

## Lightning and Surge Protection

### PP B TNC 440V (/FM)

#### PowerPro B TNC (Reducing Follow On Current)

Combined three-pole lightning current protective device meeting protection category **T1** (B), class I

Used as equipotential bonding lightning protection in 400V TNC-Power Net Systems



- Combined three-pole Surge Protective Device (SPD), fully prewired
- Lightning current SPD based on hermetically sealed gas filled spark-gaps
- No blow-out vents, making the observance of safety distances for installation unnecessary
- For 400V Power Net Systems
- Protection level  $\leq 4,0$  kV
- Lightning impulse current 25 kA (10/350  $\mu$ s) per phase, total 75 kA (10/350  $\mu$ s)
- Self-extinguishing main supply follow-on currents up to 750 A
- High insulation resistance  $R_{isol} > 10^{10} \Omega$
- Serial v-wiring with multifunctional screw terminal
- Function control with potential-free remote signal contact (optional)

#### Product description

This combined three-pole **SPD** type PP B TNC 440V and PP B TNC 440V /FM, with remote signal contacts, offer a complete solution for the protection of 400V AC TNC-Power Net Systems. They are usually installed in the main-distribution panel class I. Due to the use of the patented, hermetically sealed gas-filled isolating spark-gaps (inert gas) this SPD allows you to achieve a high-level discharge capacity without needing blow-out vents. This saves you from keeping the safety distance to adjoining electrical components usually necessary to avoid unwanted electric arcs and fire hazardous.

As there is no risk of leakage currents, this SPD can also be installed before the electric power meter (acc. to TAB2000, installation rules of the Union of Germany Electric Works).

This device is capable to discharge lightning current surges of 25 kA (10/350  $\mu$ s) per phase and total 75 kA (10/350  $\mu$ s) as well as self-extinguish power supply follow-on currents and limiting up to 750 A.

The protective circuit is installed in an easy-to-handle compact housing with snap-on clips for 35 mm DIN rail mounting, with multifunctional screw terminals for wire and bus-bar connections. Installation can be carried out either by wiring via the multifunctional screw connection terminal (terminal L1', L2', L3') or else as serial wiring via the optional two-pole bus-bar connection (L1 to L1' and so on). There is an optional potential-free remote signal contact (/FM) inside the housing. The wire connection is made via a pluggable screw terminal block.

Protects People and Valuables



## Technical Data:

**Application** three-pole lightning current protective device for 400V TNC-Power Net Systems  
 protection category **T1** (B), class I

Type			PP B TNC 440V / PP B TNC 440V /FM
Article number			373 964 / 373 965
Protection category acc. to E DIN VDE 0675-6 11/98-A1 and acc. to EN 61643-11 resp. IEC 61643-1			<b>T1</b> (B), class I
Nominal power supply voltage 50/60 Hz	$U_n$	[V~]	400 / 690
Rated voltage (max. continuous operating voltage) 50/60 Hz	$U_c$	[V~]	440
Insulation resistance	$R_{isol}$	[ $\Omega$ ]	$> 10^{10}$
Voltage protection level at 100% lightning impulse spark over voltage (1,2/50 $\mu$ s)	$U_p$	[kV]	$\leq 4,0$
Voltage protection level at $I_{imp}$ (10/350 $\mu$ s)	$U_p$	[kV]	$\leq 4,0$
Response time	$t_A$	[ns]	$< 50$
Lightning impulse current $I_{imp}$ (10/350 $\mu$ s)	$I_{peak}$	[kA]	25
	$Q$	[As]	12,5
	$W/R$	[kJ/ $\Omega$ ]	160
Follow current extinguishing capability at $U_c$	$I_f$	[kA <sub>peak</sub> ]	750
Short-circuit withstand capability at max. pre-fuse	$I_k$	[kA <sub>eff</sub> ]	25
Max. permissible line resp. back fuse F2 at parallel wiring		[A]	63 A gL/gG
Max. permissible line resp. back fuse F3 at serial v-wiring		[A]	63 A gL/gG
Operating temperature range	$t$	[°C]	-40 ... +85
Max. cross-sectional area		[mm <sup>2</sup> ]	stranded 50 / flexible 35
Recommended cross sectional area		[mm <sup>2</sup> ]	25
Recommended connection torque		[Nm]	4,5
Max. cross-sectional area for remote signal contact terminal		[mm <sup>2</sup> ]	1,5
Max. switching capacity of remote signal contact			250V / 0,5A
Material of housing / colour			Polycarbonate (halogen free) UL 94-V0 / yellow
Ambient protection category (IEC/EN 60529)			IP 20
Mounting on			DIN rail 35 mm (DIN/EN 50 022)

## Dimensions in mm / Diagram

Dimension 3x 2 modules, acc. DIN 43880

**Application:**

**Parallel wiring**  
 for active lines

If line or backup fuse (F1)  $\leq 63$  A gL/gG back fuse (F2) is not force.

**Serial V-wiring**  
 for active lines

Line or backup fuse (F3)  $\leq 63$  A gL/gG

two-pol. bus-bar connection

**PP B TNC 440V (/FM)**  
 10.11.2006\_doc  
 © 2006 by Leutron GmbH

Subject to technical modifications and delivery possibilities

Leutron GmbH  
 Overvoltage Protection  
 Humboldtstrasse 30  
 D-70771 Leinfelden-Echterdingen  
 Germany

Phone +49 711 / 9 47 71-0  
 Fax +49 711 / 9 47 71-70  
 Email: [info@leutron.de](mailto:info@leutron.de)  
 Web: [www.leutron.de](http://www.leutron.de)