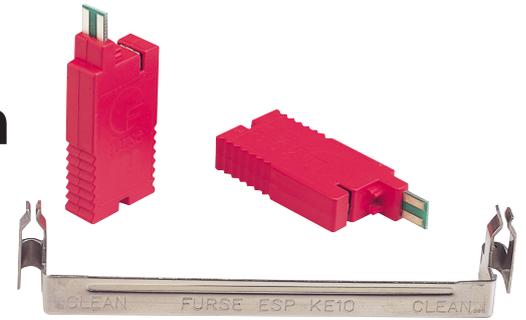


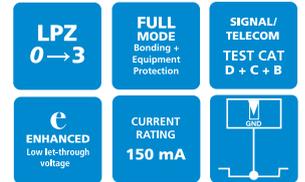
DATASHEET

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⁾ U_p | | | | | |
| C2 test 4 kV 1.2/50 μs , 2 kA 8/20 μs 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 μs , 0.5 kA 8/20 μs 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 μs to BS EN/EN/IEC 61643-21 | 11.5 V | 23.0 V | 45.0 V | 75.0 V | |
| 5 kV, 10/700 μs ⁽⁴⁾ | 12.0 V | 24.4 V | 48.8 V | 80.0 V | |
| Maximum surge current ⁽⁵⁾ | | | | | |
| D1 test 10/350 μs to BS EN/EN/IEC 61643-21: - Per signal wire | 1 kA | | | | |
| 8/20 μs to ITU-T K.45:2003, - Per pair | 2 kA | | | | |
| IEEE C62.41.2:2002: - Per signal wire | 5 kA | | | | |
| - 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 μA for ESP KS06 and at 5 μA 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 μA 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

