Quick, Simple Installation
For New Installations or System Upgrades.

The ESP D/10A or ESP DS/32A series protectors are installed in series or in-line with the power supply, usually either within the equipment panel, in an external enclosure.
(See Figure 9.)

ESP D/10A and ESP DS/10A protectors are connected in-line to supplies fused up to 10A. Similarly ESP D/32A and ESP DS/32A protectors are connected in-line to supplies fused up to 32A.

To protect equipment inside a building from transients entering on an outgoing feed (e.g. CCTV cameras or to site lighting) the protector should be installed either within an existing cabinet/ cubicle or in a separate enclosure.

ESP in-line mains products can work effectively up to 32A however you will need to ensure that the unit is correctly fused to meet the maximum rating of the supply current. (e.g. if the 230V supply is rated at 16A maximum, then an ESP 240DS-32A or ESP 240D-32A should be installed with an in-line fuse rated at 16A.

Figure 8. In-line Installation

Figure 9. WBX D4 Enclosure

For installations above 32A consider using the Furse ESP D1 Series of Enhanced Power Protectors. Designed to be installed as parallel (shunt) or in series (in line up to 125A) with the power supply for single phase and 3 phase applications.

Figure 10. ESP D1 Series - ESP 240 D1 Shown

Figure 11. ESP D1 Series - ESP 415 D1/LCD Shown

Thomas&Betts
A Member of the ABB Group

furse

UK OFFICE

Thomas & Betts Limited
Furse
Wilford Road
Nottingham
NG2 1EB
United Kingdom

Switchboard +44 (0)115 964 3700
Fax +44 (0)115 986 0538
Sales tel +44 (0)115 964 3800
Sales fax +44 (0)115 986 0071

enquiry@furse.com
www.furse.com

MIDDLE EAST OFFICE

Thomas & Betts Ltd. Br.
Office 724 6WA West Wing
Dubai Airport Free Zone
PO Box 54567
Dubai
United Arab Emirates

Tel +971 (0)4 609 1635
Fax +971 (0)4 609 1636

enquiryme@tnb.com

SOUTH EAST ASIA OFFICE

Thomas & Betts ASIA (SINGAPORE) PTE Limited
10 Ang Mo Kio Street 65
#06-07 Techpoint
Singapore 569059

Tel +65 6720 8828
Fax +65 6720 8780

asia.inquiry@tnb.com
www.furse.com

BSI FM 003 Q06054

UK OFFICE

www.furse.com

Thomas&Betts
A Member of the ABB Group

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Enhanced Compact Surge Protection up to 32A

ESP D/DS 10A & 32A Series

Thomas&Betts
A Member of the ABB Group

Essential System Protection up to 32A

The protection of electrical systems is essential to maintain a continuous and efficient running of all electronic systems to meet our daily needs.

Society has become more and more dependent on electrical systems to provide us with solutions that give us essential services for daily life. This includes the use of computers and data communication networks, building management systems, fire and security systems, telemetry and data acquisition equipment plus many more.

These electronic systems are at risk every day from potentially devastating electrical surges, also known as transient overvoltages, which can cause critical degradation and damage to circuitry components, resulting in component burn out. Loss of these systems would cripple industrial, commercial and government organisations alike.

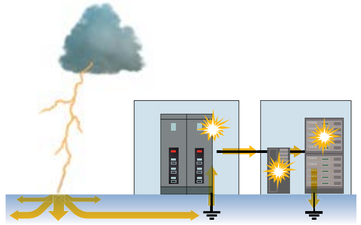


Figure 1. Indirect lightning strike

Transient overvoltages can be caused by a direct lightning strike, or more often indirect lightning strikes, from up to 1 kilometre away. However lightning is not the only cause of transient over voltages; another common cause is electrical switching events created by large inductive loads such as air conditioning units and lifts.

Potential risks from transients:

- Health & Safety risks
- Disruption of vital/ basic services
- Loss of data
- Reduced productivity & downtime
- Degradation of components & circuitry
- Costly disposal of damaged equipment

Figure 2. ESP D Series

Figure 3. ESP DS Series

Protection of your electronic equipment is critical, economical, as well as helping to save the environment. Furse Surge Protective Devices (SPD's) can provide effective protection covering incoming and outgoing mains and data line, protecting sensitive and critical electronic systems from damage.

Figure 4. Damage occurs when a transient overvoltage exceeds the withstand voltage of electrical and electronic equipment.

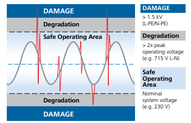


Figure 5. Equipment risks degradation of components at lower transient overvoltage levels, affecting critical electronic systems whenever the impulse immunity of the electronic equipment is compromised.

LPZ 0→3 | MAINS TEST TYPE 1 + 2 + 3 | ENHANCED Low let-through voltage | SERIES CONNECTION | TESTED TO EN/IEC STANDARDS | FULL MODE BONDING & EQUIPMENT PROTECTION | / max 40kA PER MODE | DIN RAIL MOUNTING | REPEAT PROTECTION

The latest D/ DS range is designed to complement the existing D1 Series of ESP products providing a further enhanced series to our existing ESP range of mains protector range for specific systems.

The new ESP D/DS Series now offers industry leading low let through voltage combined with the mains test Type 1, 2 & 3 (to BS EN 61643) Designed for use on low current single phase systems (up to 10A or 32A) to protect against transient overvoltages on the mains supply, as well as offering increased exposure level covering lighting protection zones (LPZ) 0 -3.

It also features a three way visual indication of protector status and advanced pre-failure warning, as well as remote indication facilities to a BMS via a volt-free contact, so you need never be unprotected.

Figure 6. ESP 240 DS-32A installed conveniently in a power distribution cabinet.

- ✔ **Combined type 1,2,& 3 tested protector (to BS EN 61643)**
  For use on low current (up to 10A or 32A) single phase systems to protect against transient overvoltages on the mains supply.
- ✔ **Very low let through voltages**
  Protecting essential equipment by restricting transient overvoltages to a safe level.
- ✔ **Industry leading, enhanced protection to BS EN 62305**
  Minimising the risk of dangerous sparking (leading to flash over and electrical shock hazards) as well as equipment damage compared to standard protection.
- ✔ **Compact DIN housing**
  Mounts to standard 35mm top hat DIN utilising DIN foot with locking feature.
- ✔ **Three way indication facility**
  Three way visual induication of protector status and advanced pre-failure warning so you never need be unprotected.
- ✔ **Advanced status indication (DS Version)**
  Remote indication facility to a building management system (BMS) via an active changeover volt-free contact to show pre-failure warnings and potential phase loss (i.e power failure, blown fuses, etc), and a flashing warning of potentially fatal neutral to earth supply volts.
- ✔ **Repeat protection in lightning intense environments**
  Protectors offer repeated protection against transient overvoltages, with a 5 year warranty.

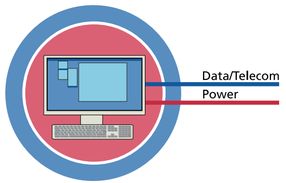
Figure 7. Product applications. 1.CCTV cameras 2. Power distribution board 3. Offices 4. Fire Alarm panels 5. Electric Vehicle battery charger 6. Intruder alert panels.

Product Selection Information

Technical specification

DS Range features Volt-Free Contact & Neutral - Earth voltage warning

Part No.	Description	V rms range
ESP120 D-10A	Mains Protector 120 V, 10 A	120 – 150 V
ESP240 D-10A	Mains Protector 240 V, 10 A	240 – 280 V
ESP277 D-10A	Mains Protector 277 V, 10 A	277 – 350 V
ESP120 DS-10A	Mains Protector 120 V, 10 A	120 – 150 V
ESP240 DS-10A	Mains Protector 240 V, 10 A	240 – 280 V
ESP277 DS-10A	Mains Protector 277 V, 10 A	277 – 350 V
ESP120 D-32A	Mains Protector 120 V, 32 A	120 – 150 V
ESP240 D-32A	Mains Protector 240 V, 32 A	240 – 280 V
ESP277 D-32A	Mains Protector 277 V, 32 A	277 – 350 V
ESP120 DS-32A	Mains Protector 120 V, 32 A	120 – 150 V
ESP240 DS-32A	Mains Protector 240 V, 32 A	240 – 280 V
ESP277 DS-32A	Mains Protector 277 V, 32 A	277 – 350 V



WARNING Equipment is **ONLY** protected if **all** incoming lines have protection fitted

Product Training & Support

Defining when and where to install SPD's can be a complex process, and sourcing the right expertise can often be as important as specifying the right product.

We offer CPD accredited seminars and training to help ensure key areas are understood and followed:

CIBSE CPD

- Key guidance on risk assessment principles.
- Selection & installation for overvoltage protection. (In accordance to section 534 of BS 7671:2008)
- Protection requirements for electrical & electronic equipment. (In accordance to BS EN 62305
- Guidance on Lightning Protection Zones (LPZ)
- Concept & Coordination of SPD's