

# BT-1S-230AC/A - Type 3 surge protection device



2803409

<https://www.phoenixcontact.com/us/products/2803409>

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Type 3 arrester for universal mounting in installation boxes, sill-type trunking, underfloor installations or directly in the termination device. Circuit with thermal monitoring, acoustic fault warning. Installation in branch or through wiring. Design: 230 V AC

## Your advantages

- Optimal additional protection of the building installation for longer service life and increased availability of the end devices
- Can be used universally, thanks to its compact design
- Concealed surge protection, thanks to installation in the device socket
- Excellent level of information provided, thanks to visual or audible fault indication

## Commercial data

Item number	2803409
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	CL01
Product key	CL1441
GTIN	4046356350976
Weight per piece (including packing)	27.35 g
Weight per piece (excluding packing)	27.35 g
Customs tariff number	85363010
Country of origin	DE

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## Technical data

### Product properties

Product type	Device protection
Product family	BLOCKTRAB
IEC power supply system	TN-S
	TT
	IT with N conductor
Type	Installation module
Distance between live and grounded parts	3 mm
Number of positions	2
Surge protection fault message	Acoustic

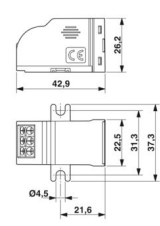
### Insulation characteristics

Overvoltage category	III
Pollution degree	2
IEC test classification	III
	T3
EN type	T3
Number of ports	One
Distance between live and grounded parts	3 mm

### Connection data

Connection method	Spring-cage connection
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 14

### Dimensions

Dimensional drawing	
Width	22.5 mm
Height	43 mm
Depth	26.2 mm

### Material specifications

Color	black (RAL 9005)
Flammability rating according to UL 94	V-0
CTI value of material	600

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Insulating material	PA 6.6
Housing material	PA 6.6

## Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Direction of action	L(N)-PE
Nominal voltage $U_N$	230/400 V AC (TN-S)
	230/400 V AC (TT - only in use with RCD)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$ (L-N)	275 V AC
Maximum continuous operating voltage $U_C$ (L-PE)	440 V AC
Maximum continuous operating voltage $U_C$ (N-PE)	440 V AC
Rated load current $I_L$	16 A (30 °C)
Protective conductor current $I_{PE}$	$\leq 3 \mu A$
Standby power consumption $P_C$	$\leq 400$ mVA
Reference test voltage $U_{REF}$	255 V AC
Nominal discharge current $I_n$ (8/20) $\mu s$	3 kA
Maximum discharge current $I_{max}$ (8/20) $\mu s$	8 kA
Combination wave $U_{OC}$	6 kV
Voltage protection level $U_p$ (L-N)	$\leq 1.3$ kV
Voltage protection level $U_p$ (L-PE)	$\leq 1.5$ kV
Voltage protection level $U_p$ (N-PE)	$\leq 1.5$ kV
Residual voltage at $I_{max}$ , (L-N)	$\leq 1.3$ kV (at $U_{OC}$ )
Residual voltage at $I_{max}$ , (L-PE)	$\leq 1.5$ kV (at $U_{OC}$ )
Residual voltage at $I_{max}$ , (PE)	$\leq 1.5$ kV (at $U_{OC}$ )
TOV behavior at $U_T$ (L-N)	335 V AC (5 s / withstand mode)
	440 V AC (120 min / safe failure mode)
TOV behavior at $U_T$ (L-PE)	440 V AC (5 s / withstand mode)
	440 V AC (120 min / withstand mode)
	1455 V AC (200 ms / safe failure mode)
TOV behavior at $U_T$ (N-PE)	1200 V AC (200 ms / safe failure mode)
Response time $t_A$ (L-N)	$\leq 25$ ns
Response time $t_A$ (L-PE)	$\leq 100$ ns
Short-circuit current rating $I_{SCCR}$	1 kA AC
Maximum backup fuse for through wiring	16 A (MCB B)
Max. backup fuse with branch wiring	16 A (MCB B)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-30 °C ... 75 °C
Ambient temperature (storage/transport)	-30 °C ... 75 °C

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Altitude	≤ 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %

## Standards and regulations

### Air clearances and creepage distances

Standards/regulations	EN 60664-1 / IEC 60664-1 / IEC 61643-1 / EN 61643-11
Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

## Mounting

Mounting type	Screw mounting
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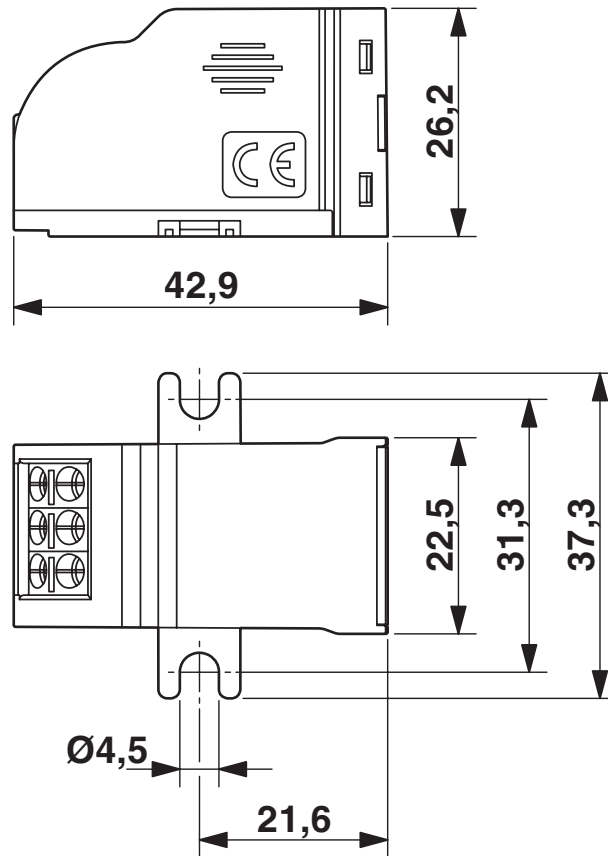
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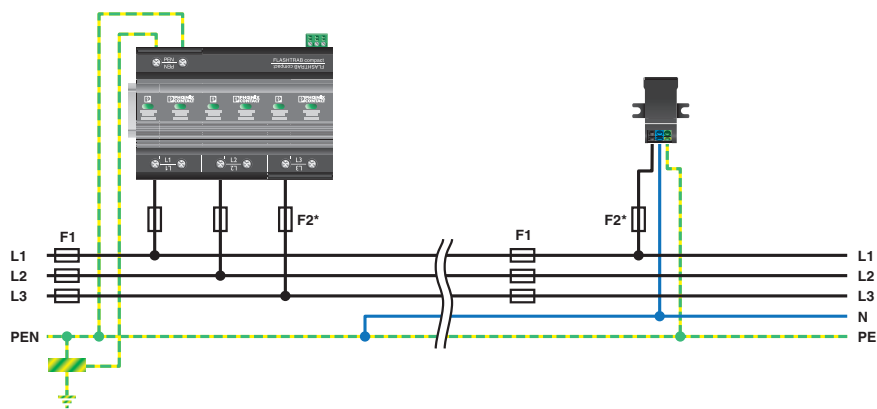
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## Drawings

Dimensional drawing



Application drawing

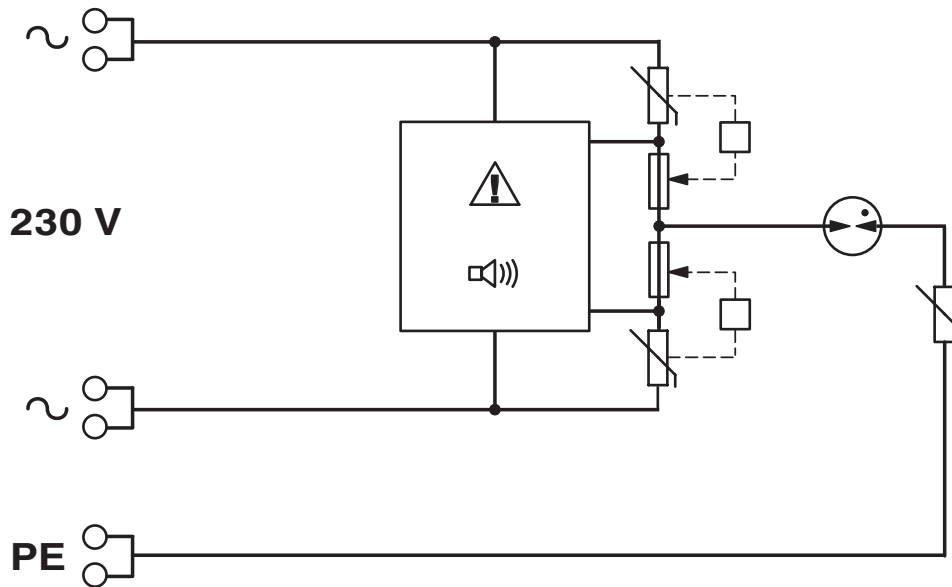


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Circuit diagram



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## Classifications

### ECLASS

ECLASS-13.0	27171203
ECLASS-15.0	27171203

### ETIM

ETIM 10.0	EC000942
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### UNSPSC

UNSPSC 21.0	39121600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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