

## Surge protection device - TAE-TRAB FM-NFN-AP - 2749628

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TAE outlet box (NFN) for surface mounting with surge protection for analog and digital telecommunications interfaces (VDSL up to 50 Mbps)

### Product Features

- For surface mounting
- Three TAE6 slots
- Suitable for DSL (ADSL2+)
- Main areas of application: phone terminals, answering machines, modems, and fax machines
- For two N-coded and one F-coded termination device



### Key commercial data

Packing unit	1 PCE
Weight per Piece (excluding packing)	1000.0 GRM
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	27 mm
Width	65 mm
Depth	80 mm

#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
Degree of protection	IP20

#### General

Housing material	ABS
Color	cream white

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### Technical data

#### General

Standards for air and creepage distances	VDE 0110-1
	IEC 60664-1
For country-specific use in	D
Mounting type	Surface/Wall mounting
Design	Socket for surface mounting
Direction of action	Line-Line & Line-Earth Ground

#### Protective circuit

IEC test classification	B2
	C1
	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 $U_C$	$\leq 10 \mu\text{A}$
Residual current $I_{PE}$	$\leq 6 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Core)	5 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)	5 kA
Total surge current (8/20) $\mu\text{s}$	10 kA
Total surge current (10/350) $\mu\text{s}$	5 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (Core-Core)	5 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (Core-Earth)	5 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (Core-Core)	100 A
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (Core-Earth)	100 A
Nominal pulse current $I_{an}$ (10/700) $\mu\text{s}$ (Core-Core)	150 A
Nominal pulse current $I_{an}$ (10/700) $\mu\text{s}$ (Core-Earth)	150 A
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Core) spike	$\leq 250 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) spike	$\leq 450 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Core) static	$\leq 250 \text{ V}$

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### Technical data

#### Protective circuit

Output voltage limitation at 1 kV/ $\mu$ s (Core-Earth) static	$\leq 450$ V
Voltage 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)
Voltage 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 / VR = 0 V)
Capacity (Core-Earth)	typ. 15 pF (f = 1 MHz / VR = 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>

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### Technical data

#### Connection data

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

### Classifications

#### eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130807
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807

#### ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943

#### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

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## Approvals

Approvals

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Approvals

GOST

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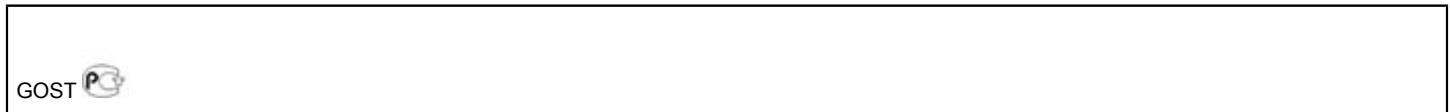
Ex Approvals

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Approvals submitted

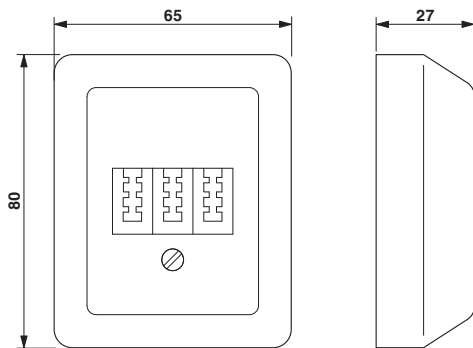
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## Approval details



## Drawings

Dimensioned drawing



Circuit diagram

