

**DATA SHEET**

**Combined Lightning Current and Surge Arrester**  
**ProTec ZPS T1H 3+1(-R)(-F)-L**  
**Class I • Class II • Class III • Type 1 • Type 2 • Type 3**



Location of Use: Main Distribution Boards,  
40mm Busbar Systems

Network Systems: TN-S, TT

Mode of Protection: L-N, N-PE

IEC/EN: Class I+II+III / Type 1+2+3

Technology: Hybrid

Leakage Current Free: Yes

Line Follow Current: No

Housing: Compact design

Compliance: IEC 61643-11:2011  
EN 61643-11:2012

**Technical Data**

**ProTec ZPS T1H-xxx-3+1(-R)(-F)-L**

**IEC Electrical**

Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240 V
Maximum Continuous Operating Voltage (AC)	(L-N) $U_c$	300 V
	(N-PE) $U_c$	305 V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_n$	20 kA / 80 kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{max}$	50 kA / 100 kA
Impulse Discharge Current (10/350 $\mu$ s)	(L-N)/(N-PE) $I_{imp}$	12.5 kA / 50 kA
Specific Energy	(L-N)/(N-PE) W/R	39 kJ/ $\Omega$ / 625 kJ/ $\Omega$
Charge	(L-N)/(N-PE) Q	6.25As / 25As
Open Circuit Voltage of Combination Wave Generator	$U_{oc}$	6 kV
Voltage Protection Level	(L-N)/(N-PE) $U_p$	1500V / 1500V
Follow Current Interrupt Rating	(N-PE) $I_{fi}$	100A <sub>RMS</sub>
Response Time	(L-N)/(N-PE) $t_A$	< 100ns / < 100ns
Overcurrent Protection (max)		315 A gG
Short-Circuit Current Rating (AC)	$I_{SCCR}$	25 kA
TOV Withstand 120min	(L-N) $U_T$	442 V
TOV Withstand 200ms	(N-PE) $U_T$	1200 V
Number of Ports		1

**Mechanical & Environmental**

Operating Temperature Range	$T_a$	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude (max)		13123 ft [4000m]
Terminal Screw Torque	$M_{max}$	PH2 / 39.9 lbf-in [4.5Nm]
Conductor Cross Section (max)		35mm <sup>2</sup> (Solid, Stranded) / 25mm <sup>2</sup> (Flexible)
		2 AWG (Solid, Stranded) / 4 AWG (Flexible)
Mounting		40mm Busbar Systems
Degree Of Protection		IP 20*
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/ 1A, 125V/ 1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		1.5mm <sup>2</sup> (Solid) / 16 AWG (Solid)

**Protected Load Terminal (L1') for ProTec ZPS T1H-xxx-3+1(-R)-L**

Rated Load Current	$I_L$	20A
Load Side Overcurrent Protection		20A gG
Wire Connection Method		Push In
Conductor Cross Section		10 AWG / 4 mm <sup>2</sup> (Solid, Stranded, Flexible)

**Order Information**

<b>Order Code</b>	
ProTec ZPS T1H-300-3+1-L (with protected load terminal)	59.0910
ProTec ZPS T1H-300-3+1-R-L (with remote contacts and protected load terminal)	59.0911

\*IP 40 (in combination with cover)



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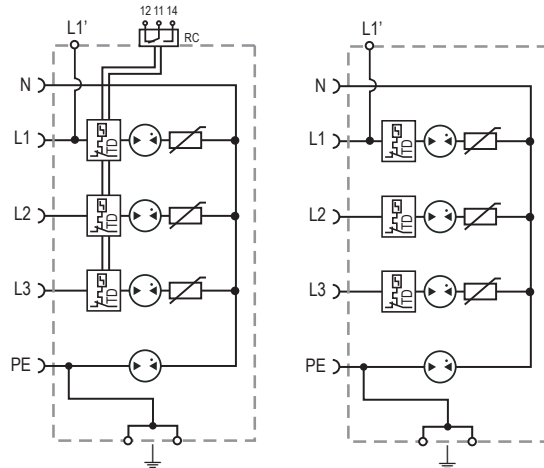
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## ProTec ZPS T1H 3+1(-R)(-F)-L

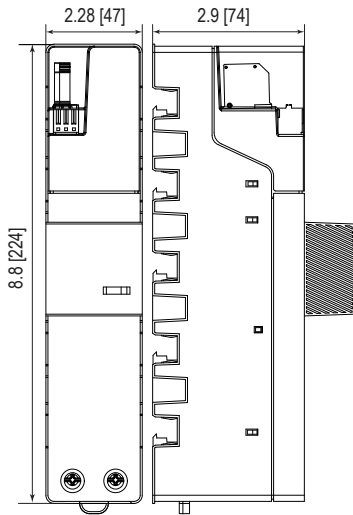
### Internal Configuration

#### Legend

- L Line Busbar Terminal
- L1' Protected Load Terminal
- N Neutral Busbar Terminal
- PE PE Busbar Terminal
- ⏏ Terminal for Main Earthing Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnecter



### Complete Unit



#### Complete Unit Dimensions & Packaging

ProTec ZPS T1H-xxx-3+1(-F)-L		300
Weight	pounds [grams]	1.658 [752]
Packaging Dimensions (HxWxL)		12.5 x 13.4 x 9.5" [320 x 340 x 240 mm]
Standard Order Quantity		18 Units

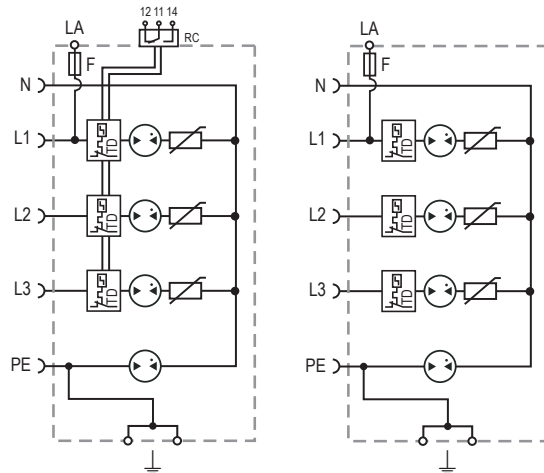
ProTec ZPS T1H-xxx-3+1-R(-F)-L		300
Weight	pounds [grams]	1.676 [760]
Packaging Dimensions (HxWxL)		12.5 x 13.4 x 9.5" [320 x 340 x 240 mm]
Standard Order Quantity		18 Units

The weight for products with integrated fuse on L1' terminal is .020 pounds [9 grams] more.

### Auxiliary Terminal with Integrated Fuse

#### Legend

- F Integrated Fuse Link
- LA Auxiliary Terminal
- L Line Busbar Terminal
- N Neutral Busbar Terminal
- PE PE Busbar Terminal
- ⏏ Terminal for Main Earthing Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnecter



#### Auxiliary Terminal (LA) for ProTec ZPS T1H-xxx-3+1(-R)(-F)-L

Rated Current Integrated Fuse	$I_n$	6.3A
Fuse Link		SIBA GZ 5 x 20 mm FF (7000740.6,3)
Wire Connection Method		Push In
Conductor Cross Section		10 AWG / 4 mm <sup>2</sup> (Solid, Stranded, Flexible)

#### Order Information

Order Code		
ProTec ZPS T1H-300-3+1-F-L (with auxiliary terminal)		59.A244
ProTec ZPS T1H-300-3+1-R-F-L (with remote contacts and auxiliary terminal)		59.A245