Camera telemetry or control lines should be protected with a suitable Lightning Barrier from the D or E Series. Protectors for the power supply to individual cameras and the mains supply to the control room are available. Protectors for coaxial RF cable (RF Series) and CATV systems (ESP CATV/F) are also available.

- **For coaxial CCTV cables with BNC connectors, use ESP CCTV/B.**
- **For twisted pair CCTV lines, use ESP CCTV/T.**
- **Suitable for use on systems with either an earthed or an isolated screen.**
- **Not suitable for use on broadcast, satellite or cable TV systems.**

Application

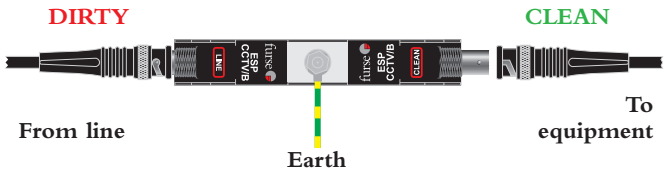
Use these protectors on the video cable to outdoor CCTV cameras and central control and monitoring equipment.

CCTV camera protected from a direct lightning strike, by one of the building's 'lightning conductors', and from transient overvoltages by protectors in a WBX 4/GS secure enclosure.

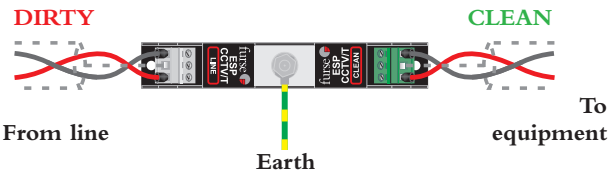
Features and benefits

- ✔ Low let-through voltage between all sets of conductors.
- ✔ Provides repeated protection in lightning intense environments.
- ✔ High bandwidth to prevent the degradation of high frequency signals.
- ✔ Low in-line resistance to minimise unnecessary reductions in signal strength and maximise signalling distance.
- ✔ Very low reflection coefficient/ VSWR ensure that the protector doesn't disrupt system operations.
- ✔ Suitable for either earthed or isolated screen systems.
- ✔ Sturdy, conductive ABS housing for 2 way shielding - preventing emissions and providing signals with immunity from external interference.
- ✔ Convenient holes for flat mounting on base or side.
- ✔ Built-in DIN rail foot for easy installation on top hat DIN rail.
- ✔ ESP CCTV/T has colour coded terminals for a quick and easy installation check - grey for the dirty (line) end and green for the clean end.
- ✔ Substantial earth stud to enable effective earthing.
- ✔ Integral earthing plate enables enhanced connection to earth via CME kit.

Installation



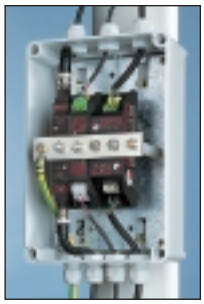
Series connection for ESP CCTV/B.



Series connection for ESP CCTV/T.

Connect in series with the CCTV cable in a convenient place close to the equipment being protected. For outdoor CCTV cameras, protectors should be mounted in the junction box, or in a separate enclosure, close to the camera. Protect central control and monitoring equipment inside the building by installing protectors on all incoming or outgoing lines, either:

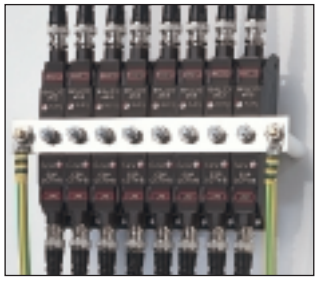
a) near where they enter or leave the building, or
b) close to the equipment being protected (or actually within its control panel).



Protectors for the video (ESP CCTV/B, left), camera telemetry (ESP 15E, centre) and the low current mains power (ESP 240-5A, right) inputs to a camera, installed together on a CME 4 mounting and earthing kit. Note that the protectors have been cross bonded to the metal work of the pole (out of shot).

Suitable accessories

When CCTV protectors are installed in groups, or alongside protectors for signal and mains power lines, these can be simultaneously mounted and earthed on a CME kit. A CME 4 will accommodate the video, telemetry and power protectors to a camera. If protectors cannot be incorporated within an existing panel or enclosure, WBX enclosures are available for up to 4, 8 or 16 protectors and their associated CME kit. The WBX 4/GS is a secure IP66 enclosure suitable for a CME 4 and associated protectors.



A group of ESP CCTV/B protectors installed together on a CME 8 combined mounting and earthing kit, on video cables entering the control and monitoring room.

Electrical specification

	ESP CCTV/B	ESP CCTV/T
Nominal voltage[1] (peak - peak)	1V	2V
Maximum working voltage[2] (peak)	6.45V	6.45V
Current rating (signal)	300mA	300mA
In-line resistance (±10%)	1W *inserted in coax inner*	1W *per line*
Bandwidth (-3dB 75W system)[3]	>20MHz	>20MHz
Voltage standing wave ratio	<1.2	<1.2

1 Nominal voltage (DC or AC peak) measured at <1μA leakage.
2 Maximum working voltage (DC or AC peak) measured at 10mA leakage.
3 Capacitance <30pF.

Transient specification

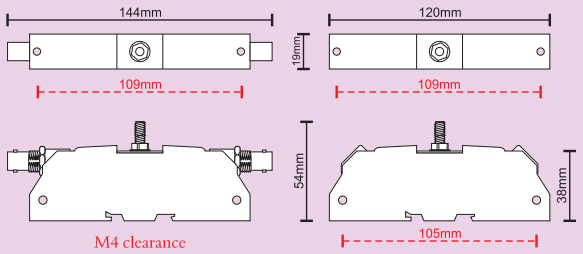
	ESP CCTV/B	ESP CCTV/T
Let-through voltage (all conductors)[1] 5kV, 10/700μs test to: *BS 6651:1999 Appendix C, Cat C-High ITU (formerly CCITT) IX K17*	17V	17V
Maximum surge current[2]	10kA	10kA

1 The maximum transient voltage let-through the protector throughout the test (±10%), line to line & line to earth. Screen to earth let-through voltage will be 600V, when protector is configured for use with non-earthed or isolated screen systems. Response time <10ns.
2 Tested with 8/20μs waveshape to ITU (formerly CCITT), BS 6651:1999 Appendix C.

Mechanical specification

	ESP CCTV/B	ESP CCTV/T
Temperature range	-25°C to +70°C	-25°C to +70°C
Connection type	Coaxial BNC female	Screw terminal
Conductor size (stranded)	Not applicable	1.5mm²
Earth connection	M6 stud	M6 stud
Weight - unit	0.08kg	0.08kg
- packaged (per 10)	0.9kg	0.9kg

Dimensions



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