## Extract from the online catalog

## PT 2X2-12AC-ST

Order No.: 2838270
The illustration shows version PT 2x2-5DC-ST


Surge protection plug for the base element, for two floating double wires, common mode voltage coarse protection to ground. Nominal voltage: 12 V AC

| Commercial data |  |
| :--- | :--- |
| EAN | 4017918182670 |
| Pack | 10 pcs. |
| Customs tariff | 85363010 |
| Weight/Piece | 0.02389 KG |
| Catalog page information | Page 69 (TT-2007) |

Product notes
WEEE/RoHS-compliant since: 07/14/2006

Technical data

General

| Housing material | PA 6.6 |
| :--- | :--- |
| Inflammability class acc. to UL 94 | V0 |
| Color | black |


| Standards for air and creepage distances | VDE 0110-1 |
| :--- | :--- |
|  | IEC 60664-1: 1992-10 |
| Total surge current (8/20) $\mu \mathrm{s}$ | 20 kA |
| Ambient temperature (operation) | $-40^{\circ} \mathrm{C} \ldots 85^{\circ} \mathrm{C}$ |
| Mounting type | On base element |
| Design | DIN rail module, two-section, divisible |
| Degree of protection | IP20 |
| Direction of action | Line-Line \& Line-Signal Ground/Shield \& optional Signal Ground/ <br> Shield-Earth Ground |
| Arrester can be tested with CHECKMASTER from <br> software version: | From SW rev. 1.00 |
| Width | 17.70 mm |
| Height | 52.00 mm |
| Length | 45.00 mm |
| Pitch unit | 1 Div. |

## Protective circuit

| IEC category | C1 |
| :---: | :---: |
|  | C2 |
|  | C3 |
|  | D1 |
| VDE requirement class | D1 |
| Nominal voltage $U_{N}$ | 12 V AC |
| Arrester rated voltage $\mathrm{U}_{\mathrm{C}}$ | 18 V DC |
|  | 13 V AC |
| Arrester rated voltage $\mathrm{U}_{\mathrm{C}}$ (Core-Core) | 18 V DC |
|  | 13 V AC |
| Arrester rated voltage $\mathrm{U}_{\mathrm{c}}$ (Core-Earth) | 18 V DC |
|  | 13 V AC |
| Nominal current $\mathrm{I}_{\mathrm{N}}$ | $450 \mathrm{~mA}\left(45^{\circ} \mathrm{C}\right)$ |
| Operating effective current $\mathrm{I}_{\mathrm{C}}$ at $\mathrm{U}_{C}$ | $\leq 5 \mu \mathrm{~A}$ |
| Discharge current to PE at $\mathrm{U}_{\mathrm{c}}$ | $\leq 1 \mu \mathrm{~A}$ (BE: $2 \times 2-\mathrm{F})$ |
|  | $\leq 4 \mu \mathrm{~A}$ |
| Nominal discharge surge current $\ln (8 / 20) \mu \mathrm{s}$ (Core-Core) | 10 kA |
| Nominal discharge surge current $\mathrm{I}_{\mathrm{n}}(8 / 20) \mu \mathrm{s}$ (Core-Earth) | 10 kA |


| Total surge current (8/20) $\mu \mathrm{s}$ | 20 kA |
| :---: | :---: |
| Max. discharge surge current Imax (8/20) $\mu \mathrm{s}$ maximum (Core-Core) | 10 kA |
| Max. discharge surge current Imax (8/20) $\mu \mathrm{s}$ maximum (Core-Earth) | 10 kA |
| Nominal pulse current lan (10/1000) $\mu$ s (CoreCore) | 49 A |
| Lightning test current (10/350) $\mu \mathrm{s}$, peak value $\mathrm{l}_{\text {imp }}$ | 2.5 kA (per path) |
| Output voltage limitation at $1 \mathrm{kV} / \mu \mathrm{s}$ (Core-Core) spike | $\leq 25 \mathrm{~V}$ |
| Output voltage limitation at $1 \mathrm{kV} / \mathrm{\mu s}$ (Core-Earth) spike | $\leq 450 \mathrm{~V}$ |
| Output voltage limitation at $1 \mathrm{kV} / \mu \mathrm{s}$ (Core-Core) static | $\leq 25 \mathrm{~V}$ |
| Output voltage limitation at $1 \mathrm{kV} / \mu \mathrm{s}$ (Core-Earth) static | $\leq 450 \mathrm{~V}$ |
| Residual voltage at $\mathrm{I}_{\mathrm{n}}$, (conductor-conductor) | $\leq 25 \mathrm{~V}$ |
| Protection level $\mathrm{U}_{\mathrm{P}}$ (Core-Core) | $\leq 55 \mathrm{~V}$ |
| Protection level $\mathrm{U}_{\mathrm{P}}$ (Core-Earth) | $\leq 450 \mathrm{~V}$ |
| Response time tA (Core-Core) | $\leq 1 \mathrm{~ns}$ |
| Response time tA (Core-Earth) | $\leq 100 \mathrm{~ns}$ |
| Input attenuation aE , sym. | Typ. $0.5 \mathrm{~dB}(\leq 700 \mathrm{kHz})$ |
| Cut-off frequency fg (3 dB), sym. in 50 Ohm system | Typ. 4 MHz |
| Capacity (Core-Core) | 2.5 nF |
| Resistance in series | $2.2 \Omega$ (Path 1-2/5-6) |
|  | $2.2 \Omega$ (Path 7-8, 11-12) |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Core) | $\mathrm{C} 2(10 \mathrm{kV} / 5 \mathrm{kA})$ |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth) | $\mathrm{C} 2(10 \mathrm{kV} / 5 \mathrm{kA})$ |
|  | D1 (2.5 kA) |

## Connection data

Type of connection
Connection type IN
Connection type OUT
Screw connection (in connection with the base element)
PLUGTRAB plug-in system
PLUGTRAB plug-in system

## Connection, protective circuit

Standards/regulations
IEC 61643-21

## Certificates / Approvals



Certification

Certification Ex

GOST, UL Listed

CUL-EX LIS, UL-EX LIS

| Accessories |  |
| :--- | :--- |
| Item $\quad$ Designation | Description |


| Marking |  |  |
| :---: | :---: | :---: |
| 0811228 | X-PEN 0,35 | Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm |
| 0811228 | X-PEN 0,35 | Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm |
| 0811228 | X-PEN 0,35 | Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm |
| 0814717 | ZBF 15:SO/CMS | Zack strip, flat, 10-section, divisible, special printing, marking according to customer requirements |
| 0808671 | ZBF 5,LGS:FORTL.ZAHLEN | Zack strip, flat, printed horizontally: 10-section, with the numbers, 1-10, 11-20 etc. up to 991-1000, color: White |
| 0810821 | ZBF 5,LGS:GERADE ZAHLEN | Zack marker strip, flat, printed horizontally: 10-section, with even numbers, printed with the numbers: 2-20, 22-40, etc. up to 82-100 |
| 0810863 | ZBF 5,LGS:UNGERADE ZAHLEN | Zack strip, flat, printed horizontally: 10-section, with odd numbers, printed with the numbers: 1-19, 21-39 etc. up to 81-99 |
| 0808697 | ZBF 5,QR:FORTL.ZAHLEN | Flat Zack marker strip, printed vertically: 10-section, with the numbers 1-10, 11-20, etc. up to 151-160, color: White |
| 0808668 | ZBF 5/WH-100:UNBEDRUCKT | Zack strip, flat, unprinted: 10-section, for individual labeling with M-PEN or ZBF-T, large batch, sufficient for labeling 1000 terminal blocks, color: white |
| 0808707 | ZBF 5:SO/CMS | Zack strip, flat, 10-section, divisible, special printing, marking according to customer requirements |
| 0808642 | ZBF 5:UNBEDRUCKT | Zack strip, flat, unprinted: 10-section, for individual labeling with M-PEN or ZBF-T, sufficient for 100 terminal blocks, color: white |
| 0800763 | ZBN 18:SO/CMS | Marker labels, 5 -section, special printing, labeled according to customer requirements (Please specify the required marking with order), for terminal width: 17.5 mm , color: White |


| 2809128 | ZBN 18:UNBEDRUCKT | Unprinted marker labels, strips with 5 labels for individual labeling <br> with M-PEN or CMS system, for terminal block width: 17.5 mm, <br> color: White |
| :--- | :--- | :--- |
| Additional products |  |  |
| Item | Designation | Description |
| Assembly |  | shield fast connections for conductor diameter $3-6 \mathrm{~mm}$. Potential <br> connection cable: 200 mm , black |
| 2839295 | SSA 3-6 | Shield fast connection for conductor diameters $5-10 \mathrm{~mm}$. <br> Potential connection cable: 200 mm , black |
| 2839512 | SSA 5-10 |  |


| General |  |  |
| :--- | :--- | :--- |
| 2839224 | PT 2X2+F-BE | Base element for protective plug PT with protective circuit for two <br> 2-wire floating signal circuit, gas-filled surge arrester between the <br> connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and <br> NS 35/15, housing width: 17.5 mm |
| 2839208 | PT 2X2-BE | Base element for protective plug PT with protective circuit for <br> two 2-wire floating signal circuit, bridge between the connections <br> $3-4$ (GND) and 9-10, for mounting on NS $35 / 7.5$ and NS 35/15, <br> housing width: 17.5 mm |

## Drawings

Dimensioned drawing


The figure shows the complete module consisting of a base element and connector

## Circuit diagram

IN


Approval logo (Ex area)


