

# Combined Lightning Current and Surge Arrester

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

Class I • Class II • Type 1 • Type 2



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 / Type 1+2

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-E(-R)-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) $I_{imp}$	7.5 kA / 30 kA
Specific Energy	(L-N)/(N-PE) W/R	14 kJ/ $\Omega$ / 225 kJ/ $\Omega$
Charge	(L-N)/(N-PE) Q	3.75 As / 15As
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	$M_{max}$	PZ2 / 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)

##### Load Terminal (L1')

Rated Current	$I_L$	20 A
Load Side Overcurrent Protective Device		20 A gG
Wire Connection Method		Push In
Conductor Cross Section		10 AWG / 4 mm <sup>2</sup> (Solid, Stranded, Flexible)
Stripping Length		16 mm

##### Order Information

Order Code		
ProTec ZPS T1H-300-3+1-E-L (with load terminal)		59.0914
ProTec ZPS T1H-300-3+1-E-R-L (with remote contacts and load terminal)		59.0915

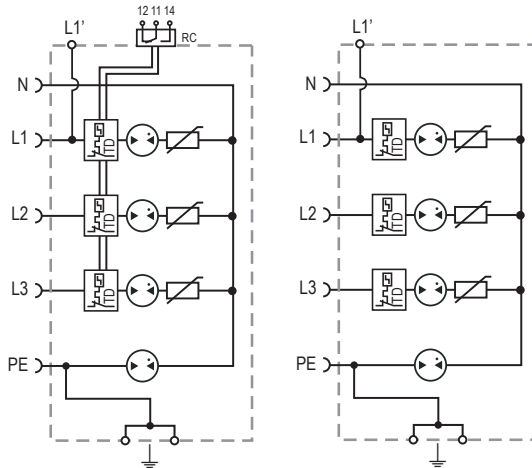
\*IP 40 (in combination with cover)

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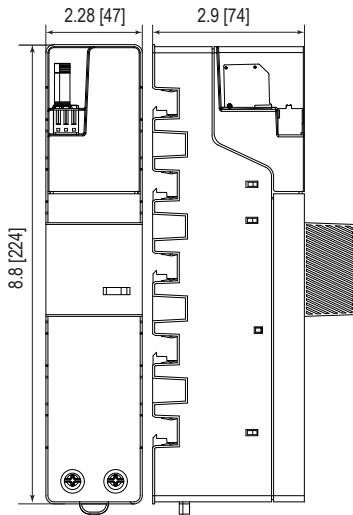
### Internal Configuration

#### Legend

- L Line Busbar Terminal
- L1' 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

<b>ProTec ZPS T1H-xxx-3+1-E-L</b>	<b>300</b>
Weight	pounds [grams] 1.653 [750]
Packaging Dimensions (HxWxL)	12.5 x 13.4 x 9.5" [320 x 340 x 240 mm]
Standard Order Quantity	18 Units
<b>ProTec ZPS T1H-xxx-3+1-E-R-L</b>	<b>300</b>
Weight	pounds [grams] 1.671 [758]
Packaging Dimensions (HxWxL)	12.5 x 13.4 x 9.5" [320 x 340 x 240 mm]
Standard Order Quantity	18 Units

inches  
[mm]



Applicable connection configurations can be found on page 36.