THE SOLLATEK SUPPRESSOR RANGE

Instruction manual

SPIKEGUARD

COMMSGUARD

LIGHTNING GUARD

PURE AC

DSP1P-0

DSP3P-0

Important: This manual contains important safety instructions.
Keep this manual handy for reference.

INTRODUCTION

Without doubt, power interruptions cause major problems for home and business computing. An unpredictable power supply can lead to worrying problems such as surges, spikes, brownouts and utility failures. If any of these should occur, there's a strong chance you will suffer from loss of critical data, lowered productivity and even damage to your expensive equipment.

All electrical and electronic equipment, connected to the mains supply is at risk of being damaged from spikes, surges, lightning, brown-outs, power-cuts (blackouts), power back surges, and over-voltage.

Sollatek encompasses a wide range of power protection products for use in many different industries where clean, regulated mains power is critical to their continued operation.

For more information on our range of power protection products, contact us now.

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THE SOLLATEK SUPPRESSOR RANGE

Spikes, surges and radio frequency interference can be present throughout any power distribution network. They are created by many different events such as lightning, storms, local electrical equipment and installations generating noise and are often generated by power utility company activity. They do not necessarily have regular definable characteristics and their occurence can be totally erratic. These disturbances can be found in both power and data networks and can lead to complete system failure, degradation of components, and data and/or performance loss.

The Sollatek suppressor range offers specific protection against these events with a range of units that are suited to home, office and industrial applications. Both power and data line protection is available.

Contents

SPIKEGUARD

The SpikeGuard prevents everyday spikes and surges from reaching sensitive equipment. By simply plugging your equipment into the SpikeGuard or even in an adjacent socket, it will be protected. When a spike occurs, the SpikeGuard reacts very quickly to 'clamp' the high voltage level, sending it safely away to earth. Afterwards the SpikeGuard automatically resets itself and continues protecting.

PLEASE READ CAREFULLY

1. Make sure that your load does not exceed the rating of the Spikeguard which is 13 AMPS. If this is exceeded, the Spikeguard may be damaged, and the warranty will be void. See notes below.

2. Plug the Spikeguard into the mains and plug your appliance into the Spikeguard, by means of a multi-outlet power distribution strip. See notes below.

3. More than one appliance can be connected to the Spikeguard.

4. If one of the two LEDs goes out when the mains is still applied, then the unit needs servicing. Please refer to your local Sollatek distributor.

NOTE:

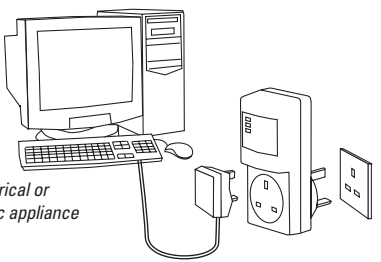
DO NOT OVERLOAD. Ensure the sum total current rating of all connected loads does not exceed that of the Spikeguard (which is 13A).

For full functionality, connect the Spikeguard to a socket with earth.

SPECIFICATIONS

Maximum power	13 amps
Nominal voltage	230V
Spike protection	480J
Mains spike response time	<10ns
Mains spike discharge current	<3kA (6.5kA max)
Ideal for	Office and home appliances e.g. computers, printers and all electronic equipment up to 13Amps
Socket availability	UK13, Schuko, 5A Indian
Weight	300gm
Dims	180x90x95mm

CONNECTION DIAGRAM



Note. SpikeGuard suppressors can affect residual current/ earth leakage trip devices. If unsure, please contact your Sollatek distributor for advice.

COMMSGUARD

The Sollatek CommsGuard is designed to give protection against signal line (i.e. Data or Telephone or Modem or Fax) borne spikes and surges. These spikes are generally caused by nearby lightning strikes or by switching of motorised equipment. The CommsGuard also offers spike/surge suppression on the mains.

By connecting to a CommsGuard you will ensure clean, safe power for your valuable telecommunications equipment.

PLEASE READ CAREFULLY

1. Ensure that you received an RJ11-RJ11 black telephone cable with your CommsGuard.

2. Make sure that your load does not exceed the rating of the CommsGuard (13A).

3. Plug the CommsGuard into the mains outlet.❶ The outlet must be earthed. If not or you are unsure, then contact your electrician or a Sollatek retailer.

4. Plug your fax machine's mains plug into it. ❷

5. From the fax machine end, unplug the telephone cable and plug it into the LINE IN ❸ socket on the CommsGuard.

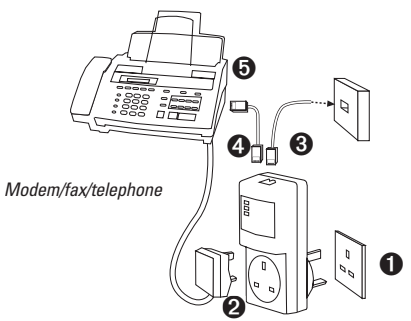
6. Plug one end of the supplied cable into LINE OUT on the CommsGuard, ❹ the other end into your fax machine. ❺

7. Your fax or phone is now protected and ready for use.

SPECIFICATIONS

Nominal Voltage	230V (or 110V)
Current Rating	13Amps
Frequency	50/60Hz
Mains Spike Response Time	<10ns
Mains Spike Discharge Amps	6.5kA
Spike Protection	160J
Line Spike Response Time	10ms (<10ns with transient suppression)
Line Spike Discharge Amps	>10kA
Line Resistance	Negligible (27ohms with transient suppression)
Maximum power	> 10kA (8/20 s)
Ideal For	Modem, fax, telephone
Socket availability	UK13, Schuko, 5A Indian +telephone (RJ11)
Weight	300gm
Dims	180x90x95mm

CONNECTION DIAGRAM



LIGHTNING GUARD

The Sollatek Lightning Guard is designed to give protection against all types of mains and signal line borne spikes and surges. These spikes are generally caused by nearby lightning strikes or by switching of motorised equipment. In addition the Lightning Guard also offers over voltage protection, whereby the output is dsconnected for 30 secs. Then, only if the power disturbance is over, the output is reconnected.

PLEASE READ CAREFULLY

1. Ensure that you received an RJ11-RJ11 black telephone cable with your Lightning Guard.

2. Make sure that your load does not exceed the rating of the Lightning Guard (5A).

3. Plug the Lightning Guard into the mains outlet.❶ The outlet must be earthed. If not or you are unsure, then contact your electrician or a Sollatek retailer.

4. Plug your fax machine's mains plug into it. ❷

5. From the fax machine end, unplug the telephone cable and plug it into the LINE IN ❸ socket on the Lightning Guard.

6. Plug one end of the supplied cable into LINE OUT on the Lightning Guard, ❹ the other end into your fax machine. ❺

7. Your fax or phone is now protected and ready for use.

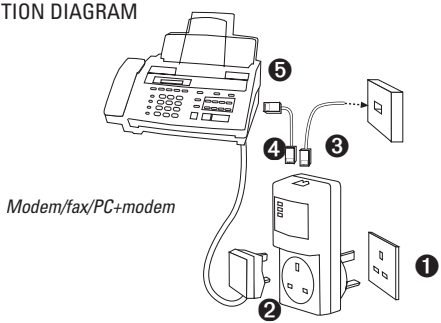
The LEDs on the front of the Lightning Guard indicate the state of the mains output from the Lightning Guard. If the incoming supply voltage is too high the disconnect function will operate and the OFF LED will be lit. When the supply becomes good again the unit waits 30secs before re-connecting. During this time the WAIT LED will be lit. When the supply is good and the output connected the ON LED will be illuminated.

SPECIFICATIONS

Nominal Voltage	230V or 110V
Current Rating	5Amps
Frequency	50/60Hz
Mains Spike Response Time	<10ns
Mains Spike Discharge Amps	6.5kA
Spike Protection	160J
Disconnect Response Time	<20ms
High Voltage Disconnect	265V for 230V (135V for 115V system)
Wait time	30 seconds
Reconnect Voltage	260V for 230V (130V for 115V system)
Line Spike Response Time	10ms (<10ns with transient suppression)
Line Spike Discharge Amps	>10kA
Line Resistance	Negligible (27ohms with transient suppression)
Ideal for	Modem, fax, telephone
Socket availability	UK13, Schuko, 5A Indian +telephone (RJ11)
Weight	300gm
Dims	180x90x95mm

Please note: Some of these values (i.e. HVD, LVD and wait time) may be different to adapt to local market conditions.

CONNECTION DIAGRAM



PURE AC

The Sollatek PureAC will protect any connected equipment against harmful spikes and Radio Frequency Interference (RFI) disturbances in the electricity supply. Spikes (often also called surges) and RFI are caused by other local electrical equipment starting or stopping; e.g. factory equipment, refrigerators, lift motors, electric drills etc. Disturbances are also caused when power stations switch on and off, or faults occur in the transmission system. Lightning strikes are a major source of spikes too.
When these happen they can damage or even destroy your electronic equipment, data, etc. The pureAC gives fast acting protection, reducing harmful high-energy spikes to safe levels and filtering out the destructive effects of RFI before it can cause component degradation.

PLEASE READ CAREFULLY

1. Make sure that your load does not exceed the rating of the pureAC. If you connect a multi-way block to the pureAC the combined rating of all the connected equipment must not exceed this rating.

2. Plug the pureAC into the wall socket and switch the socket on. The two red LEDs will illuminate to show the pureAC is working. Whilst these remain lit the unit is giving full protection to the connected equipment.

3. Connect the equipment to the pureAC. The connected equipment is now protected.

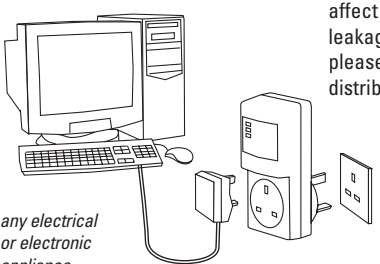
4. Once installed we recommend that the pureAC remain connected and the wall socket switched on at all times. The connected equipment may be switched on and off as required.

5. The pureAC has a standard dual level warning system to indicate if it has been subjected to too many high-energy spikes. When one LED is not lit the spike protection in the unit has been reduced. If both LEDs are not lit then spike protection has ceased. In either case take or send the unit to your dealer for repair.

SPECIFICATIONS

Model	PureAC03	PureAC07	PureAC13
Current Rating	3A	7A	13A
Phase	Single	Single	Single
Mains Spike Protection			
Response Time (NanoSeconds)	<10	<10	<10
Total Energy Rating (Joules)	480J	480J	480J
Peak Transient Current	6.5kA (8/20us)	6.5kA (8/20us)	6.5kA (8/20us)
Maximum Let through Voltage	750V	750V	750V
Physical			
Dims (L xW x H) (mm)		145x60x85	
Dims Packed (mm)		180x90x97	
Weight Packed		300g	
Socket type		UK13A/schuko	

CONNECTION DIAGRAM



any electrical or electronic appliance

Note. PureAC units can affect residual current/earth leakage trip devices. If unsure, please contact your Sollatek distributor for advice.

DSP1P-0 Single Phase Distribution Surge Protector

The DSP is a device designed to protect a single phase mains supply from the effects of high voltage transients. The unit features LEDs to indicate the level of protection in place at any time.

CONNECTION

1. Fix the unit in position on the wall or other suitable location close to incoming mains wiring.

2. Remove the terminal cover and reverse the panel holding the cable glands. This is inserted backwards for shipping.

3. Connect the DSP1P-0 to the incoming mains supply as shown in the diagram opposite. Ensure that all terminal screws are fully tightened. The DSP should be situated as close as possible to the incoming supply using short cable runs of 6mm^2 cable, and be no more than 0.5m in length. It is recommended that the live connections to the DSP are protected by a HBC fuse or circuit breaker, to protect the wiring. For convenience a spare 5,10 or 30A circuit breaker or HBC fuse on the main fuse board can be used.

4. The live and neutral wires to the DSP should be kept close together to maintain good surge performance. This can be done by using twin and earth cable. Or by cable tying live and neutral together along their length.

5. Replace the terminal cover. The mains supply is now protected against high voltage transients.

LED DISPLAY

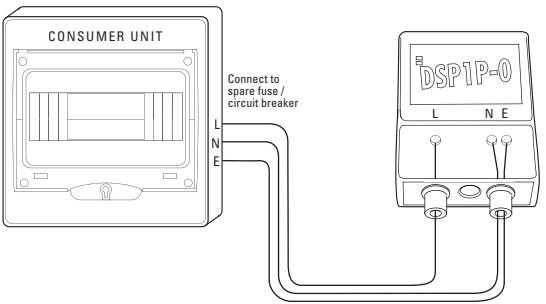
There are 2 LEDs on the front panel. They indicate what level of protection is available to the incoming supply. Both LEDs lit indicates full protection available, one LED that partial protection is available. If no LEDs are illuminated it indicates that the protection is inoperative. In this case the unit should be returned for service as soon as possible.

NOTES

To allow the DSP1P-0 to function properly, it should be connected as close to the incoming mains supply as is safely possible. If unsure, please contact your distributor or point of sale.

The DSP1P-0 can affect residual current/earth leakage trip devices. If unsure, please contact your Sollatek distributor for advice.

CONNECTION DIAGRAM



SPECIFICATIONS

Model	DSP1P-0
Protective Mode	L-N, L-E, N-E
Response Time	<10 nanoseconds
Total Energy Rating	1280 joules
Max Surge Current	20kA
Maximum let through voltage	750V
Weight	560 gm
Dims	205x135x55 mm
Terminations	$6mm^2$ brass terminals

DSP3P-0 Three Phase Distribution Surge Protector

The DSP is a device designed to protect a three phase mains supply from the effects of high voltage transients. The unit features LEDs to indicate the level of protection in place at any time.

CONNECTION

1. Fix the unit in position on the wall or other suitable location close to incoming mains wiring.

2. Remove the terminal cover and reverse the panel holding the cable glands. This is inserted backwards for shipping.

3. Connect the incoming three phase supply as shown in the diagram opposite. Ensure that all terminal screws are fully tightened. Neutral must be connected. The DSP should be situated as close as possible to the incoming supply using short cable runs of 6mm^2, cable, and be no more than 0.5m in length. It is recommended that the live connections to the DSP are protected by a HBC fuse or circuit breaker, to protect the wiring. For convenience a spare 5,10 or 30A circuit breaker or HBC fuse on the main fuse board can be used.

4. The live and neutral wires to the DSP should be kept close together to maintain good surge performance. This can be done by using multicore cable for three phase. Or by cable tying live and neutral together along their length.

5. Replace the terminal cover. The mains supply is now protected against high voltage transients.

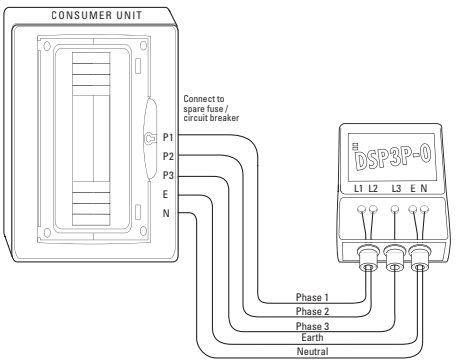
LED DISPLAY

There are 6 LEDs on the front panel, two for each phase. They indicate what level of protection is available on each of the three phases. On any phase, two LEDs lit indicates full protection available, one LED that partial protection is available. If no LEDs are illuminated on a phase it indicates that the protection on that phase is inoperative. In this case the unit should be returned for service as soon as possible.

NOTES
To allow the DSP3P-0 to function properly, it should be connected as close to the incoming mains supply as is safely possible. If unsure, please contact your distributor or point of sale.

The DSP3P-0 can affect residual current/earth leakage trip devices. If unsure, please contact your Sollatek distributor for advice.

CONNECTION DIAGRAM
Please note - The neutral must be connected.



Model	DSP3P-0
Protective Mode	L-N, L-E, N-E
Response Time	<10 nanoseconds
Total Energy Rating	2560 joules
Max Surge Current	20kA
Maximum let through voltage	750V
Weight	680 gm
Dims	205x135x55 mm
Terminations	6mm^2 brass terminals

SOLLATEK PRODUCT RANGE COMPARISON CHART

The following chart gives an overview of most of the Sollatek range of products and the protection they offer.

	 Spike /surge	 RFI	 Over Voltage	 Brownout	 Basic Lightning	 Expert Lightning
HivoltGuard	✓		✓		✓	
FridgeGuard	✓			✓	✓	
VoltGuard	✓		✓	✓	✓	
Automatic Voltage Switcher AVS13	✓		✓	✓	✓	
Automatic Voltage Switcher AVS13L	✓	✓	✓	✓	✓	
Automatic Voltage Switcher AVS15	✓		✓	✓	✓	
Automatic Voltage Switcher AVS30	✓		✓	✓	✓	
Energy Saving Protector ESP30	✓		✓	✓	✓	
Automatic Voltage Switcher AVS100	✓		✓	✓	✓	
LightningGuard	✓		✓		✓	
Automatic Voltage Switcher AVS303	✓		✓	✓	✓	
Automatic Voltage Switcher AVS3P-03	✓		✓	✓	✓	
In line Surge protector ISP	✓				✓	
Surge plug	✓				✓	
Surge strip	✓				✓	
SpikeGuard	✓				✓	
PureAC	✓	✓			✓	
Distribution Surge Protector DSP-0	✓				✓	
Distribution Surge Protector DSP-D	✓				✓	✓
Distribution Surge Protector DSP-S	✓				✓	✓
Distribution Surge Protector DSP-M	✓				✓	✓
CommsGuard	✓				✓	
Sollatek Voltage Switcher SVS	✓		✓	✓	✓	
Sollatek Voltage Switcher SVS (ER)	✓	✓	✓	✓	✓	
Automatic Voltage Regulator AVR	✓		✓	✓	✓	
Automatic Voltage Regulator AVR (ER)	✓	✓	✓	✓	✓	
Automatic Voltage Regulator (3 phase)	✓		✓	✓	✓	
Ultima UPS	✓	✓	✓	✓	✓	
Optima UPS	✓	✓	✓	✓	✓	

						
Power Cuts	**Power-back surges**	**Telecom surge/ spike & lightning**	**Amps**	**Single Phase**	**Three Phase**	**Connection**
	✓		5	✓		Plug/socket
	✓		5	✓		Plug/socket
	✓		5	✓		Plug/socket
	✓		13	✓		Plug/socket
	✓		13	✓		Plug/socket
	✓		15	✓		Plug/socket
	✓		30	✓		Direct wiring
	✓		30	✓		Direct wiring
	✓		100	✓		Direct wiring
	✓	✓	5	✓		Plug/socket+data
	✓		23 to 1250		✓	3 phase
	✓		unlimited		✓	3 phase
			10	✓		IEC
			13	✓		13 Amp plug
			13	✓		Plug/socket
			13	✓		Plug/socket
			3 to 13	✓		Plug/socket
			unlimited	✓	✓	Direct wiring
			unlimited		✓	Direct wiring
			unlimited	✓	✓	Direct wiring
			unlimited	✓	✓	Direct wiring
		✓	5			Plug/socket+data
	✓		1 to 75	✓		Plug/socket+Direct wiring
	✓		1 to 15	✓		Plug/socket
			1 to 400	✓		Plug/socket+Direct wiring
			1 to 10	✓		Plug/socket
	✓		20 to 700/phase		✓	3 phase
✓	✓	✓	1 to 20	✓		IEC
✓	✓	✓	1 to 20	✓		IEC

POWER PROBLEMS AND THEIR ASSOCIATED CAUSES

All electrical and electronic equipment, connected to the mains supply is at risk of being damaged from spikes, surges, lightning, brown-outs, power-cuts (blackouts), power back surges, and over-voltage. The following is a summary of the main types of power problems, causes and how these affect electrical and electronic equipment.

Spikes/Surge: 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.
What causes it? Switching on/off of nearby equipment, lightning, motors starting etc.

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.
What causes it? Generated by high frequency noise from nearby equipment like TV, radio equipment, transmitters, mobile phones, switching on/off of certain loads, fluorescent lights, motor speed controls, light dimmers.

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.
What causes it? On return of mains supply after power cuts, under-sized utility oscillating between periods of brown-outs and over-voltage or accidental (e.g. accidental connection between two phases).

Brown-Out: 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.
What causes it? Most commonly an over-stretched utility, especially in areas of poor power distribution infra-structure and remote areas. Common in dry seasons where water is used for electricity generation.

Basic Lightning: Direct or nearby strikes can cause minor problems or severe disturbances and damage. Lightning produces spikes/surges, over-voltage or power cuts.
What causes it? The surge is generated by either a direct hit, or indirectly striking underground or overhead lines and transmitting high surges to connected equipment in nearby buildings.

Power-cuts: Common in many countries 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.
What causes it? Power or sub station failure, breakdown in the distribution network, or simply a plug being pulled out accidentally.

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 (see above).
What causes it? Power back surges are created by the utility, when it restores supply at an above normal voltage in order to compensate for the demand as connected equipment re-starts simultaneously.

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.
What causes it? Telecom spikes are caused by lightning striking either the telephone line directly or an object near it.

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