



THE SOLLATEK POWER SUPPRESSOR RANGE

COMPREHENSIVE PROTECTION FOR ELECTRICAL EQUIPMENT AGAINST:

- LIGHTNING • SURGES • SPIKES • RFI AND NOISE
- OVER VOLTAGE • POWER-BACK SURGES

Voltage surges and lightning strikes

Voltage surges are momentary increases in the normal working voltage of a system. Sometimes referred to as 'spikes', 'overvoltages', or 'transients', these surges can affect power cables, data/telephone cables and instrument wiring, causing anything from data loss to the total destruction of equipment. All electrical and electronic equipment, connected to the mains supply is at risk of being damaged.

Typical causes include fluorescent light switching, arc welders, and nearby lightning activity. Lightning activity is potentially the most damaging.

Lightning protection

Surge protection devices (SPDs) cannot protect equipment against direct lightning strikes. Instead they protect by neutralising voltage surges on cables caused by inductive or resistive coupling from nearby lightning strikes. In particular, SPDs should be fitted on the mains power supply lines and incoming data/signal to/from all critical sensitive equipment.

Cables such as these - and consequently any equipment associated with them - are particularly at risk as they are partly installed outside the building where they are more vulnerable to the effects of nearby lightning strikes.

A strike within 100 m of cables or buildings can induce surges up to 5kV and 1.25kA.

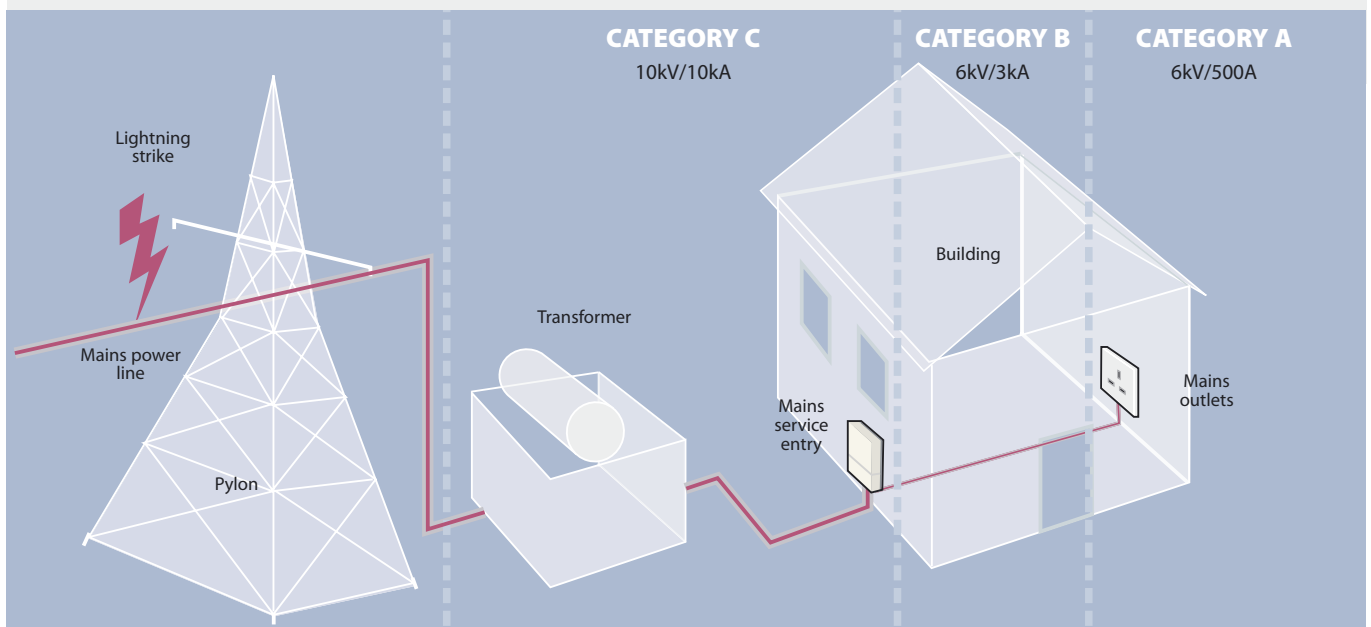
Also at great risk are sites powered from overhead cables. Any direct lightning strikes to the power network will travel along the cables, with the potential of damage to the equipment powered by these, since surges can rise to a level of more than 6kV and 3kA.

RFI (Radio Frequency Interference)

Also, not visible but equally damaging, is noise & RFI (Radio Frequency Interference). Noise & RFI generally interfere with data and can cause loss of valuable information or data corruption. Protection - or RFI filtration, should be implemented whenever important or critical data is being used.

The amplitude and available energy of the standard surge waveforms are dependent upon the location within a facility, categorised as follows:

- CATEGORY A : long branch circuits, receptacles (indoor)
- CATEGORY B : short branch circuits, service panel (indoor)
- CATEGORY C : outdoor overhead lines, service entrance



UP TO 6.5kA

MULTIGUARD

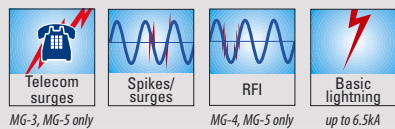


MAINS SPIKE/SURGE PROTECTION

On 4 protected outlets, the Multiguard protects against spikes/surges and RFI/noise and has a maximum total power of 13 amps. The Multiguard should replace any conventional 4 way extension lead where equipment is valued. Ideal for all home and office electronic appliances and is especially useful for computers and their peripherals. Also for use with video, TV, satellite, games consoles, Hi-fi and audio equipment etc.

Featuring LED indication of power.

Protection:



MG-3, MG-5 only

MG-4, MG-5 only

up to 6.5kA

UP TO 6.5kA

SPIKEGUARD

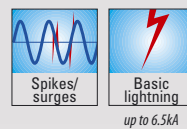


SPIKE/SURGE PROTECTION

The SpikeGuard can protect any suitably rated home or office equipment: computers and their peripherals, AV equipment, TV and satellite, monitors, scanners, fax machines, laptops, and Hi-fi audio equipment. The SpikeGuard is easy to fit, small, safe and maintenance free and gives everyday cost-effective protection from spike and surge damage.

Featuring LED indication of protection status.

Protection:



up to 6.5kA

UP TO 6.5kA

**PURE AC
MAINS FILTER ADAPTOR**

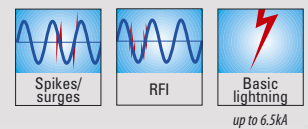


SPIKE/SURGE AND RFI PROTECTION

The PureAC provides protection and filtering against spike/surge, RFI (Radio Frequency Interference) and noise which can damage computers and telecom equipment. By filtering these out, reliability is increased and damage is prevented. Can be used to protect any suitably rated domestic or office equipment, for instance: computers and peripherals, office equipment, AV equipment, TV, video, satellite, etc.

Featuring LED indication of protection status.

Protection:

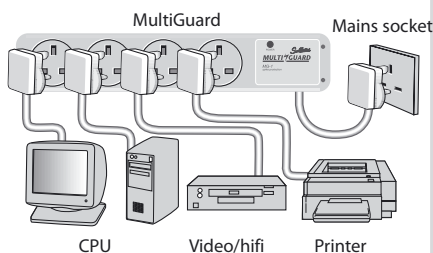


up to 6.5kA

CONNECTION PROCEDURE

The Sollatek Multiguard provides a 4-way protection strip. Just plug the Multiguard into the wall socket and connect your equipment to it. Available in several model configurations for protection against surges/spikes/data protection/noise & RFI. See table below.

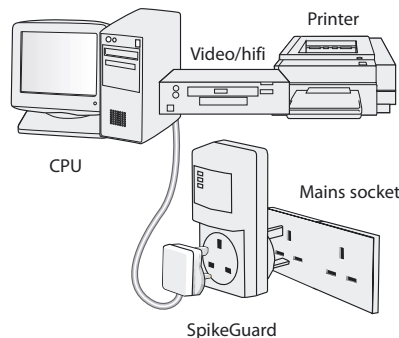
Product	Neon	Spike protection	LED	Switch	Telephone Line protection	RFI
MG-1	•	•				
MG-2		•	•	•		
MG-3		•	•	•	•	
MG-4		•	•	•		•
MG-5		•	•	•	•	•



CONNECTION PROCEDURE

The Sollatek SpikeGuard replaces the traditional spike plug. The SpikeGuard provides versatility and function at the same cost. Rather than requiring wiring, the SpikeGuard is a plug in adaptor. All you need to do is plug your appliance in the socket of the SpikeGuard instead of wiring it to your equipment.

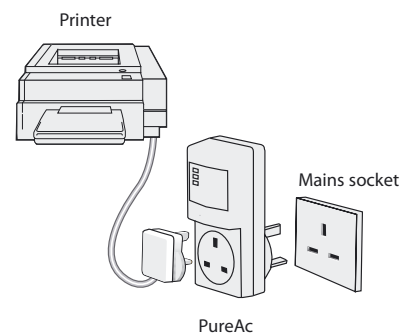
Additionally like the traditional surge plug, the SpikeGuard provides protection for equipment plugged into an adjacent socket.



CONNECTION PROCEDURE

The Sollatek PureAC connection Just plug the PureAC into the wall socket and connect your equipment to it.

The PureAC is available in three versions offering current ratings of 3 amps, 7 amps and 13 amps.



THE SOLLATEK POWER SUPPRESSOR RANGE

CATEGOR

DSP RA

UP TO 6.5kA

COMMSGUARD



MAINS AND DATA/TELECOM SPIKE/SURGE PROTECTION

Lightning, surges and spikes can also find their way through data/telecommunication lines and cause serious damage to equipment and data. Being connected to the internet for long periods increases the risk of damage. The CommsGuard protects both on data and the mains power lines. Ideally suited for office and also domestic use with computers connected to the internet and their peripherals, fax machines, telephones, modems, ADSL routers, alarm systems, and answering machines.

Featuring LED indication of protection status.

Protection:



UP TO 6.5kA

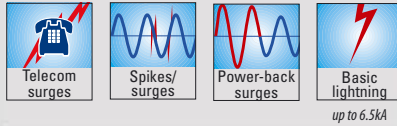
LIGHTNING GUARD



MAINS AND DATA/TELECOM SPIKE/SURGE PROTECTION

The LightningGuard gives protection against all types of mains and signal line borne spikes and surges. In addition to mains power line and telephone line protection, LightningGuard also offers the additional feature of over voltage protection, whereby the output is disconnected for a wait period of 30 secs. Reconnection is resumed when disturbance is over. Ideally suited for office and domestic use i.e computers connected to the internet, fax, phones, modems, ADSL routers, alarm systems, answering machines. LED Indication of output voltage level and wait time status. Rated up to 5 amps.

Protection:



DSP1P-0 DSP3P-0



MAINS SPIKE/SURGE PROTECTION

The Sollatek DSP1P and its three-phase counterpart DSP3P-0 are the first choice for high capacity surge protection with maximum surge current handling capabilities of 20KA per phase with a maximum let through voltage of 750Vac. This range is ideally suited to the protection of both entire distribution boards and equipment in domestic and industrial environments. The DSP1P/3P utilises Metal Oxide Varistor (MOV) technology in its highly reliable protection circuits to ensure that your house, site, facility or plant is completely protected. Fully automatic in operation, DSP1P/3P is engineered to react immediately, clamping voltage surges generated either internally or externally to a safe level improving equipment reliability and reducing overall system downtime.

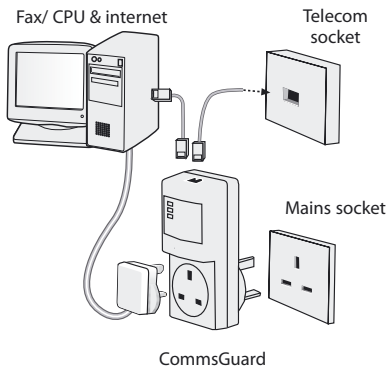
Features LED indication of protection status and requires no operator intervention or maintenance. Available in a variety of configurations for different international supply voltages.

Protection:



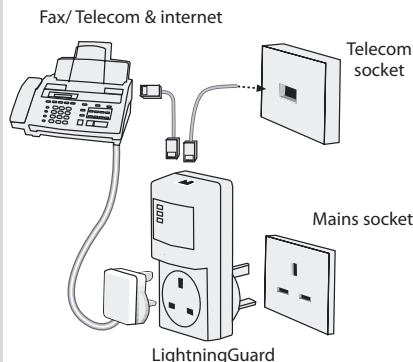
CONNECTION PROCEDURE

The Sollatek Commsguard connection is simple. Just plug the Commsguard into the wall socket and connect your equipment to it. Protection against mains & data spikes/surges is automatic.



CONNECTION PROCEDURE

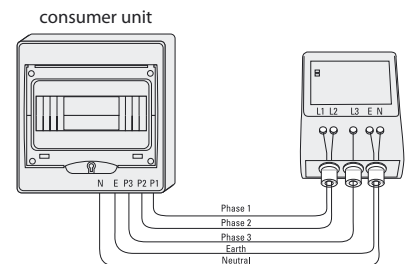
The Sollatek LightningGuard is suitable for the protection of PCs, internet, fax, modems and phones. Connection is simple. Just plug the LightningGuard into the mains power socket and telephone line and connect your equipment to it. Protection against mains & data spikes/surges etc is automatic.



CONNECTION PROCEDURE

The Sollatek DSP-0 comes as a single phase unit (DSP1P-0) and as a three phase unit (DSP3P-0) and is connected at the point of mains entry into the house, building or factory.

The unit should be mounted such that the cable lengths are kept at a minimum for optimal surge handling capacity. Wire connection is achieved by means of screw terminals.



Connection schematic for three phase model

DRY B

CATEGORY B/C

CATEGORY C

NGE SINGLE PHASE AND THREE PHASE 20kA to 180kA

DSP3P-D80
DSP3P-D120
DSP3P-D160

DSP3P-S90
DSP1P-S90

DSP3P-M150
DSP1P-M180
DSP1P-M150-SD



MAINS SPIKE/SURGE PROTECTION

MAINS SPIKE/SURGE PROTECTION

MAINS SPIKE/SURGE PROTECTION

Specifically designed to give high capacity protection in industrial applications, the DSP-D range offers ten-mode protection and a max surge handling capabilities of 80kA, 120kA or 160kA per phase, depending on the model. As with the Sollatek DSP1P/3P range, the range uses varistor (MOV) technology to clamp excess voltages to a safe level ensuring your facility is protected at distribution boards, lighting systems and equipment panels and cabinets. Solid-state diagnostics are a feature of this unit with LED indication of protection level status. Also, featuring IP66 rated enclosure design, UL 1449 rating. No operator intervention is required.

This range is available in configurations suitable for all international supply voltages and, unlike the Sollatek DSP1P/3P range, only three phase versions are available.

Designed to provide high capacity industrial surge protection at distribution boards and small service entrance locations, the DSP-S range offers ten-mode protection with a maximum surge handling capacity of 90kA per phase. When used in conjunction with a Sollatek DSP-M series at the main service entrance, this provides the ultimate in complete high-capacity surge suppression. No operator intervention is required and LED indicators allow each MOV network to be constantly monitored. In addition, remote monitoring is enabled by means of the unit's normally-closed remote indication contacts. The unit is IP66 rated and UL 1449 approved.

Single and three phase versions are available in configurations suitable for all international supply voltages.

Designed to provide primary high capacity industrial surge protection at main service entrance locations, the DSP-M range gives ten-mode protection with a maximum surge handling capacity of 150kA or 180kA per phase, depending on the model chosen. With built in redundant full varistor networks, the Sollatek DSP-M series ensure your premises are never unprotected. Visual warning or remote warning alerts the operator of the failure of one varistor network while the redundant unit keeps protecting the site thus ensuring your equipment is always protected, even after a direct strike. For even greater levels of protection, Silicon Avalanche Diode versions are available (DSP-150-SD) incorporating both SAD and MOV technology allowing for a lower limiting voltage; the worst-case voltage that will get through to the protected equipment. Remote monitoring is enabled by means of the unit's normally-closed remote indication contacts. The unit is IP66 rated and UL 1449 approved.

Single and three phase versions are available in configurations suitable for all international supply voltages.

Protection:



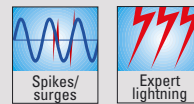
>40kA

Protection:



>40kA

Protection:

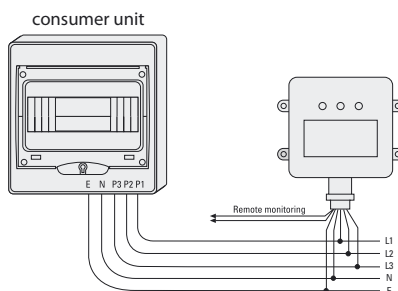


>40kA

CONNECTION PROCEDURE

The Sollatek DSP-D is simple and straightforward. It can be wall mounted via 5mm holes. Alternatively, the unit can be flush mounted via a mounting plate.

The unit should be mounted such that the cable lengths are kept at a minimum for optimal surge handling capacity. Wire connection is achieved by means of screw terminals.

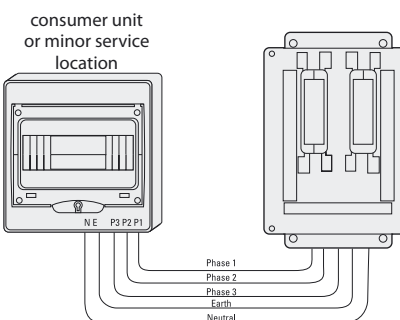


Connection schematic for three phase model

CONNECTION PROCEDURE

The Sollatek DSP-S is simple and straightforward. It is easy to wall mount and flush mounting is also an option.

The unit should be mounted such that the cable lengths are kept at a minimum for optimal surge handling capacity. Wire connection is achieved by means of screw terminals.

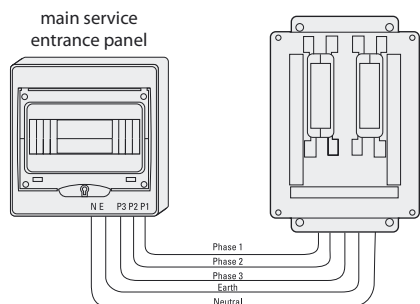


Connection schematic for three phase model

CONNECTION PROCEDURE

The Sollatek DSP-M is simple and straightforward. It is easy to wall mount and flush mounting is also an option.

The unit should be mounted such that the cable lengths are kept at a minimum for optimal surge handling capacity. Wire connection is achieved by means of screw terminals.



Connection schematic for three phase model

CATEGORY A SUPPRESSOR SPECIFICATIONS

	PURE AC			SPIKEGUARD	COMMSGUARD	MULTIGUARD						LIGHTNING GUARD
	PureAC03	PureAC07	PureAC13			MS-0	MG-1	MG-2	MG-3	MG-4	MG-5	
Current Rating	3A Single	7A Single	13A Single	13A Single	13A Single	13A Single	13A Single	13A Single	13A Single	13A Single	13A Single	5A Single
Phase												
Mains Spike Protection												
Response Time (NanoSeconds)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Total Energy Rating (Joules)	480J	480J	480J	480J	160J	480J	480J	480J	480J	480J	480J	160J
Peak Transient Current		6.5kA (8/20us)		6.5kA (8/20us)	6.5kA (8/20us)				6.5kA (8/20us)			6.5kA (8/20us)
Maximum Let through Voltage		750V		750V	750V	750V	750V	750V	750V	750V	750V	750V
RFI & Noise												
Capacitance	2 x 4.7nF (Y) 1 x 0.22uF (X2)											2 x 4.7nF (Y) 1 x 0.22uF (X2)
Inductance	5.5mH	1.5mH	0.63mH									0.63mH
Typical Attenuation	50dB at 10 Mhz											50dB @ 10 Mhz
DATA												
Response Time (NanoSeconds)					<10							<10
Max Impulse current					>5kA(8/20us)							>5kA(8/20us)
Line Resistance					<0.10hm							<0.10hm
Working Voltage					140V Max							140V Max
Capacitance					<200pf							<200pf
DC insertion Loss					<0.4dB							<0.4dB
Bandwidth					>1MHz (@6000hm)							>1MHz (@6000hm)
Physical												
Dims (L x W x H) (mm)	145x60x85			145x60x85	145x60x85	404x147x53						145x60x85
Dims Packed (mm)	180x90x97			180x90x97	180x90x97	650g						180x90x97
Weight Packed	300g			300g	300g							300g
Applications	telecommunications equipment e.g. switchboards (PABX), telephones modems and computers			cost-effective office & home equipment e.g. computers printers HiFi etc	telecommunication equipment e.g. modem, fax telephone	cost-effective protection for most electrical and electronic equipment e.g.computers, fax, TV, video, modems, PABX, cash registers						computers with modems /internet Also fax machines and telephones

CATEGORY B&C SUPPRESSOR SPECIFICATIONS

Model	DSP	DSP D	DSP S	DSP M
	DSP1P-0 DSP3P-0	DSP3P-D80 DSP3P-D120 DSP3P-D160	DSP3P-S90 DSP1P-S90	DSP3P-M150 DSP3P-M180 DSP3P-M150-SD
Max surge current (Imax) (8/20us)	20kA	80kA 120kA 160kA	90kA	150kA 180kA 150kA +SAD*
Max leakage current	<0.3mA	<0.3mA	<0.3mA	<0.3mA
Lines protected AC	L-N, L-E, N-E	L-N, L-E, L-L, N-E	L-N, L-E, L-L, N-E	L-N, L-L, L-E, N-E
Ambient temperature limits	-40°C to 85°C (working) -40°F to 185°F (working)	-40°C to 85°C (working) -40°F to 185°F (working)	-40°C to 85°C (working) -40°F to 185°F (working)	-40°C to 85°C (working) -40°F to 185°F (working)
Humidity	95%RH (non-condensing)	95%RH (non-condensing)	95%RH (non-condensing)	95%RH (non-condensing)
Enclosure	IP20	IP66	IP66	IP66
Terminals	6mm ²	16mm ² (4 AWG)	16mm ² (4 AWG)	16mm ² (4 AWG)
Mounting	surface mount by 4mm diameter holes	surface mount by 5mm diameter holes or flush mount	surface mount by 8mm diameter holes	surface mount by 8mm diameter holes
Indication	Green LED on: protection present Green LED off internal failure	Green LED on: protection present Green LED off internal failure	Green LED on: protection present Mechanical flag: fault warning Red LED on: high voltage neutral to earth	Green LED on: protection present Mechanical flag: fault warning Red LED on: high voltage neutral to earth
Remote contacts	No	NC 125Vac, 2A rated	No/NC 125Vac, 2A rated	No/NC 125Vac, 2A rated
Weight	DSP1P-0: 580g DSP3P-0: 680g	1.64Kg	1.8Kg	3.2Kg
Dimensions	205 x 135 x 55mm	134.5 x 134.5 x 58.4mm	162.6 x 246.2 x 88.9 mm	213.4 x 296.9 x 101.6 mm
EMC compliance	BS EN 60950: 1992 BS EN 61000-6-2: 1999	BS EN 60950: 1992 BS EN 61000-6-2:1999	BS EN 60950: 1992 BS EN 61000-6-2:1999	BS EN 60950: 1992 BS EN 61000-6-2:1999
Remote monitoring unit	No	Remote monitoring contacts available	Optional	Optional

* For even greater levels of protection, Silicon Avalanche Diode (SAD) versions are available incorporating both SAD and MOV technology. The SAD option allows for a lower limiting voltage; the worst-case voltage that will get through to the protected equipment.

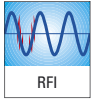
POWER PROBLEMS AND THEIR ASSOCIATED CAUSES



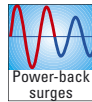
Spikes/Surges: Very short (one millisecond) event of very high surge in voltage to thousands of volts and amps. Spikes are common in all parts of the world and repeated exposure to spikes will damage electronic equipment and corrupt data.



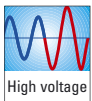
Power-cuts: Common in every country in the world, especially in areas of frequent voltage problems. Sudden loss of power can cause damage ranging from corruption of data to mechanical faults as equipment is stopped while in operation.



RFI (Radio Frequency Interference)/Noise: High frequency disturbances that occur within a short period of time (milliseconds). RFI & noise are very common in all parts of the world and are the main cause of data corruption.



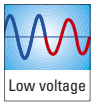
Power-Back Surges: These typically occur when power returns after a power-cut and connected equipment receives a surge of electricity at an over-voltage level, which can be very damaging.



Over-Voltage: Long duration (milliseconds, seconds, minutes, hours or days) rise in the voltage above acceptable limits. Depending on the level of the over-voltage, the damage can be instantaneous, severe and irreparable.



Telecom surges, spikes and lightning: Short term, high voltage and current phenomena occurring on the telephone lines. Can cause irreparable damage to any piece of equipment connected to the incoming line. The telephone line itself may even be damaged or destroyed in severe cases.



Brown-Out / Under-Voltage: Long duration of low voltage (milliseconds to seconds, minutes, hours or days). Very common in parts of the world especially where the power utilities are over-stretched. Prolonged and frequent brownouts cause the equipment to malfunction or not work at all. Repeated episodes are certain to cause damage. Motors and compressors (and therefore fridges, freezers, coolers, air-conditioners and pumps) are especially at risk. In time, damage is certain.

Lightning: Direct or nearby strikes can cause minor problems or severe disturbances and damage. Lightning produces spikes/surges, over-voltage or power cuts.



Basic Lightning: Indicating a level of protection with surge handling capacity up to 6.5kA.

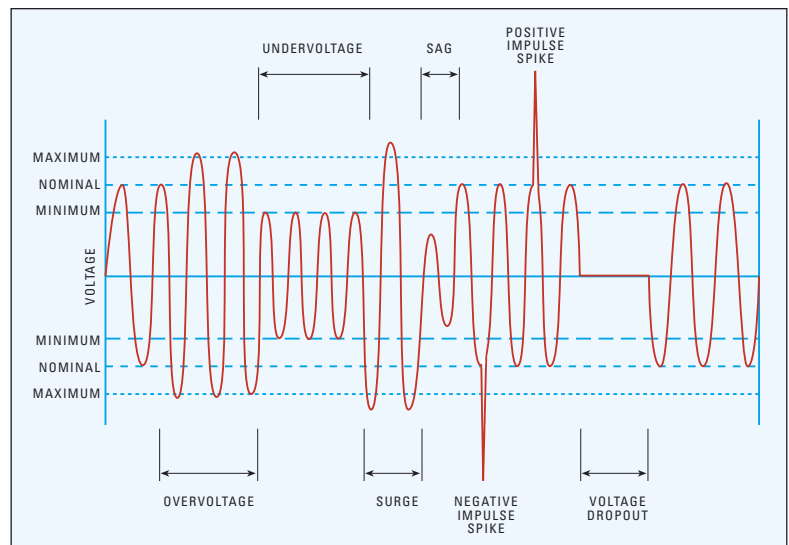


Advanced Lightning: Indicating a level of protection with surge handling capacity 6.5kA to 40kA.



Expert Lightning: Indicating a level of protection with surge handling greater than 40kA.

DISTURBANCES OF THE MAINS SUPPLY



SUMMARY

Spikes, noise & RFI may be caused by:

- Switching events in the power supply network
- Lightning strikes
- Normal load switching by the supply company
- Industrial load switching
- Accidental events such as short circuits
- Broken mains cables
- Faulty electrical equipment

These problems can also originate inside the building for example:

- A faulty lift motor
- Failing fluorescent light
- Faulty domestic equipment
- Welding equipment

Although less intense than those due to big switching events outside the building, spikes, noise and RFI can also be generated inside the building. This is why the Sollatek range of power suppression units offer protection at each distribution board and then at each piece of equipment for total facility protection.

Spikes are too brief to be noticed by people in the workplace. The only sign that a spike has occurred may be that an item of equipment has inexplicably broken down.

The comprehensive range of Sollatek suppressors offers complete protection whatever the size of your installation, ensuring mains and data line borne spikes are eliminated before they can cause potentially terminal damage. Power protection is essential, particularly in the digital age where equipment is particularly sensitive. Sollatek provides that protection.

For further information contact us

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SollatekTM
The Power to Protect

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