

VAL-MS 230/3+1/FM-UD


Order No.: 2858959

The illustration shows the version VAL-MS 120/3+1/FM-UD



<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2858959>

Surge voltage arrester 4-channel, for mounting on NS 35/7.5, with remote indicator contact. 230 V AC

| Commercial data | |
|-----------------|---|
| GTIN (EAN) |  4 017918 916350 |
| sales group | J022 |
| Pack | 1 pcs. |
| Customs tariff | 85363030 |

Product notes

WEEE/RoHS-compliant since:
04/13/2006



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Technical data

| Standards | |
|--|----------------|
| Housing material | PBT / PA |
| Inflammability class acc. to UL 94 | V0 |
| Color | black |
| Standards for air and creepage distances | DIN EN 60664-1 |

| | |
|---------------------------------|---|
| Degree of protection | IP20 |
| Mounting type | DIN rail: 35 mm |
| Design | DIN rail module, two-section, divisible |
| Number of positions | 4 |
| Ambient temperature (operation) | -40 °C ... 80 °C |
| Message: Surge protection fault | Optical, remote indicator contact |
| Direction of action | 3L-N & N-PE |
| Width | 70.80 mm |
| Height | 65.50 mm |
| Length | 96.80 mm |

Protective circuit

| | |
|--|---------------------------|
| IEC category | II |
| | T2 |
| EN type | T2 |
| Nominal voltage U_N | 230 V AC (400 V AC) |
| | 400 V AC |
| | 230 V AC ... 415 V AC |
| Arrester rated voltage U_C | 275 V AC |
| Arrester rated voltage U_C (L-N) | 275 V AC |
| Arrester rated voltage U_C (N-PE) | 260 V AC |
| U_T (TOV-proof) | 335 V AC (5 s / L-N) |
| | 1200 V AC (200 ms / N-PE) |
| Nominal frequency f_N | 50 Hz (60 Hz) |
| Ground conductor current I_{PE} | $\leq 1 \mu A$ |
| Standby power consumption P_C | $\leq 360 \text{ mVA}$ |
| Max. discharge surge current I_{max} (8/20) μs | 40 kA |
| Max. discharge surge current I_{max} (8/20) μs maximum (L-N) | 40 kA |
| Max. discharge surge current I_{max} (8/20) μs maximum (L-PE) | 40 kA |
| Max. discharge surge current I_{max} (8/20) μs maximum (N-PE) | 40 kA |
| Nominal discharge surge current I_n (8/20) μs (L-N) | 20 kA |
| Nominal discharge surge current I_n (8/20) μs (L-PE) | 20 kA |
| Nominal discharge surge current I_n (8/20) μs (N-PE) | 20 kA |

| | |
|--|-----------------------------|
| Lightning test current (10/350) μ s, peak value I_{imp} | 12 kA (N-PE) |
| Impulse operate voltage at 6 kV (1.2/50) μ s (N-PE) | ≤ 1.5 kV |
| Protection level U_p (L-N) | ≤ 1.35 kV |
| Protection level U_p (L-PE) | ≤ 1.6 kV |
| Protection level U_p (N-PE) | ≤ 1.5 kV |
| Residual voltage (L-N) | ≤ 1.35 kV (at I_n) |
| | ≤ 1.2 kV (at 10 kA) |
| | ≤ 1.1 kV (at 5 kA) |
| | ≤ 0.95 kV (at 3 kA) |
| Residual voltage (L-PE) | ≤ 1.6 kV (at I_n) |
| | ≤ 1.35 kV (at 10 kA) |
| | ≤ 1.2 kV (at 5 kA) |
| | ≤ 1 kV (at 3 kA) |
| Residual voltage (N-PE) | ≤ 0.4 kV (at I_n) |
| | ≤ 0.25 kV (at 10 kA) |
| | ≤ 0.15 kV (at 5 kA) |
| | ≤ 0.1 kV (at 3 kA) |
| Clamping voltage SVR (L-N) | ≤ 0.9 kV (6kV - 500 A) |
| Clamping voltage SVR (L-PE) | ≤ 1.2 kV (6kV - 500 A) |
| Clamping voltage SVR (N-PE) | ≤ 1 kV (6kV - 500 A) |
| Response time (L-N) | ≤ 25 ns |
| Response time (L-PE) | ≤ 100 ns |
| Response time (N-PE) | ≤ 100 ns |
| Max. required backup fuse with branch wiring | 125 A (gL) |
| Short-circuit resistance I_p with max. backup fuse (effective) | 25 kA |
| Follow current quenching capacity I_f (N-PE) | 100 A (260 V) |

Connection, protective circuit

| | |
|---------------------------------------|--------------------------------|
| Connection method | Screw connection |
| Connection type IN | Biconnect screw terminal block |
| Connection type OUT | Biconnect screw terminal block |
| Screw thread | M5 |
| Tightening torque | 4.5 Nm |
| Stripping length | 14.5 mm |
| Conductor cross section stranded min. | 0.5 mm ² |

| | |
|--|---------------------|
| Conductor cross section stranded max. | 25 mm ² |
| Conductor cross section solid min. | 0.5 mm ² |
| Conductor cross section solid max. | 35 mm ² |
| Conductor cross section AWG/kcmil min. | 20 |
| Conductor cross section AWG/kcmil max | 2 |

Remote indicator contact

| | |
|---|--------------------------------|
| Connection name | Remote fault indicator contact |
| Switching function | PDT contact |
| Connection method | Screw connection |
| Screw thread | M2 |
| Tightening torque | 0.25 Nm |
| Stripping length | 7 mm |
| Conductor cross section stranded min. | 1.5 mm ² |
| Conductor cross section stranded max. | 0.14 mm ² |
| Conductor cross section solid min. | 1.5 mm ² |
| Conductor cross section solid max. | 0.14 mm ² |
| Conductor cross section AWG/kcmil min. | 28 |
| Conductor cross section AWG/kcmil max | 16 |
| Maximum operating voltage U _{max} AC | 250 V AC |
| Maximum operating voltage U _{max} DC | 125 V DC |
| Max. operating current I _{max} | 0.75 A AC (250 V AC) |
| | 3 A AC (125 V AC) |
| | 2 A DC (30 V DC) |
| Min. permissible switching capacity | 0.12 VA (12 V, 10 mA) |

Standards

| | |
|-----------------------|--------------------------|
| Standards/regulations | IEC 61643-1 2005 |
| | DIN EN 61643-11/A11 2007 |
| | DIN EN 61643-11 2002 |

Certificates / Approvals



Certification

GOST, KEMA

Accessories

| Item | Designation | Description |
|------|-------------|-------------|
|------|-------------|-------------|

Bridges

| | | |
|---------|-------------|---|
| 2809283 | MPB 18/4- 8 | Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos. |
| 2809296 | MPB 18/4-12 | Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos. |

General

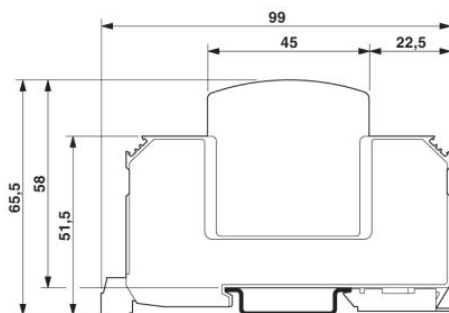
| | | |
|---------|------------|---|
| 2749880 | DK-BIC-35 | Feed-through terminal block for VAL and FLT applications |
| 2817990 | F-MS 12 ST | Surge protection plug type 2, with N-PE total current spark gap for base element. |

Marking

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|---------|----------------------|--|
| 1051993 | B-STIFT | Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm |
| 2749589 | ZBN 18,LGS:ERDE | Marking labels, printed horizontally, strips with 5 labels, GND (grounding symbol), color: White |
| 2749576 | ZBN 18,LGS:L1-N,ERDE | Marker labels, printed horizontally, strips with 5 labels, L1, L2, L3, N, GND, 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 with M-PEN or CMS system, for terminal block width: 17.5 mm, color: White |

Diagrams/Drawings

Dimensioned drawing



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