

## **T1SP1 Type I Class I Surge Arresters**

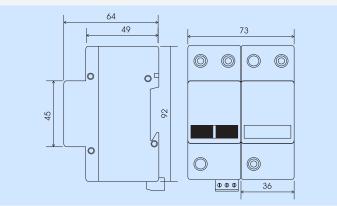
The T1SP1 is a single phase, type 1 & 2<sup>1</sup> surge arrester, designed for use on the boundary between LPZs 0 & 1<sup>2</sup> in structures using TNS and TT earthing systems.

The T1SP1/25/50/230R is designed for use in structures of LPL I<sup>3</sup>, such as hospitals, banks, mobile operator stations, water-works, power plants, airport buildings for air traffic control and all structures with an explosive risk.

The T1SP1/12.5/25/230R is designed for use in structures of LPL II<sup>3</sup>, such as industrial and administration buildings, schools, supermarkets and cathedrals. The device should be fitted as close as possible to the structures' mains entry point.

<sup>1</sup> EN 61643-1; <sup>2</sup> IEC 1312 & EN 62305; <sup>3</sup> EN 62305

Common Characteristics		
Max. continuous operating voltage	Uc	275 V AC
Temporary overvoltage (TOV), L/N	Ut	335 V/5 sec.
Temporary overvoltage (TOV), N/PE	Ut	1200 V/0.2 sec.
Response time L/N	†₄	<25 ns
Response time N/PE	† <sub>A</sub>	<100 ns
Max back-up fuse		315 A gL/gG
Max back-up fuse (when 'V' connected)		63 A gL/gG
Short-circuit withstand capability at max. back-up fuse	lp	80 kA rms
Lifetime		Min 100000 h



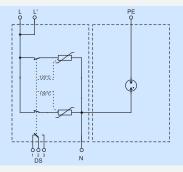






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Type: <b>T1SP1/12.5/25/230R</b>		
Lightning impulse current (10/350 $\mu$ S) L/N	I <sub>imp</sub>	12.5 kA
- charge	Q	6 As
- specific energy	W/R	36 kJ/Ω
Lightning impulse current (10/350 µS) N/PE	l <sub>imp</sub>	25 kA
- charge	Q	12.5 As
- specific energy	W/R	156 kJ/Ω
Total lightning current (10/350 μS)	I <sub>total</sub>	25 kA
L1+N→PE	Itotal	23 KA
Max. discharge current (8/20 µS)	I <sub>max</sub>	90 kA (L/N)
Max. discharge current (0/20 µ3)	Imax	50 kA (N/PE)
Nominal discharge current (8/20 µS)	l <sub>n</sub>	25 kA
Voltage protection level at I <sub>imp</sub>	Up	<1.2 kV
Weight	m	370 g
Type: T1SP1/25/50/230R		
Lightning impulse current (10/350 μS) L/N	limp	25 kA
- charge	Q	12.5 As
- specific energy	W/R	156 kJ/Ω
Lightning impulse current (10/350 μS) N/PE	I <sub>imp</sub>	50 kA
- charge	Q	25 As
- specific energy	W/R	625 kJ/Ω
Total lightning current (10/350 μS)		5014
L1+N→PE	I <sub>total</sub>	50 kA
Max. discharge current (8/20 μS)		120 kA
wax. discharge current (o/20 µS)	I <sub>max</sub>	(L/N, N/PE)
Nominal discharge current (8/20 µS)	l <sub>n</sub>	50 kA
Voltage protection level at I <sub>imp</sub>	Up	<1.3 kV
Weight	m	460 g



### Remote monitor terminals

The T1SP1 range is fitted with 0v remote terminals for connection to a building management or other indication system.

Under normal operating conditions, remote terminal pins 1-2 are are closed and 2-3 are open. If the internal varistor component is damaged as a result of thermal overloading, terminations 1-2 will then be open and 2-3 closed.

Electrical strength – Surrounding circuits	3750 V rms
Electrical strength – Network circuits	3750 V rms
Insulation resistance	2 x 10 <sup>7</sup> Ω
Max. switching current	~ 0.5 A
Max switching voltage	~ 250 V

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# POWER DEVICES



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## **T1SP3 Type I Class I Surge Arresters**

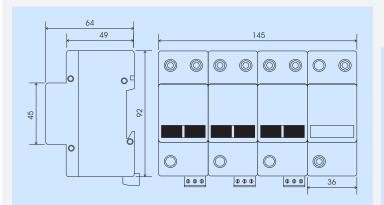
The T1SP3 is a three phase, type 1 & 2<sup>1</sup> surge arrester, designed for use on the boundary between LPZs 0 & 1<sup>2</sup> in structures using TNS and TT earthing systems.

The **T1SP3/25/100/230R** is designed for use in structures of LPL I<sup>3</sup>, such as hospitals, banks, mobile operator stations, water-works, power plants, airport buildings for air traffic control and all structures with an explosive risk.

The **T1SP3/12.5/50/230R** is designed for use in structures of LPL II<sup>3</sup>, such as industrial and administration buildings, schools, supermarkets and cathedrals. The device should be fitted as close as possible to the structures' mains entry point.

<sup>1</sup> EN 61643-1; <sup>2</sup> IEC 1312 & EN 62305; <sup>3</sup> EN 62305

Common Characteristics		
Max. continuous operating voltage	Uc	275 V AC
Temporary overvoltage (TOV), L/N	Ut	335 V/5 sec.
Temporary overvoltage (TOV), N/PE	Ut	1200 V/0.2
		sec.
Response time L/N	<b>†</b> A	<25 ns
Response time N/PE	<b>†</b> A	<100 ns
Max back-up fuse		315 A gL/gG
Max back-up fuse (when 'V' connected)		63 A gL/gG
Short-circuit withstand capability at max. back-up	l <sub>p</sub>	80 kA rms
fuse	יp	00 14 1113
Lifetime		Min 100000 h

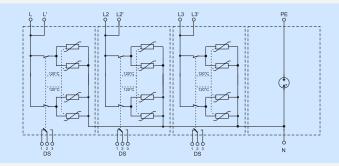








Type: <b>T1SP3/12.5/50/230R</b>		
Lightning impulse current (10/350 $\mu$ S) L/N		12.5 kA
- charge	I <sub>imp</sub> Q	6 As
- specific energy	W/R	36 kJ/Ω
		50 kA
Lightning impulse current (10/350 µS) N/PE - charge	I <sub>imp</sub>	25 As
5	Q W/R	
- specific energy	VV/K	625 kJ/Ω
Total lightning current (10/350 μS)	I <sub>total</sub>	50 kA
L1+L2+L3+N→PE		
Max. discharge current (8/20 μS)	I <sub>max</sub>	90 kA (L/N)
		50 kA (N/PE)
Nominal discharge current (8/20 µS)	l <sub>n</sub>	25 kA
Voltage protection level at I <sub>imp</sub>	Up	<1.2 kV
Weight	m	1030 g
Type: T1SP3/25/100/230R		
Lightning impulse current (10/350 µS) L/N	l <sub>imp</sub>	25 kA
- charge	Q	12.5 As
- specific energy	W/R	156 kJ/Ω
Lightning impulse current (10/350 µS) N/PE	limp	100 kA
- charge	Q	50 As
- specific energy	W/R	2500 kJ/Ω
Total lightning current (10/350 µS)		
L1+L2+L3+N→PE	I <sub>total</sub>	100 kA
		120 kA
Max. discharge current (8/20 μS)	I <sub>max</sub>	(L/N, N/PE)
Nominal discharge current (8/20 µS)	I <sub>n</sub>	50 kA
Voltage protection level at I <sub>imp</sub>	Un	<1.3 kV
Weight	m	1125 g
		1120 8



### Remote monitor terminals

The T1SP3 range is fitted with 0v remote terminals for connection to a building management or other indication system.

Under normal operating conditions, remote terminal pins 1-2 are are closed and 2-3 are open. If the internal varistor component is damaged as a result of thermal overloading, terminations 1-2 will then be open and 2-3 closed.

Electrical strength – Surrounding circuits	3750 V rms
Electrical strength – Network circuits	3750 V rms
Insulation resistance	2 x 10 <sup>7</sup> Ω
Max. switching current	~ 0.5 A
Max switching voltage	~ 250 V

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