SURGE PROTECTION DEVICES LTD

LIGHTNING & SURGE PROTECTION DEVICES

FOR INDUSTRIAL, COMMERCIAL AND DOMESTIC ELECTRICAL INSTALLATIONS

Tel: 01484 851747

www.surgedevices.co.uk

SURgE PROTECTION DEVICES LTD

Surge Protection Devices and our Partner Companies have been solving problems in Lightning and Surge Protection for over 50 years.

ISO 9001 European designed and manufactured, state of the art products which exceed the requirements of the latest Standards and our competitors' specifications.

Because we specialise in Lightning and Surge protection we can offer you the very best, most cost-effective solution of any company in this field.

We carry out many seminars with consultants and specialist training organisations as well as attending exhibitions and conferences both in the UK and overseas where our specialist knowledge is renowned. We also hold regular contractor training sessions online, if you are interested in participating please contact us.

We also use our specialist knowledge of Lightning and Surge protection to assist the industry in the preparation of new regulations or the modification of existing regulations.

SPD Ltd stands for innovation, quality and excellent customer service.

An introduction to Lightning and Surge Protection

Lightning and Surge protection for electrical and electronic systems to the new British and European Standard BSEN62305. Surge Protection Devices Ltd offer the complete solution to protect vital systems from damage.

Recently introduced standards put equal importance on protecting the electrical installation and electrical equipment inside the building itself.

Modern micro electronic components are very sensitive to overvoltages and because many systems are networked they rely on each other for the system to operate. If one part of the system gets damaged due to lightning or surges, the whole system will not operate. The consequential losses suffered during such events i.e. downtime and lost production, can be very high.

We offer a wealth of experience in helping to decide which product best suits your needs. Our catalogue contains our most popular products however we have many more products and components to suit a range of applications.

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BS 7671:2018 Amendment 2

Regulation 443.4.1:

Protection against transient overvoltages shall be provided where the consequence caused by overvoltage could:

> *i. Result in serious injury to, or loss of human life, or*
> *ii. Result in failure of a safety service, as defined in part 2, or*
> *iii. Result in significant financial loss or data loss*

For all other cases SPDs shall be fitted to protect against transient overvoltages, unless the owner of the installation declines such protection and wishes to accept the risk of damage to both wiring and equipment as tolerable.

BS 7671 defines safety services as:

"An electrical system for electrical equipment provided to protect or warn persons in the event of a hazard, or essential to their evacuation from a location"

This will mean that any distribution board supplying electrical equipment that would fall in to the definition of a safety service, as described above, will require an SPD. Therefore, now that domestic installations are not exempt from these requirements, a smoke alarm that is supplied from a consumer unit, rather than a battery, must be protected by an SPD.

The basic position of section 443 is now that SPDs shall be installed. In practical terms, most installations will have distribution boards that require surge protection due to the indents above. However, if a distribution board supplied non of the circuits listed above, then a discussion is encouraged between the electrical designer and the client to ensure that no unacceptable losses occur from overvoltage.

When applying these regulations, it is important to understand that the regulations are not retrospective, therefore will only apply if you are installing a new distribution board or making a significant amendment to an existing installation.

For any further information, training or guidance on the use of SPDs and the regulations surrounding them, please do not hesitate to contact us on:

01484 851 747

The relevance of different earthing systems

Throughout this brochure you will notice different SPD's for use on various earthing arrangements (TNC-S, TN-S and TT). We offer these different products because it is very important to get the correct device for the earthing arrangement you are currently working on. This is discussed in BS7671, in regulation 534.4.3 (page 162 & 163) where we consider connection types. Some people consider these to be wiring diagrams, when in fact they are the internal designs of SPD's designed for different earthing systems.

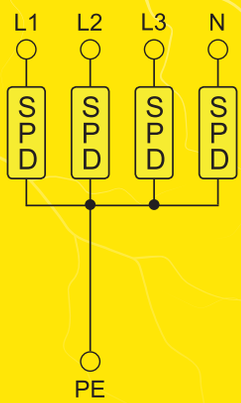
Connection type 1 (CT1) shown in fig 534.3 is for a TNC-S or TN-S system. These are systems that have a mains earth connection. Connection type 2 (CT2) shown in fig 534.4 shows the internal connections of an SPD device suitable for TT systems. These are systems that rely on earth rods as opposed to a mains earth connection.

When reviewing both figures it can be seen that the layout is slightly different. CT1 shows an SPD component between each phase and earth and also an SPD component between neutral and earth, whereas CT2 shows an SPD component between each phase and earth but then shows the neutral SPD component in line with the live SPD components. The reason for this is that SPD's function on sending excess voltage to earth, so we need a low resistance earth path.

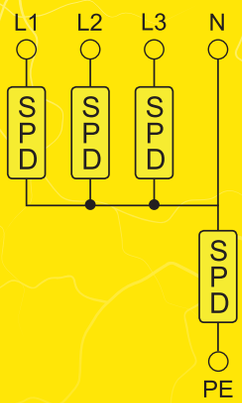
If the device is designed to CT1, over time as the SPD operates, the components will start the degrade, and will leak current to earth. Obviously, this will cause issues in a TT system and may cause an upstream RCD to trip. So, to TT systems the SPD has to be designed so that there is a separation between the live and earth components, this design is referred to as CT2.

For this reason SPD's designed to CT1 are not suitable for TT systems, but devices designed to CT2 will be suitable for all earthing arrangements as the reconfiguration of the components will not cause any issues on a TNC-S or TN-S system.

Replicated figure CT1



Replicated figure CT2



SURGE PROTECTION SELECTION CHART

These devices are designed to CT2 so are suitable for any earthing system

Does the building have an external lightning protection system or is fed by overhead power lines?

YES

Is the supply three phase or single phase?

THREE PHASE (Dom, Comm, Ind)

SY12350KA4P

SINGLE PHASE (Dom, Comm, Ind)

SY12325KA2P

NO

If you are working from a sub-distribution board that does not feed external circuits

START FROM HERE

Is the supply three phase/single phase or is it a domestic installation?

THREE PHASE (Comm, Ind)

SY2C40XLED

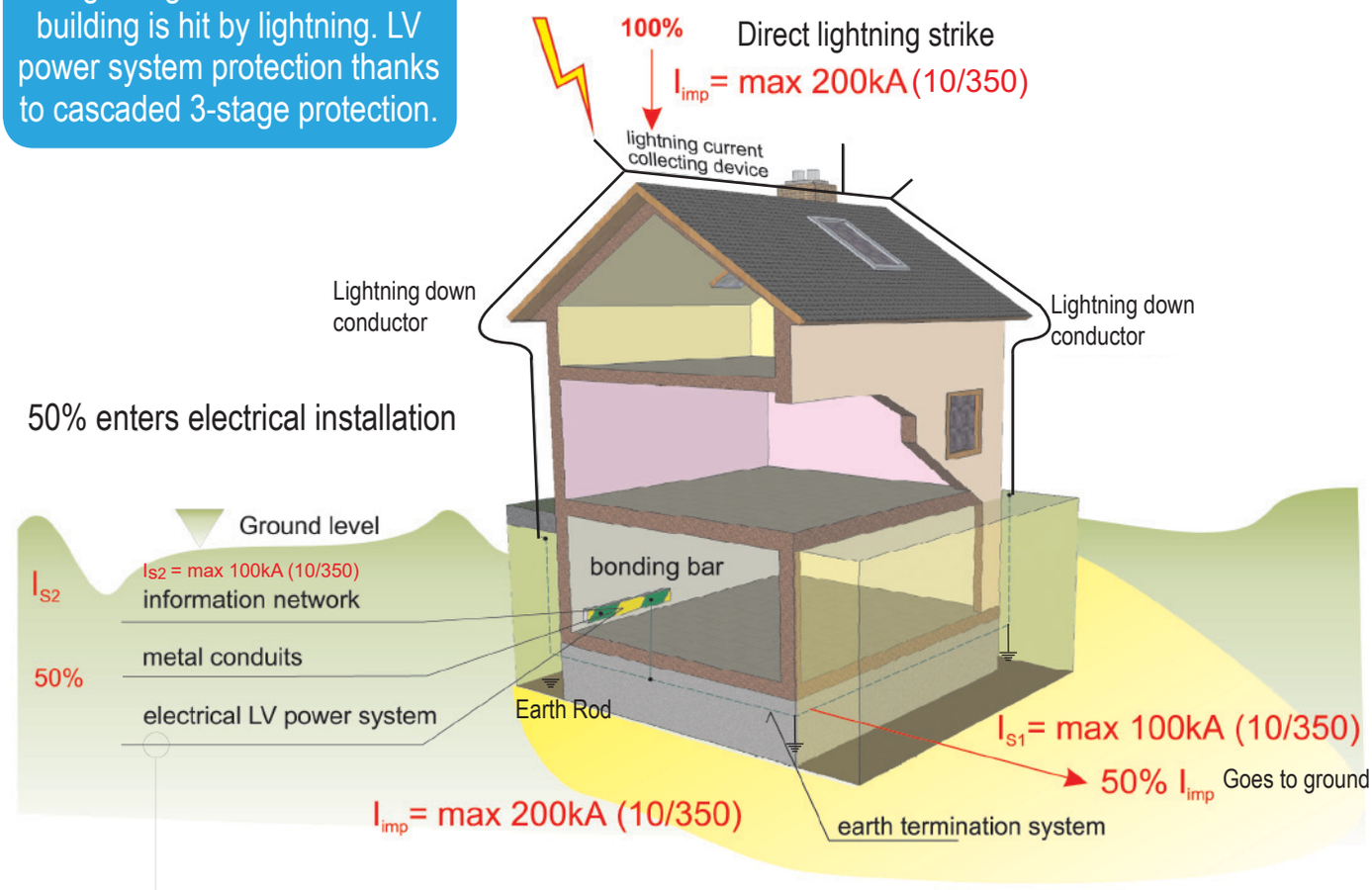
SINGLE PHASE (Comm, Ind)

SY1C40XLED

DOMESTIC

SY2-D

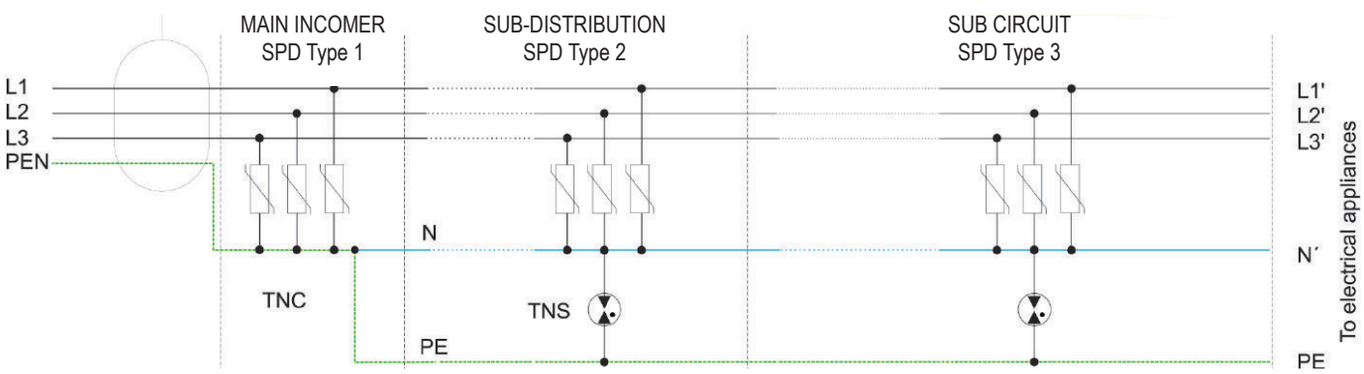
General distribution of lightning current when a building is hit by lightning. LV power system protection thanks to cascaded 3-stage protection.



The diagram above shows a building fitted with an external lightning protection system (LPS). Based on a direct lightning strike of 200kA 10/350µs the LPS is designed to take 50% (100kA) to earth via the earth rods, and the remaining 50% (100kA) will enter the building directly onto the main incoming panel, this is because the LPS is cross-bonded to the main incoming earth bar. This is why it is mandatory to install a Type 1+2+3 combined lightning and surge device on the main incoming panel. So for this reason the maximum rating of a combined lightning and surge device is 100kA 10/350µs.

If the building has sub-distribution boards more than 10 metres away from the incoming panel, these boards will require additional protection. Usually a Type 2 surge device is sufficient here unless you are feeding external final circuits, when a combined Type 1+2+3 surge device is recommended.

If you have any doubts please call our technical helpline direct on 01484 851 747.

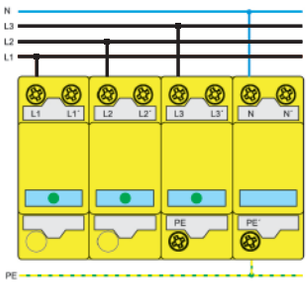


Type 1+2+3 Combined Lightning & Surge Arresters
For TNC-S and TN-S Installations

SPD with all / full mode protection (common and differential)

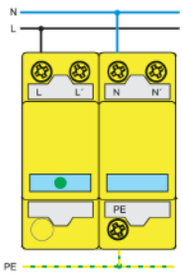
100kA 10/350µs LPL Level 1

Part No. 10811/LED



50kA 10/350µs LPL Level 3

Part No. 10812/LED



- Lightning protection Level 1, which is the highest protection level 100ka 10/350µs
- Enhanced protection to BSEN62305, BSEN61643-11 & BS7671
- Combined arrester Type 1+2+3 can handle direct lightning strikes and protect sensitive electronic equipment
- Very low let through voltage between all conductors less than 600V
- Full mode protection phase to earth, phase to neutral, phase to phase, neutral to earth
- Three way visual indication of status
- Remote changeover contacts can be linked to BMS, buzzer, light etc
- Will extinguish follow currents after activation
- Internal thermal disconnector
- Din rail mountable
- Minimum backup fuse / MCB 63A
- Recommended cable size 25mm²
- Can be supplied in polycarbonate IP65 or metal housing
- Manufactured in Europe
- Competitively priced against other brands

Classification acc. To BSEN61643-11		Type 1+2+3
Classification acc. To IEC61643-1	V	Class I+II+III
Maximum continuous operating voltage	Uc	275 V AC
LPZ		0-3
Max. lightning current per phase/N	I_{imp}	25kA (10/350µs)
Max. discharge current per phase	I_{max}	80kA (8/20µs)
Nominal discharge current per mode	I_n	25kA (8/20µs)
Voltage protection level at I_{imp}	U_p	<600 V
Response time	t_A	< 25ns
Temporary overvoltage TOV	U_T	450V/5 Sec
Rec. backup fuse		63-100A
Short-circuit withstand capability at max. backup fuse	I_p	25kAms
3 way visual indication of status		Green optical LED on front panel. Remote changeover contact 250 VAC/0.5A (DS)
Recommended cross section of connection wires / tightening torque		25mm² Cu/4Nm
Operating temperature		40 to +80ºC
Mounting on		35mm DIN rail
Weight	m	1000g
Lifetime		min. 100 000h

10811LEDENC

10811LEDENCM

10812LEDENC

10812LEDENCM

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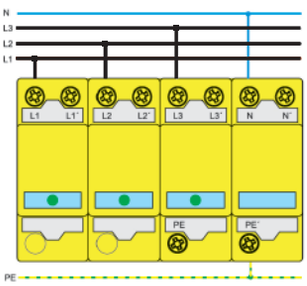
Fully Compliant to BSEN61643-11, BSEN62305 & BS7671

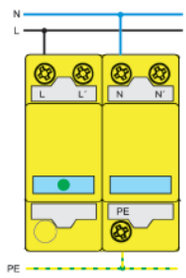
100kA 10/350µs LPL Level 1

Part No. 800914



50kA 10/350µs LPL Level 3

Part No. 800912



Maximum continuous operating voltage	Uc	255 V AC
Lightning impulse current (10/350µs) - charge - specific energy	I_{imp} Q W/R	25kA 12,5As 156kJ/
Total lightning current (10/350µs) L1 + L2 + L3 + N - PE	I_{total}	100kA
Nominal discharge current (8/20µs) per mode	In	50kA
Voltage protection level at I_{imp}	Up	<1.5kV
Response time	tA	<100ns
Temporary overvoltage (TOV)	UT	335V/5 sec.
Rec. Back-up fuse / MCCB		63-100A
Max. Back-up fuse ("V" connection)		100A
Short circuit withstand capability at max back-up fuse	Ip	80kArms
Weight	m	800g
Let through voltage (I) 3ka 8/20µs, short circuit current to BS6651+1999 AppC		600V
Remote indication changeover contact		Switching capacity AC 250V/0.5Amps Switching capacity DC 250V/0.1Amps, 125V/0.2Amps, 75V/0.5Amps

- Lightning protection Level 1, which is the highest protection level 100ka 10/350µs
- Enhanced protection to BSEN62305, BSEN61643-11 & BS7671
- Combined arrester Type 1+2+3 can handle lightning currents and protect sensitive electronic equipment
- Visual indication of status
- Pluggable replacement modules
- Remote changeover contacts can be linked to BMS, buzzer, light etc
- Din rail mountable
- Minimum backup fuse / MCB 63A
- Recommended cable size 25mm²
- Can be supplied in polycarbonate IP65 or metal housing for a small additional cost
- Manufactured in Europe
- Competitively priced against other brands

800914ENC

800914ENCM

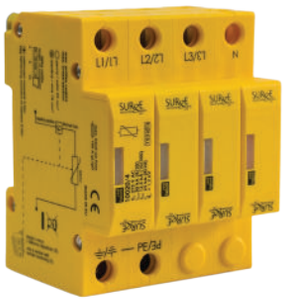
800912ENC

800912ENCM

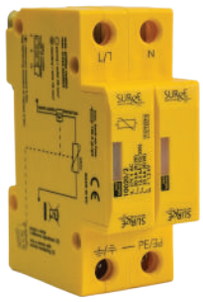
Type 1+2+3 Combined Lightning & Surge Arresters
For TNC-S and TN-S Installations

Fully Compliant to BSEN62305, BS61643-11 & BS7671

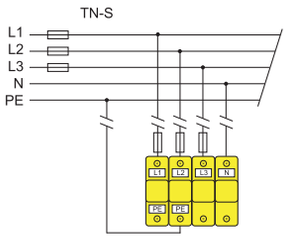
Cost-Effective Combined Lightning and Surge Arrester

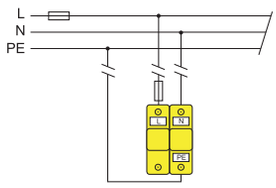


Part No. 10020/4
50kA 10/350µs



Part No. 10020/2
25kA 10/350µs





Max. continuous operating voltage	U_c	275 V AC
Lightning impulse current - charge - specific energy	I_{imp} Q W/R	12,5 kA 6,25 As 39 KJ/Ω
Total lightning current (10/350µs) L1 + L2 + L3 + N → PE	I_{total}	50 kA
Nominal discharge current (8/20µs)	I_n	20 kA
Voltage protection level at I_{imp}	U_p	< 1. 2 kV
Temporary overvoltage (TOV)	UT	335 V / 5 sec
Response time	tA	< 25ns
Rec. backup fuse		63-100 A
Short-circuit withstand capability at max. back-up fuse	I_p	60 kA_{rms}
Lifetime		min. 100 000 h
Weight	m	560g

- Lightning protection Level 3, 50kA 10/350µs
- Fully compliant to BSEN62305, BS61643-11 & BS7671
- Combined arrester Type 1+2+3 can handle direct lightning strikes and protect sensitive electronic equipment
- Low let through voltage <1.2kV
- Visual indication of status
- Will extinguish follow currents after activation
- Remote changeover contacts can be linked to BMS, buzzer, light etc
- Din rail mountable
- Fast response time <25ns
- Minimum backup fuse / MCB 63A
- Recommended cable size 25mm²
- Can be supplied in polycarbonate IP65 or metal housing at an additional cost
- Manufactured in Europe
- Competitively priced against other brands

10020/4ENC

10020/4ENCM

10020/2ENC

10020/2ENCM

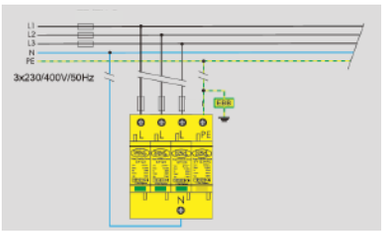
Tel: 01484 851747

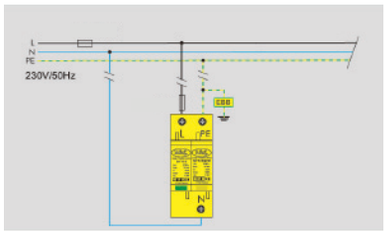
Fully Compliant to BSEN62305, BS61643-11 & BS7671

Cost-Effective Combined Lightning and Surge Arrester

Part No. SY12350KA4P
50kA 10/350µs

Part No. SY12325KA2P
25kA 10/350µs





Maximum continuous operating voltage	Uc	275 V AC
Lightning impulse current (10/350µs) - charge - specific energy	Iimp Q W/R	12,5 kA 6.25 As 39 kJ/Ω
Total lightning current (10/350µs) L1 + L2 + L3 + N - PE	Itotal	50 kA
Nominal discharge current (8/20µs)	In	20 kA
Maximum discharge current (8/20µs)	Imax	50 kA
Voltage protection level at Iimp	Up	< 1.3 kV
Temporary overvoltage (TOV)	UT	335 V / 5 sec.
Response time	tA	< 25ns/100ns
Rec. Back-up fuse / MCCB 63-100A		63-100A
Short circuit withstand capability at max back-up fuse	Ip	25 kArms
Weight	m	690g

- Lightning protection Level 3, 50kA 10/350µs
- Fully compliant to BSEN62305, BS61643-11 & BS7671
- Combined arrester Type 1+2+3 can handle direct lightning strikes and protect sensitive electronic equipment
- Suitable for use on all installation types (TT, TNC-S & TN-S)
- Low let through voltage <1.3kV
- Visual indication of status
- Pluggable replacement modules
- Remote changeover contacts can be linked to BMS, buzzer, light etc
- Din rail mountable
- Minimum backup fuse / MCB 63A
- Recommended cable size 25mm²
- Can be supplied in polycarbonate IP65 or metal housing at an additional cost
- Manufactured in Europe
- Competitively priced against other brands

SY12350KA4PENC

SY12350KA4PENCM

SY12325KA2PENC

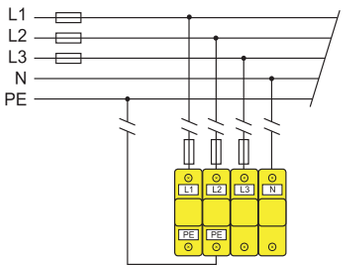
SY12325KA2PENCM

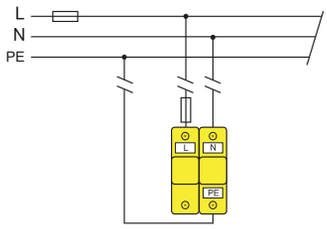
Type 2 Surge Arresters
For TNC-S and TN-S Installations

Fully Compliant to BSEN61643-11, BSEN62305 & BS7671

Part No. SY2C40X

Part No. SY1C40X





Rated voltage (max. continuous voltage)	U_C	275V~
Nominal discharge current (8/20µs)	I_n	20kA
Max. discharge current (8/20µs)	I_{max}	40kA
Voltage protection level at I_n	U_p	≤1.25kV
Voltage protection level at 5kA	U_p	≤1.0kV
Response time	t_A	≤25ns
Max. back up fuse / MCB		125A gL/gG
Operating temperature range		-40°C...+80°C
Recommended cross-sectional area of cables		2.5mm² ~ 25mm² solid/ 35mm² flexible
Enclosure material		Yellow thermoplastic, UL94-V0
Dimension		4 mods
Mounting on		35mm DIN rail
Type of remote signalling contact		Switching contact
Switching capacity	U_N/ I_N	AC:250V/0.5A; DC:250V/0.1A; 150V/0.2A; 75V/0.5A
Cross-sectional area for remote signalling contact		Max. 1.5mm² solid / flexible

- Type 2 Surge protection device
- Fully compliant to BSEN61643-11, BSEN62305 & BS7671
- Suitable for TNC-S and TN-S installations
- Protects sensitive electronic systems and end equipment
- Visual indication of status (Windows)
- Pluggable replacement modules
- Remote changeover contacts can be linked to BMS, buzzer, light etc
- Din rail mountable
- Connect in parallel, meaning no current limitations
- Recommended backup fuse / MCB 32A
- Can be supplied in a polycarbonate IP65 or metal housing at an additional cost
- Manufactured in Europe
- Competitively priced against other brands

SY2C40XENC

SY2C40XENCM

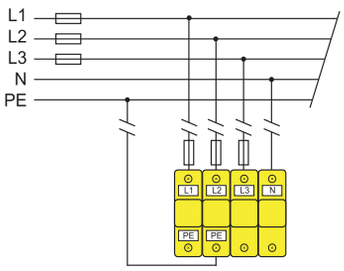
SY1C40XENC

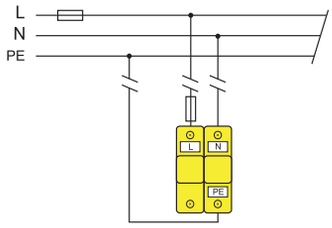
SY1C40XENCM

Fully Compliant to BSEN61643-11, BSEN62305 & BS7671

Part No. SY2C40XLED

Part No. SY1C40XLED





- Type 2 Surge protection device
- Fully compliant to BSEN61643-11, BSEN62305 & BS7671
- Suitable for TT, TNC-S and TN-S installations
- Protects sensitive electronic systems and end equipment
- Visual indication of status (LED'S)
- Pluggable replacement modules
- Remote changeover contacts can be linked to BMS, buzzer, light etc
- Din rail mountable
- Connect in parallel, meaning no current limitations
- Recommended backup fuse / MCB 32A
- Can be supplied in a polycarbonate IP65 or metal housing at an additional cost
- Manufactured in Europe
- Competitively priced against other brands

Rated voltage (max. continuous voltage)	U_c	275V~
Nominal discharge current (8/20µs)	I_n	20kA
Max. discharge current (8/20µs)	I_{max}	40kA
Voltage protection level at I_n	U_p	≤1.4kV
Voltage protection level at 5kA	U_{oc}	≤1.0kV
Response time	t_A	<100ns
Max. back up fuse / MCB		125A gL/gG / 32A-63A
Operating temperature range		-40°C...+80°C
Recommended cross-sectional area of cables		2.5mm² ~ 25mm² solid/ 35mm² flexible
Mounting on		35mm DIN rail
Type of remote signalling contact		Switching contact
Switching capacity	U_N/ I_N	AC:250V/0.5A; DC:250V/0.1A; 150V/0.2A; 750V/0.5A
Cross-sectional area for remote signalling contact		Max. 1.5mm² solid / flexible

SY2C40XLEDENC

SY2C40XLEDENCM

SY1C40XLEDENC

SY1C40XLEDENCM

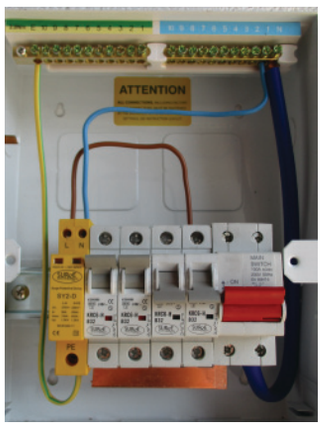
Type 2 Single Phase Surge Arresters
For TNC-S, TN-S and TT Installations

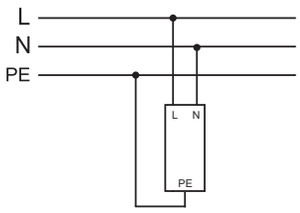
Fully Compliant to BSEN61643-11, BSEN62305, BS7671

Surge Arresters ideal for domestic installations

Part No. SY2-D
Pluggable Module

Part No. 320002
Pluggable Module
With Remote Contact





- Type 2 single phase surge devices ideal for domestic installations
- Fully compliant to BSEN61642-11, BSEN62305 & BS7671
- Visual status indication
- Both these devices are earth leakage free so may be connected before of after RCD's, RCBO's etc.
- Both devices can be used on all installation types (TN-S, TNC-S, PME & TT)
- Earth wire must be 6mm² minimum to BS7671:2018
- 320002 has a remote changeover contact, which can be linked to BMS, buzzer, light etc
- Din rail mountable
- Recommended MCB 32A
- Easy to install, just connect it in parallel to your board
- Manufactured in Europe
- Competitively priced against other brands
- When carrying out insulation tests, please remove the earth cable to the device, remove the module or test at 250v max. Failure to abide by this advice may damage the device.

SPD According to	IEC61643-1 EN61643-11 Type 2
Maximum continuous operating voltage UCV	275 V
Voltage protection level Up 3kA (8/20µs)kA	< 1.5kV
Nominal discharge current In (8/20µs)kA	L - N 5kA N-PE 20kA
Response time	< 25ns
Dimensions	W 18mm H 90mm D 66mm
Degree of protection	IP20
Recommended backup MCB/fuse	32A or less
Terminal capacity	1.5~6mm²
Visual indication of status	Black OK Red Replace Module
DIN rail mountable	Yes

SY2-DENC

SY2-DENCM

320002ENC

320002ENCM

NEW PRODUCT!

18th Edition Consumer Unit Regulations

The 18th Edition of BS 7671 gave us some additional considerations for the selection of consumer units. 536.4.202 states that we can no longer base the selection of our RCD's on the diversity factor of the downstream circuits solely. There are three methods outlined in BS 7671 to decide on the overload device needed. The consumer unit we are offering below has 100A RCD's meaning that this will be suitable to be installed in any single-phase applications up to 100A.

RCD selection has also been a huge area of change in the 18th edition, we now have to consider the variety of RCD's available and chose the correct specification for the installation as per regulation 531.3.3 of BS7671:2018.

RCD Type	Characteristics
AC	Trips on AC leakage only
A	As AC Type plus pulsating DC leakage
F	As A type plus high frequency residual current
B	As Type F plus smooth DC leakage

The consumer unit below contains A Type RCD's as these are more suitable for todays domestic market with the ever-expanding amount of potential DC leakage current, which is in line with regulation 531.3.3 of BS7671:2018.

TYPE A 100A RCD'S

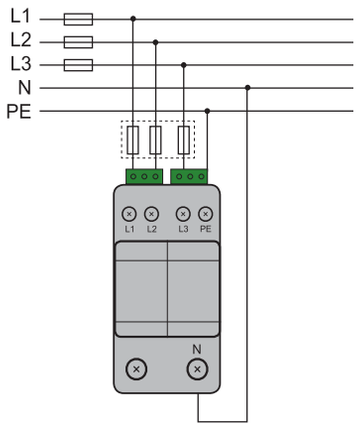
Part No. CUL552HI

- 10 way consumer unit with 100A main switch
- 10 x 6kA MCB's Type B included: 3 x 6A, 2 x 16A, 4 x 32A and 1 x 40A
- Fully compliant to all parts of the BSEN61439 series
- Fully compliant to the 18th edition of the wiring regulations
- Non-combustable, metal clad consumer unit fully compliant to BSEN61439-3
- Knockouts on top, bottom rear and both sides
- Integrated spirit level for a quick and easy installation
- Lot's of space inside for easy wiring
- Numbered N/PE terminals with colour coding
- Earth and Neutral terminal block is easily removed by pressing the fixing clip on both side (patented)
- Comes complete with a Type 2 surge device fed from a 32A MCB
- The surge device is suitable for all types of earthing arrangements (TN-S, TNC-S, PME & TT)
- The SPD has status indication on both live and neutral parts
- The SPD has pluggable, replacement modules for ease of replacement
- The SPD comes with a 10 year guarantee

Type 2/3 Compact Three Phase Surge Arrester

NEW PRODUCT!

Suitable for use on TNC-S and TN-S Installations



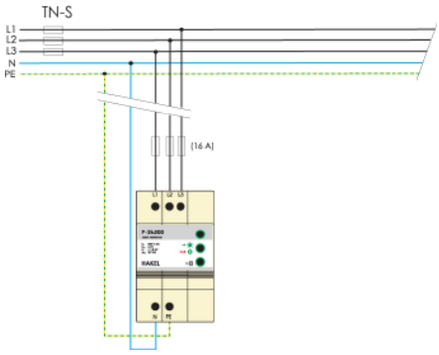
- Type 2/3 compact surge protection device
- 3 phase and neutral device that is only 2 modules wide, so saves you space
- Fully compliant to BSEN61643-11, BSEN62305 & BS7671
- Protects sensitive electronic systems and end equipment
- Visual indication of status (Windows)
- Remote changeover contacts can be linked to BMS, buzzer, light etc
- Din rail mountable
- Connect in parallel, meaning no current limitations
- Recommended backup fuse / MCB 16-32A
- Can be supplied in polycarbonate IP65 or metal housing
- Manufactured in Europe
- Competitively priced against other brands

Part No. SY3C40X
Window Indication

Max. continuous operating voltage	U_c	275 V AC
Nominal discharge current (8/20µs)	I_n	20 kA
Max. discharge current (8/20µs)	Imax	40 kA
Voltage protection level at I_n	Up	≤1.3 kV
Voltage protection level at 5 kA	Up	≤1 kV
Response time	t_A	<100ns
Recommended backup fuse		16-32A
Mounting on		35mm DIN rail
Enclosure material		Thermoplastic UL94-V0
Type of remote signalling contact		Switching contact

Suitable for use on TNC-S, TN-S & TT Installations

Recommended connection of 30105



Part No. 30105
LED Indication

Nominal voltage	U_N	230 V AC
Max. continuous operating voltage	U_c	275 V AC
Nominal discharge current I_n (8/20µs)	I_n	3 kA (L/N, L/PE) 5 kA (N/PE)
Combined impulse	U_{oc}	6 kV (L/N, L/PE) 10 kV (N/PE)
Voltage protection level at U_{oc}	Up	<1,2 V (L/N) <1,2 kV (L/PE) <1,2 kV (N/PE)
Power loss at winding temp. 20˚C		c. 3VA / 0,1 VA
Response time	t_A	<25ns (L/N) <100ns (L/PE, N/PE)
Recommended backup fuse		16A
Lifetime		min. 100.000 h
Weight	m	140/205g
Part no		30 105

Tel: 01484 851747

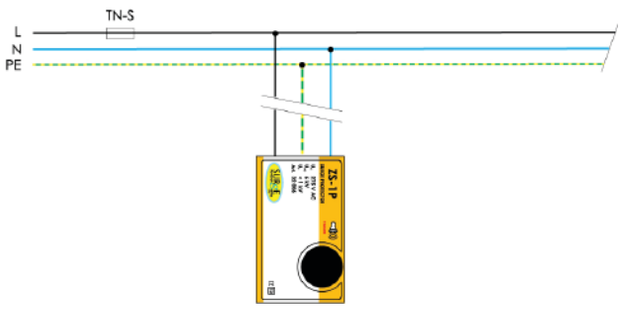
Fully Compliant to BSEN61643-11, BSEN62305, BS7671

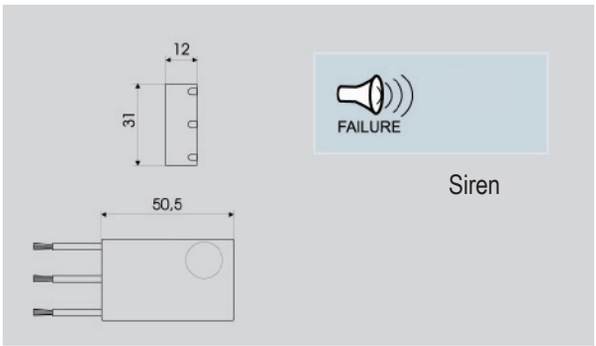
As detailed in BS7671:2018 Regulation 534 Type 3 devices are used to protect end equipment, such as sensitive electrical equipment, fire alarms panels and security alarms. As shown in regulation 534.4.1.7 the presence of these devices downstream of a distribution board must be permanently indicated at the distribution board.

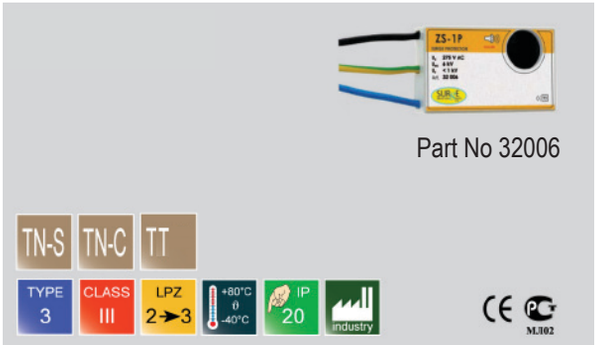
Part No. 32006

- Type 3 single phase surge protection device
- Fully compliant to BSEN61643-11, BSEN62305 & BS7671
- Designed specifically to protect fire alarm / burglar alarm panels and individual sockets
- Small design means it can be easily incorporated into alarm panels, wall trunking behind sockets and spur boxes feeding sensitive electronic devices
- Backup fuse or MCB 16A
- Built in acoustic fault indication
- Easy and quick to connect
- Earth leakage free

Recommended connection of 32006







Test class according to BSEN6164-11		Type 3
Nominal voltage	U_n	230V AC
Max. continuous operating voltage	U_c	275V AC
Nominal discharge current (8/20µs)	In	3kA (L/N), L(N)/PE)
Combined impulse	U_{oc}	6kV (L/N, L(N)/PE)
Voltage protection level at U_{oc}	Up	<1.3kV (L/N) <1kV (L(N)/PE)
Response time	t_A	<25ns (L/N) <100ns (L/PE, N/PE)
Operating temperature range		-40°C...+70°C
Temporary Overvoltage (TOV)	U_i	335V / 5s (L/N) 1200V + U_o / 200ms(L/PE)
LPZ		2-3
Protection type		IP20
Failure signalisation		Audible alarm
Lifetime		Min. 100,000h
Weight		30g

Type 3 single phase surge arresters with a high frequency filter according to EN61643-11. They are produced for nominal current within the range of 8, 16, 25, 32 amps for mounting on DIN rail 35mm. For protection of single phase electronic appliances in low voltage supply systems against impulse surge and high frequency disturbance.

- Meets all latest standards and requirements
- Protects sensitive measuring and laboratory equipment
- LED indication of status
- Earth leakage free
- Surge arrester with filter combined
- Wired in series

Part No. 30 080
8 amps

Part No. 30 004
16 amps

Part No. 30 017
25 amps

Part No. 30 005
32 amps

For BT Type Sockets. Test Category D+C+B to BSEN 61643-21

Part No. DTB2/ART Wall mountable

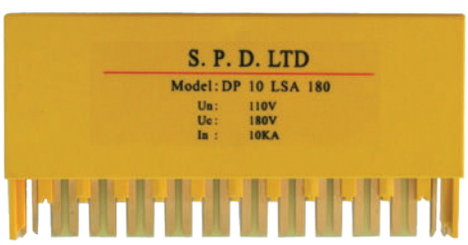
Can also be used on ISDN Fast Transmission Lines

- Fast operating time
- Tested to BSEN61643-21 A2, B2, C2, C3, D1
- Simple plug in, plug out design
- Highly recommended for lines fed via overhead

Single or 10 Pair Telephone Surge Arrester for Installation into Krone LSA Disconnection Strips, Test Category D+C+B to BSEN 61643-21

- Fast operating times
- 2 stage protection
- Economic cost per line

Part No. DP1 LSA180
Single Pair / Line SPD



Part No. DP10LSA180
10 Pair / Line SPD

Part No. TELCO/EB
Earth Bar Required
For DP1 LSA Only

Surge Arresters for Data/Signal/CCTV

SP Range Pluggable SPD for 4/20mA Signals

Part No. SP30

Part No.		SP30	SP48
Nominal voltage: Un		30V-	48V-
Max. continuous voltage DC.Uc		34.8V-	55.1V-
Max. continuous voltage: AC.Uc		24.5V	38.9V
Nominal current: In			
C2 Total Nominal Discharge Current In (8/20µs) 20kA			
D1 Total Lightning Impulse Current (10/350µs) limp 20kA			
Voltage protective level: Upin	Core/Core	≤130V	≤200V
	Core/PE	≤80V	≤120V
Voltage protective level: Up 1kc/µS	Core/Core	≤95V	≤150V
	Core/PE	≤50V	≤75V

- Combined arrester handles Lightning & Surges
- Designed to protect measuring and control circuits, bus systems or telecommunications systems
- DIN rail mountable device with integrated earthing
- Pluggable, replacement modules
- Available in a range of voltages to suit all installations (5V-110V)
- Slim, space-saving device

CAT.6 / Power Over Ethernet Surge Devices

Part No. SY4-POE

Nominal voltage	U_n	48V DC
Maximum continuous operating voltage	Uc	57V DC
Nominal discharge current (8/20µs)	I_n	3kA
Maximum discharge current (8/20µs)	I_{max}	5kA
Voltage protection level Line-Line	Up	≤180V
Voltage protection level Line-PG	Up	≤600V
Nominal current	IL	1A
Capacitance Line-Line	C	≤30pF
Operating temperature range		80ºC
Operating temperature range		-20 - 65ºC
Connection (input/output)		RJ45 socket
Mounting		35mm Din Rail
Degree of protection		IP10
Part No.		SY4-POE

- Combined arresters handles Lightning & Surges
- Suitable to protect twisted pair Ethernet networks, including Power over Ethernet (PoE)
- RJ45 connections

Part No. 630043

Co-Axial BNC CCTV Arrester

Surge arrester for coaxial ethernet network systems protection. Protects against surges at the boundaries from lightning protection zone 0-3.

- Data network protector in accordance with IEC614321.
- Limit the transients with gas discharge tubes and transzorb diodes.
- Two-stage protection circuit in aluminium housing.
- BNC connector for ethernet systems.
- Simple installation.
- Also application for the protection of video signals, cameras and/or TV systems.

Part No. D-24/BNC

Tel: 01484 851747

Type 1+2 and Type 2 Lightning & Surge Protection For Photovoltaic / Solar Systems

When we are looking protecting an installation against over voltage, we have to give some consideration to external cables entering the building. PV installations will come in to this bracket. SPD's for PV systems are to protect the inverter and the fixed installation, therefore PV SPD's should be installed on the DC side of the PV system, before the inverter. These will always be Type 2 devices, unless the building has an external lightning protection system and the correct separation distance to BSEN 62305-3 has not been maintained, where you would install a Type 1 SPD.

Type 1+2

NEW PRODUCT

Part No. LSPD PV1000
1000V DC

Max. PV d.c. voltage	U_{cpv}	≤1000V DC
DC Voltage (max. continuous voltage)	U_c	1060V DC
Short-circuit current rating	I_{scpv}	1000A
Total lightning impulse current	I_{imp}	12.5kA 10/350µs
Nominal discharge current (8/20µs)	I_n	20kA
Max. discharge current (8/20µs)	I_{max}	40kA
Voltage protection level at 5kA	U_p	≤3.5 kV
Response time	t_A	<25ns
Recommended backup MCB/fuse DC type		63A
Type of remote signalling contact		Switching contact
Dimension		3 mods
Test Standards		BSEN61643-11 IEC60364-7-712

Type 2

Part No. SPD PV1000
1000V DC

SPD According to		BSEN61643-11
Maximum continuous operating voltage UcV		1060v DC
Voltage protection level In Up		4kv
Nominal discharge current In (8/20µs) kA		20kA
Maximum discharge current In (8/20µs) kA		40kA
Response time ns		<25ns
Dimensions		W 54 x H 90 x D 66mm
Recommended backup MCB/fuse DC type		32A to 63A
Terminal capacity	Phase line Neutral line	2.5~35mm²
	Earth line	4.0~35mm²
	Signal line	1mm²

Part No. SPD PV600
600V DC

SPD According to		BSEN61643-11
Maximum continuous operating voltage UcV		640v
Voltage protection level Up		2.2kv
Nominal discharge current In (8/20µs) kA		20kA
Maximum discharge current In (8/20µs) kA		40kA
Response time		<25ns
Dimensions		W 36 x H 90 x D 66mm
Recommended backup MCB/fuse DC type		32A to 63A
Terminal capacity	Phase line Neutral line	2.5~35mm²
	Earth line	4.0~35mm²
	Signal line	1mm²

SURGE PROTECTION DEVICES LTD

Lightning and surge protection devices for Industrial, Commercial and Domestic Electrical Installations

TEL: 01484 851747
FAX: 01484 852594
EMAIL: info@surgedevices.co.uk
surgeprotectiondevices
surgeprotectiondevices
kirsty_spdtechnical

www.surgedevices.co.uk

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