

VAL-US-SPP-480D/40-P - Type 2 surge protection plug



1790789

<https://www.phoenixcontact.com/us/products/1790789>

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Surge protection plug for use with VAL-SPP or VAL-US-SPP base elements, UL Recognized type 1 component and IEC type 2, with varistor and thermal disconnect device, plug-in, with local status indicator (green/red).

Your advantages

- Universal surge protection plug with UL Recognized type 1 and IEC type 2
- Clear status indication with local optical green/red display
- Safe installation with mechanical coding

Commercial data

Item number	1790789
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	CL17
Product key	CL138Z
GTIN	4067923409392
Weight per piece (including packing)	72.36 g
Weight per piece (excluding packing)	61.2 g
Customs tariff number	85363030
Country of origin	DE

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Technical data

Notes

General

Note	Only for use in IT systems between L-PE if the common earthing of the HV transformer station and conductive parts of the LV consumer system are interconnected ($R_E = R_A$ & $R_E = Z$ according to IEC 60364-4-44:2024, Figure 1 and Table 1).
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Product properties

Product type	Replacement plug
Product family	VAL-SPP
IEC test classification	II
	T2
EN type	T2
IEC power supply system	IT
Type	Male
Number of positions	1
End-of-life mode	OCM
Surge protection fault message	optical
Number of ports	One

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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Connection data

Connection method	pluggable
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Dimensions

Dimensional drawing	
Width	17.5 mm
Height	54.2 mm
Depth	61.5 mm
Horizontal pitch	1 Div.

Material specifications

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Color	light gray (RAL 7035)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6-FR 20 % GF
Material group	I
Housing material	PA 6.6-FR 20 % GF

Protective circuit

Mode of protection	L-N
	L-PE
Nominal voltage U_N	480 V AC ± 10 % (IT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C	550 V AC
Protective conductor current I_{PE}	≤ 0.3 mA
Standby power consumption P_C	≤ 165 mVA
Nominal discharge current I_n (8/20) μ s	20 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 2.4 kV
Residual voltage U_{res}	≤ 2.4 kV (at I_n)
TOV behavior at U_T	700 V AC (5 s / withstand mode)
	920 V AC (120 min / safe failure mode)
Response time t_A	≤ 25 ns
Max. backup fuse with branch wiring	250 A (gG)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20C (Installed)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Ambient temperature (assembly)	-5 °C ... 50 °C
Altitude	≤ 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$, $\pm Y$, $\pm Z$)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approvals

UL specifications

Maximum continuous operating voltage MCOV	550 V AC
Short-circuit current rating (SCCR)	200 kA
Voltage protection rating VPR	2000 V
Nominal discharge current I_n	20 kA
Maximum Surge Current per Phase	1x 40 kA (IEEE C62.73)
Mode of protection	Ld-Ld

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Nominal voltage	480 V AC (Delta)
Power distribution system	Delta
Nominal frequency	50/60 Hz
SPD Type	1CA

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012 + A11:2018

Mounting

Mounting type	on base element
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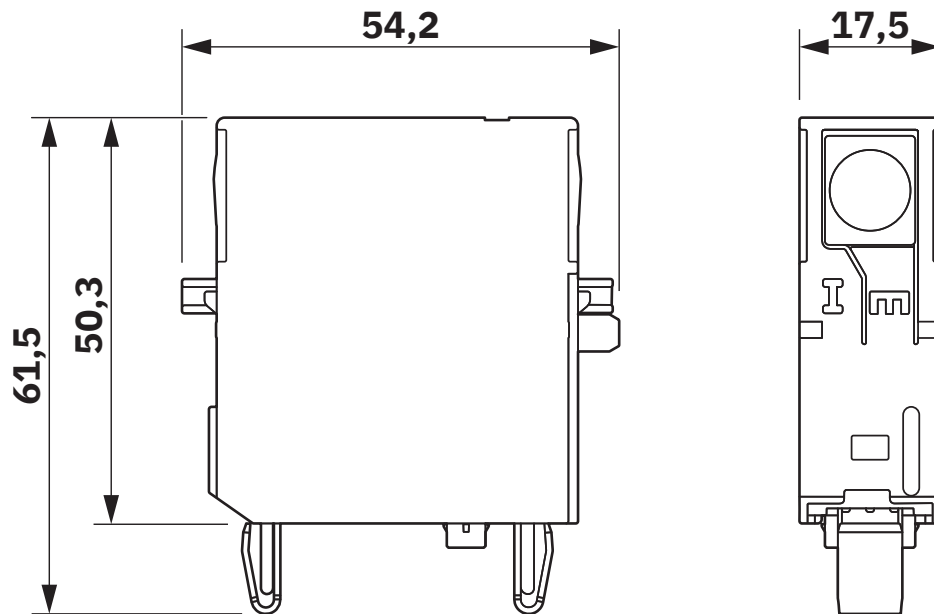


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Drawings

Dimensional drawing



Circuit diagram



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Approvals

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cULus Recognized

Approval ID: E330181-20240716

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Classifications

ECLASS

ECLASS-13.0	27171292
ECLASS-15.0	27171292

ETIM

ETIM 10.0	EC002496
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride(CAS: 552-30-7)
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