ESP LA and LB Series

LPZ 2→3	FULL MODE Bonding + Equipment Protection
SIGNAL/ TELECOM TEST CAT C + B	e ENHANCED Low let-through voltage
CURRENT 300mA RATING	LOW INLINE ~0Ω RESISTANCE

Combined Category C, B tested protector (to BS EN 61643-21) suitable to protect PCs and other computer equipment on systems using 9, 15 or 25 pins. For use on lines running within buildings at boundaries up to LPZ *2* through to LPZ 3 to protect sensitive electronic equipment.

Features and benefits

- ✔ Let-through voltage below equipment susceptibility levels
- ✔ Negligible in-line resistance
- ✔ Suitable for equipment using "D" connectors – DB-9, DB-15 and DB-25
- ✔ ESP LA-5/25 protects pins 1, 2, 3, 7 & 20 to earth/shell. Note pin 1 is connected to earth
- ✔ ESP LA-25/25 and ESP LB-25/25 protects all pins. Note pin 1 is connected to earth/shell
- ✔ ESP LA-9/9, ESP LB-9/9, ESP LA-15/15 and ESP LB-15/15 protect all pins
- ✔ Sturdy plastic housing
- ✔ Male/female connectors allow easy plug-in installation without rewiring
- ✔ Earthed via shell and supplementary earth strap

Application

Use on cables running within a building to protect equipment locally from transients induced onto data cables from the magnetic field caused by a lightning strike.

- ✔ For Asynchronous RS 232 systems, use ESP LA-5/25
- ✔ For RS 232 systems, use ESP LA-25/25, ESP LA-9/9 or ESP LA-15/15
- ✔ For RS 422, RS 423 and RS 485 systems, use ESP LB-9/9, ESP LB-15/15 or ESP LB-25/25

Installation

Simple plug-in connection to the communication port, between the equipment to be protected and its incoming data cable. Make suitable attachment to earth.

Technical note

ESP LA… and ESP LB… protectors are designed only for use on cables running within a building (typically LPZ 2) to offer local protection to equipment. They therefore will not be able to handle the higher level transients that occur when lines between buildings are protected. ESP LA... and ESP LB... protectors should not be used in such an application (up to LPZ 0_A) where high energy ESP lightning barriers (such as ESP E Series) should be employed. If they are used in lines between buildings, there is a high risk of the protector being overloaded and destroyed during transient activity. Connected equipment will, in most cases, still be protected, but there is a small risk that equipment will suffer damage in such circumstances.

ESP LA-5/25 installed on the parallel port of a PC, protecting the printer connection

For coaxial Ethernet cables running external to the building, use the ESP ThinNet or ESP ThickNet. For cabling up to Cat-5e with RJ45 connections (running external to the building) and local protection for up to Cat-5 with RJ45 connections, (running within a building) products are also available. Contact Furse.

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Electrical specification	ESP LA-5/25	ESP LA-25/25	ESP LA-9/9	ESP LB-9/9	ESP LA-15/15	ESP LB-15/15	ESP LB-25/25
Nominal voltage[1]	23.1V	23.1V	23.1V	5.8V	15.3V	6.4V	5.8V
Maximum working voltage *Uc*[2]	25.7V	25.7V	25.7V	6.4V	17.1V	7.13V	6.4V
Capacitance	<500pF	<500pF	<500pF	<2000pF	<50pF	<50pF	<2000pF
Current rating	300mA						
In-line resistance	~0Ω						

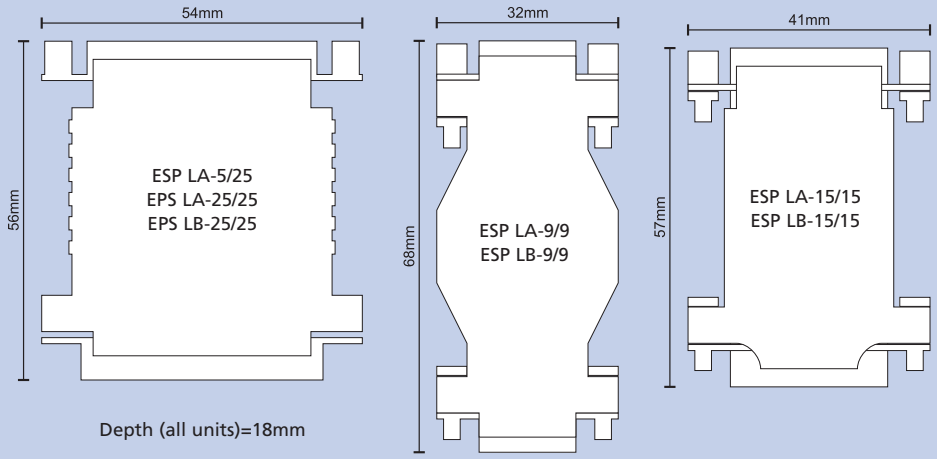
[1] Nominal voltage (DC or AC peak) measured at 5µA (ESP LA-5/25, ESP LA-9/9, ESP LA-25/25, ESP LA-15/15), 0.5mA (ESP LB-15/15) and 1mA (ESP LB-9/9, ESP LB-25/25).
[2] Maximum working voltage (DC or AC peak) measured at 1mA leakage (ESP LA-5/25, ESP LA-9/9, ESP LA-25/25, ESP LA-15/15) and 10mA (ESP LB-15/15, ESP LB-9/9 and ESP LB-25/25).

Transient specification	ESP LA-5/25	ESP LA-25/25	ESP LA-9/9	ESP LB-9/9	ESP LA-15/15	ESP LB-15/15	ESP LB-25/25
Let-through voltage[1] *Up*							
C1 test 0.5kV 1.2/50µs, 0.25kA 8/020µs to BS EN/EN/IEC 61643-21	–	–	–	12.5V	31.5V	16.0V	12.5V
B2 test 1kV 10/700µs to BS EN/EN/IEC 61643-21	36.5V	36.5V	36.5V	10.0V	27.5V	14.0V	10.0V
1.5kV, 10/700µs[2]	37.5V	37.5V	37.5V	10.5V	28.5V	14.6V	10.5V
Protection provided	Pins 1, 2, 3, 7 and 20 to earth/shell[3]	Pins 1-25 to earth/shell[3]	Pins 1-9 to earth/shell	Pins 1-9 to earth/shell	Pins 1-15 to earth and each other	Pins 1-15 to earth and each other	Pins 1-25 to earth/shell[3]
Maximum surge current							
8/20µs to ITU (formerly CCITT), BS 6651:1999 Appendix C	200A	200A	200A	300A	350A	700A	300A

[1] The maximum transient voltage let-through the protector throughout the test (±10%). Response time <10ns.
[2] Test to BS 6651:1999 Appendix C, Cat C-Low, IEC 61000-4-5:1995, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68).
[3] Pin 1 connected to earth/shell.

Mechanical specification	ESP LA-5/25	ESP LA-25/25	ESP LA-9/9	ESP LB-9/9	ESP LA-15/15	ESP LB-15/15	ESP LB-25/25
Temperature range	–25°C to +70°C						
Connection type	DB-25 m-f	DB-25 m-f	DB-9 m-f	DB-9 m-f	DB-15 m-f	DB-15 m-f	DB-25 m-f
Earth connection	Shell or 150mm earth lead (supplied)						
Casing material	ABS UL94 V-0						
Weight – unit	50g	50g	40g	40g	50g	50g	50g
– packaged	70g	70g	50g	50g	60g	60g	70g

Dimensions



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