Local protection for computer communications

For coaxial Ethernet cables running external to the building, use the ESP ThinNet or ESP ThickNet. The ESP Net-100 is suitable for Cat 3, 4 or 5 cabling with RJ45 connections (running external to the building). Protectors giving local protection for Cat 3, 4 or 5 cabling with RJ45 connections, running within a building, are also available.

- **Use on lines running within buildings.**
- **Use to protect PCs and other computer equipment.**
- **Use to protect systems using 9, 15 or 25 pins.**
- **Suitable for equipment using "D" connectors - DB-9, DB-15 and DB-25.**
- **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.**

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.

Features and benefits

- ✔ Let-through voltage below equipment susceptibility levels.
- ✔ Negligible in-line resistance.
- ✔ 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.

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

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, and therefore will not be able to handle the higher level transients that occur when lines between buildings are protected. They should not be used in such an application. 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.

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[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	300mA	300mA	300mA	300mA	300mA	300mA
In-line resistance	~0W	~0W	~0W	~0W	~0W	~0W	~0W

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] 1.5kV, 10/700µs test to: *BS 6651:1999 Appendix C, Cat C-Low ITU (formerly CCITT) IX K17*	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[2]	Pins 1 - 25 to earth/shell[2]	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[2]
Maximum surge current[3]	200A	200A	200A	300A	350A	700A	300A

1 The maximum transient voltage let-through the protector throughout the test (±10%). Response time <10ns.

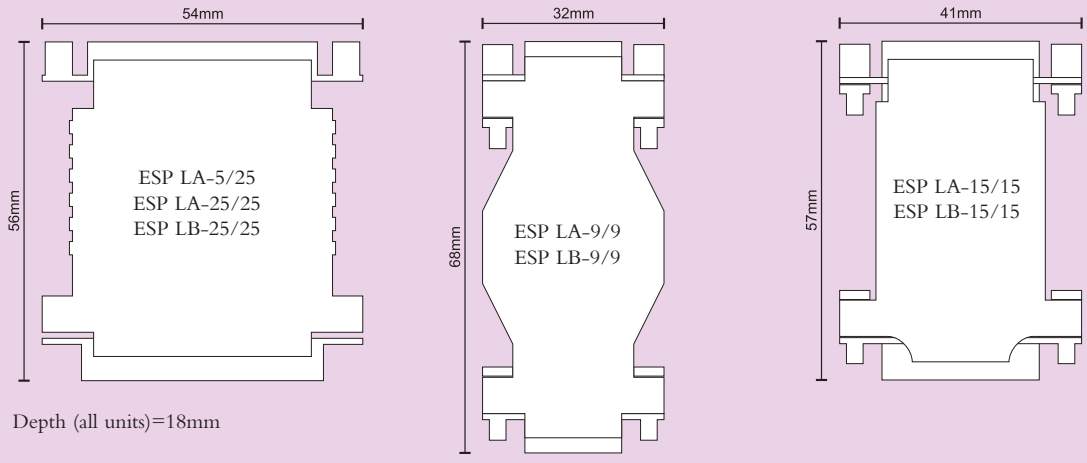
2 Pin 1 connected to earth/shell.

3 Tested with 8/20µs waveshape to ITU (formerly CCITT), BS 6651:1999 Appendix C.

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	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-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)	Shell or 150mm earth lead (supplied)	Shell or 150mm earth lead (supplied)	Shell or 150mm earth lead (supplied)	Shell or 150mm earth lead (supplied)	Shell or 150mm earth lead (supplied)	Shell or 150mm earth lead (supplied)
Weight - unit	50g	50g	40g	40g	50g	50g	50g
- packaged	70g	70g	50g	50g	60g	60g	70g

Dimensions



Depth (all units)=18mm