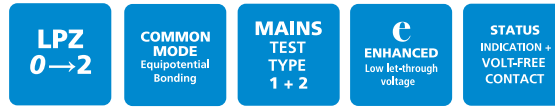


# Specific systems protection

## ESP WT Series



Combined Type 1 and 2 tested protector (to BS EN 61643) for use on the main distribution board within wind turbines, for equipotential bonding. For use at boundaries up to LPZ 0 to protect against flashover (typically the main distribution board location) through to LPZ 2 to protect electrical equipment from damage.

### Features & benefits

- Enhanced protection (to IEC/BS EN 62305) offering low let-through voltage further minimizing the risk of flashover creating dangerous sparking or electric shock
- Repeated protection in lightning intense environments
- The varistor based design eliminates the high follow current ( $I_f$ ) associated with spark gap based surge protection
- Indicator shows when the protector requires replacement
- Remote signal contact can indicate the protector's status through interfacing with a building management system

### Application

Use on 690 V three phase mains power supplies and power distribution boards for protection against partial direct and indirect lightning strikes. The services (typically 3 phase 400 V mains, UPS, data, signal and telecom lines) to the cabinet within the wind turbine nacelle will require additional protection.

- For a 3 phase TN-S supply, install 4 ESP WT units together with ESP CE10 or ESP CE13 connecting and earthing bar (see installation)
- For a 3 phase TN-C supply, install 3 ESP WT units together with ESP CE7 or ESP CE9 connecting and earthing bar (see installation)

### Installation

Protector should be installed in the main distribution board with connecting leads of minimal length. The protector should be fused and is suitable for attachment to a 35 mm top hat DIN rail. The diagrams below illustrate how to wire the appropriate ESP protector according to your chosen electrical system.

### Accessories

Connecting and earthing bars

#### ESP CE7

Use with 3 of ESP 690/12.5/WT for TN-C supplies

#### ESP CE9

Use with 3 of ESP 690/25/WT for TN-C supplies

#### ESP CE10

Use with 4 of ESP 690/12.5/WT for TN-S supplies

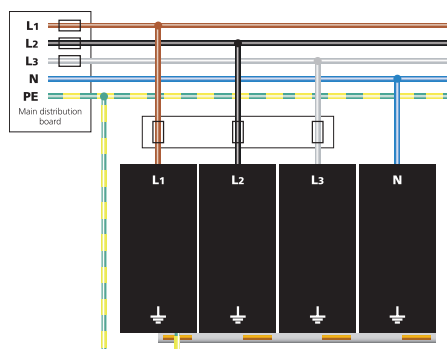
#### ESP CE13

Use with 4 of ESP 690/25/WT for TN-S supplies

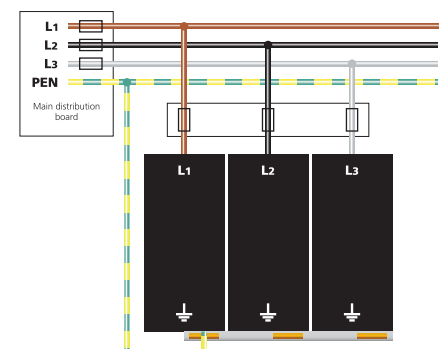
For suitable enclosures for the ESP WT series, please contact us.

Full product range order codes can be found on pages 17/8-17/9

TN-S earthing system (ESP WT x 4 with ESP CE10 or ESP CE13 earthing bars



TN-C earthing system (ESP WT x 3) with ESP CE7 or ESP CE9 earthing bars



**IMPORTANT:** The primary purpose of lightning current or equipotential bonding mains Type 1 Surge Protective Devices (SPDs) is to prevent dangerous sparking caused by flashover to protect against the loss of human life. In order to protect electronic equipment and ensure the continual operation of systems, transient overvoltage mains Type 2 and 3 SPDs such as the ESP M1 Series or ESP D1 Series are further required, typically installed at downstream subdistribution boards feeding sensitive equipment. IEC/BS EN 62305 refers to the correct application of mains Type 1, 2 and 3 SPDs as a coordinated set. For further information, please refer to the Furse Guide to BS EN 62305 Protection against Lightning.