



SURGE & NOISE PROTECTION

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Protect your equipment from electrical disturbances with our Surge & Noise Protection solutions. Our advanced products safeguard against voltage spikes and electromagnetic interference, ensuring the stability and longevity of your electronic devices. Ideal for sensitive equipment, our solutions provide peace of mind and reliable performance in any environment.

SURGE PROTECTION DEVICES

Integrated Lightning Arrester with Backup Fuse: Class 1 - Fixed format with flag indication.



Code	Description	I_{imp} (10/350 μ s)	Aux	Poles Protected	Up	Un	Uc
961200	DEHNvenCI 1	25kA	-	1PH	$\leq 1500V$	230V	255V
961205	DEHNvenCI 1 FM	25kA	1C/O	1PH	$\leq 1500V$	230V	255V
961180	DEHNgap	100kA	-	N-E	$\leq 1500V$	-	255V
961185	DEHNgap FM	100kA	1C/O	N-E	$\leq 1500V$	-	255V

Busbar for connection of multiple arrestors to earth: **900411** (3P), **900417** (4P)

DEHNVEN CI

- Spark-gap based combined lightning and surge arrester with an integrated backup fuse. Capable of carrying lightning currents.
- High Lightning Discharge capacity up to 25kA (10/350) μ s
- Maximum system availability due to radax flow follow current limitation.

DEHNGAP

- Creepage discharge spark gap technology.

Combined Lightning & Surge Protection : Class 1+2

Over Current Protection Required. Plug-in with flag indication. Maximum backup fuse: 125A / 315A



Code	Description	I_n (8/20 μ s)	I_{imp} (10/350 μ s)	Aux	Poles Protected	Up	Un
951315	DEHNventil M TT FM	25/100kA*	25/100kA*	1C/O	3PH + N	$\leq 1500V$	230/400V
951115	DEHNventil M TT 2P FM	25/50kA*	25/50kA*	1C/O	1PH + N	$\leq 1500V$	230V

Spare plug-in modules: 1PH: **951001**, N-E: **951100** *L-N / N-E

DEHNVENTIL M TT FM

- Prewired spark-gap based type 1+2 combined lightning & surge arrester
- Easy replacement of protection modules.
- Capable of protecting terminal equipment.
- RAC spark gap technology on terminal devices.

Combined Lightning & Surge Protection: Class 1+2

Over Current Protection Required. Plug-in with flag indication. Maximum backup fuse: 160A.



Code	Description	I_n (8/20 μ s)	I_{imp} (10/350 μ s)	Aux	Poles Protected	Up	Un
941110	DEHNshield d TT 2P	12.5/25kA*	12.5/25kA*	-	1PH + N	1.5kV	230V
941310	DEHNshield d TT	12.5/50kA*	12.5/50kA*	-	3PH + N	1.5kV	230/400V

* L-N / N-E

DEHNSHIELD D TT

- Application-optimised and prewired spark-gap based type 1+2 lightning current and surge arrester
- Compact design due to space saving spark gap technology with a width of only one module / pole
- High follow current extinguishing capacity (I_{fi} = 25 kArms)

Surge Arrester: Class 2

Over Current Protection Required. Plug-in with flag indication. Maximum backup fuse: 125A.



Code	Description	I_n (8/20 μ s)	I_{max} (8/20 μ s)	Aux	Poles Protected	Up	Un
952310	DEHNGuard M TT	20kA	40kA	-	3PH + N	$\leq 1500V$	230/400V
952315	DEHNGuard M TT FM	20kA	40kA	1C/O	3PH + N	$\leq 1500V$	230/400V
952110	DEHNGuard M TT 2P	20kA	40kA	-	1PH + N	$\leq 1500V$	230V
952115	DEHNGuard M TT 2P FM	20kA	40kA	1C/O	1PH + N	$\leq 1500V$	230V

Spare plug-in modules: 1PH: **952010**, N-E: **952050**

DEHNGUARD M TT

- Prewired complete unit consisting of a base part and plug-in protection modules
- Energy coordination with other arresters of the Red/Line product family
- High device reliability due to "Thermo Dynamic Control" arrester monitoring

SURGE PROTECTION DEVICES



952121

952341

Surge Arrestor with ACI: Class 2 - Plug-in with flag indication

Code	Description	In (8/20μs)	I _{max} (8/20μs)	Aux	Poles Protected	Up	Un
952121	DEHNGuard M TT ACI FM	20/80kA	-	1C/O	1PH + N	≤1500V	230V
952341	DEHNGuard M TT ACI FM	20/80kA	-	1C/O	3PH + N	≤1500V	230/400V

DEHNGUARD ACI FM

- New technology "Advanced Circuit Interruption" (ACI) integrated in the protection module, consists of a switch / spark gap combination.
- Zero leakage current due to galvanic isolation by ACI switch unit
- Energy coordination with other arresters of the Red/Line product family
- High system reliability, no tripping of 32 A gG fuses

Surge Arrestor: Class 2

Over Current Protection Required. Plug-in with flag indication. Maximum backup fuse: 125A.



952030

952070

Code	Description	In (8/20μs)	I _{max} (8/20μs)	Aux	Poles Protected	Up	Uc
952070	DEHNGuard S 275	20kA	40kA	-	1PH (L-N/E)	≤1500V	275V
952090	DEHNGuard S 275 FM	20kA	40kA	1C/O	1PH (L-N/E)	≤1500V	275V
952030	DEHNgap C S (Spark Gap)	20kA	40kA	-	N-E	≤1500V	255V
952035	DEHNgap C S FM (Spark Gap)	20kA	40kA	1C/O	N-E	≤1500V	255V
952094	DEHNGuard S 385 FM	20kA	40kA	1C/O	1PH (L-E)	≤1750V	385V
952075	DEHNGuard S 440	20kA	40kA	-	1PH (L-E)	≤1700V	585V
952095	DEHNGuard S 440 FM	20kA	40kA	1C/O	1PH (L-E)	≤1700V	585V

Spare plug-in Modules: 275V - 952010, Spark Gap: 952060

DEHNGUARD S

- Multi-purpose surge arrester consisting of a base part and a plug-in protection module.
- High discharge capacity due to heavy-duty zinc oxide varistor
- High reliability due to "Thermo Dynamic Control" SPD monitoring device
- Energy coordination with other arresters of the Red/Line product family

Surge Arrestor: Class 2

Over Current Protection Required. Fixed format with flag indication. Maximum backup fuse: 125A.



900453

900463

Code	Description	Mounting Rail	In (8/20μs)	I _{max} (8/20μs)	Poles Protected	Up	Un
900453	DEHNGuard Basic TT 2P	DIN/Samite	5kA	10kA	2	≤1.2kV	230V
900463	DEHNGuard Basic	DIN	10kA	20kA	4	≤1.3kV	230V/400V

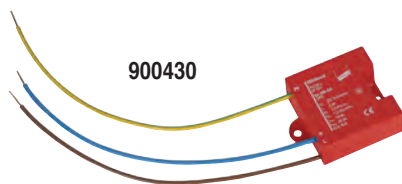
DEHNGUARD BASIC

- High reliability due to "Thermo Dynamics" monitoring system
- Easy installation and retrofitting thanks to narrow design (width of 18 / 36 mm)
- Energy coordination with other arresters of the Red/Line family
- Operating state / fault indication by green / red indicator flag in the inspection window

Surge Arrestor: Class 2

Ideal for Gate Motor, Alarm Protection or Protection of LED Lighting.

Fixed format with flag indication. Maximum backup fuse: 25A.



900430

Code	Description	In (8/20μs)	I _{max} (8/20μs)	Poles Protected	Up	Uc
900430	DEHNcord L 2P	5kA	10kA	1PH + N	≤1500V	230V

DEHNCHORD L

- Single-pole surge protective device with monitoring system and disconnecter
- Visual fault indication
- Compact design also for outdoor use
- Can be fitted in junction boxes, flush-mounted systems, cable ducts and flush-type boxes

PHOTOVOLTAIC SYSTEM PROTECTION

Photovoltaic Arrester with Integrated DC Fuse: Class 2

Combined disconnection and short circuiting device with safe isolation in the plug-in module prevents fire damage caused by DC arcing (patented SCI principal).

Code	Description	In (8/20μs)	Imax (8/20μs)	Aux	Up	UcPV	Replacement Modules	
							+/-	
952518	DEHNGuard M YPV SCI 150 FM	10kA	20kA	Yes	≤ 0.8kV	150V	952055	952045
952515	DEHNGuard M YPV SCI 1000 FM	12.5kA	25kA	Yes	≤ 4kV	1000V	952051	952041
952517	DEHNGuard M YPV SCI 1200 FM	12.5kA	25kA	Yes	≤ 4.5kV	1200V	952054	952044

DEHNGUARD YPV SCI

- Prewired complete unit for use in photovoltaic systems consisting of a base part and plug-in protection modules
- Combined disconnection and short-circuiting device with safe electrical isolation in the protection module (patented SCI principle)
- Tried and tested fault-resistant Y circuit of DEHNGuard M YPV SCI (FM) prevents damage to the surge protective device in case of insulation faults in the generator circuit

952515



Photovoltaic Arrester: Class 2

Plug-in with flag indication. High reliability due to "Thermo-dynamic Control" SPD monitoring device.

Code	Description	In (8/20μs)	Imax (8/20μs)	Aux	Up	UcPV	Replacement Modules
952565	DEHNGuard M YPV 1200 FM	20kA	40kA	Yes	≤ 4kV	1170V	952048
952567	DEHNGuard M YPV 1500 FM	15kA	40kA	Yes	≤ 5kV	1500V	952049

DEHNGUARD M YPV

- Prewired complete unit for photovoltaic systems consisting of a base part and plug-in protection modules
- Fault-resistant Y circuit with three heavy-duty varistors prevents damage to the surge protective device in case of insulation faults in the generator circuit
- High reliability due to "Thermo Dynamic Control" disconnecter
- Fault indication by red indicator flag in the inspection window

952565



Photovoltaic Arrester with Integrated DC Fuse: Class 1+2

Combined lightning and surge arrester for use in photovoltaic power supply systems. Fault-resistant Y circuit prevents damage to the surge protective device in case of insulation faults in the generator circuit.

Code	Description	In (8/20μs)	Imax (8/20μs)	Iimp (10/350μs)	I _{tot} (10/350μs)	Aux	Up	UcPV
900070	DEHNCombo DCB YPV 1200	20kA	40kA	6.25kA	12.5kA	No	≤3.8kV	≤1200V
900075	DEHNCombo DCB YPV 1200 FM	20kA	40kA	6.25kA	12.5kA	Yes	≤3.8kV	≤1200V
900071	DEHNCombo DCB YPV 1500	20kA	40kA	6.25kA	12.5kA	No	≤4.5kV	≤1500V
900076	DEHNCombo DCB YPV 1500 FM	20kA	40kA	6.25kA	12.5kA	Yes	≤4.5kV	≤1500V

DEHNCOMBO

- Prewired type 1 + type 2 combined lightning current and surge arrester for use in photovoltaic generator circuits
- Rated voltage is the same for all modes of protection and, therefore, the arrester can also be used in earthed systems
- Space-saving enclosure with a width of only four modules for up to 1500 VDC
- Operating state / fault indication by green / red indicator flag in the inspection window

900070



Photovoltaic Arrester: Class 2

Multipole surge arrester with three-step D.C. switching device for use in PV systems.

Code	Description	In (8/20μs)	Imax (8/20μs)	Aux	Up	UcPV
950530	DEHNGuard YPV SCI 1000	12.5kA	25kA	No	≤ 4kV	1000V
950531	DEHNGuard YPV SCI 600	12.5kA	25kA	No	≤ 2.5kV	600V
950535	DEHNGuard YPV SCI 1000 FM	12.5kA	25kA	Yes	≤ 4kV	1000V
950536	DEHNGuard YPV SCI 600 FM	12.5kA	25kA	Yes	≤ 2.5kV	600V

DEHNGUARD YPV SCI

- Prewired complete unit for use in photovoltaic systems
- Combined disconnection and short-circuiting device with safe electrical isolation (patented SCI principle)
- Tried and tested fault-resistant Y circuit of DEHNGuard M YPV SCI (FM) prevents damage to the surge protective device in case of insulation faults in the generator circuit

950530



SURGE PROTECTION DEVICES

DIN Mount Base - for Protection Modules

Code	Description
920300	Base Blitzductor 4P - Without Signal Interruption
926304	Base Blitzductor 4P - Signal Interrupted if Module Removed

Blitzductor Protection Modules

Code	Description	I imp Tot. (10/350µs)	In (8/20µs)	Cut-off Freq.	Poles Protected	Un	Uc
Class 1 BD - 1 Pair of unearthed balanced interfaces with direct or indirect shield earthing							
920240	Blitzductor XT ML2 BD S5	9kA	20kA	1.0MHz	4	5V	6V
920242	Blitzductor XT ML2 BD S12	9kA	20kA	2.8MHz	4	12V	15V
920244	Blitzductor XT ML2 BD S24	9kA	20kA	7.8MHz	4	24V	33V

Class 1 BD - 2 Pairs of unearthed balanced Interfaces

920340	Blitzductor XT ML4 BD 5	10kA	20kA	1.0MHz	4	5V	6V
920342	Blitzductor XT ML4 BD 12	10kA	20kA	2.8MHz	4	12V	15V
920344	Blitzductor XT ML4 BD 24	10kA	20kA	7.8MHz	4	24V	33V

Class 2 BE - Unbalanced Interfaces or 4 lines with common reference potential

926324	Blitzductor SP M4 BE 24	1kA	20kA	6.8MHz	4	24V	33V
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Class 2 BD - 1 Pair of balanced interfaces with galvanic isolation

926242	Blitzductor SP M2 BD 12	1kA	20kA	2.8MHz	2	12V	15V
926244	Blitzductor SP M2 BD 24	1kA	20kA	7.8MHz	2	24V	33V

Class 2 BD - 2 Pairs of unearthed balanced Interfaces

926344	Blitzductor SP M4 BD 24	1kA	20kA	7.8MHz	4	24V	33V
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Protection for Telecommunication and Data Networks (PoE IEEE 802.3at)

Code	Description	I imp (10/350µs)	In (8/20µs)	Cut-off Freq.	Uc	Input/Output
929121	DEHNpatch M CLE RJ45B 48	0.5kA	10kA	250MHz	48V	RJ45 (Sockets)
929126	DEHNpatch M CLD RJ45B 48	0.5kA	10kA	100MHz	48V	RJ45 (Sockets)
NEW 929161	Dehnpatch CL8 EA 4PPOE	0.5kA	10kA	500MHz	3.3 V	RJ45 (Sockets)

Protection for Data Networks and Ethernet Applications Outdoor IP66

Code	Description	I imp (10/350 µs)	I tot (8/20 µs)	Cut-off freq	Uc	Input/ Output
NEW 929221	DEHNpatch CLE IP66	0.8kA	10kA	250 MHz	6V	RJ45 Sockets

Protection for Coaxial Equipment - BNC

Code	Description	In (8/20µs)	Freq.	Impedance	Mounting	Uc	Un
929010	UGKF BNC	2.5kA	0-300MHz	50/75Ω	In-Line	8V	5V
909711	DEHNgate BNC VC	2.5kA	0-300MHz	50Ω	DIN Rail Mount	8V	5V



WHILE STOCKS LAST

WHILE STOCKS LAST



NEW

NEW

SURGE PROTECTION DEVICES


FLP-A50N VS
FLP-A100N VS


FLP-SG50 VS/1

Lightning Current Arrestors: Class 1 - c/w Flag Indication & Replaceable Module

SPD Type1 encapsulated high-performance spark gap arrestors. Installation at Boundary Zones LPZ 0 and LPZ 1.

1 Phase systems require 1 x **FLP-SG50 VS/1** + 1 x **FLP-A50N VS** for Neutral/Earth Protection.

3 Phase systems require 3 x **FLP-SG50 VS/1**. 1 x **FLP-A100N VS** for Neutral/Earth Protection.

Code	No. of Poles	I _{imp} (10/350µs)	I _{max} (8/20µs)	I _n (8/20µs)	Up	Uc	Un	DIN Width	Aux
FLP-SG50 VS/1	1P (L/N)	50kA	-	50kA	<2.5kV	255V	230V	2	Y
FLP-A50N VS	1P (N/PE)	50kA	100kA	50kA	<1.5kV	255V	-	2	Y
FLP-A100N VS	1P (N/PE)	100kA	100kA	100kA	<1.5kV	255V	-	2	Y

Replaceable Surge Protection Module: **FLP-SG50 V/0**



FLP-B+C MAXI VS/1



FLP-B+C MAXI VS/3+1

Lightning Current Arrestor and Surge Arrestor: Class 1 + 2 - c/w Flag Indication & Replaceable Module

A combination of a highly efficient varistor lightning current arrestor and an encapsulated high-performance spark gap.

Maximum overcurrent protection 250A (back-up MCB). For protection against impact of direct or indirect lightning strikes in a wide range of applications.

Code	No. of Poles	I _{imp} (10/350µs)	I _{max} (8/20µs)	I _n (8/20µs)	Up	Uc	Un	DIN Width	Aux
FLP-B+C MAXI VS/1	1P	25kA	60kA	30kA	<1.5kV	260V	230V	2	Y
FLP-B+C MAXI VS/2	2P	25kA	60kA	30kA	<1.5kV	260V	230V	4	Y
FLP-B+C MAXI VS/1+1	1P + N	25/50kA*	60/100kA*	30/50kA*	<1.5kV	260V	230V	4	Y
FLP-B+C MAXI VS/4	4P	25kA	60kA	30kA	<1.5kV	260V	230V	8	Y
FLP-B+C MAXI VS/3+1	3P + N	25/100kA*	30/300kA*	30/100kA*	<1.5kV	260V	230V	8	Y

* L-N/N-E

Replaceable Surge Protection Module: **FLP-B+C MAXI VS/0**



FLP-8.5 V/1



FLP-8.5 V/1+1



FLP-8.5 V/3+1

Lightning Current Arrestor and Surge Arrestor: Class 1 + 2 - c/w Flag Indication & Replaceable Module

Varistor lightning current for protection against impact of partial lightning currents, induced overvoltages during a lightning strike or switching over voltages. Maximum overcurrent protection 160A (back-up MCB).

Code	No. of Poles	I _{imp} (10/350µs)	I _{max} (8/20µs)	I _n (8/20µs)	Up	Uc	Un	DIN Width	Aux
FLP-8.5 V/1	1P	8.5kA	60kA	30kA	<1.5kV	275V	230V	1	N
FLP-8.5 V/1S	1P	8.5kA	60kA	30kA	<1.5kV	275V	230V	1	Y
FLP-8.5 V/1+1	1P+N	8.5/25kA*	60kA	30kA	<1.5kV	275V	230V	2	N
FLP-8.5 V/1S+1	1P+N	8.5/25kA*	60kA	30kA	<1.5kV	275V	230V	2	Y
FLP-8.5 V/3+1	3P+N	8.5/25kA*	60kA	30kA	<1.5kV	275V	230V	4	N
FLP-8.5 V/3S+1	3P+N	8.5/25kA*	60kA	30kA	<1.5kV	275V	230V	4	Y

* L-N/N-E

Replaceable Surge Protection Module: **FLP-8.5 V/0**



SLP-275 V/1+1



SLP-275 V/3S+1



SLP-075 V/1



SLP-075V/0

Surge Arrestors: Class 2 - c/w Flag Indication & Replaceable Modules

Varistor surge arrestors for protection of installations and equipment against the impact of induced overvoltages during a lightning strike or switching overvoltages. Maximum overcurrent protection: 160A (Backup MCB).

Code	No. of Poles	I _{max} (8/20µs)	I _n (8/20µs)	Up	Uc	Un	DIN Width	Aux
SLP-275V/1	1P	40kA	20kA	<1.35kV	275V	230V	1	N
SLP-275V/1S	1P	40kA	20kA	<1.35kV	275V	230V	1	Y
SLP-275V/1+1	1P + N	40kA	20kA	<1.35kV	275V	230V	2	N
SLP-275V/1S+1	2P	40kA	20kA	<1.35kV	275V	230V	2	Y
SLP-275V/3+1	3P + N	40kA	20kA	<1.35kV	275V	230V	4	N
SLP-275V/3S+1	3P + N	40kA	20kA	<1.35kV	275V	230V	4	Y
SLP-075V/1	1P	40kA	15kA	<0.4kV	75V	60V	1	N
SLP-150V/1	1P	40kA	15kA	<0.7kV	150V	120V	1	N
SLP-440V/1	1P	40kA	20kA	<1.9kV	440V	400V	1	N
SLP-601V/1	1P	40kA	15kA	<2.4kV	600V	480V	1	N

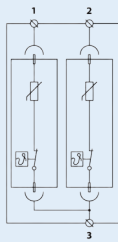
Replacement Varistor Modules

Code	SLP-075V/0	SLP-150V/0	SLP-275V/0	SLP-440V/0	SLP-601V/0
Uc	75V	150V	275V	440V	600V

PHOTOVOLTAIC SYSTEM PROTECTION



SLP-PV V/U



Surge Arrester for PV Systems: Class 2 - c/w Flag Indication & Replaceable Modules

Varistor surge arresters for protection of PV systems where the separating spark-over distance is kept or without LPS. Maximum continuous operating voltage for PV application: $U_{cpv} \geq 1.2 \times U_{oc}$ stc

Code	No. of Poles	I_{max} (8/20 μ s)	I_n (8/20 μ s)	U_p	U_{cpv}	DIN Width	Aux
SLP-PV170 V/U	2	40kA	15kA	0.6/12kV*	170 / 340VDC*	2	N
SLP-PV500 V/U	2	40kA	15kA	2/4kV*	510 / 1020VDC*	2	N
SLP-PV700 V/Y	3	40kA	20kA	3.6kV	750VDC	3	N
SLP-PV1000 V/Y	3	40kA	15kA	4.0kV	1020VDC	3	N
SLP-PV1500 V/Y	3	40kA	15kA	6.4kV	1500VDC	3	N

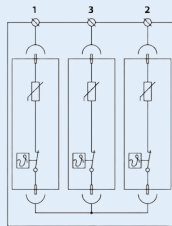
* Connection: 1-3, 2-3 / 1-2

Replacement Varistor Modules

Code	SLP-PV170U V/U	SLP-PV500U V/U	SLP-PV350Y V/U	SLP-PV500Y V/U	SLP-PV750Y V/U
U_{cpv}	170V	500V	700V	1000V	1500V



SLP-PV V/Y



Surge Arrester for PV Systems: Class 1 + 2 - c/w Flag Indication and Replaceable Modules

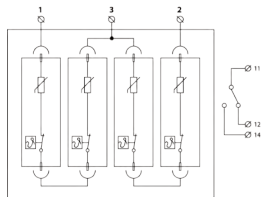
Varistor lightning current arrester for the protection of PV systems on roofs, where the separating spark-over distance is not kept (connection to LPS). Maximum continuous operating voltage for PV application: $U_{cpv} \geq 1.2 \times U_{oc}$ stc

Code	No. of Poles	I_n (8/20 μ s)	I_{max} (8/20 μ s)	I_{imp} (10/350 μ s)	I_{tot} (10/350 μ s)	U_p	U_{cpv}	DIN Width
FLP-PV550 V/US	4	30A	60kA	12.5kA	25kA	2.4/4.8kV*	560/1120VDC*	4

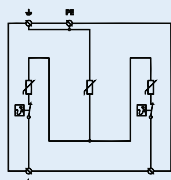
* Connection: 1-3, 2-3 / 1-2 Replacement Varistor modules: **FLP-PV275U V/U** (550V)



FLP-PV550 V/US



NEW



Surge Arrester for PV Systems: Class 1 + 2 - Visual fault signalling and Remote fault signalling

Varistor lightning current arrester for the protection of PV systems on the roofs, where the separating spark-over distance is not kept (connection to LPS). Varistor lightning current arrester and surge arrester in 'Y' connection. Maximum continuous operating voltage for PV application: $U_{cpv} \geq 1.2 \times U_{oc}$ stc

Code	No. of Poles	I_n (8/20 μ s)	I_{max} (8/20 μ s)	I_{imp} (10/350 μ s)	I_{tot} (10/350 μ s)	U_p	U_{cpv}	DIN Width	Aux
FLP-PV1000/YS	2	20kA	40kA	6.25kA	12.50kA	3.80kV	1050VDC	4	Yes
FLP-PV1500/YS	2	20kA	40kA	6.25kA	12.50kA	5.40kV	1500VDC	4	Yes

SURGE PROTECTION DEVICES



Special Surge Protection for Inverters: Class 2 (e.g. Wind Turbines)

Varistor surge arresters for protection of installations and equipment against the impact of induced overvoltages during a lightning strike or switching overvoltages. Maximum overcurrent protection: 100A (Backup MCB).

Code	No. of Poles	I_{max} (8/20 μ s)	I_n (8/20 μ s)	U_p	U_c	DIN Width	Aux
SLP-880V/3	3	40kA	15kA	<3.2kV	880V	3	N

Surge Arrester: Class 3

Surge protection for additional installation in devices, equipment, etc. Designed to protect all types of low-voltage electric and electronic equipment against pulse over-voltage. I.e. Gate Motors, House Alarms.

Code	No. of Poles	I_n (8/20 μ s)	U_p	U_c	U_n	Fault Indication
DA-275A	2P	2kA	1.5kV	275V	230V	Acoustic Signalling
DA-275S	2P	2kA	1.5kV	275V	230V	LED indication & Aux Contact



DA-275S

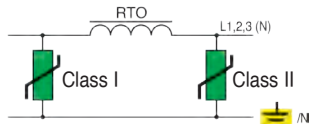
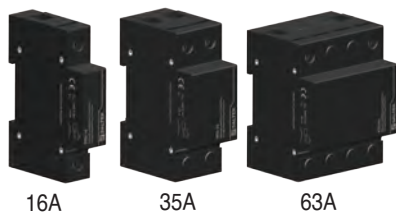
Remote Fault Signalling



DA-275A

Acoustic Signalling

SURGE PROTECTION DEVICES



Surge Separating Inductors

Surge separating conductors are designed to co-ordinate the function of surge arrestors class 1 and 2 or class 2 and 3 when the cable distance between them is less than 10m, such as when they are in the same or adjacent boards.

Code	Un	Load Current	Frequency	Resistance	Inductance	Mounting	Size
RTO16	500VAC	16A	50Hz	5mΩ	10μH	DIN	1M
RTO35	500VAC	35A	50Hz	2.5mΩ	10μH	DIN	2M
RTO63	500VAC	63A	50Hz	2mΩ	10μH	DIN	4M
RTO125	500VAC	125A	50Hz	1.1mΩ	15μH	Chassis	100x105x80mm

DATALINE & FIELD DEVICE PROTECTION

Surge Protection for Telecommunication and Signalling Networks

Combination of coarse and fine surge protection for 2-core signalling lines, for installation close to protected equipment. For protection of communication interfaces of I&C, electronic security and fire detection systems, etc. (mainly for RS-485 interfaces) against impact of surge voltage. Coarse and fine surge protection in differential mode (core - core) and common mode (core - PE).



Code	In (8/20μs)	Itot (10/350μs)	Up	Uc	Un	Band-width	DIN Width	Aux
DM-006-1RDJ	10kA	-	25V	8.1VDC	6VDC	1MHz	1	N
DM-012-1RDJ	10kA	-	35V	14.5VDC	12VDC	1.7MHz	1	N
DM-024-1RDJ	10kA	-	50V	29.1VDC	24VDC	3.4MHz	1	N
DM-048-1RDJ	10kA	-	80V	50.2VDC	48VDC	7MHz	1	N
DM-230-V/1-R	10kA	5kA	350V	250VDC	230VDC	11MHz	1	N

NEW Replacement Module: BDM-230-V/1-0 (230VDC)

Surge Protection for Ethernet in 19" Rack

Mains Voltage Surge Protection for use in 19" Racks



Code	DL-CAT5E-*	DL-CAT6-*	Code	X12
Type	Patch Panel 19"	Patch Panel 19"	Nominal Voltage Un	230V
Connections	RJ45/RJ45 (Shielded)	LSA/ RJ45 (Shielded)	Maximum Operating Voltage Uc	275V
Maximum operating Voltage Uc	8.1VDC/ 5.7VAC	8.5VDC / 60VAC	Nominal Load Current	10A/Outlet
Voltage Protection Level Core-Core Up	40V	40V	Nominal Discharge Current (8/20μs) In	3kA
Nominal Discharge Current (8/20μs) In	0,2kA	0,2kA	Voltage protection Level Up	1.6kV
Total Discharge Current (8/20μs)/Itot	1.6kA	1.6kA		
Insertion Attenuation	1.5dB @ 100MHz	2,0dB @ 250MHz		

*Add number of ports: **8,16,24** (24 Port only available for CAT6 version)

Data Line Protection

Combination of coarse and fine protection for communication equipment. Suitable for DIN Rail Mounting



Suitable for both Mode A and Mode B POE Lines



Code	DL-CAT5E-RJ45	DL-CAT6-RJ45	DL-1G-RJ45-POE	FX-90F75T	DL-TLF
Protection For	Data Line	Data Line	Data Line	Coaxial Lines	Telephone / ADSL
Max Operating Voltage Uc	6VAC / 8.5VDC	6VAC / 8.5VDC	8.5VDC	70VDC	114VAC/162VDC
Discharge Current (8/20μs) In	0.2kA	0.2kA	0,15kA	10kA	2,5kA
Discharge Current (10/350μs)/Itot	-	-	60V	2.5kA	-
Protection Voltage Core-Core Up	40V	40V	2kA	600V	260V
Attenuation/ Threshold Frequency	1.2dB @ 100MHz	2dB @ 250MHz	2.8dB @ 250MHz	<0,2dB@2,15GHz	-@14MHz
Connections IP / OP	RJ45 / RJ45	RJ45 / RJ45	RJ45 / RJ45	F75/F75	RJ11/RJ11
Size	90 x 54 x 25mm	90 x 54 x 25mm	90 x 54 x 25mm	45 x 54 x 25	45 x 54 x 25
Application	Ethernet 100Mbit/s	CAT6 Ethernet 1Gbit/s	CAT6 Ethernet 1Gbit/s + POE	Coaxial Lines	Coaxial Lines

SURGE PROTECTION DEVICES



NU-230 KM20-1-275 KM20-2-275



KM20-4-275 BU1-4P 230V



BU1-1P 230V BU1-2P 230V

Surge Arrestors: Class 2 - DIN Rail Mounting

Code	No. of Poles	I_{max} (8/20 μ S)	I_n (8/20 μ S)	U_p	U_c	U_n	DIN Width	Aux	Flag Indication
NU-230	1P+N	5kA	-	$\leq 1kV$	275V	230V	1	N	N
KM20/1-275	1P	60kA	40kA	$\leq 1.5kV$	275V	230V	1	N	Y
KM20/2-275	1P+N	60kA	40kA	$\leq 1.5kV$	275V	230V	2	N	Y
KM20C/2-275	1P+N	60kA	40kA	$\leq 1.5kV$	275V	230V	2	Y	Y
KM20/4-275	3P+N	60kA	40kA	$\leq 1.5kV$	275V	230/400V	4	N	Y
KM20C/4-275	3P+N	60kA	40kA	$\leq 1.5kV$	275V	230/400V	4	Y	Y
BU1-1P 230V	1P	100kA	65kA	$\leq 1.5kV$	275V	230V	1.5	N	Y
BU1-2P 230V	1P+N	100kA	65kA	$\leq 1.5kV$	275V	230V	3	N	Y
BU1-4P 230V	3P+N	100kA	65kA	$\leq 1.5kV$	275V	230/400V	6	N	Y

Replacement Surge Protection modules: **KM20-40-M** (for KM20*SPD at 40kA)
BU1-65-M (for BU1*SPD at 65kA)

NEW



Surge Arrestor: Class 1+2 - DIN Rail Mounting

Code	No. of Poles	I_{imp} (10/350 μ S)	I_{max} (8/20 μ S)	I_n (8/20 μ S)	U_p	U_c	U_n	DIN Width	Aux
USP2/2-275	1P+N	7kA	40kA	20kA	<1200V	275V	230V	2	N
USP2C/2-275	1P+N	7kA	40kA	20kA	<1200V	275V	230V	2	Y
USP2/4-275	3P+N	7kA	40kA	20kA	<1200V	275V	230V	4	N
USP2C/4-275	3P+N	7kA	40kA	20kA	<1200V	275V	230V	4	Y



LS-DB01

LS-DB03

DB Board System: Class 2 - IP65 Surface mount

Code	Description	Size H x W x D
Single Phase		
LS-DB01	1 Pole + N 230V 40kA Lightning Protection in surface mounting DB Board	210 x 143 x 100
Three Phase + N		
LS-DB03	3 Pole + N 230V(L-N) 40kA Lightning Protection in surface mounting DB Board	210 x 143 x 100



CB1

Surge Arrestor: Class 2 - Mini Rail Mounting

Code	No. of poles	I_{max} (8/20 μ S)	I_n (8/20 μ S)	U_p	U_c	U_n	DIN Width	Aux	Flag Indication
SASP-5KA	1	10kA	5kA	1200V	275V	230V	1	N	Y
SASP-15KA	1	30kA	15kA	1200V	275V	230V	1	N	Y

PV SURGE PROTECTION DEVICES

Surge Arrestor for PV systems: Class 2 - c/w Flag Indication

For protection against lightning surge voltages in solar systems. It's recommended that protection is installed at both ends of the DC power supply line (solar panel side and inverter/converter side), especially if the line routing is external & long. High energy MOVs equipped with specific thermal disconnectors and related failure indicators.



600V

1000V

1500V

Code	No. of Poles	I_{max} (8/20 μ S)	I_n (8/20 μ S)	U_p	U_{cpv}	$U_{oc Max}$
SUP2-PV-600V	2	40kA	20kA	$\leq 2.0kV$	600VDC	600VDC
SUP2-PV-1000V	3	40kA	20kA	$\leq 3.8kV$	1000VDC	900VDC
SUP2-PV-1500V	3	40kA	20kA	$\leq 5.0kV$	1560VDC	1500VDC

Surge Arrestor for PV systems: Class 1+2 - c/w Flag Indication

Code	No of Poles	I_n (8/20 μ S)	I_{max} (8/20 μ S)	I_{imp} (10/350 μ S)	U_p	U_{cpv}	DIN Width
SUP1+2-PV-1000V	3	20A	40kA	7kA	3.8kV	1000VDC	3

* Connection: 1-3, 2-3 / 1-2

15A RSA PLUG TOPS WITH SURGE PROTECTION

Correct, No Earth, Live & Neutral reversed, No Live, Live & Earth reversed, Live & Neutral reversed, Overload Circuit Fused Wires, Faulty Neutral, Faulty Earth							
			LP-600*	LP-600-HS	LP-601*	LP-603*	LP-604
			15A Mains Plug. 6500A Surge Protector. Protection between L-N, L-E and N-E. Plus wiring check.	15A Mains Plug. 16500A Surge Protector. L-N, LE and NE. Plus wiring check.	15A main surge protection without wiring check	15A dedicated plug Features same as LP-600	13A British Standard with 6500 Amp Surge Protection

NEW

ADAPTORS

Code	HJ-2185	AR-21SP	LP-501-HS	BX-SK025C-SA	BX-SK026A-U
Description	1 x 16A SA 230V / 50Hz Peak Surge Current: 6kA	1 x SA & 1 x N-Type & 1 x Schuko c/w 6kA Surge Protection	1 x 16A SA + 1 x 2-Pin Euro I High Surge Current: 16kA	1x16A SA + 1x N-type c/w 6.5kA Surge protection	1x16A SA + 1x N-Type USB-A + USB-C: 5V/2.4A c/w 6.5kA Surge protection

Combined Surge and Over/Under Voltage Protection



HJ-2122

HS-2166B-SA

Code	Low Voltage Cut-off	High Voltage Cut-off	Delay	Surge Protection	Socket Outlet
HJ-2122-SA	185VAC (Fixed)	265VAC (Fixed)	180s	6.5kA	16A SA + 2-pin Euro
HJ-2166B-SA	150-210VAC (Adj.)	230-280VAC (Adj.)	1-999s (Adj.)	6.5kA	16A SA

PLUG-IN MAINS SURGE PROTECTION

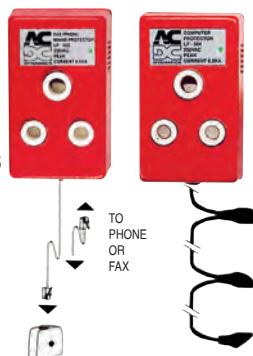
Now with green LED to confirm that you are protected!

LP-502G



LP-501G
MAF1G

DLP-503



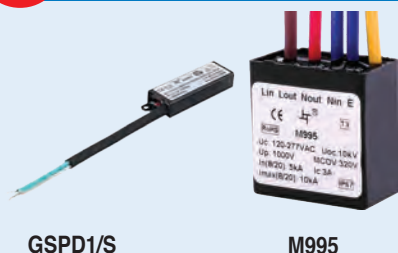
DLP-504

Plug-in types for home & small business

Description	Code (White) Standard	Code (Red) Dedicated
Mains Plug Accepts any 15A plug top. Withstands surge currents up to 6500A	LP-501G	DLP-501
TV Lightning Protector Protects against surges on mains and lightning on the TV antenna. Withstands surge currents up to 6500A.	LP-502G	DLP-502
Fax Lightning Protector Protects both the mains power supply and telecoms. Suitable for fax, answering machines and modems. 6500A surge current protection.	LP-503G	DLP-503
Computer Lightning Protector In addition to surge protection, this unit provides more efficient cable management and power distribution for small business and home computer use. 6500A surge current protection.	LP-504G	DLP-504

NEW

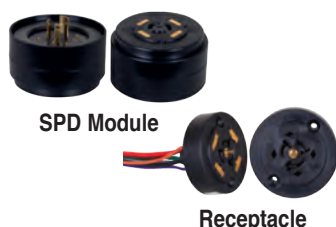
LIGHTING SURGE PROTECTION IP65



SPD's for use in Lighting Applications (eg. Flood Lights, High Bays, Street Lights)

Code	No. of Poles	I _{max} (8/20μS)	I _n (8/20μS)	Up	Uc	Connection
GSPD1	2 Pole (3 wire)	20kA	10kA	1500V	120-277V	Parallel
GSPD1S	2 Pole (3 wire)	10kA	5kA	1500V	120-277V	Parallel
M995*	2 Pole (3 wire)	10kA	5kA	1000V	120-277V	Series

* Max Load Current = 3A - **NOTE:** Load will be disconnected when SPD reaches end of life



Receptacle Surge Protection

The Fast Plug-In surge protection module was designed for retrofit applications. It removes the surge protector from inside the fixture and positions it between the receptacle and the photocell making it replaceable and much easier to service. The 24" external ground wire attaches to the fixture, arm or pole and provides a ground path to shunt destructive surges and transients away from the fixture's sensitive electrical components.

Fast Plug-in SPD Code	Pin Config	I _{max} (8/20 μs)	I _n (8/20 μs)	Up	Uc	Connection	Grounded Receptacle Code
SD10P-277AE-4TC	3-Pin	25KA	10KA	1300V	277V	Series	SD10PUR-3L
SD10P-277AE-4TC	7-Pin	25KA	10KA	1300V	277V	Series	SD10PUR-7L

Applications: Highway & Street Lighting

Protection: • Thermal Fusing, Gas Tube

Feature: • Diagnostic Light

• Compatible with standard Photocells

• L-N, L-G, N-G protection (3 Mode Protection)
• UL 1449 Safety Standard

ECONOMY MAINS PROTECTION

Economy Mains Protection - Indoors/Outdoors – Ideal for gate motors & LED Lights



Code	No. of Poles	I _{max} (8/20μS)	Clamping Voltage (Up)	Uc	Un	Response Time
LP1-8	1 Pole (2 wire)	5kA	710V	275V	230V	<20nS
LP2-8	2 Pole (3 wire)	5kA	710V	275V	230V	<20nS
LP1-65	1 Pole (2 wire)	40kA	710V	275V	230V	<25nS
LP2-65	2 Pole (3 wire)	40kA	710V	275V	230V	<25nS
LP1-40-4	1 Pole (2 wire)	40kA	1240V	680V	400V	<25nS
LP2-40-4	2 Pole (3 wire)	40kA	1240V	690V	400V	<25nS
LP1-40-5	1 Pole (2 wire)	40kA	1650V	950V	550V	<25nS
LP2-40-5	2 Pole (3 wire)	40kA	1650V	950V	550V	<25nS

SURGE PROTECTION FOR AV/TELECOMS

Antenna Surge Protection Device - 75Ω



Code	Working Frequency	Nominal Discharge 8/20μS
KA-F-450	400-500MHz	10kA
KA-F-900	800-1000MHz	10kA
KA-F-1800	1700-1900MHz	10kA

• Connector: F-connector
• Insertion loss: ≤0.3dB

• Transmission Power: 200W
• Size: 58L x Ø25.5mm

Co-axial Surge Protection Device - 75Ω



Code	Operating Voltage	Nominal Discharge 8/20μS
KS-BNC-10/3-5	5V	3kA
KS-BNC-10/3-12	12V	3kA

• Connector: BNC 75Ω
• Insertion loss: ≤0.5dB
• Transmission Rate: 10 Mbit/s
• Size: 42 x 25 x 25mm

Telecommunication Surge Protection Devices - Insertion loss: ≤0.5dB



Code	Operating Voltage	Nominal Discharge 8/20μS	Transmission Rate	Interface Type	Size (mm)
KS-RJ11-2/3-48	48V	3kA	2 Mbit/s	RJ11	70 x 25 x 25
KS-G3.81-2/3-48	48V	3kA	2 Mbit/s	Screw Term	59 x 25 x 25
KS-RJ45-100/3-12	12V	3kA	100 Mbit/s	RJ45	99 x 25 x 25

SURGE PROTECTION

IMPROVED RATINGS



Metal Oxide Varistors – General Protection

For safeguarding sensitive equipment against voltage surges and stabilising higher DC voltages.

AC Voltage V _{RMS}	DC Voltage V _{DC}	Peak Current (8/20 μ s) I _{max}	Clamping Voltage V _c	Dimensions $\varnothing$	Code	AC Voltage V _{RMS}	DC Voltage V _{DC}	Peak Current (8/20 μ s) I _{max}	Clamping Voltage V _c	Dimensions $\varnothing$	Code
11V	14V	1kA	36V	13.5mm	V11K10	275V	350V	0.4kA	745V	7.5mm	V275K5
11V	14V	2kA	36V	17mm	V11K14	275V	350V	3.5kA	710V	13.5mm	V275K10
11V	14V	3kA	36V	24mm	V11K20	275V	350V	6kA	710V	17mm	V275K14
20V	26V	1kA	65V	13.5mm	V20K10	275V	350V	10kA	710V	24mm	V275K20
20V	26V	2kA	65V	17mm	V20K14	460V	615V	3.5kA	1 240V	13.5mm	V460K10
20V	26V	3kA	65V	24mm	V20K20	460V	615V	6kA	1 240V	17mm	V460K14
30V	38V	1kA	93V	13.5mm	V30K10	460V	615V	10kA	1 240V	24mm	V460K20
30V	38V	2kA	93V	17mm	V30K14	550V	745V	3.5kA	1 500V	13.5mm	V550K10
30V	38V	3kA	93V	24mm	V30K20	550V	745V	6kA	1 500V	17mm	V550K14
130V	170V	10kA	340V	24mm	V130K20	550V	745V	10kA	1 500V	24mm	V550K20
140V	180V	3.5kA	360V	13.5mm	V140K10	625V	825V	3.5kA	1 650V	13.5mm	V625K10
140V	180V	6kA	360V	17mm	V140K14	625V	825V	6kA	1 650V	17mm	V625K14
140V	180V	10kA	360V	24mm	V140K20	625V	825V	10kA	1 650V	24mm	V625K20

Metal Oxide Varistors – Lightning Protection

Poles	AC Voltage V _{RMS}	DC Voltage V _{DC}	Peak Current (8/20 μ s) I _{max}	Clamping Voltage V _c	Dimensions	Code
1	140V	180V	8kA	360V	17.5W x 20.5H	MYL14-221A
1	275V	360V	8kA	710V	17.5W x 20.5H	MYL14-431A
1	140V	180V	15kA	360V	28 $\varnothing$ x 8.2	MYL25-221A
1	275V	360V	15kA	710V	28 $\varnothing$ x 9.3	MYL25-431A
1	460V	615V	15kA	1240V	28 $\varnothing$ x 11.2	MYL25-751A
1	620V	800V	15kA	1650V	28 $\varnothing$ x 12.4	MYL25-102A
1	140V	180V	25kA	360V	34 $\varnothing$ x 6.8	MYL32-221A
1	275V	360V	25kA	710V	34 $\varnothing$ x 7.9	MYL32-431A
1	460V	615V	25kA	1240V	34 $\varnothing$ x 9.8	MYL32-751A
1	620V	800V	25kA	1650V	34 $\varnothing$ x 11.2	MYL32-102A
1	275V	360V	40kA	710V	43 $\varnothing$ x 8	MYL40-431B
1	460V	615V	40kA	1240V	43 $\varnothing$ x 10	MYL40-751B
1	620V	800V	40kA	1650V	43 $\varnothing$ x 11	MYL40-102B
2	275V	360V	40kA	710V	43 $\varnothing$ x 11.4	MYL40-431F
2	460V	615V	40kA	1240V	43 $\varnothing$ x 16.3	MYL40-751F
2	620V	800V	40kA	1650V	43 $\varnothing$ x 19.9	MYL40-102F
1	275V	360V	70kA	360V	60 $\varnothing$ x 7.9	MYL53-431B
1	460V	615V	70kA	710V	60 $\varnothing$ x 9.8	MYL53-751B
1	620V	800V	70kA	1650V	60 $\varnothing$ x 11.2	MYL53-102B

MYL14



MYL25



MYL32



MYL40



1 Pole



2 Pole

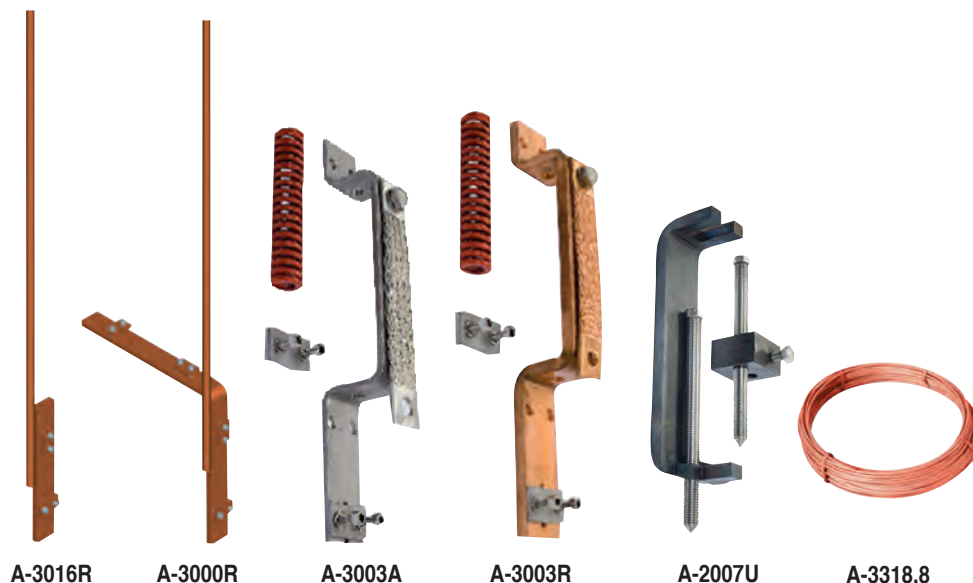
MYL53



EXTERNAL LIGHTNING PROTECTION

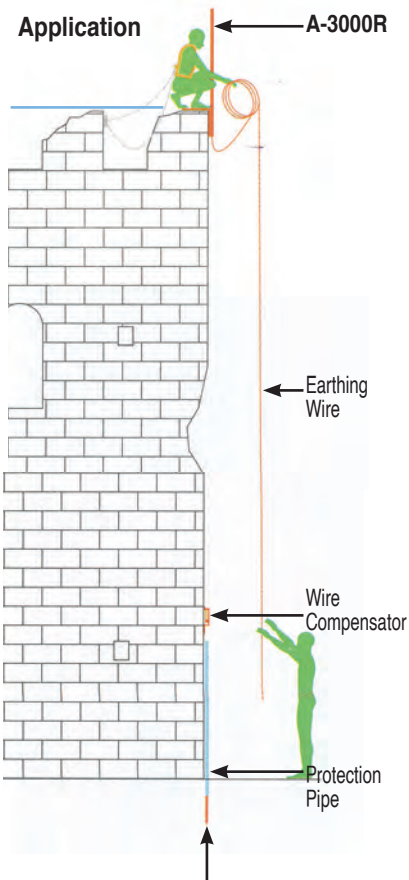
- Fast and easy to apply
- No scaffolding required for installation

U



Note connectable wire size: 1 x Ø 8-10mm

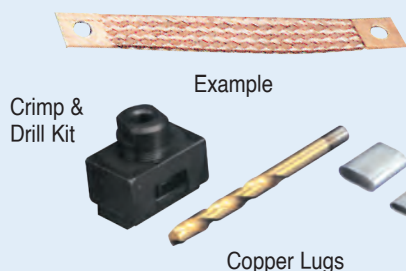
Code	Description	Material
A-3016R	Junction Bar with lightning rod Ø 14mm	Copper and stainless steel screws
A-3000R	L Junction Bar with lightning rod Ø 14mm	Copper and stainless steel screws
A-3003A	Wire Compensator for downlead with spring	Stainless Steel
A-3003R	Wire Compensator for downlead with spring	Copper and stainless steel screws
A-2007U	Tool for wire compensator adjustment	Steel
A-2006P	Protection Pipe for downlead	Ø 20mm for length of 2m polycarbonate
A-3318.8/M	Earthing wire Ø8mm, 50mm ² /m	Soft Copper



Earthing Rods & Mats
(see page 10.13 & 10.14)

COPPER BRAIDS FOR EARTHING CONNECTIONS

Make your own Braided Connections



Nominal Current	Flat Plain Copper Braid 25m Coils	CSA (mm ²)	Size (mm)	Crimp & Drill Kit	Bolt Size	Tinned Copper Lugs per 100
120A	E557040*	16	15 x 1.5	E558610	M6	E557180*
150A	E557060*	25	23 x 1.5	E558620	M10	E557190*
250A	E557100*	50	28 x 3	E558630	M12	E557380*

* Add /1 to code for cut lengths * Add /1 to code for individual lugs

Ready Made Tinned Copper Braid



Code	Cross Section mm ²	Hole Ø mm	L* mm	Max Current	Code	Cross Section mm ²	Hole Ø mm	L* mm	Max Current
CR6-100	6	6.5	100	40A	CR16-250	16	8.5	250	120A
CR6-150	6	6.5	150	40A	CR16-300	16	8.5	300	120A
CR10-100	10	6.5	100	75A	CR25-150	25	10.5	150	150A
CR10-150	10	6.5	150	75A	CR25-200	25	10.5	200	150A
CR10-200	10	6.5	200	75A	CR25-250	25	10.5	250	150A
CR10-250	10	6.5	250	75A	CR35-150	35	10.5	150	195A
CR16-100	16	8.5	100	120A	CR35-200	35	10.5	200	195A
CR16-150	16	8.5	150	120A	CR35-250	35	10.5	250	195A

*Measured between hole centres

EXTERNAL LIGHTNING PROTECTION



Earth Rods

250 Micron* Code	50 Micron Code	Description	Material
ER1216	ER1216/1	1.2m x M16 Earth Rod	Copper Plated Steel
ER1516	ER1516/1	1.5m x M16 Earth Rod	Copper Plated Steel
ER1816	—	1.8m x M16 Earth Rod	Copper Plated Steel
ER2416	—	2.4m x M16 Earth Rod	Copper Plated Steel
ER3016	—	3.0m x M16 Earth Rod	Copper Plated Steel

*SABS 1063/85 with copper electroplated to 250 Microns

Accessories

Code	Description	Material
ERA01	Driving Cap	Case Hardened Steel
ERA02	Driving Tip	Case Hardened Steel
ERA03	Coupling	Brass
ERA04	70mm Clamp	Brass
ERA05	Driving Stud	High Tensile Steel



Lightning Conductors - works with TELE-TESTER-S3

Code	Description
SAT-3C*	SAT-3C was designed combining the lightning conductor and its tester. The SAT-3C is equipped with an on-board transmitter using a standard frequency which transmits a signal every 90 seconds to confirm the correct operation of the lightning conductor's electronics, incl. the polarisation of the tips.

*Add triggering advance value to code 25, 45, 60
See table for selection.

Code	Description
TELE-TESTER-S3	SAT-3C can be tested remotely, via radio signals. The TeleTester-S3 receives the information transmitted by SAT-3C and emits an audible signal confirming the installation is fully functional.

Order Information

$\Delta T(\mu s)$	Description	TIP Height
25	25 μs triggering advance	2.0m
45	45 μs triggering advance	2.03m
60	60 μs triggering advance	2.06m

Lightning Conductors - works without TELE-TESTER-S3

Code	Description
SAT-G2*	The SAT-G2* is an Early Streamer Emission lightning conductor, known as a Zonal protector. In the event of descending lightning, a built-in triggering-device generates high-tension pulses at the conductor tip, protecting your structure from a lightning strike.

*Add triggering advance value to code 25, 45, 60 See table for selection

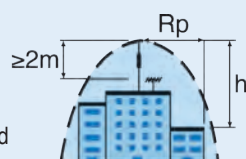


Lightning Strike Counter IP65

Code	Description
CCF4045	The CCF4045 lightning strike counter mounting is made in parallel on the down conductor with the help of two tightening clamps and 4 screws. Its protection level of IP65 makes it particularly suited to aggressive environments and extreme weather conditions. Records each strike between 0.4kA - 150kA

Calculation of Protected Areas

The radius of protection (R_p) of a Duval depends on the initiation advance (ΔT) of the Duval on the levels of protection I, II, III, calculated according to the lightning risk assessment and the height (h) of the lightning conductor over the area to be protected (minimum height = 2m).



- R_p : radius of protection in a horizontal plane located at a vertical distance h from the Duval tip
- h : height of the Duval tip above the surface(s) to be protected
- D : standardised striking distance
- $\Delta L = 10^\circ \cdot \Delta T$ (initiation advance)
- $R_p = \sqrt{h(2D-h) + \Delta L(2D + \Delta L)}$ (for $h \geq 5m$)
- For $h < 5m$, see the radius of protection table opposite
- ΔT = initiation advance measured during efficiency tests

Duval Radius of Protection

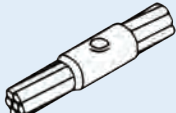
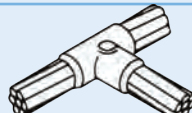
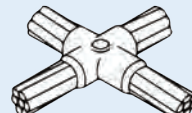
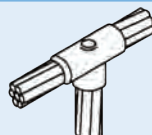
Level of protection	I (D = 20m)			II (D = 45m)			III (D = 60m)		
ΔT	25	45	60	25	45	60	25	45	60
$h(m)$	Radius of protection $R_p(m)$								
2	19	25	32	25	32	40	28	36	44
3	28	38	48	38	48	59	42	57	65
4	38	51	64	50	65	78	57	72	87
5	48	63	79	63	81	97	71	89	107
6	48	63	79	64	81	97	72	90	107
8	49	64	79	65	82	98	73	91	108
10	49	64	79	66	83	99	75	92	109
15	50	65	80	69	85	101	78	95	111
20	50	65	80	71	86	102	81	97	113
45	50	65	80	75	90	105	89	104	119
60	50	65	80	75	90	105	90	105	120

THERMEXWELD EXOTHERMIC WELDING

Thermexweld Exothermic Connections

- Will carry more current than the parent conductor
- Are permanent
- Will not loosen
- Will not corrode
- No external power source required



	Mould	Cable	Mould Code	Weld Metal Code	Tool Kit Code	Handle Clamp Code
	Straight	50m ²	SS1-M-C9	CU65 (Suitable for 10 Joints)	T-436	T110
		70m ²	SS1-M-C11	CU65 (Suitable for 10 Joints)	T-436	T110
	Tee	50m ²	SS2-M-C9	CU65 (Suitable for 10 Joints)	T-436	T110
		70m ²	SS2-M-C11	CU90 (Suitable for 10 Joints)	T-436	T110
	Cross	50m ²	SS3-M-C9	CU90 (Suitable for 10 Joints)	T-436	T110
		70m ²	SS3-M-C11	CU115 (Suitable for 10 Joints)	T-436	T110
	Tee On Earth Rod M16	50m ²	SE2-M-C9:D	CU90 (Suitable for 10 Joints)	T-436	T110
		70m ²	SE2-M-C11:D	CU115 (Suitable for 10 Joints)	T-436	T110

Tool Kit common to all joint types

(Tool Kit includes: tool box, handle clamp, crucible scraper, conductor brush, mould cavity brush & flint igniter)

Many more configurations are available on request

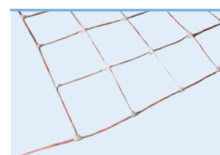
CONDUCTIVE EARTHING EQUIPMENT



Conductive Earthing Compound - Concrete

Code	Description
E175	25kg Conductive earthing compound (concrete)

- Reduces soil resistivity
 - Improves earth electrode contact with soil
 - Improves grounding earth resistance
 - Traps moisture. Will not leach out over time
- For Earth Rods & Lighting Conductors see pg 275



Earth Mats

Code	Description
E-100	Standard earth mat (1m x 1m x 2m tail) 250mm grid in 70mm ² BCEW

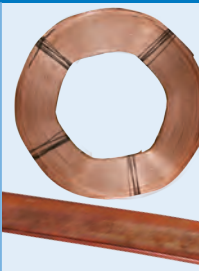
For custom made earth mats. Please provide our sales team with the following information:

- Conductor size
- Tail length
- Grid spacing



Earth Bar

Code	Description
EB25568	Manufactured from HC red copper bar, mounted on dumpy insulators with earth connection holes drilled. (6 holes). (W) 25mm x (t) 5mm x (D) 8mm x (L) 250mm



Copper Tape Conductor - per meter

Code	Description
C-150	25 x 3mm HC Annealed Copper Tape
C-152	50 x 3mm HC Annealed Copper Tape



Earth Clamp - M16 Earth Rod to Cable/Tape

Code	Description
Q-101	Light duty for 25 - 70mm ² / 25 x 3mm
Q-102	Heavy duty for 25 - 90mm ² / 30 x 3mm



Waterproofing

Code	Description
Q-180	Lectro-Paste - Moisture Displacing & Corrosion Inhibiting Paste - 500g Bucket
Q-190	Lectro-Tape - Cloth/Petrolatum Tape 50mm x 10m Roll



Copper Earthing Strap

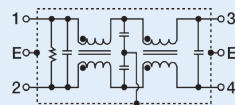
Code	Description	Length
CUS-10*	12 x 0.4 with 7mm Ø holes	10m roll

*Add cut length to code: /5m

LINE FILTERS

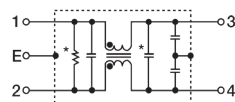
Circuit Diagrams

High performance filter

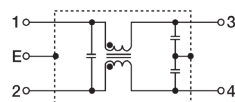


DL-3T1

General Purpose



DL-30D1



DL-1DZ210

Line Filters for EMI/EMC (Noise)

Code	Rated Current	Test Voltage AC (V) One Minute, Line to Earth	Insulation Resistance (M Ω) 500V DC One Minute, Line to Earth	Leakage Current 250V-60Hz	Loss (W)
1 Phase 250V L + N + E					
DL-3T1	3A	1 500	≥300	≤0.5mA	3W
DL-10D1	10A	1 500	≥300	≤0.5mA	≤1.0
DL-20D1	20A	1 500	≥300	≤0.5mA	≤1.0
DL-30D1	30A	1 500	≥300	≤0.5mA	≤1.0
DL-50D3	50A	2 000	≥300	0.8mA	≤1.0
DL-100D3	100A	2 000	≥300	1.0mA	≤1.0
DL-150D3	150A	2 000	≥300	1.0mA	≤1.0
DL-6DX36	6A	1 500	≥300	≤0.5mA	≤1.5
DL-1DZ210	1.0A	1 500	≥300	≤0.5mA	≤1.0
DL-3DZ210	3A	1 500	≥300	≤0.5mA	≤1.0
DL-6DZ2	6A	1 500	≥300	≤0.5mA	≤1.0

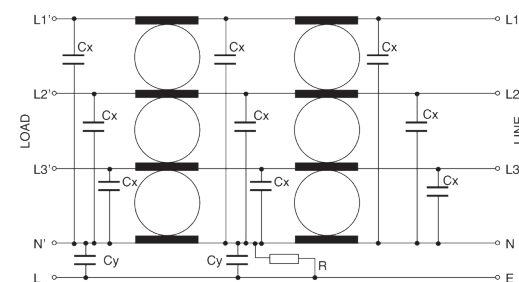
3 Phase 400V 3P+E

DL-5EBK5	5A	2 000	≥300	≤1.0mA	≤1.5
DL-10EBK5	10A	2 000	≥300	≤1.0mA	≤1.5
DL-25EBK5	25A	2 000	≥300	≤1.0mA	≤1.5
DL-35EBK5	35A	2 000	≥300	≤1.0mA	≤1.5
DL-50EBK5	50A	2 000	≥300	≤1.0mA	≤1.5

Temperature Rise ≤30°C

Operating Temperature: -25 ~ +85°C

ETRF400



Line Filters for EMI/EMC (Noise)

Code	Rated Current	Earth Leakage		Power Loss	Dimensions L x W x H
		Min	Max		
3 Phase with Neutral 480V 3P+N+E					
ETRF4016-MHU	16A	0.05mA	14mA	12W	308 x 60 x 142mm
ETRF4030-MHU	30A	0.05mA	28mA	26W	308 x 70 x 172mm
ETRF4042-MHU	42A	0.05mA	28mA	35W	308 x 70 x 172mm
ETRF4055-MHU	55A	0.05mA	28mA	46W	384 x 80 x 172mm
ETRF4075-MHU	75A	0.05mA	40mA	34W	427 x 80 x 185mm
ETRF4100-MHU	100A	0.05mA	40mA	38W	436 x 90 x 220mm
ETRF4130-MHU	130A	0.05mA	130mA	39W	542 x 200 x 160mm
ETRF4180-MHU	180A	0.05mA	130mA	42W	542 x 200 x 160mm

16A Mains Filter

Code	Description
DMAF1	Mains Filter Plug (RFI/EMI Filter) Red Box
MAF1G	Mains Filter Plug (RFI/EMI Filter) Grey Box

Features

High quality low pass line filter, provides protection against lightning transients, radio frequency and electrical noise.

Max Load Current: 10A.

Surge Current Protection: 6500A.

RFI Attenuation: -50dB to -65dB over the range 100KHz-50MHz.



DMAF1



MAF1G