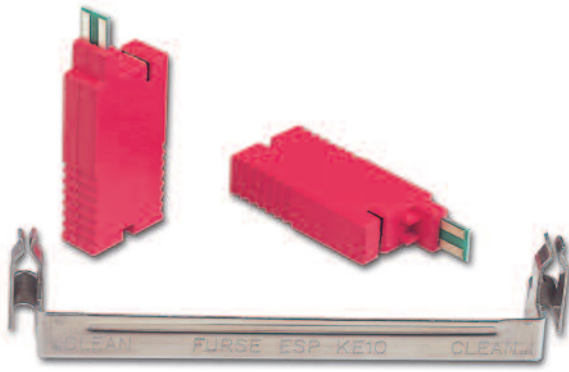


ESP KS and KE Series

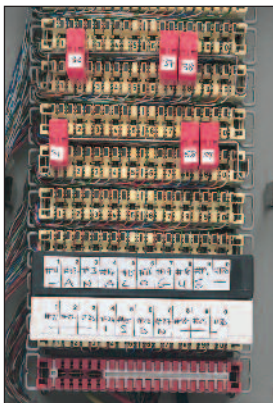


LPZ $0_B \rightarrow 3$	FULL MODE Bonding + Equipment Protection
SIGNAL/ TELECOM TEST CAT D + C + B	e ENHANCED Low let-through voltage
CURRENT 150mA RATING	

Combined Category D, C, B tested protector (to BS EN 61643-21) suitable for use on ten line LSA-PLUS disconnection modules to protect individual twisted pair data or signal lines. For use at boundaries up to LPZ 0_B to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features and benefits

- ✓ Low cost protection for large numbers of data and signal lines
- ✓ Very low let-through voltage (enhanced protection to BS EN 62305) between all lines – Full Mode protection
- ✓ Full mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- ✓ Repeated protection in lightning intense environments
- ✓ Colour of housing distinguishes electrically different protectors to help avoid confusion when installed with other protectors (e.g. the ESP KT1/2) on the same distribution frame
- ✓ Quick and easy plug-in installation
- ✓ Protect only the lines you need
- ✓ Ridged finger holds make it easy to obtain a firm grip for installation or removal
- ✓ Use the ESP KE10 to provide trouble free earthing for up to ten protectors (per disconnection module)



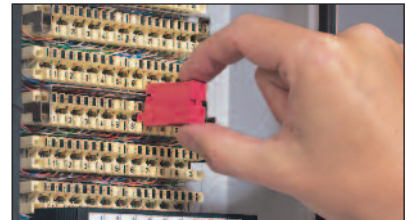
Single line protectors installed on LSA-PLUS disconnection modules, via ESP KE10 earth bars, on all incoming signal and data lines

Application

Use these units to protect signal, data, control and instrumentation systems with LSA-PLUS disconnection modules.

Installation

Install protectors on all data communication and signal lines that enter or leave each building. All protectors must be installed via the ESP KE10 earth bar. Identify the lines requiring protection and clip the ESP KE10 on to the disconnection modules' earth points. Plug the protector directly into each disconnection module requiring protection (ensuring the correct orientation) for a series connection.



Having pushed the ESP KE10 earth bar on to the disconnection modules' earth points, firmly push an ESP KS06 (or ESP KS15, ESP KS30 or ESP KS50) into each line/pair requiring protection

In the unlikely situation that the protector is damaged, it will sacrifice itself and fail short circuit, taking the line out of commission. In addition to indicating that the protector needs replacing, this will also prevent subsequent transients from damaging the equipment.

For PSTN and U interface ISDN lines on LSA-PLUS modules, use the ESP KT1 or ESP K10T1. For S/T interface ISDN lines on LSA-PLUS modules, use the ESP KT2 or ESP K10T2. For individual twisted pair data or signal lines, use the D, E or H Series Lightning Barriers. The Q Lightning Barriers are suitable for high density data and signal lines.

Electrical specification

	ESP KS06	ESP KS15	ESP KS30	ESP KS50
Nominal voltage ¹	6V	15V	30V	50V
Maximum working voltage U_c ²	7.78V	16.7V	33.4V	58V
Current rating (signal)	150mA			
In-line resistance (per line $\pm 10\%$)	10 Ω	22 Ω	22 Ω	22 Ω
Bandwidth (-3dB 50 Ω system)	2MHz	5MHz	5MHz	5MHz

¹ Nominal voltage (DC or AC peak) at 200 μ A for ESP KS06 and at 5 μ A for ESP KS15, ESP KS30 and ESP KS50.

² Maximum working voltage (DC or AC peak) at 10mA for ESP KS06, at 1mA for ESP KS15 and ESP KS30, and at 5 μ A for ESP KS50.

Transient specification

	ESP KS06	ESP KS15	ESP KS30	ESP KS50
Let-through voltage (all conductors) ¹ U_p				
C2 test 4kV 1.2/50 μ s, 2kA 8/20 μ s to BS EN/EN/IEC 61643-21	16.0V	26.5V	48.0V	98.0V
C1 test 1kV, 1.2/50 μ s, 0.5kA 8/20 μ s to BS EN/EN/IEC 61643-21	14.5V	24.0V	46.5V	84.5V
B2 test 4kV 10/700 μ s to BS EN/EN/IEC 61643-21	11.5V	23.0V	45.0V	75.0V
5kV, 10/700 μ s ²	12.0V	24.4V	48.8V	80.0V
Maximum surge current ³				
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21				
- per signal wire			1kA	
- per pair			2kA	
8/20 μ s to ITU (formerly CCITT), BS 6651:1999 Appendix C				
- per signal wire			5kA	
- per pair			10kA	

¹ The maximum transient voltage let-through of the protector throughout the test ($\pm 10\%$), line to line & line to earth, both polarities. Response time <10ns.

² Test to BS 6651:1999 Appendix C, Cat C-High, 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 The installation and connections external to the protector may limit the capability of the protector.

Mechanical specification

	ESP KS06, ESP KS15, ESP KS30, ESP KS50	ESP KE10
Temperature range	-25 to +70°C	-
Connection type	To LSA-PLUS disconnection modules (BT part number 237A)	
Earth connection	Via ESP KE10 earth bar	-
Material	ABS UL94 V-0	Stainless Steel
Weight - unit	0.01kg	0.01kg
- packaged	0.10kg (per 10)	0.12kg (per 10)
Dimensions		