Type 2 surge protection device - VAL-US-48/40/1+0-FM

2910343

https://www.phoenixcontact.com/us/products/2910343

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Surge protective device, single channel with remote indicator contact for 48 V DC.

Your advantages

- Single-channel, DIN-rail mountable protective devices
- Disconnect device on each individual plug
- Mechanical coding of all slots
- Consists of base element and plug
- Optical, mechanical status indication for the individual arresters
- Base element with/without floating remote indication contact

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2910343

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Commercial Data

Item number	2910343
Packing unit	1 pc
Sales Key	C06
Product Key	CL132U
Catalog Page	Page 90 (C-4-2019)
GTIN	4055626444857
Weight per Piece (including packing)	131.3 g
Weight per Piece (excluding packing)	106 g
Customs tariff number	85363030
Country of origin	DE

Technical Data

Product properties

IEC test classification	II
	T2
EN type	T2
IEC power supply system	DC
Type	DIN rail module, two-section, divisible
Product type	Surge arrester
Number of positions	1
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

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm (1.5 mm² ... 16 mm²)
	4.5 Nm (25 mm² ... 35 mm²)
Stripping length	16 mm
Conductor cross section flexible	1.5 mm² ... 25 mm²
Conductor cross section solid	1.5 mm² ... 35 mm²
Conductor cross section AWG	15 ... 2

Dimensions

Dimensional drawing	
Width	17.6 mm
Width	17.6 mm

Type 2 surge protection device - VAL-US-48/40/1+0-FM

2910343

https://www.phoenixcontact.com/us/products/2910343

Height	96.8 mm
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Depth	65.7 mm (incl. DIN rail 7.5 mm)
Depth	65.7 mm
Horizontal pitch	1 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-)
Direction of action	1L-GND
Nominal voltage U_N	60 V AC ±10 % (TN-C)
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}	≤ 0.45 mA
Nominal discharge current I_n (8/20) µs	15 kA
Short-circuit current rating I_{SCCR}	5 kA
Voltage protection level U_p	≤ 0.55 kV
Residual voltage U_{res}	≤ 0.55 kV (at I_n)
	≤ 0.425 kV (at 10 kA)
	≤ 0.325 kV (at 5 kA)
	≤ 0.275 kV (at 3 kA)
Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	125 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
Altitude	≤ 2000 m (amsl (above mean sea level))
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)

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2910343

https://www.phoenixcontact.com/us/products/2910343

Approval data

UL specifications

UL type	type 4
Maximum Surge Current per Phase	40 kA
Mode of protection	(DC+) - (DC-)
Nominal voltage	60 V DC
Power distribution system	DC
SPD Type	4CA
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

Type 2 surge protection device - VAL-US-48/40/1+0-FM

Drawings

Dimensional drawing
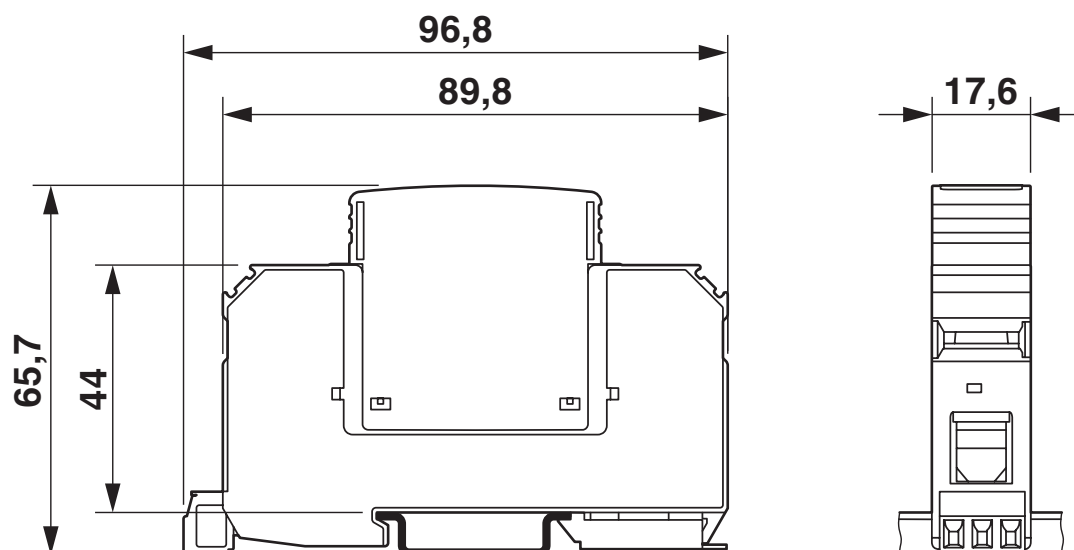
Circuit diagram

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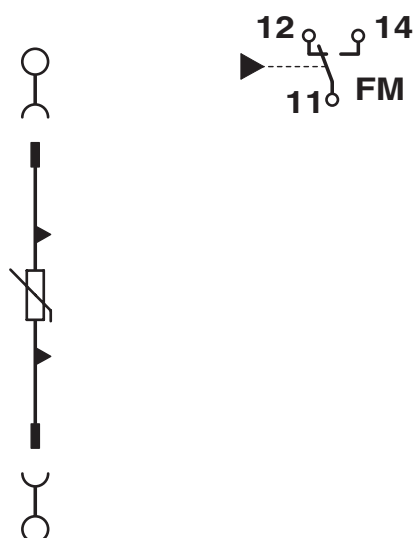
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Approvals

cUL Recognized
Approval ID: FILE E 330181

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cULus Recognized

Type 2 surge protection device - VAL-US-48/40/1+0-FM

2910343

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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC000941

UNSPSC

UNSPSC 21.0	39121600

Environmental Product Compliance

REACh SVHC	Lead 7439-92-1

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.

Type 2 surge protection device - VAL-US-48/40/1+0-FM

2910343

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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.
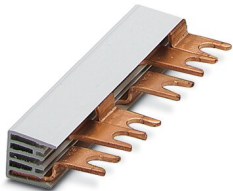
Wiring bridge

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.

Type 2 surge protection device - VAL-US-48/40/1+0-FM

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.

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.

2910343

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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

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

Type 2 surge protection device - VAL-US-48/40/1+0-FM

2910343

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Marker for terminal blocks

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589
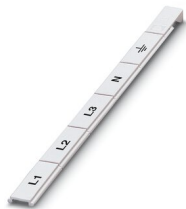
https://www.phoenixcontact.com/us/products/2749589

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

Type 2 surge protection device - VAL-US-48/40/1+0-FM

2910343

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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

Marker pen

Marker pen - B-STIFT - 1051993

https://www.phoenixcontact.com/us/products/1051993

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

Type 2 surge protection device - VAL-US-48/40/1+0-FM

2910343

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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

Type 2 surge protection plug

Type 2 surge protection plug - VAL-US-48/40-P - 2910333

https://www.phoenixcontact.com/us/products/2910333

UL Recognized type 2 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