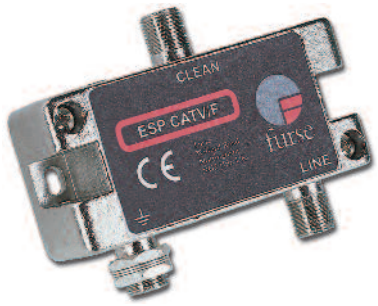
ESP TV Series



FULL MODE Bonding + Equipment Protection

SIGNAL/ TELECOM TEST CAT C + B

ENHANCED Low let-through voltage

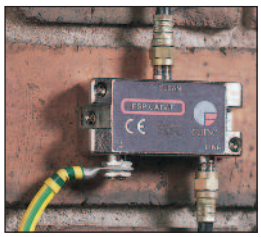
LPZ 1→3

HIGH BANDWIDTH

Combined Category C, B tested protector (to BS EN 61643-21) suitable to protect Cable, Terrestrial and Satellite TV systems. For use on lines running within buildings at boundaries up to LPZ 1 to through to LPZ 3 to protect sensitive electronic equipment.

Features and benefits

- ✔ Very low let-through voltage (enhanced protection to BS EN 62305) between all lines – Full Mode protection
- ✔ Low attenuation and high return loss over a wide range of frequencies ensures the protectors do not impair system performance
- ✔ Substantial earth termination
- ✔ Supplied ready for flat mounting
- ✔ Strong metal housing



Application

Use to protect analogue and digital Cable, Terrestrial and Satellite TV installations. ESP CATV/F, ESP MATV/F, ESP SMATV/F and ESP TV/F are suitable for systems using F connectors. ESP TV/EURO is suitable for systems using EURO-TV connectors. For further information on TV applications, see separate Application Note AN006 (contact Furse for a copy).

Installation

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

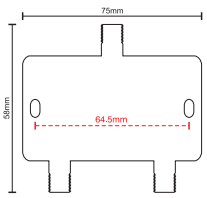
Electrical specification	ESP CATV/F	ESP MATV/F	ESP SMATV/F	ESP TV/EURO	ESP TV/F
Maximum working voltage[1]	140V	18.9V	18.9V	6.4V	6.4V
Maximum operating current	4A	800mA	800mA	300mA	300mA
Characteristic impedance			75Ω		
Bandwidth	5-860MHz	5-2450MHz	860-2450MHz	5-860MHz	5-860MHz
Insertion loss: 5-860MHz	<0.5dB	<0.3dB	–	<0.3dB	<0.3dB
860-2150MHz	–	<1.5dB	<1.5dB	–	–
2150-2450MHz	–	<2.2dB	<2.2dB	–	–
Return loss (VSWR): 5-860MHz	–	>32dB (<1.05:1)	–	>32dB (<1.05:1)	>32dB (<1.05:1)
860-2150MHz	–	>20dB (<1.2:1)	>20dB (<1.2:1)	–	–
2150-2450MHz	–	>20dB (<1.2:1)	>20dB (<1.2:1)	–	–

[1] Maximum working voltage (DC or AC peak) measured at <5µA (ESP CATV/F) and <50mA (ESP MATV/F, ESP SMATV/F, ESP TV/EURO, ESP TV/F).

Transient specification	ESP CATV/F	ESP MATV/F	ESP SMATV/F	ESP TV/EURO	ESP TV/F
Let-through voltage (all conductors)[1] *Up*					
C2 test 4kV 1.2/50µs, 2kA 8/20µs to BS EN/EN/IEC 61643-21	270V	70V	70V	65V	65V
C1 test 1kV 1.2/50µs, 0.5kA 8/20µs to BS EN/EN/IEC 61643-21	265V	60V	60V	50V	50V
B2 test 4kV 10/700µs to BS EN/EN/IEC 61643-21	245V	45V	45V	30V	30V
5kV, 10/700µs[2]	250V	50V	50V	35V	35V
Maximum surge current					
8/20µs to ITU (formerly CCITT), BS 6651:1999 Appendix C	3kA	3kA	3kA	3kA	3kA

[1] The maximum transient voltage let-through the protector throughout the test (±10%), line to line & line to earth. 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).

Mechanical specification	ESP CATV/F, ESP MATV/F, ESP SMATV/F, ESP TV/EURO, ESP TV/F
Temperature range	–25°C to +70°C
Connection type	F female
Earth connection	~9.5mm (3/8") diameter earth stud
Case material	Diecast
Weight – unit	0.14kg
– packaged	0.15kg
Dimensions	M4 clearance holes, Depth=23mm



Protectors for coaxial (or twisted pair) CCTV Lines are available. For coaxial RF lines, use the ESP RF Series. Transients can also be conduced into TV systems via the mains power supplies – use suitable ESP mains protection. Contact Furse.

TSC-0808