bundles


Independent Line Protection for Terminals and Equipment

TECHNICAL CHARACTERISTICS

Product Group	Description	Product Name	Product Photo	Applications	Data part				Thermal/overcurrent protection	Power part				
					U_c (V _{DC})	I_L at 20°C (mA)	I_n (8/20) (kA)	I_{max} (8/20) (kA)		U_n (V _{AC})	U_c (V _{AC})	I_L at 20°C (A)	I_n (8/20) (kA)	U_{oc}/I_{sc} (1.2/50, 8/20) (kV/kA)
ZE 200	<ul style="list-style-type: none"> • Combined plug-in adapter with overvoltage protection • Power protection (230V/50Hz) • Line protection • Overvoltage and overcurrent protection • Coarse protection - longitudinal and transversal direction • Fine protection - longitudinal and transversal direction 	ZE 200 xDSL		Telecommunication <ul style="list-style-type: none"> - POTS - ADSL - xDSL - ISDN S0, S2M, U - P-MUX - PCM-E1 - PCM 100V - Modem Analogue - Modem DatexP Data Transmission <ul style="list-style-type: none"> - RS 232 - RS 485 - Ethernet - Token Ring Measuring Technology <ul style="list-style-type: none"> - TTL - TTY 24V 	175	150	2.5	5	TD/PTC	230	275	16	6	10
		ZE 200 ISDN-S0			9/56	150	2.5	5	TC/PTC	230	275	16	6	10
		ZE 200 ISDN-BA			155	150	2.5	5	TD/PTC	230	275	16	6	10
		ZE 200 FAX-TEL			175	150	2.5	5	TD/PTC	230	275	16	6	10
LZ	<ul style="list-style-type: none"> • Line protection • Overvoltage and overcurrent protection • Coarse protection - longitudinal and transversal direction • Fine protection - longitudinal and transversal direction 	LZ-DSL 01P		Telecommunication <ul style="list-style-type: none"> - POTS - ADSL - xDSL - ISDN S0, S2M, U - P-MUX - PCM-E1 - PCM 100V 	175	150	2.5	5	TC/PTC					
		LZ-ISDN-BA/TEL			155	150	2.5	5	TC/PTC					
LZ-2 LZD	<ul style="list-style-type: none"> • Line protection 1 - 6 lines • Overvoltage and overcurrent protection • Coarse protection - longitudinal and transversal direction • Fine protection - longitudinal and transversal direction 	LZ-2A		Telecommunication <ul style="list-style-type: none"> - POTS - ISDN 	175	200	5	10	TC					
		LZD-2AB			175	200	5	10	TC					
















DSL Low-pass Filter for POTS & ISDN

TECHNICAL CHARACTERISTICS

Product Group	Description	Product Name	Product Photo	Applications	No. of splitters (LPF)	Overvoltage protection	Overcurrent protection	Thermal protection	Cut frequency		Loop current (mA)
									(kHz)	(kHz)	
LPF -DSL COMBO	<ul style="list-style-type: none"> • Low pass filter for POTS and ISDN • ISDN : 135 Ω (2B1Q) • POTS : 600 Ω • Single-pair • Overvoltage protection • Coarse protection • ETSI standard TS 101 952-1-4 	LPF-DSL01P DSL-COMBO		Telecommunication <ul style="list-style-type: none"> - POTS - ISDN - ADSL - ADSL2 - VDSL - VDSL2 	1	YES	NO	NO	138	80	

Surge Protective Devices for Medium Voltage Power Systems

TECHNICAL CHARACTERISTICS

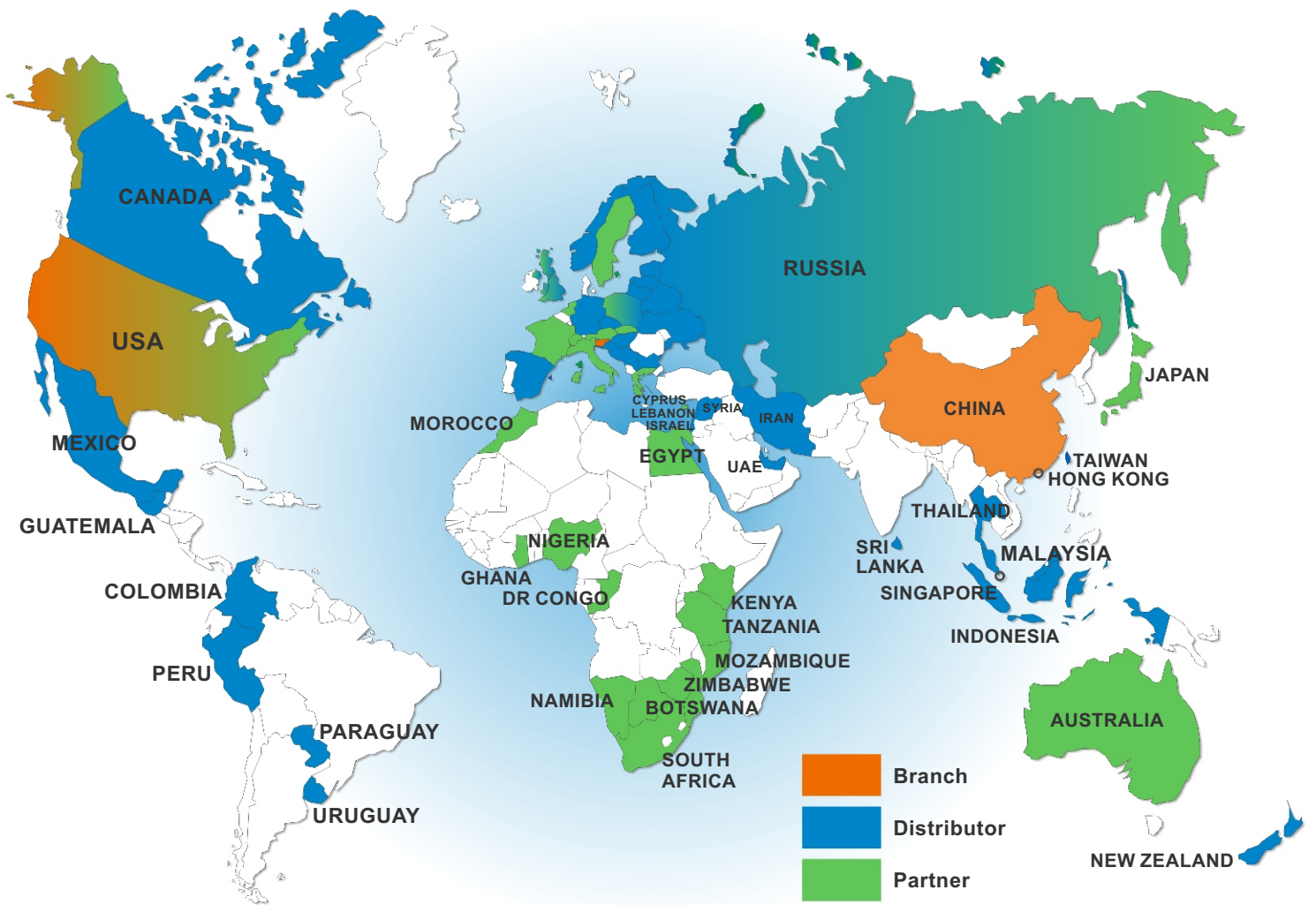
Category IEC/EN/VDE	Description	Product Name	Product Photo	Rated voltage	Max. continuous operating voltage	Nominal discharge current 8/20 μ s	Class line discharge (10kA and up)	Energy absorption capability	Rated short circuit current	Rated frequency	Housing insulation withstand		Creepage distance/ rated voltage ratio (mm/kV)
				U_r (kV)	U_c (kV)	I_n (kA)		kJ/kV (U_c/U_r)	(kA)	(Hz)	Dry lightning 1.2/50 (kV)	60 s wet withstand power frequency (kV)	
Class 1	<ul style="list-style-type: none"> Medium Voltage Surge Arresters Low residual voltage High energy input capacity Stable U-I characteristics even after multiple strokes Proof against ageing Explosion and shatter-resistant design IEC 60099-4:2006; IEEE 62.11 2005 <p>MSAIZ xx BD L(O)</p> <ul style="list-style-type: none"> O - outdoor appl. L - indoor appl. Disconnecter Bracket U_r (kV) rated voltage 	MSAIZ 3		3	2.55	10	1	4.4/3.6	20	15 - 62	40	20	51.0
		MSAIZ 6		6	5.10	10	1	4.4/3.6	20	15 - 62	60	25	45.0
		MSAIZ 9		9	5.65	10	1	4.4/3.6	20	15 - 62	65	30	42.0
		MSAIZ 10		10	8.40	10	1	4.4/3.6	20	15 - 62	75	30	38.0
		MSAIZ 11		11	9.35	10	1	4.4/3.6	20	15 - 62	85	40	40.7
		MSAIZ 12		12	10.20	10	1	4.4/3.6	20	15 - 62	95	40	37.7
		MSAIZ 15		15	12.70	10	1	4.4/3.6	20	15 - 62	105	50	37.8
		MSAIZ 18		18	15.30	10	1	4.4/3.6	20	15 - 62	120	55	38.0
		MSAIZ 21		21	17.00	10	1	4.4/3.6	20	15 - 62	125	58	35.0
		MSAIZ 24		24	19.50	10	1	4.4/3.6	20	15 - 62	135	60	35.6
		MSAIZ 27		27	22.00	10	1	4.4/3.6	20	15 - 62	155	65	36.0
		MSAIZ 30		30	24.40	10	1	4.4/3.6	20	15 - 62	170	70	34.7
		MSAIZ 33		33	26.70	10	1	4.4/3.6	20	15 - 62	185	75	33.1
		MSAIZ 36		36	29.00	10	1	4.4/3.6	20	15 - 62	190	85	32.3
MSAIZ 42		42	34.00	10	1	4.4/3.6	20	15 - 62	185	85	32.0		

Power Quality

Product Group	Description	Product Name	Product Photo	Use
SPD Status Monitoring Network Power Analysis	<ul style="list-style-type: none"> SPD Life Status and Failure Indication Surge Counter Surge Recorder Time/Date Magnitude Logging of Power Disturbances on Electrical Network Measuring Basic Electric Supply Parameters 	ProAlyser		<ul style="list-style-type: none"> A powerful tool with which we have an overview over power quality 100% safety with online monitoring of SPD Used in any electrical cabinet, where power quality and surge protection are important.
Surge Event Counter	<ul style="list-style-type: none"> Mechanical counter Self-energising, no battery power needed Integral current sensor Ease of installation in-line series connection with PE Permanent record of surge events, non-resettable 	ProSEC I		<ul style="list-style-type: none"> Used in any electrical cabinet, where information about harmful surge events is needed Monitoring the exact number of surges that would otherwise pass through without our knowledge Recommended installation to multiple power supply junctions so we can pinpoint the origins and area of surge influence
	<ul style="list-style-type: none"> 3-digit LCD display Internal current sensor or optional external sensor Ease of installation inline series connection with PE wire of SPD or external snap-on toroid sensor Counter test and reset functions Low battery test function (LED indication) 	ProSEC II		
Advanced Surge Event Counter	<ul style="list-style-type: none"> Surge amplitude measurement Time and date of event logging Event warning Colour LCD Long-lasting backup battery Indication of SPD degradation 	ProSEC III		<ul style="list-style-type: none"> Displays number, amplitude, date and time of surge events Installed on junctions near important electrical equipment that can be disturbed or harmed by surges

Surge Protection Publications





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