

# TAE-TRAB FM-NFN-AP


Order No.: 2749628



<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2749628>

TAE outlet box (NFN), surface-mounted with surge protection for analog telecommunications interfaces



Commercial data	
GTIN (EAN)	 4 017918 108199
sales group	J411
Pack	1 pcs.
Customs tariff	85363010
Catalog page information	Page 157 (TT-2011)

### Product notes

WEEE/RoHS-compliant since:  
05/10/2006



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Technical data	
<b>General</b>	
Housing material	ABS
Color	cream white
Standards for air and creepage distances	VDE 0110-1
	IEC 60664-1: 1992-10

Total surge current (8/20) $\mu$ s	10 kA
Total surge current (10/350) $\mu$ s	5 kA
For country-specific use in	D
Ambient temperature (operation)	-40 °C ... 80 °C
Mounting type	Surface/Wall mounting
Design	Socket for surface mounting
Degree of protection	IP20
Direction of action	Line-Line & Line-Earth Ground
Width	65.00 mm
Height	80.00 mm
Length	27.00 mm

**Protective circuit**

IEC category	C1
	B2
	C2
	C3
	D1
VDE requirement class	B2
	C1
	C2
	C3
	D1
Nominal voltage $U_N$	60 V DC
Maximum continuous voltage $U_C$ (wire-wire)	185 V DC
Maximum continuous voltage $U_C$ (wire-ground)	185 V DC
Nominal current $I_N$	450 mA ( $\leq 40^\circ\text{C}$ )
Operating effective current $I_C$ at $U_C$	$\leq 10 \mu\text{A}$
Ground conductor current $I_{PE}$	$\leq 6 \mu\text{A}$
Nominal discharge surge current $I_n$ (8/20) $\mu$ s (Core-Core)	5 kA
Nominal discharge surge current $I_n$ (8/20) $\mu$ s (Core-Earth)	5 kA
Total surge current (8/20) $\mu$ s	10 kA
Max. discharge surge current $I_{max}$ (8/20) $\mu$ s maximum (Core-Core)	5 kA

Max. discharge surge current $I_{max}$ (8/20) $\mu s$ maximum (Core-Earth)	5 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core-Core)	100 A
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core-Earth)	100 A
Nominal pulse current $I_{an}$ (10/700) $\mu s$ (Core-Core)	150 A
Nominal pulse current $I_{an}$ (10/700) $\mu s$ (Core-Earth)	150 A
Output voltage limitation at 1 kV/ $\mu s$ (Core-Core) spike	$\leq 250$ V
Output voltage limitation at 1 kV/ $\mu s$ (Core-Earth) spike	$\leq 450$ V
Output voltage limitation at 1 kV/ $\mu s$ (Core-Core) static	$\leq 250$ V
Output voltage limitation at 1 kV/ $\mu s$ (Core-Earth) static	$\leq 450$ V
Protection level $U_p$ (Core-Core)	$\leq 250$ V (C2 - 10 kV / 5 kA) $\leq 250$ V (C1 - 1 kV/500 A) $\leq 250$ V (B2 - 4 kV/100 A)
Protection level $U_p$ (Core-Earth)	$\leq 500$ V (C2 - 10 kV / 5 kA) $\leq 450$ V (C1 - 1 kV/500 A) $\leq 400$ V (B2 - 4 kV/100 A)
Response time $t_A$ (Core-Core)	$\leq 1$ ns
Response time $t_A$ (Core-Earth)	$\leq 100$ ns
Input attenuation $a_E$ , sym.	0.3 dB ( $\leq 1$ MHz / 150 $\Omega$ ) 0.3 dB ( $\leq 400$ kHz / 600 $\Omega$ )
Input attenuation $a_E$ , asym.	0.3 dB ( $\leq 400$ kHz / 600 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	Typ. 8 MHz
Cut-off frequency $f_g$ (3 dB), sym. in 600 Ohm system	Typ. 2 MHz
Capacity (Core-Core)	Typ. 200 pF ( $f = 1$ MHz / $V_R = 0$ V)
Capacity (Core-Earth)	Typ. 15 pF ( $f = 1$ MHz / $V_R = 0$ V)
Resistance in series	2.2 $\Omega$ 10%
Short-circuit current self-quenching	150 mA
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (10 kV/5 kA) C1 (1 kV / 500 A) B2 (4 kV / 100 A)

Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kV/5 kA)
	C1 (1 kV / 500 A)
	B2 (4 kV / 100 A)
	D1 (2.5 kA)
Alternating current carrying capacity in acc. with IEC 61643-21 (Core-Earth)	5 A - 1 s

**Connection data**

Connection method	Screw connection & TAE 6
Connection type IN	Screw terminal blocks
Connection type OUT	3x TAE-NFN
Connection method	Screw connection
Screw thread	M3
Tightening torque	0.5 Nm
Stripping length	6 mm
Conductor cross section stranded min.	0.14 mm <sup>2</sup>
Conductor cross section stranded max.	1.5 mm <sup>2</sup>
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	26
Conductor cross section AWG/kcmil max	16

**Connection, equipotential bonding**

Connection method	Screw terminal block
Stripping length	6 mm
Tightening torque, min	0.5 Nm
Conductor cross section stranded min.	0.14 mm <sup>2</sup>
Conductor cross section stranded max.	1.5 mm <sup>2</sup>
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	26
Conductor cross section AWG/kcmil max	16

**Connection, protective circuit**

Standards/regulations	IEC 61643-21
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## Certificates / Approvals

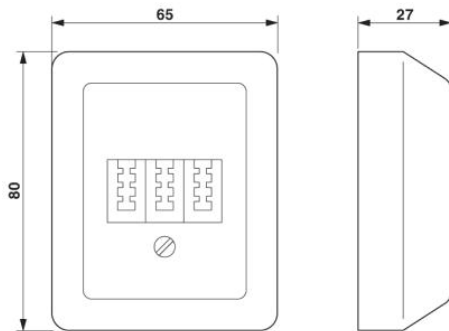


Certification

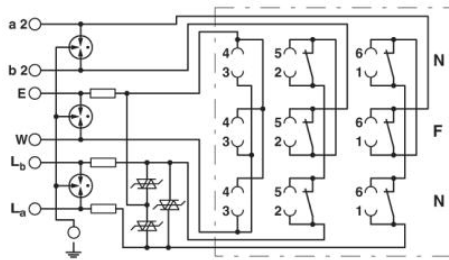
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## Diagrams/Drawings

Dimensioned drawing



Circuit diagram



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