

## Type 2 surge protection device - VAL-US 60/O - 2906279

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Surge arresters consisting of base element and protective connector with high-capacity varistor, for mounting on NS 35/7.5, 1-channel

### Your advantages

- ✓ Plug-in direction parallel to the conductor axis
- ✓ Versions with and without floating remote indication contact
- ✓ Rack-mount 2U panel applications
- ✓ Accepts Type 1 and Type 2 VAL-MS plugs.
- ✓ Coding when protective plug is inserted for the first time
- ✓ DIN rail mounting



### Key Commercial Data

Packing unit	12 pc
Minimum order quantity	12 pc
GTIN	 4 055626 063041
GTIN	4055626063041
Weight per Piece (excluding packing)	124.750 g
Custom tariff number	85363090
Country of origin	Germany
Note	Made to Order (non-returnable)

### Technical data

#### Dimensions

Height	77.1 mm
Width	17.6 mm
Depth	89.2 mm

#### Ambient conditions

# Type 2 surge protection device - VAL-US 60/O - 2906279

## Technical data

### Ambient conditions

Degree of protection	IP20
	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	max. 2000 m
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

### General

IEC test classification	II
	T2
EN type	T2
Mode of protection	L-PEN
	(L+) - (L-)
	(L-) - PE
	(L+) - PE
Mounting type	DIN rail: 35 mm
Color	black
Housing material	PBT
Degree of pollution	2
Flammability rating according to UL 94	V0
Type	DIN rail module, two-section, divisible
Number of positions	1
Surge protection fault message	optical

### Protective circuit

Nominal voltage $U_N$	60 V DC
	-48 V DC (RRH)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous voltage $U_C$	75 V AC
	100 V DC
Maximum continuous operating voltage $U_C$ (L-N)	75 V AC
	100 V DC
Maximum continuous operating voltage $U_C$ (L-PEN)	75 V AC
	100 V DC
Rated load current $I_L$	80 A
Residual current $I_{PE}$	≤ 0.45 mA
Standby power consumption $P_C$	≤ 35 mVA
Nominal discharge current $I_n$ (8/20) μs	15 kA
Nominal discharge current $I_n$ (8/20) μs (L-N)	15 kA

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## Technical data

### Protective circuit

Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (L-PEN)	15 kA
Maximum discharge current $I_{\text{max}}$ (8/20) $\mu\text{s}$	40 kA
Maximum discharge current $I_{\text{max}}$ (8/20) $\mu\text{s}$ (L-N)	40 kA
Maximum discharge current $I_{\text{max}}$ (8/20) $\mu\text{s}$ (L-PEN)	40 kA
Short-circuit current rating $I_{\text{SCCR}}$	25 kA
Voltage protection level $U_p$	$\leq 0.55$ kV
Voltage protection level $U_p$ (L-N)	$\leq 0.55$ kV
Voltage protection level $U_p$ (L-PEN)	$\leq 0.55$ kV
Residual voltage $U_{\text{res}}$	$\leq 0.55$ kV (at $I_n$ )
	$\leq 0.425$ kV (at 10 kA)
	$\leq 0.325$ kV (at 5 kA)
	$\leq 0.275$ kV (at 3 kA)
TOV behavior at $U_T$	100 V AC (5 s / withstand mode)
TOV behavior at $U_T$ (L-N)	100 V AC (5 s / withstand mode)
TOV behavior at $U_T$ (L-PEN)	100 V AC (5 s / withstand mode)
Response time $t_A$	$\leq 25$ ns
Response time $t_A$ (L-N)	$\leq 25$ ns
Response time $t_A$ (L-PEN)	$\leq 25$ ns
Max. backup fuse with V-type through wiring	80 A AC (gG)
Max. backup fuse with branch wiring	125 A AC (gG)

### Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm
	30 lb <sub>f</sub> -in. (UL)
Stripping length	16 mm
Conductor cross section flexible min.	1.5 mm <sup>2</sup>
Conductor cross section flexible max.	25 mm <sup>2</sup>
Conductor cross section solid min.	1.5 mm <sup>2</sup>
Conductor cross section solid max.	35 mm <sup>2</sup>
Conductor cross section AWG	15 ... 2
	10 ... 2 (UL)
Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm
	30 lb <sub>f</sub> -in. (UL)
Stripping length	16 mm
Conductor cross section flexible min.	1.5 mm <sup>2</sup>
Conductor cross section flexible max.	25 mm <sup>2</sup>

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## Technical data

### Connection data

Conductor cross section solid min.	1.5 mm <sup>2</sup>
Conductor cross section solid max.	35 mm <sup>2</sup>
Conductor cross section AWG	15 ... 2
	10 ... 2 (UL)

### UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV	75 V AC
Maximum continuous operating voltage MCOV (L-N)	75 V AC
Maximum continuous operating voltage MCOV (L-G)	75 V AC
Maximum continuous operating voltage MCOV (L+) - (L-)	100 V DC
Maximum continuous operating voltage MCOV (L+/L-) - G	100 V DC
Nominal voltage	60 V DC
Mode of protection	L-L
	L-G
	(L+) - (L-)
	(L+) - G
	(L-) - G
Power distribution system	Single phase
Voltage protection rating VPR	500 V
Voltage protection rating VPR (L-N)	0.5 kV
Voltage protection rating VPR (L+) - (L-)	0.33 kV
Voltage protection rating VPR (L+/L-) -G	0.33 kV
Measured limiting voltage MLV (L-N)	630 V
Measured limiting voltage MLV	630 V
Nominal discharge current I <sub>n</sub>	10 kA
Nominal discharge current I <sub>n</sub> (L-N)	10 kA
Nominal discharge current I <sub>n</sub> (L+) - (L-)	10 kA
Nominal discharge current I <sub>n</sub> (L+/L-) - G	10 kA

### UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A AC
Tightening torque	2 lb <sub>F</sub> -in. ... 4 lb <sub>F</sub> -in.
Conductor cross section AWG	30 ... 14

### UL connection data

Conductor cross section AWG	10 ... 2
Tightening torque	30 lb <sub>F</sub> -in.

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50

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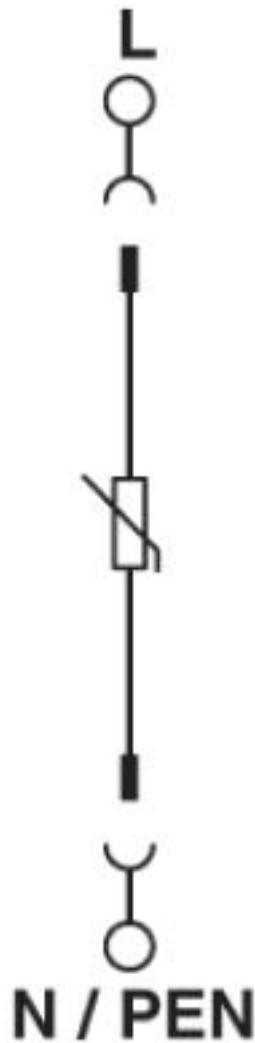
## Technical data

### Environmental Product Compliance

	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"
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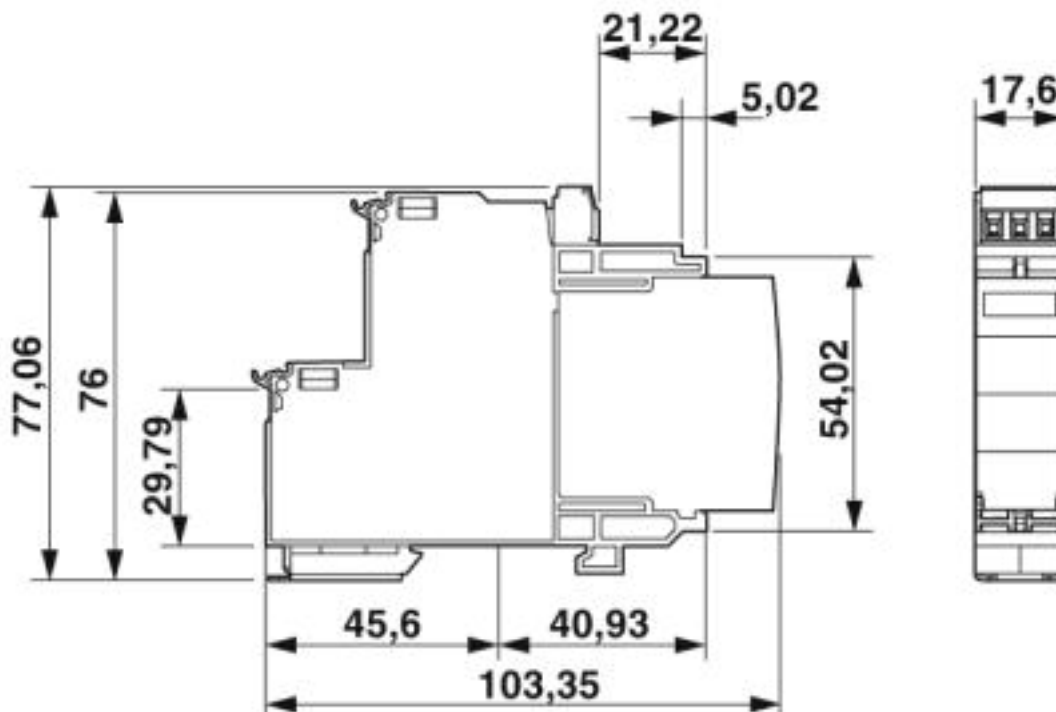
## Drawings

Circuit diagram



# Type 2 surge protection device - VAL-US 60/O - 2906279

Dimensional drawing



FM version shown

## 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	27130805
eCl@ss 8.0	27130805
eCl@ss 9.0	27130805

ETIM

ETIM 5.0	EC000941
ETIM 6.0	EC000941
ETIM 7.0	EC000941

UNSPSC

UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620

# Type 2 surge protection device - VAL-US 60/O - 2906279

## Classifications

### UNSPSC

UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

## Approvals

### Approvals

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#### Approvals

UL Recognized / cUL Recognized / cULus Recognized

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#### Ex Approvals

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## Approval details

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 330181
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cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 330181
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cULus Recognized			
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## Accessories

### Accessories

#### Bridge

Wiring bridge - MPB 18/1- 2 - 2809209



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 2-pos.

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## Type 2 surge protection device - VAL-US 60/O - 2906279

### Accessories

Wiring bridge - MPB 18/1- 3 - 2809212



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 3-pos.

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Wiring bridge - MPB 18/1- 4 - 2809225



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 4-pos.

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Wiring bridge - MPB 18/1- 6 - 2748564



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 6-pos.

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Wiring bridge - MPB 18/1- 7 BU - 2856278



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 7-pos., color: Blue

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Wiring bridge - MPB 18/1- 8 BU - 2858470



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos., color: Blue

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## Type 2 surge protection device - VAL-US 60/O - 2906279

### Accessories

Wiring bridge - MPB 18/1- 8 - 2748577



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos.

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Wiring bridge - MPB 18/1- 9 - 2748580



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 9-pos.

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Wiring bridge - MPB 18/1-12 - 2748593



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 12-pos.

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Wiring bridge - MPB 18/1-57 - 2809238



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 57-pos.

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Wiring bridge - MPB 18/3- 6 - 2809241



Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 6-pos.

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## Type 2 surge protection device - VAL-US 60/O - 2906279

### Accessories

Wiring bridge - MPB 18/4- 8 - 2809283



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos.

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Wiring bridge - MPB 18/4-12 - 2809296



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos.

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Wiring bridge - MPB F200X16/ 1GS - 2818339



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 200 mm

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Wiring bridge - MPB F400X16/ 1GS - 2818342



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 400 mm

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Wiring bridge - MPB F600X16/ 1GS - 2818355



Wiring bridge flexible, diameter: 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 600 mm

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## Type 2 surge protection device - VAL-US 60/O - 2906279

### Accessories

Wiring bridge - MPB F600X16/ 1GS - 2818355



Wiring bridge flexible, diameter: 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 600 mm

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Wiring bridge - MPB F400X16/ 1GS - 2818342



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 400 mm

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Wiring bridge - MPB F200X16/ 1GS - 2818339



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 200 mm

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Wiring bridge - MPB 18/1-10/1.0.0 - 2830443



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 10 pitches with contact sequence 1-0-0

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Wiring bridge - MPB 18/4-12 - 2809296



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos.

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## Type 2 surge protection device - VAL-US 60/O - 2906279

### Accessories

Wiring bridge - MPB 18/4- 8 - 2809283



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos.

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Wiring bridge - MPB 18/3- 6 - 2809241



Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 6-pos.

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Wiring bridge - MPB 18/1-57 - 2809238



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 57-pos.

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Wiring bridge - MPB 18/1-12 - 2748593



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 12-pos.

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Wiring bridge - MPB 18/1- 9 - 2748580



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 9-pos.

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## Type 2 surge protection device - VAL-US 60/O - 2906279

### Accessories

Wiring bridge - MPB 18/1- 8 - 2748577



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos.

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Wiring bridge - MPB 18/1- 6 - 2748564



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 6-pos.

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Wiring bridge - MPB 18/1- 4 - 2809225



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 4-pos.

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Wiring bridge - MPB 18/1- 3 - 2809212



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 3-pos.

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Wiring bridge - MPB 18/1- 2 - 2809209



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 2-pos.

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### Device marking

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### Accessories

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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### Feed-through terminal block

Feed-through terminal block - DK-BIC-35 - 2749880



Feed-through terminal block for VAL and FLT applications

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### Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, Strip, white, labeled, Horizontal: Grounding symbol, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576



Marker for terminal blocks, Strip, white, labeled, Horizontal: L1, L2, L3, N, GND, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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### Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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### Spare parts

## Type 2 surge protection device - VAL-US 60/O - 2906279

### Accessories

Type 2 surge protection base element - VAL-MS-T1/T2 BE/O-FM - 2905652



Base element for type 1/2 arresters from the VALVETRAB MS T1/T2 product range, with remote indication contact.  
Version: 1-channel