

## Lightning and Surge Protection

### PowerPro BCD TNS

(Limiting Follow On Current)

### PP BCD TNS 25/100 (/FM)

Combined four-pole lightning current and Surge Protective Device meeting protection category **T1 T2 T3** (BCD), class I+II+III

Used as equipotential bonding lightning surge protection in TNS-Power Net Systems



- Combined four-pole Surge Protective Device (SPD), fully prewired
- Lightning current and SPD based on hermetically sealed gas filled spark-gaps
- No blow-out vents, making the observance of safety distances for installation unnecessary
- Protection level  $\leq 1$  kV
- Lightning current test level 25 kA (10/350  $\mu$ s) per phase, resp. 100 kA (10/350  $\mu$ s) for N-PE
- Self-extinguishing main supply follow-on currents up to 4 kA
- High insulation resistance  $R_{isol} > 10^{10} \Omega$
- Serial wiring with multifunctional screw terminal
- Function control with potential-free remote signal contact (optional)

#### Product description:

This combined four-pole **SPD** type PP BCD TNS 25/100 and PP BCD TNS 25/100 /FM, with remote signal contacts, offer a complete solution for the protection of TNS-Power Net Systems. They are usually installed in main- or sub-distribution panel or before the equipment to be protected.

Thanks 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 100 kA (10/350  $\mu$ s) as well as self-extinguish main supply follow-on currents and limiting up to 4 kA.

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', and N') 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.

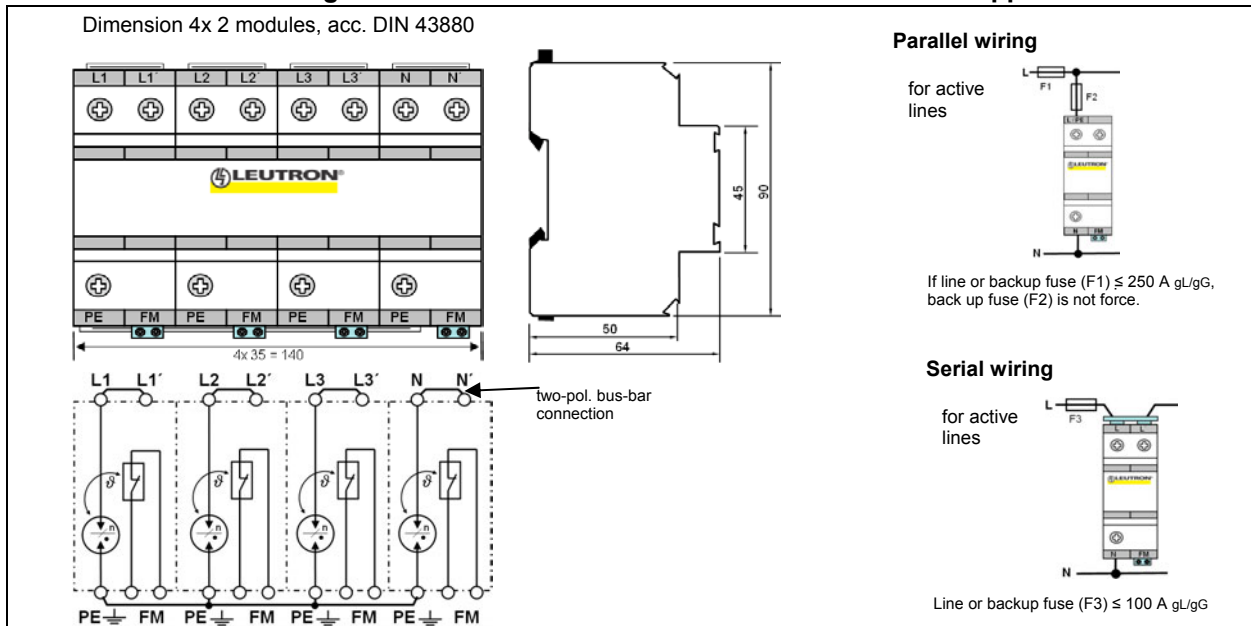
## Technical Data:

Type	PP BCD TNS 25/100 / PP BCD TNS 25/100 /FM
Application	four-pole lightning current and Surge Protective Device for TNS-Power Net Systems protection category <b>T1</b> <b>T2</b> <b>T3</b> (BCD), class I+II+III

Type			PP BCD TNS 25/100 / PP BCD TNS 25/100 /FM
Article number			373 960 / 373 962
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>T2</b> + <b>T3</b>
Nominal voltage 50/60 Hz	$U_n$	[V~]	230 / 400
Rated voltage (max. continuous operating voltage) 50/60 Hz	$U_c$	[V~]	255
Insulation resistance	$R_{isol}$	[ $\Omega$ ]	$> 10^{10}$
Voltage protection level at 100% lightning impulse spark over voltage (1,2/50 $\mu$ s)	$U_{as}$	[kV]	$\leq 1,0$
Voltage protection level at $I_{imp}$	$U_p$	[kV]	$\leq 1,0$
Response time	$t_A$	[ns]	$< 50$
Lightning impulse current $I_{imp}$ (10/350 $\mu$ s)	$I_{peak}$ $Q$ $W/R$	[kA] [As] [kJ/ $\Omega$ ]	L1, L2, L3, N - PE: 25 12,5 160
Follow current extinguishing capability at $U_c$	$I_f$	[kA <sub>peak</sub> ]	4,0 (IEC: 3.0)
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]	250 A gL/gG
Max. permissible line resp. back fuse F3 at serial wiring		[A]	100 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		[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
Environment protection category			IP 20 (IEC/EN 60529)
Mounting on			DIN rail 35 mm (DIN/EN 50 022)

## Dimensions in mm / Diagram

## Application:



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Subject to technical modifications and delivery possibilities

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