

Type 1 surge protection device - VAL-US-48/65/1+1V-FM



2910346

<https://www.phoenixcontact.com/us/products/2910346>

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Surge protective device, two channels with remote indicator contact for 48 V DC, 2-wire plus ground

Your advantages

- Plugs can be checked with CHECKMASTER
- Secure hold of plugs in the event of high lightning current loads and strong vibrations thanks to new latching
- Thermal disconnect device for each individual plug
- Optical, mechanical status indication for the individual arresters
- Pluggable
- Thermal disconnect device for each individual plug
- Mechanical coding of all slots

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Commercial Data

Item number	2910346
Packing unit	1 pc
Sales Key	C06
Product Key	CL115U
Catalog Page	Page 90 (C-4-2019)
GTIN	4055626444888
Weight per Piece (including packing)	262 g
Weight per Piece (excluding packing)	262 g
Customs tariff number	85363030
Country of origin	DE

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Technical Data

Product properties

IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
IEC power supply system	DC
Type	DIN rail module, two-section, divisible
Product type	Surge arrester
Number of positions	2
Surge protection fault message	Optical, remote indicator contact

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

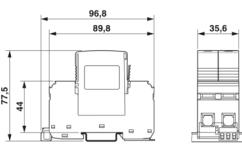
Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Operating voltage	5 V AC ... 250 V AC
	30 V DC
Operating current	5 mA AC ... 1.5 A AC
	1 A DC (30 V DC)

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm (1.5 mm ² ... 16 mm ²)
	4.5 Nm (25 mm ² ... 35 mm ²)
Stripping length	16 mm
Conductor cross section flexible	1.5 mm ² ... 25 mm ²
Conductor cross section solid	1.5 mm ² ... 35 mm ²
Conductor cross section AWG	15 ... 2

Dimensions

Dimensional drawing	
Width	35.6 mm
Width	35.6 mm

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Height	96.8 mm
Height	96.8 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Depth	77.5 mm
Horizontal pitch	2 Div.

Material specifications

Color	jet black RAL 9005
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6/PBT
Material group	I
Housing material	PA 6.6
	PBT

Protective circuit

Mode of protection	(DC+) - (DC-)
	(DC+/DC-) - PE
Direction of action	1L-N & N-GND
Nominal voltage U_N	60 V AC ± 10 % (TN-S)
Nominal voltage U_N	60 V DC ± 10 %
	-48 V DC ± 10 % (RRH)
Maximum continuous voltage U_C	100 V DC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 0.6 mA
Nominal discharge current I_n (8/20) μ s	12.5 kA
Total discharge current I_{total} (10/350) μ s	12.5 kA
Short-circuit current rating I_{SCCR}	5 kA
Voltage protection level U_p (DC+) - (DC-)	≤ 0.4 kV
Voltage protection level U_p (DC+/DC-) - PE	≤ 0.4 kV
Residual voltage U_{res}	≤ 0.4 kV (at I_n)
	≤ 0.35 kV (at 10 kA)
	≤ 0.3 kV (at 5 kA)
	≤ 0.25 kV (at 3 kA)
TOV behavior at U_T	130 V DC (5 s / withstand mode)
Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	160 A (gG)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C

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Altitude	≤ 2000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approval data

UL specifications

Short-circuit current rating (SCCR)	5 kA (DC)
Voltage protection rating VPR (DC+) - (DC-)	400 V
Voltage protection rating VPR (DC+) - G	400 V
Voltage protection rating VPR (DC-) - G	600 V
UL type	type 1
Maximum Surge Current per Phase	65 kA
Mode of protection	(DC+) - (DC-) (DC+) - G
Nominal voltage	48 V DC
Power distribution system	DC
SPD Type	1
AC operating voltage	125 V AC
AC operating current	1 A AC

UL connection data

Tightening torque	30 lb _F ·in.
Conductor cross section AWG	14 ... 2

Standards and regulations

Air clearances and creepage distances

Standards/regulations	EN 60664-1 / EN 61643-11
Standards/specifications	IEC 61643-11
Standards/specifications	EN 61643-11

Mounting

Mounting type	DIN rail: 35 mm
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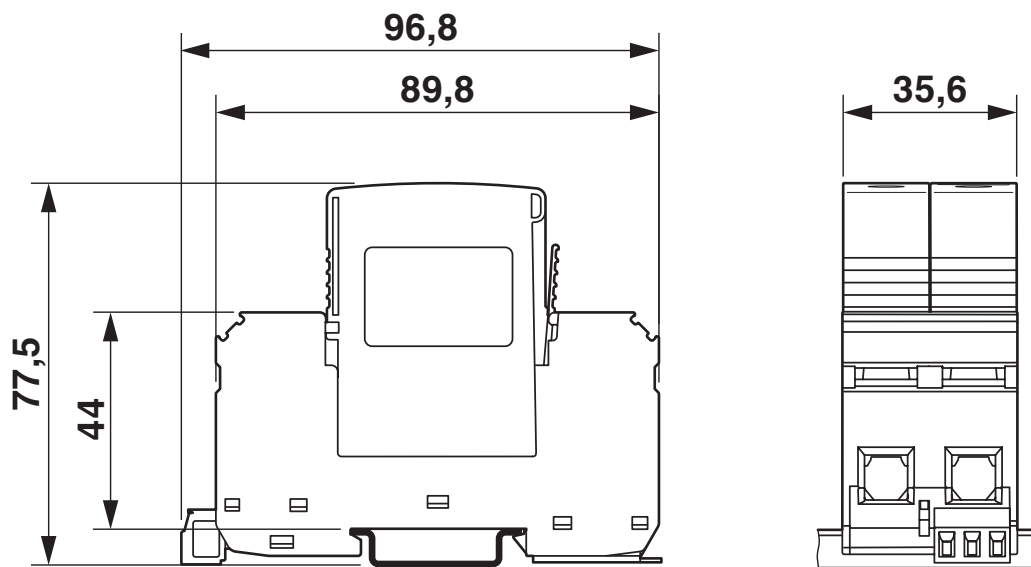


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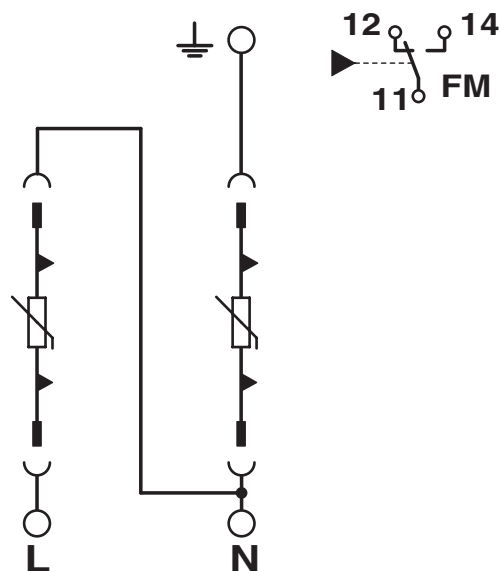
<https://www.phoenixcontact.com/us/products/2910346>

Drawings

Dimensional drawing



Circuit diagram



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Approvals

**UL Listed**
Approval ID: FILE E 330181

**cUL Listed**
Approval ID: FILE E 330181

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27130805
ECLASS-10.0.1	27130805
ECLASS-11.0	27130805

ETIM

ETIM 8.0	EC000941
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UNSPSC

UNSPSC 21.0	39121600
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Accessories

Wiring bridge

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

<https://www.phoenixcontact.com/us/products/2830443>



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

Wiring bridge

Wiring bridge - MPB 18/4-12 - 2809296

<https://www.phoenixcontact.com/us/products/2809296>



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

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Wiring bridge

Wiring bridge - MPB 18/4- 8 - 2809283

<https://www.phoenixcontact.com/us/products/2809283>

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

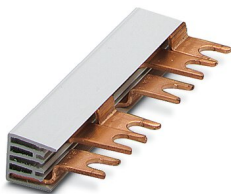


Wiring bridge

Wiring bridge - MPB 18/3- 6 - 2809241

<https://www.phoenixcontact.com/us/products/2809241>

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



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Wiring bridge

Wiring bridge - MPB 18/1-57 - 2809238

<https://www.phoenixcontact.com/us/products/2809238>



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

Wiring bridge

Wiring bridge - MPB 18/1-12 - 2748593

<https://www.phoenixcontact.com/us/products/2748593>



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

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Wiring bridge

Wiring bridge - MPB 18/1- 9 - 2748580

<https://www.phoenixcontact.com/us/products/2748580>



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

Wiring bridge

Wiring bridge - MPB 18/1- 8 - 2748577

<https://www.phoenixcontact.com/us/products/2748577>



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

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Wiring bridge

Wiring bridge - MPB 18/1- 6 - 2748564

<https://www.phoenixcontact.com/us/products/2748564>



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

Wiring bridge

Wiring bridge - MPB 18/1- 4 - 2809225

<https://www.phoenixcontact.com/us/products/2809225>



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

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Wiring bridge

Wiring bridge - MPB 18/1- 3 - 2809212

<https://www.phoenixcontact.com/us/products/2809212>



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

Wiring bridge

Wiring bridge - MPB 18/1- 2 - 2809209

<https://www.phoenixcontact.com/us/products/2809209>



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

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Marker for terminal blocks

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

<https://www.phoenixcontact.com/us/products/2749589>

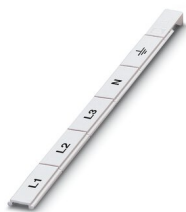


Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker for terminal blocks

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

<https://www.phoenixcontact.com/us/products/2749576>



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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Zack marker strip

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

<https://www.phoenixcontact.com/us/products/2809128>



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

Feed-through terminal block

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

<https://www.phoenixcontact.com/us/products/2749880>



Feed-through terminal block for VAL and FLT applications

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Marker for terminal blocks

Marker for terminal blocks - UCT-TM 16 - 0829146

<https://www.phoenixcontact.com/us/products/0829146>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 16 mm, lettering field size: 14.8 x 9.6 mm, Number of individual labels: 18

Type 1 surge protection plug

Type 1 surge protection plug - VAL-US-48/65-P - 2910328

<https://www.phoenixcontact.com/us/products/2910328>



UL Recognized type 1 SPD and IEC type 2 surge protection plug with a varistor and thermal disconnect for use with VAL-US base elements, mechanical and visual fault warning

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