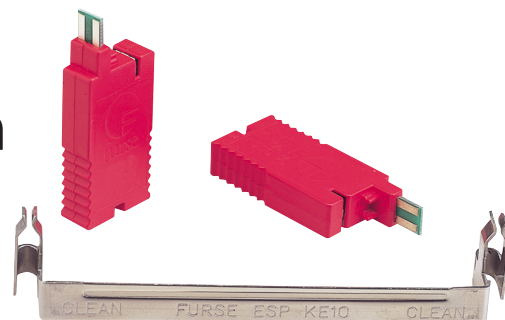


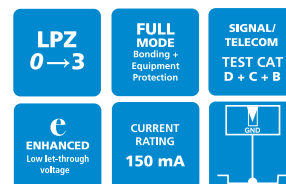
DATASHEET

Data and signal protection

ESP KS & KE Series



Combined Category D, C, B tested protector (to BS EN 61643) 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 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.



Features & benefits

- Low cost protection for large numbers of data and signal lines
- Very low let-through voltage (enhanced protection to IEC/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
- Quick and easy plug-in installation
- 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
- 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)

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.

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.

Application

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

NOTE: 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 ESP D, E or H Series Lightning Barriers. The ESP SL and ESP Q Series Lightning Barriers are suitable for high density data and signal lines.

ESP KS & KE Series - Technical specification

Electrical specification	ESP KS06	ESP KS15	ESP KS30	ESP KS50	ESP KE10
ABB order code	7TCA085400R0029	7TCA085400R0030	7TCA085400R0032	7TCA085400R0033	7TCA085400R0134
Nominal voltage ⁽¹⁾	6 V	15 V	30 V	50 V	
Maximum working voltage U_c (RMS/DC) ⁽²⁾	5 V / 7.79 V	11 V / 16.7 V	24 V / 33.4 V	41 V / 58 V	
Current rating (signal)	150 mA				
In-line resistance (per line $\pm 10\%$)	1 Ω	22 Ω	22 Ω	22 Ω	
Bandwidth (-3 dB 50 Ω system)	2 MHz	5 MHz	5 MHz	5 MHz	
Transient specification	ESP KS06	ESP KS15	ESP KS30	ESP KS50	
Let-through voltage (all conductors) ⁽³⁾ Up					
C2 test 4 kV 1.2/50 μ s, 2 kA 8/20 μ s to BS EN/EN/IEC 61643-21	16.0 V	26.5 V	48.0 V	98.0 V	
C1 test 1 kV, 1.2/50 μ s, 0.5 kA 8/20 μ s to BS EN/EN/IEC 61643-21	14.5 V	24.0 V	46.5 V	84.5 V	
B2 test 4 kV 10/700 μ s to BS EN/EN/IEC 61643-21	11.5 V	23.0 V	45.0 V	75.0 V	
5 kV, 10/700 μ s ⁽⁴⁾	12.0 V	24.4 V	48.8 V	80.0 V	
Maximum surge current⁽⁵⁾					
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21: – Per signal wire	1 kA				
– Per pair	2 kA				
8/20 μ s to ITU-T K.45:2003, – Per signal wire	5 kA				
IEEE C62.41.2:2002: – Per pair	10 kA				
Mechanical specification	ESP KS06	ESP KS1	ESP KS30	ESP KS50	ESP KE10
Temperature range	-40 to +80 °C				–
Connection type	To LSA-PLUS disconnection modules (BT part number 237A)				
Earth connection	Via ESP KE10 earth bar				–
Material	FR Polymer UL-94 V-0				Stainless Steel
Weight: – Unit	0.01 kg				0.01 kg
Dimensions	See diagram below				

⁽¹⁾ Nominal voltage (RMS/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 (RMS/DC or AC peak) at 10 mA for ESP KS06, at 1 mA for ESP KS15 and ESP KS30, and at 5 μ A for ESP KS50.

⁽³⁾ The maximum transient voltage let-through of the protector throughout the test ($\pm 10\%$), line to line & line to earth, both polarities. Response time < 10 ns

⁽⁴⁾ 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)

⁽⁵⁾ The installation and connections external to the protector may limit the capability of the protector

