

## 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, on short paths (< 300 m) up to 100 Mbps)

### Your advantages

- ✓ 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 pc
GTIN	 4 017918 108199
GTIN	4017918108199
Weight per Piece (excluding packing)	79.600 g
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
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## Technical data

### General

Color	cream white
Standards for clearances and creepage distances	VDE 0110-1
	IEC 60664-1
For country-specific use in	D
Mounting type	Surface/Wall mounting
Type	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 $U_C$	185 V DC
Rated current	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) $\mu\text{s}$ (line-line)	5 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-earth)	5 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	10 kA
Total discharge current $I_{total}$ (10/350) $\mu\text{s}$	5 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-line)	5 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-earth)	5 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-line)	100 A
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-earth)	100 A
Nominal pulse current $I_{an}$ (10/700) $\mu\text{s}$ (line-line)	150 A
Nominal pulse current $I_{an}$ (10/700) $\mu\text{s}$ (line-earth)	150 A
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-line) spike	$\leq 250 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) spike	$\leq 450 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-line) static	$\leq 250 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) static	$\leq 450 \text{ V}$
Voltage protection level $U_p$ (line-line)	$\leq 250 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 250 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 250 \text{ V}$ (B2 - 4 kV / 100 A)

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## Technical data

### Protective circuit

Voltage protection level $U_p$ (line-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 $t_A$ (line-line)	$\leq 1$ ns
Response time $t_A$ (line-earth)	$\leq 100$ ns
Input attenuation aE, sym.	0.3 dB ( $\leq 1$ MHz / 150 $\Omega$ )
	0.3 dB ( $\leq 400$ kHz / 600 $\Omega$ )
Input attenuation aE, 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 (line-line)	typ. 200 pF (f = 1 MHz / VR = 0 V)
Capacity (line-earth)	typ. 15 pF (f = 1 MHz / VR = 0 V)
Resistance per path	2.2 $\Omega$ 10 %
Short-circuit current self-quenching	150 mA
Surge protection fault message	none
Impulse durability (line-line)	C2 - 10 kV / 5 kA
	C1 - 1 kV / 500 A
	B2 - 4 kV / 100 A
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	C1 - 1 kV / 500 A
	B2 - 4 kV / 100 A
	D1 - 2.5 kA
Alternating current carrying capacity (line-earth)	5 A - 1 s

### Connection data

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

### Connection, equipotential bonding

Connection method	Screw terminal block
Stripping length	6 mm
Tightening torque, min	0.5 Nm
Conductor cross section flexible min.	0.14 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>

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### Technical data

#### Connection, equipotential bonding

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 min.	26
Conductor cross section AWG max.	16

#### Standards and Regulations

Standards/regulations	IEC 61643-21
Standards/specifications	DIN EN 61643-21 2002
	IEC 61643-21 2000

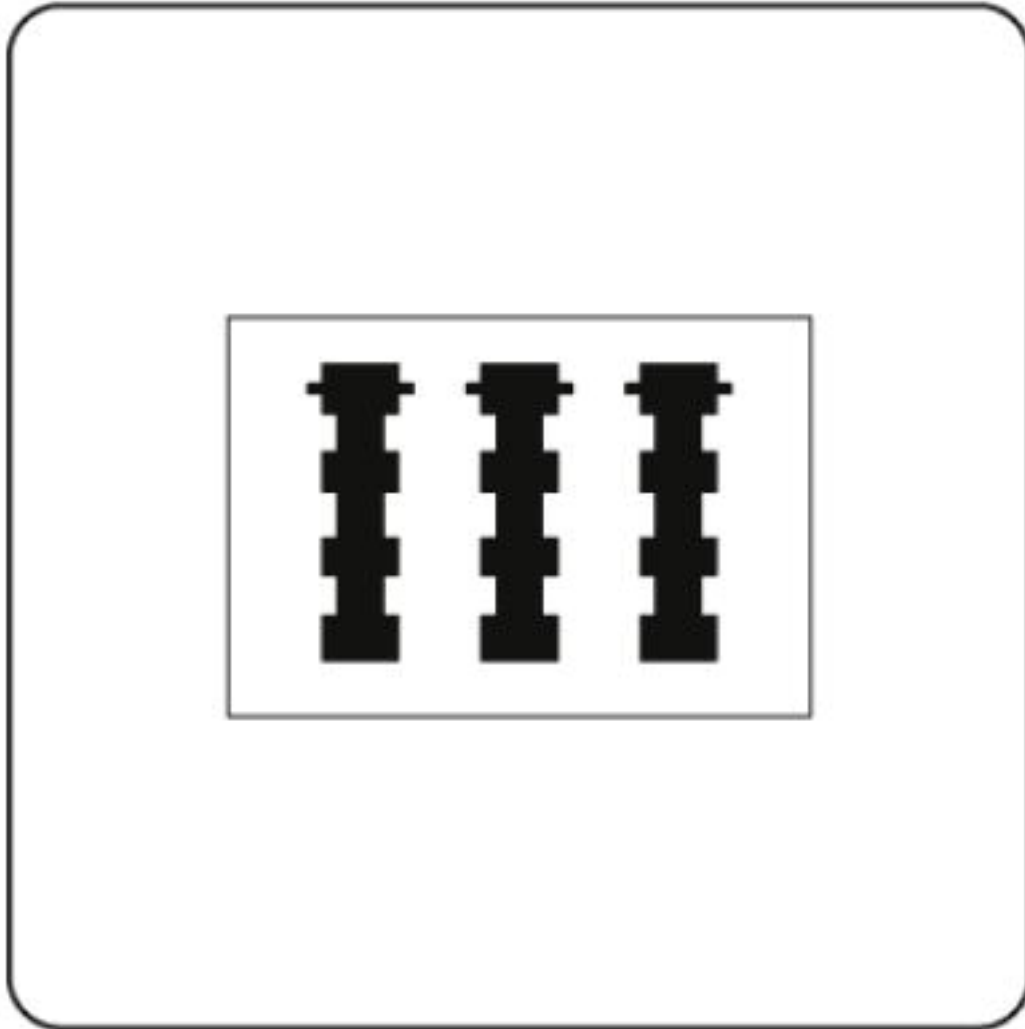
#### Environmental Product Compliance

	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

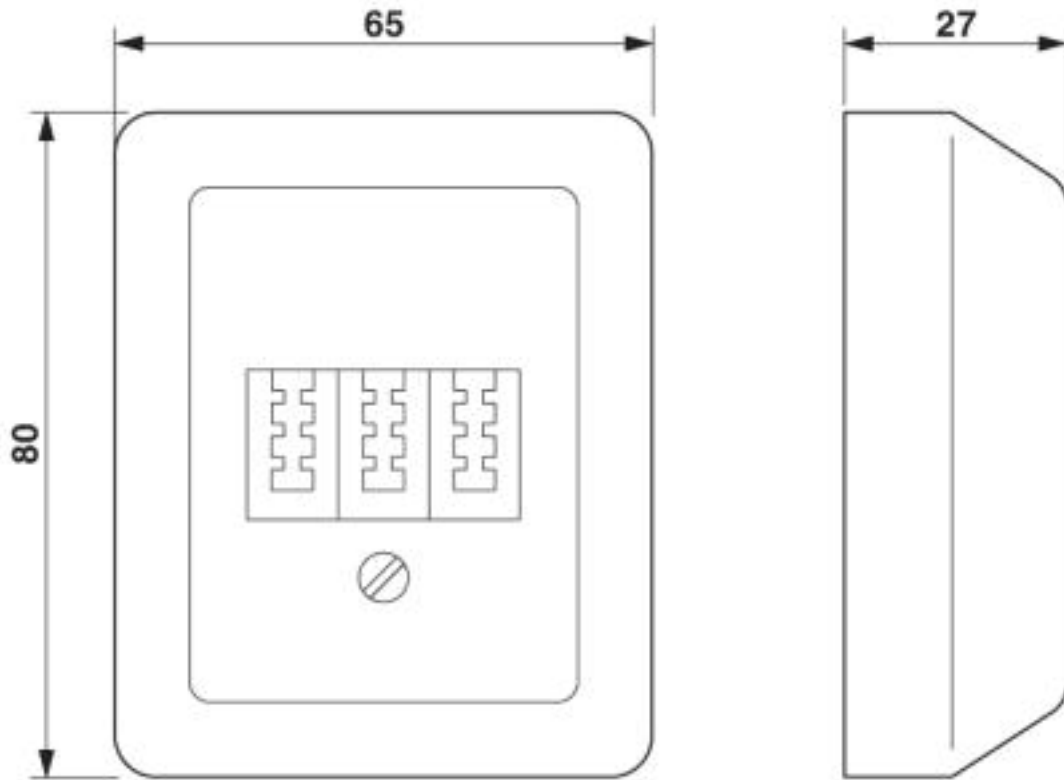
# Surge protection device - TAE-TRAB FM-NFN-AP - 2749628

Product drawing

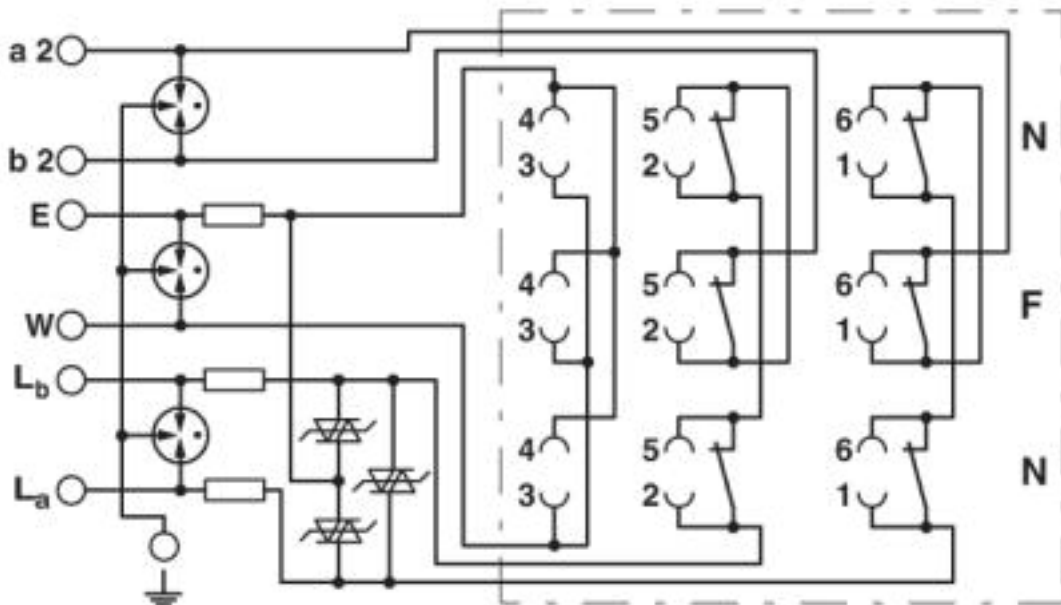


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Dimensional drawing



Circuit diagram



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## Classifications

### eCl@ss

eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

### ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943
ETIM 6.0	EC000943
ETIM 7.0	EC000943

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

## Approvals

### Approvals

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Approvals

EAC

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Ex Approvals

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### Approval details

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### Approvals

EAC



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DE.A\*30.B01561