Telecoms & computer line protection
ESP LN Series

LPZ 2→3

FULL MODE Bonding + Equipment Protection

SIGNAL/ TELECOM TEST CAT C + B

ENHANCED Low let-through voltage

LOW IN-LINE RESISTANCE ~0 Ω

CURRENT RATING 300 mA

Combined Category C, B tested protector (to BS EN 61643) suitable to protect equipment on twisted pair applications using Cat-5 wiring with RJ45 connectors. For use on lines running within buildings at boundaries up to LPZ 2 through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Suitable for systems signalling on up to 8 wires of unshielded twisted pair cable - protects all 8 pins in each line
- Use to protect 1, 4, 8 or 16 lines
- Suitable for RS 422/423, 10baseT, 100baseT, Token Ring and Fast Ethernet systems
- Available for individual connections or for multiport applications
- Free standing or 19" rack mounted versions available for multiport applications
- Let-through voltage below equipment susceptibility levels
- Protects twisted pair lines operating at speeds up to 100 Mbps
- Available as 4 or 8 port free standing versions (ESP LN-4 and ESP LN-8) and 8 or 16 port 19" rack mounted panels (ESP LN-8/16 and ESP LN-16/16)
- Negligible in-line resistance
- Sturdy housing and simple plug-in installation
- Simple earthing via single braided metal strap

Application

Use on network cables running within a building to protect systems locally from transients induced on to data cables from the magnetic field caused by a lightning strike.
Suitable for internal cabling Cat-5.

- Protect the network connection to individual pieces of equipment with the ESP LN
- Protect multiport applications such as hubs, switches and patch panels with the ESP LN-4, ESP LN-8, ESP LN-8/16 or ESP LN-16/16

Installation

Plug-in connection between incoming data cables and equipment to be protected. Make suitable attachment to earth.

TECHNICAL NOTE: ESP LN... range of 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 LN... range of protectors should not be used in such an application (up to LPZ *0*) where high energy ESP lightning barriers (such as ESP E and ESP Cat-5 & Cat-6 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.

NOTE: Protectors for coaxial (or twisted pair) CCTV Lines are available. For coaxial RF lines, use the ESP RF Series. Transients can also be conduced into TV systems via the mains power supplies - use suitable ESP mains protection.

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ESP LN Series - Technical specification

Electrical Specification	ESP LN	ESP LN-4	ESP LN-8	ESP LN-8/16	ESP LN-16/16
Maximum working voltage *Uc*[1]	4 V				
Current rating	300 mA				
In-line resistance	~ 0 Ω				
Bandwidth (-3 dB 50 Ω system)	100 Mbps				

Transient Specification	ESP LN	ESP LN-4	ESP LN-8	ESP LN-8/16	ESP LN-16/16
Let-through voltage[2] *Up*					
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	13.5 V				
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21	12.0 V				
1.5 kV, 10/700 µs[3]	12.5 V				
Maximum surge current					
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002	350 A				

Mechanical Specification	ESP LN	ESP LN-4	ESP LN-8	ESP LN-8/16	ESP LN-16/16
Temperature range	-40 to +80 ºC				
Connection type	RJ45 sockets				
Earth connection	External earth strap	External earth strap on front fascia panel	External earth strap on front fascia panel	External earth strap through mounting screws	External earth strap through mounting screws
Case Material	ABS UL94 V-0	ABS UL94 V-0	ABS UL94 V-0	Steel	Steel
Weight: – Unit	0.05 kg	0.29 kg	0.32 kg	0.75 kg	1 kg
– Packaged	0.09 kg	0.58 kg	0.61 kg	1.1 kg	1.35 kg
Dimensions	See diagram below				

[1] Maximum working voltage (DC or AC peak) measured at 1 mA leakage

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

[3] Test to IEC 61000-4-5:2006, 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)