

LIGHTNING PROTECTION INTERNATIONAL PTY LTD



LPI PRODUCT Summary Brochure





LPI®

LIGHTNING PROTECTION INTERNATIONAL PTY LTD



DIRECT STRIKE PROTECTION



Ordering Code	Description
CAT I-G	CAT Terminal, Gold, Model I
CAT II-G	CAT Terminal, Gold, Model II
CAT III-G	CAT Terminal, Gold, Model III
HVSCPLUS-PM	High Voltage Shielded Cable - per metre
LSR1	Lightning Strike Recorder
LSR1-Tester-MKII	Lightning Strike Recorder Tester

* Stainless steel Guardian CAT terminals available upon request.
* 2 inch GI mast versions of Guardian CAT terminals available on request.



Ordering Code	Description
STORMASTER-ESE-15	Stormaster, ESE 15, Air Terminal, Gold
STORMASTER-ESE-30	Stormaster, ESE 30, Air Terminal, Gold
STORMASTER-ESE-50	Stormaster, ESE 50, Air Terminal, Gold
STORMASTER-ESE-60	Stormaster, ESE 60, Air Terminal, Gold
AIR TERMINAL TESTER	Guardian/Stormaster Air Terminal Tester

* Stainless steel Stormaster ESE terminals available upon request.
* 2 inch GI mast versions of Stormaster ESE terminals available on request.



Lightning Warning System

LPI's Lightning Warning System is designed for the early warning of an approaching storm front. The LPI LWS sounds an alarm on the approach of a lightning discharge and allows all personnel to take precautionary action to protect themselves from the dangers of a lightning discharge.

Ordering Code	Description
LWS Mk 3	Lightning Warning System Mk III
LWS MK3 - Tester	Lightning Warning System Tester



Guardian Lightning Protection System 5

- LPI's Guardian System 5 provides a purpose designed package for direct strike lightning protection
- Family of Controlled Advanced Triggering Terminals (CAT) with the design based on the latest research
- High Voltage Shielded Cable Plus (HVSC Plus) is a purpose designed insulated downconductor which greatly reduces the risk of side flashing, tested to 500 kV
- Lightning Strike Recorder (LSR1) to effectively count strikes captured by the Guardian System
- The Guardian System 5 is economical and simple to install
- Installations in over 70 countries worldwide
- Tested in compliance to IEC Standards



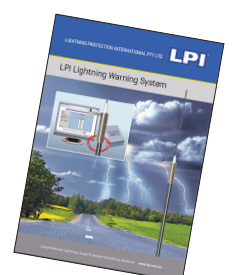
Stormaster ESE Air Terminal

- LPI offers a selection of models from within its ESE range of terminals
- All terminals have been tested to standard NFC 17-102 (2011)
- Economical and easy to install

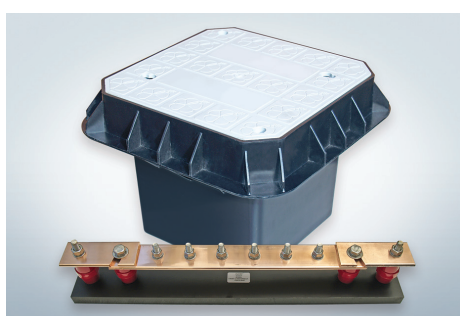
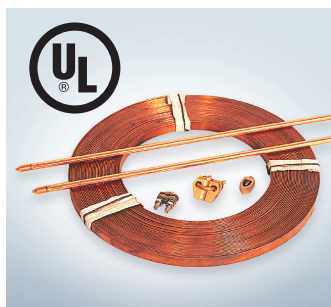


LPI also offers an extensive range of conventional lightning protection products and accessories. Contact LPI or an authorised representative for product details.

- Suitable applications include – sporting events such as golf and football, mining, defence and explosive environments
- Detects lightning activity within 10 to 25 km
- Warning and alert status
- All clear signal



EARTHING AND BONDING



LPI provides an extensive range of earthing products for the installation of a low impedance earthing system. Whether you are installing a dedicated lightning earth or a facility earth grid, it is essential to ensure personnel safety and provide an effective earth which will limit disruptions to services.

Telecommunications Earthing

LPI manufactures a range of specialised telecommunications earthing and lightning protection solutions. The experienced LPI team delivers hassle-free solutions, tailored to each project, with a commitment to holding local stock.

All this is backed by exceptional customer service and LPI's strong focus on engineering, research and development which ensure reliable, well supported products of the highest quality.

Earth Rods and Accessories

LPI offers a range of earthing products and accessories as part of its packaged solution for the complete approach to lightning protection. The LPI range includes a complete selection of copper bonded steel earth rods, clamps, tapes, braids and pre-engineered ground grids and meshes.

Contact LPI or an authorised representative for details on the full range of earth rods and accessories.

Earth Enhancing Compounds

LPI offers a selection of earth enhancing compounds for installation around earthing electrodes to reduce the earthing system impedance. Our three most popular compounds are:

- SRIM (Soil Resistance Improvement Material) – a cementitious, highly-conductive compound supplied in 20 kg bags. It is fully compliant with IEC 62561-7. It is suitable for all problem sites with moderate-to-high resistivity
- RESLO – an economical, bentonite-based, specially-formulated compound supplied in 20 kg bags. It is best suited to problem sites with moderate soil resistivity, where underground watercourses, aquifers etc. do not predominate
- GRIP (Ground Resistance Improvement Powder) – supplied in 10 kg and 40 kg kits. It is effective in difficult sites, such as sandy soils and rocky ground

Ordering Code	Description
GRIP-10	Ground Resistance Improvement Powder – 10 kg
GRIP-40	Ground Resistance Improvement Powder – 40 kg
RESLO-20	Resistance Lowering Compound – 20 kg Bag
SRIM-20	Soil Resistance Improving Material – 20 kg Bag

• Independent test reports available

Transient Earth Clamp

The LPI Transient Earth Clamp provides equipotential bonding under transient conditions by forming a closed circuit, whilst remaining “open circuit” under normal operating conditions.

The TEC should be used where earthing systems need to be kept separate.

Insulated Joint Protector

The LPI Insulated Joint Protector is designed for the protection of insulated joints in oil and gas pipelines. The IJP is connected directly across the insulated joint. Should the insulated joint voltage exceed the breakdown voltage of 350 V the IJP will immediately conduct the surge current to ground.

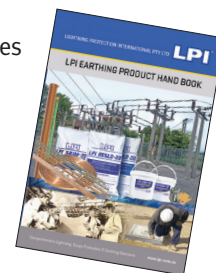
Ordering Code	Description
TEC100	Transient Earth Clamp, DC Sparkover voltage > 350 V DC, Impulse Current (Iimp) 100 kA 10/350 μ s Max discharge current (I _{max}) 150 kA 8/20 μ s

Ordering Code	Description
IJP100	Insulated Joint Protector, DC Sparkover voltage > 350 V DC, Impulse Current (Iimp) 100 kA 10/350 μ s Max discharge current (I _{max}) 150 kA 8/20 μ s Type approval: II 2GD EEx m II T3

Earth Bars and Inspection Pits

Ordering Code	Description
EPIT-P	Polymer Earth Pit, Rated + 5 Tonne, 250 mm (top) x 180 mm (base) x 210 mm (depth)
EB400	Earth Bar, 400 mm x 80 mm x 98 mm, 6 Way
DL-4751	Disconnecting Link, 6 Way earth bar, 475 mm x 80 mm x 98 mm, single disconnect link
DL-5502	Disconnecting Link, 6 Way earth bar, 550 mm x 80 mm x 98 mm, twin disconnect links

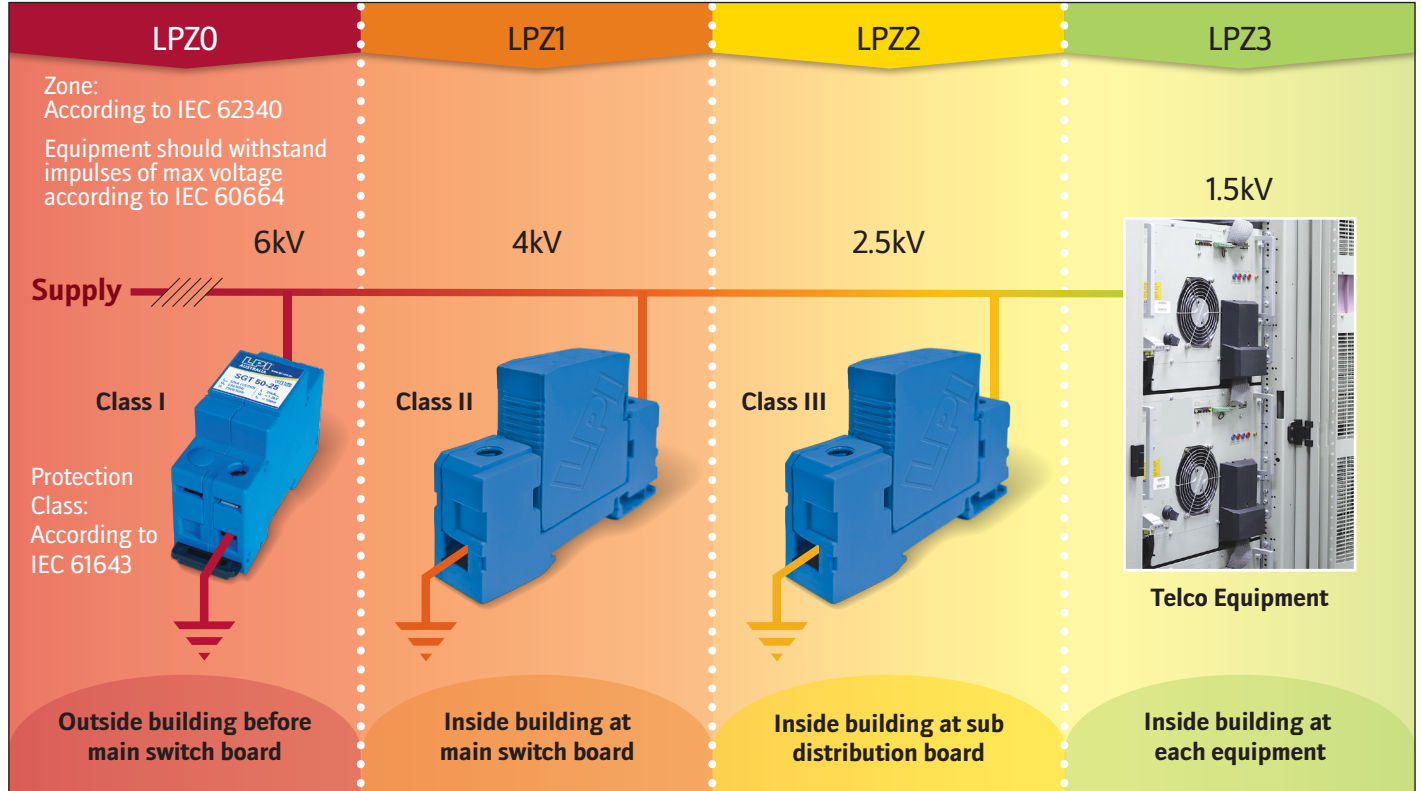
* Contact LPI or an authorised representative for details on the full range of LPI earth bars and inspection pits.



SHUNT POWERLINE PROTECTION

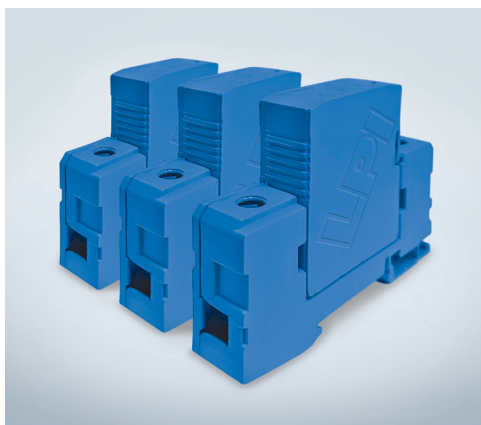
LPI offers a wide selection of technologies and products which are available for transient protection of the mains power supply at the point of entry to your facility. These products and technologies are represented in two categories - shunt protection and series protection.

- Ideal for robust equipment such as air conditioning, pumps and motors
- Point-of-entry protection
- Energy diversion only, voltage clamping devices installed between each phase and neutral or earth on mains switch board



Class I Protectors, (Spark Gap based) per IEC 61643

Ordering Code	Description
SGT50-25	Din Mount Spark Gap L-N, L-E protection, 240 VAC Nominal, 50 kA 10/350 μ s
SG60	Din Mount Spark Gap L-N, L-E protection, 440 VAC Nominal, 60 kA 10/350 μ s
NE100	Din Mount Spark Gap N-E protection, 240 VAC Nominal, 100 kA 10/350 μ s



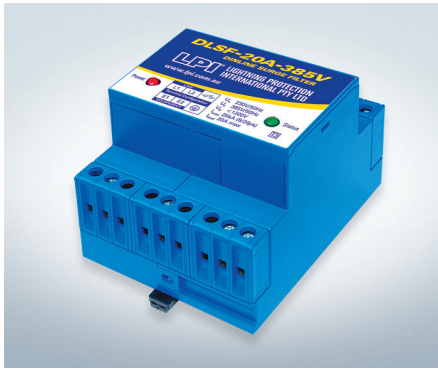
Class II Protectors, (MOV based) per IEC 61643

Ordering Code	Description
SST150B-385	Din Mount, L-N, L-E protection, 220-240 VAC Nominal, (385 V Uc), 50 kA 8/20 μ s
SST150B-480	Din Mount L-N, L-E protection, 220-277 VAC Nominal, (480 V Uc), 50 kA 8/20 μ s
1 ph & 3 ph Shunt Protection	Din Mount 1 phase or 3 phase with L-N and NE Protection. Please contact LPI for more details.
NE-15	Din Mount, N-E Protection, 15 kA 10/350 μ s



Alarm interface module (AIM) offers alarm contacts and Bluetooth connectivity. Single-phase and three-phase protectors fitted into aluminium enclosures (IP67) are available as 1PPM and 3PPM. Ask LPI for further details.

SERIES POWERLINE PROTECTION



Series powerline protection is the best available protection for sensitive electronics such as rectifiers, switchmode power supplies, and other mission critical equipment. The Series Filter reduces the rate of rise of any transient overvoltage to acceptable levels, and also reduces the overall magnitude of the transient voltage the equipment receives.

Low Current Single Phase Filters Location: IEC 61643 Class III

Ordering Code	Description
DLSF-XXA-24V	DIN line surge filter, 1Ph 240 Vac, 3 modes of protection, 25 kA 8/20 μ s L-N primary protection, 25 kA 8/20 μ s L-N secondary protection, and 25 kA 8/20 μ s N-E protection. 110 Vac version available upon request. Variants available with 8 A, 16 A and 20 A load current capacity
DLSF-XXA-230V	
DLSF-XXA-385V	
DLSF-XXA-480V	

XX refers to load currents in amps = **8** or **16** or **20**

Please ask for Technical Data Sheet (TDS) on DLSF Surge Filters for more details

Single and Three Phase Surge Filters Location: IEC 61643 Class I, II & III

Standard Surge Filter Order Code:

SF X YY ZZZ-100+50-AIMCB

Where X is the number of phases, YY is circuit current rating per phase, ZZZ is the voltage. Standard filters are manufactured and supplied 100 kA line and 50 kA load size. All surge filters are supplied with Alarm interface module (AIM).

Standard Surge Filter specifications:

All units can withstand overvoltage and fault conditions in accordance with IEC 61643 requirements. All units incorporate non saturating inductors combined with high reliability capacitors to form an effective low pass filter, incorporating shunt protection elements on the line and load sides.

Number of Phases X	Current Rating YY	Max. Continuous Operating Voltage (Uc)	Description
1 or 3	32 A, 63 A, 125 A	385, 480 Vrms	Surge filter with Class II protection applied P-N, 100 kA 8/20 μ s line side protection, 50 kA 8/20 μ s load side protection per phase. 100 kA 10/350 μ s N-E
1 or 3	200 A	385, 480 Vrms	Surge filter with Class I protection applied P-N, 50 kA 10/350 μ s, 135 kA 8/20 μ s line side protection, 50 kA 8/20 μ s load side protection per phase. 100 kA 10/350 μ s N-E
3	315 A, 400 A, 630 A, 800 A, 1000 A, 1250 A, 1500 A, 1750 A	385, 480 Vrms	Surge filter with Class I protection applied P-N, 50 kA 10/350 μ s, 135 kA 8/20 μ s line side protection, 50 kA 8/20 μ s load side protection per phase. 100 kA 10/350 μ s N-E



TELECOMMUNICATION PROTECTION

Din Mount Data and Telephone Line Protectors



- New DD range used directly with EIA standard interfaces RS-232, RS-422, RS-423, RS-485 and with 4-20mA instrumentation loops
- DD-1T single pair telephone line protector is suitable for analogue phone lines, ISDN, ADSL and PCM circuits

Electrical Specifications		DD-06	DD-06-BNC	DD-12	DD-24	DD-48	DD-1T
Nominal Operating Voltage	U_N	6 V 6.6 V _{DC}	6 V	12 V 15.6 V _{DC}	24 V 29 V _{DC}	48 V 62 V _{DC}	Telephone
Max. Continuous Operating Voltage	U_C	4.7 V _{RMS}	6.6 V _{DC}	11.0 V _{RMS}	20 V _{RMS}	44 V _{RMS}	190 V _{DC}
Surge Current rating (8/20 μ s)	I_{MAX}	20 kA					
Operating Current (DC or RMS)	I_L	2 A					150 mA
Voltage Protection Level @ 3kA (8/20 μ s)	U_P	16 V	16 V	28 V	60 V	120 V	240 V
Loop Resistance		< 0.1 Ω					6.6 Ω
Bandwidth		5 MHz					1 MHz
Protection Modes		Line-Line & Line-Ground					
Operating Temperature		-40° C to 60° C					

Application	DD-06	DD-06-BNC	DD-12	DD-24	DD-48	DD1T
RS-232				✓		
RS-422	✓					
RS-485			✓			
Fire Alarm Panels				✓		
Security Systems			✓	✓		
Process Control loops				✓		
C-BUS					✓	
Analogue telephone line						
Digital telephone line						✓
CCTV		✓				✓

TELECOMMUNICATIONS PROTECTION



Telephone and Data Line Protectors

Ordering Code	Description
VHS-K10-72	Very High Speed, 10 Pair, 12 MHz, 8 Mbits/s, 72 V, a+b+e 20 kA 8/20 µs, Multistage, Krone, LSA
VHS-K10-230	Very High Speed, 10 Pair, 12 MHz, 8 Mbits/s, 230 V, a+b+e 20 kA 8/20 µs, Multistage, Krone, LSA

- Telephone and data line protection
- Multistage / over voltage protection
- Plugs directly into a KRONE* disconnect block

* KRONE, KRONE LSA and PROFIL are registered Trade Marks of KRONE GmbH Germany.

Please add "A" at the end of product code for markets outside of Australia.

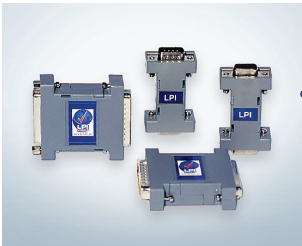


Protection of RF Feeder Cables & High Speed Coaxial Cable Data Lines

Ordering Code	Description
RF-NMF-90	RF Protector, 20 kA, 72 V – 108 V, N Type M to F
RF-BNC-90	RF Protector, 20 kA, 72 V – 108 V, BNC Type M to F
RF-NB-90	RF Protector, 20 kA, 72 V – 108 V, N Type F to F (Bulkhead)
RF-NMF-350	RF Protector, 20 kA, 280 V – 420 V, N Type M to F
RF-BNC-350	RF Protector, 20 kA, 280 V – 420 V, BNC Type M to F
RF-NB-350	RF Protector, 20 kA, 280 V – 420 V, N Type F to F (Bulkhead)
RF-NMF-600	RF Protector, 20 kA, 480 V – 720 V, N Type M to F
RF-BNC-600	RF Protector, 20 kA, 480 V – 720 V, BNC Type M to F
RF-NB-600	RF Protector, 20 kA, 480 V – 720 V, N Type F to F (Bulkhead)
CF-90	RF / High Speed coaxial cable data line protector, 90 V, 20 kA, 75 Ohms
C75-BNC90	CCTV Circuit, 20 kA, 90 V, 75 Ohm, BNC Type
GSM 7/16F-7/16F	GSM Protector, 20 kA, 50 V, 50 Ohms, Frequency range 890 – 960 MHz, Female to Female*
GSM 7/16M-7/16F	GSM Protector, 20 kA, 50 V, 50 Ohms, Frequency range 890 – 960 MHz, Male to Female*

- For protection against transients on coaxial antenna RF feeder cables
- Simple plug in installation
- High impulse rating of 20 kA 8/20 µs
- Characteristic impedance: 50 Ohms and 75 Ohms where applicable

* 1800 & 1900 MHz versions available on request.



Computer & Data Equipment Protectors

Ordering Code	Description
RS232 9-9 Pin	RS232 9-9 Pin (9 Pin Protected), 50 A 10/1000 µs Wave Shape
RS232 25-9 Pin	RS232 25-9 Pin (9 Pin Protected), 50 A 10/1000 µs Wave Shape
RS232 25-25 Pin	RS232 25-25 Pin (25 Pin Protected), 50 A 10/1000 µs Wave Shape
RS422 25-25 Pin	RS422 25-25 Pin (25 Pin Protected), 50 A 10/1000 µs Wave Shape

- High performance surge protectors for computers, terminals and printers
- Moulded construction
- Low clamping voltage
- Standard RS-232 Male / Female 9 & 25 pin



Local Area Network Protector

Ordering Code	Description
LAN RJ45 Cat6	LAN, RJ45, 100 Base T Protector, Cat 6
POE-RJ45-Cat5	Power over ethernet protector for CAT5 10/100 Base-T data & 48 V DC power signals

- Simple plug in operation
- CAT 6 / 1000 Mbits application
- Low attenuation
- Compact design



Load Cell Protector

Ordering Code	Description
ILC36V	Load Cell Surge Protector, 4 or 6 wire application, 36 V

- Designed for protection of sensitive strain gauge measuring equipment
- Protects against excitation overvoltage
- Low capacitance

Distributed by:

**LIGHTNING PROTECTION
INTERNATIONAL PTY LTD**

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