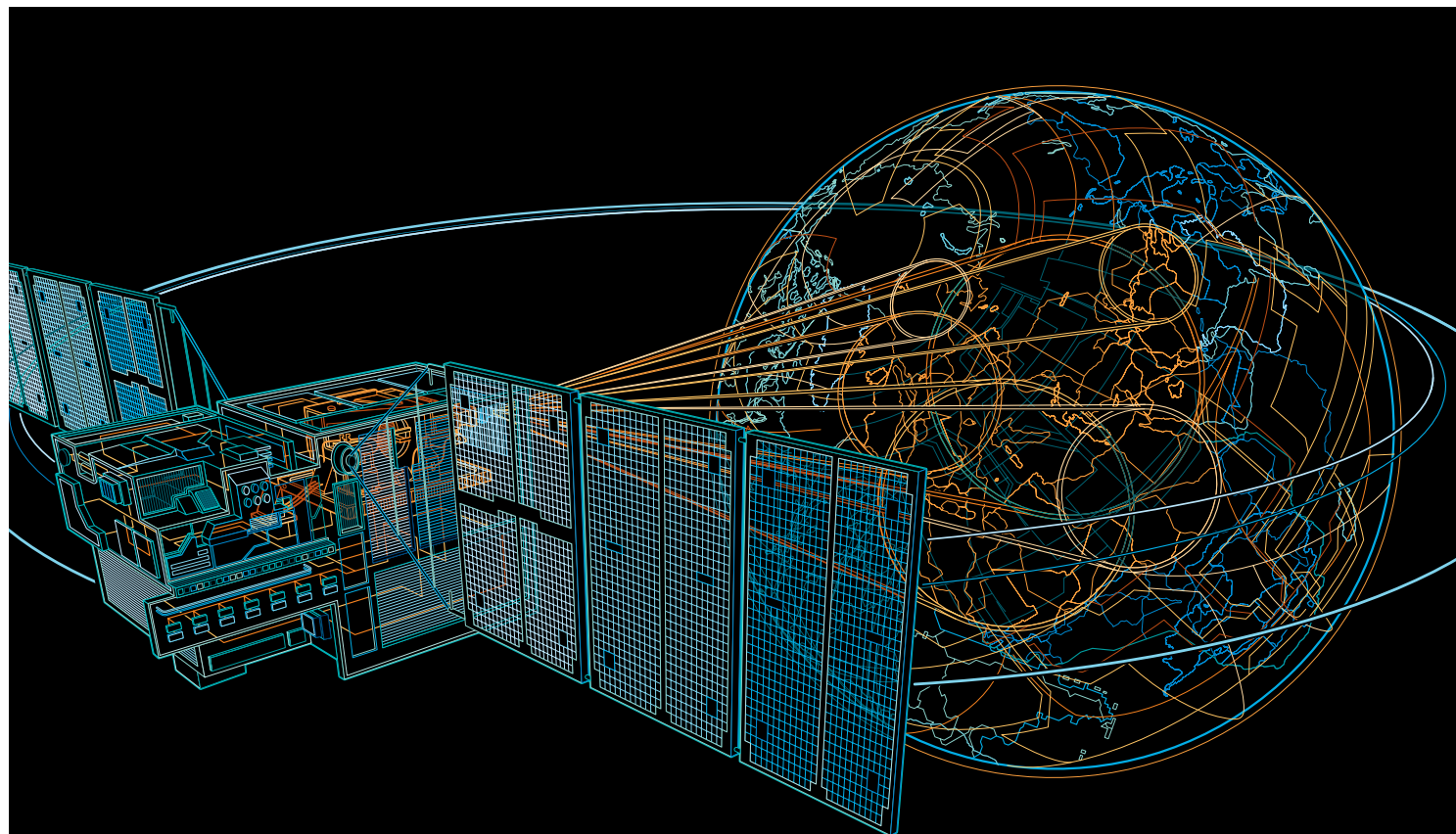




Application Note

Protection for TV, satellite and radio systems

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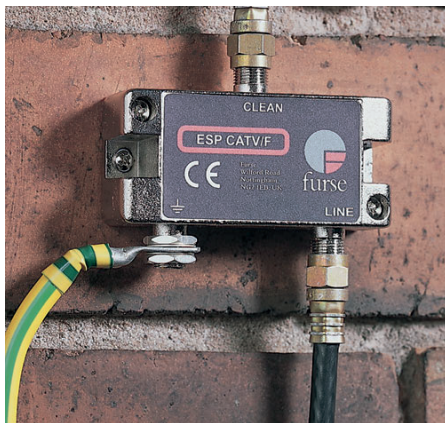


Protection for TV, satellite and radio systems

ESP TV Series protectors provide combined Category C, B tested protection (to BS EN/IEC 61643-21), suitable for use on analogue and digital Cable, Terrestrial and Satellite TV systems.

Protectors include as standard:

- Very low let-through voltage (enhanced protection to BS EN 62305) between all lines
- Full Mode protection, permitting continuous operation of equipment, even during surge activity
- Low attenuation and high return loss over a wide range of frequencies, to ensure system performance is not impaired
- Substantial earth termination
- Robust die cast metal housing with holes for flat mounting



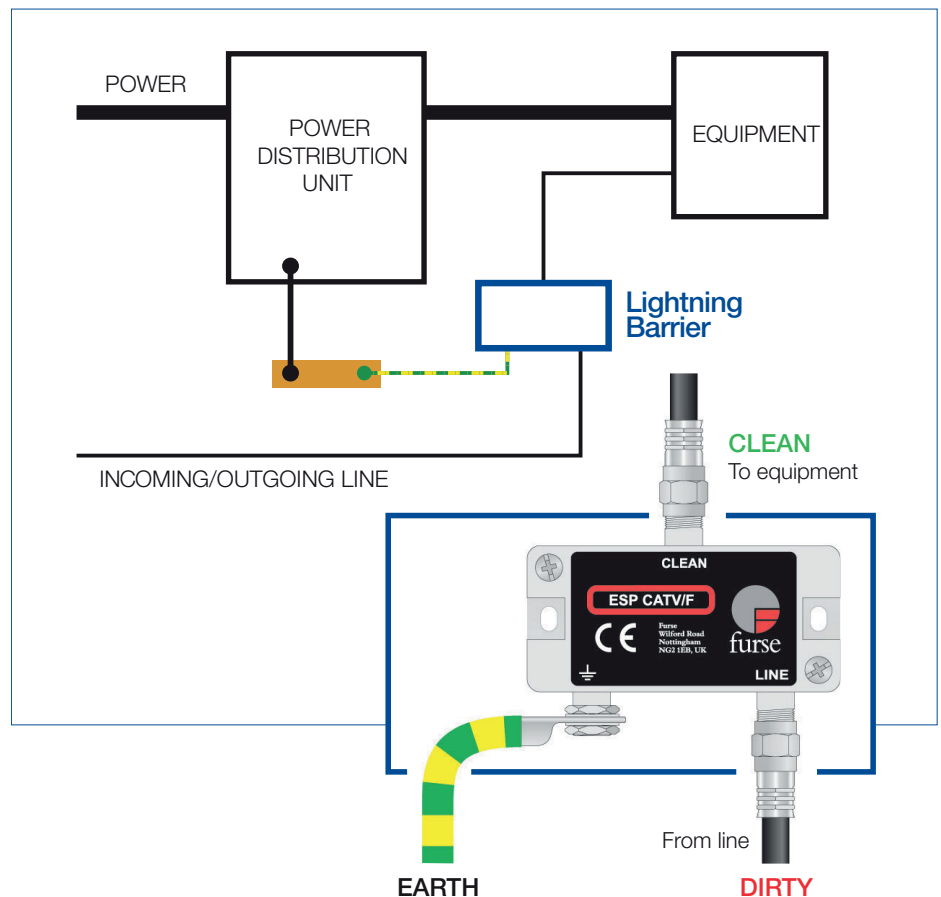
Installation

Install on lines running within buildings at boundaries up to LPZ 1 through to LPZ 3 to protect sensitive electronic equipment from transient damage.

Connect in series with the coaxial cable either near where it enters or leaves each building or close to the equipment being protected.

The *line* end must be connected to the coaxial cable entering or exiting, with the clean end connected to the equipment (see *installation diagram below*).

Cables connected to the protector's clean end should never be routed next to the dirty line end or the earth bond, to avoid transients being re-introduced after the protector.



Terrestrial Analogue/Digital (Freeview™) TV and FM/DAB radio protection

The ESP TV/EURO and the ESP TV/F are suitable for protecting standard un-amplified TV aerial feeds, whether the feed is for analogue or digital reception.

The only technical differences between the two units are the connectors.

- For standard Euro TV push-fit connectors, use the ESP TV/Euro
- For F-type screw-fit connectors, use the ESP TV/F

Install in-line (in series) following guidelines in 'Installation' opposite.

Cable (CATV) TV and cable broadband internet protection

The ESP CATV/F is suitable for protecting both Cable TV and Broadband Internet cable feeds.

Install in-line (in series) following guidelines in 'Installation' opposite.

TV System	Part Code	Connection Type	Bandwidth	Max Working Voltage
Terrestrial TV/Radio	ESP TV/EURO	Euro TV female	5 – 860 MHz	6.4 V
Terrestrial TV/Radio	ESP TV/F	F-type female	5 – 860 MHz	6.4 V
Cable TV	ESP CATV/F	F-type female	5 – 860 MHz	140 V
MATV TV	ESP MATV/F	F-type female	5 – 2450 MHz	18 V
Satellite TV	ESP SMATV/F	F-type female	860 – 2450 MHz	18 V

Master Antenna TV protection

The ESP MATV/F is suitable for protecting Master Antenna TV and Integrated Reception System (IRS) feeds.

The ESP MATV/F is a wideband surge protector as it covers the combined signals from radio, terrestrial, cable and satellite TV feeds for distribution systems.

These are typically used in hotels and for public entertainment purposes. Ideally an aerial feed and/or satellite feed should be protected at the entry point to the building before it is connected to an MATV system.

The internal MATV lines should then be inherently protected. However if that setup is not possible or the MATV cabling runs outside of the building then the ESP MATV/F should be installed in-line with the MATV feed as close as possible to where the cabling enters and/or leaves the building.

Satellite TV protection

The ESP SMATV/F is suitable for protecting satellite TV feeds.

The surge protector should be installed in-line with the satellite feed as close as possible to where the cabling enters the building.

Fitting an additional ESP SMATV/F as close as possible to the satellite dish can provide protection for the satellite dish circuitry.



Attention should also be paid to protecting the power feeding the receivers for each system.

Protect the receiver equipment locally with a low-current in-line solution, or all equipment within the building by using a parallel-connected solution at the main distribution board.

Contact ABB Furse for more details.

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