



1 phase Type I protectors

Specifications

- Type I/Class B protectors
- I_{max} of up to 100kA 8/20 μ s per mode (160kA 8/20 μ s for TT versions)
- I_{imp} of up to 50kA 10/350 μ s per mode (100kA 10/350 μ s for TT versions)

Application

- Use on single phase mains supplies and power distribution systems for protection against partial direct or indirect lightning strikes
- ESP 240/I/XXX versions for use with Class I or II Lightning Protection Systems (LPS)
- ESP 240/III/XXX versions for use with Class III or IV LPS; or exposed overhead single phase power lines where no LPS is fitted
- ESP 240/X/TNS versions also cover TNC-S earthing systems

Installation

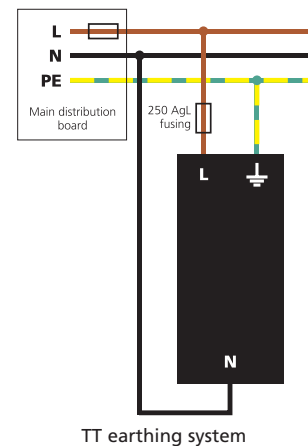
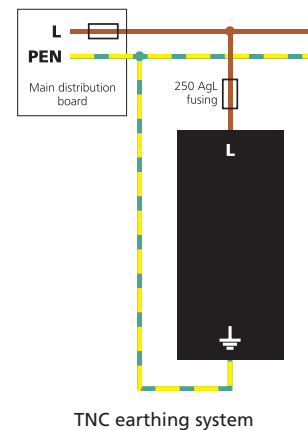
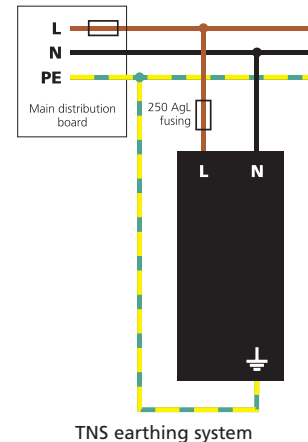
Protector to be installed in the main distribution panel with connecting leads of minimal length. The protector should be fused and is suitable for attachment to a 35mm top hat DIN rail.

Features and benefits

- Enhanced protection offering low let-through voltage (U_p)
- The varistor based design eliminates the high follow current (I_f) associated with spark gap based surge protection
- Compact, space saving design
- Indicator shows when the protector requires replacement
- Remote signal contact can indicate the protectors' status through interfacing with a building management system

Wiring diagrams

The diagrams below illustrate how to wire the appropriate ESP protector according to your chosen electrical system



Electrical specification

	ESP 240/I/TNS	ESP 240/III/TNS	ESP 240/I/TNC	ESP 240/III/TNC	ESP 240/I/TT	ESP 240/III/TT
Nominal voltage	220-240V _{RMS}	220-240V _{RMS}	220-240V _{RMS}	220-240V _{RMS}	220-240V _{RMS}	220-240V _{RMS}
Maximum continuous operating voltage (U_c)	275Vac, 350Vdc	275Vac, 350Vdc	275Vac, 350Vdc	275Vac, 350Vdc	275Vac, 350Vdc	275Vac, 350Vdc
Back up fuse (If mains supply >100A)	250A gL	250A gL	250A gL	250A gL	250A gL	250A gL
Short circuit capability	25kA/50Hz	25kA/50Hz	25kA/50Hz	25kA/50Hz	25kA/50Hz	25kA/50Hz
Signal contact ratings	250V _{RMS} / 0.5A	250V _{RMS} / 0.5A	250V _{RMS} / 0.5A	250V _{RMS} / 0.5A	250V _{RMS} / 0.5A	250V _{RMS} / 0.5A
Arrester classification/Type						
E DIN VDE 0675	B (B+C)	B (B+C)	B (B+C)	B (B+C)	B (B+C)	B (B+C)
IEC ¹	I, II	I, II	I, II	I, II	I, II	I, II

1 Tested to BS/EN & IEC 61643

Transient specification

Let-through voltage (U_p)						
at I _n (8/20μs)	<1.3kV	<1.4kV	<1.3kV	<1.4kV	<1.3kV	<1.4kV
at I _{imp} (10/350μs)	<1.1kV	<1.1kV	<1.1kV	<1.1kV	<1.1kV	<1.1kV
at (1.2/50μs) – GDT only	-	-	-	-	<1.2kV	<1.2kV
Nominal discharge current						
I _n , (8/20μs)	80kA	40kA	80kA	40kA	80kA(MOV)/ 100kA(GDT)	40kA(MOV)/ 50kA(GDT)
Maximum discharge current						
I _{max} (8/20μs)	100kA	100kA	100kA	100kA	100kA(MOV)/ 160kA(GDT)	100kA(MOV)/ 100kA(GDT)
I _{imp} (10/350μs)	50kA	25kA	50kA	25kA	50kA(MOV)/ 100kA(GDT)	25kA(MOV)/ 50kA(GDT)

Mechanical specification

Temperature range	-40 to +80°C					
Connection						
- for power	35mm ² solid conductor, 25mm ² stranded conductor					
- for signal (remote contact)	1.5mm ² conductor					
Mounting						
Indoor, 35mm top hat DIN rail						
Degree of protection						
IP20						
Case material						
Thermoplastic, UL 94 V-0						
Dimensions to DIN 43880 - H x D x W	90mm x 68mm x 72mm (4TE)	90mm x 68mm x 36mm (2TE)	90mm x 68mm x 72mm (4TE)	90mm x 68mm x 36mm (2TE)	90mm x 68mm x 72mm (4TE)	90mm x 68mm x 54mm (3TE)
The remote signal contact terminals (removable) add 10mm to height						