

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



2749628

<https://www.phoenixcontact.com/us/products/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

- Easy connection via TAE socket
- Easy installation with surface mounting
- No signal interference with adapted protective circuit

## Commercial data

Item number	2749628
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL03
Product key	CL3232
Catalog page	Page 189 (C-4-2019)
GTIN	4017918108199
Weight per piece (including packing)	83 g
Weight per piece (excluding packing)	79.6 g
Customs tariff number	85363010
Country of origin	DE

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## Technical data

### Product properties

IEC test classification	B2
	C1
	C2
	C3
	D1
VDE requirement class	B2
	C1
	C2
	C3
	D1
Type	Socket for surface mounting
Product type	Surge protection for information technology
Product family	DATATRAB
For country-specific use in	D
Surge protection fault message	none
Wire pairs per module	1

### Insulation characteristics

Overvoltage category	II
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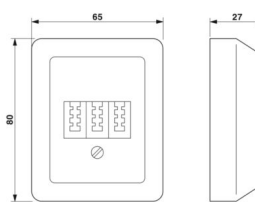
### Electrical properties

Nominal voltage $U_N$	60 V DC
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### Connection data

Connection method	Screw connection & TAE 6
Screw thread	M3
Tightening torque	0.5 Nm
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	26 ... 16

### Dimensions

Dimensional drawing	
Width	65 mm
Height	27 mm

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Depth	80 mm
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## Material specifications

Color	cream (RAL 9001)
Housing material	ABS

## Mechanical properties

### Mechanical data

Open side panel	No
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## Protective circuit

Direction of action	Line-Line & Line-Earth Ground
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-ground)	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)
Voltage protection level $U_p$ (line-earth)	$\leq 500 \text{ V}$ (C2 - 10 kV / 5 kA) $\leq 450 \text{ V}$ (C1 - 1 kV / 500 A) $\leq 400 \text{ V}$ (B2 - 4 kV / 100 A)
Response time $t_A$ (line-line)	$\leq 1 \text{ ns}$
Response time $t_A$ (line-earth)	$\leq 100 \text{ ns}$
Input attenuation aE, sym.	0.3 dB ( $\leq 1 \text{ MHz} / 150 \Omega$ ) 0.3 dB ( $\leq 400 \text{ kHz} / 600 \Omega$ )
Input attenuation aE, asym.	0.3 dB ( $\leq 400 \text{ kHz} / 600 \Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 $\Omega$ system	typ. 8 MHz
Cut-off frequency $f_g$ (3 dB), sym. in 600 $\Omega$ system	typ. 2 MHz
Capacity (Core-Core)	typ. 200 pF ( $f = 1 \text{ MHz} / V_R = 0 \text{ V}$ )

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Capacity (Core-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

## Environmental and real-life conditions

### Ambient conditions

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

## Standards and regulations

VDE requirement class	B2
	C1
	C2
	C3
	D1

### Air clearances and creepage distances

Standards/regulations	VDE 0110-1 / IEC 60664-1
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### Standards Information technology specification

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

## Mounting

Mounting type	Surface/Wall mounting
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## Classifications

### ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171503

### ETIM

ETIM 9.0	EC001466
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### UNSPSC

UNSPSC 21.0	39121600
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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