

# VAL-MS-T1/T2 75/12.5 ST - Type 1/2 surge protection plug



2801146

<https://www.phoenixcontact.com/us/products/2801146>

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Replacement plug for VAL-MS-T1/T2 75/12.5... plug-in lighting/surge arrester.



## Commercial data

Item number	2801146
Packing unit	10 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	CL18
Product key	CL1151
GTIN	4046356708340
Weight per piece (including packing)	819.1 g
Weight per piece (excluding packing)	81.91 g
Customs tariff number	85363030
Country of origin	DE

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## Technical data

### Product properties

Product type	Replacement plug
Product family	VALVETRAB MS
IEC test classification	I / II T1 / T2
EN type	T1 / T2
IEC power supply system	TN
Type	Male
Surge protection fault message	optical

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

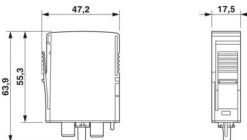
### Electrical properties

Nominal frequency $f_N$	50 Hz (60 Hz)
Nominal voltage $U_N$	60 V DC

### Connection data

Connection method	pluggable
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### Dimensions

Dimensional drawing	
Width	17.7 mm
Height	47 mm
Depth	67.3 mm
Horizontal pitch	1 Div.

### Material specifications

Color	black (RAL 9005) 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

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## Protective circuit

Mode of protection	L-N
	N-PE
	(L+) - (L-)
	(L+) - PE
Direction of action	L-N / L-PEN
Nominal voltage $U_N$	60 V AC $\pm 10$ % (TN)
	60 V DC $\pm 10$ %
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$	75 V AC
	100 V DC
Protective conductor current $I_{PE}$	$\leq 0.3$ mA
Standby power consumption $P_C$	$\leq 45$ mVA
Nominal discharge current $I_n$ (8/20) $\mu$ s	12.5 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s	50 kA
Impulse discharge current (10/350) $\mu$ s, charge	6.25 As
Impulse discharge current (10/350) $\mu$ s, specific energy	39 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu$ s, peak value $I_{imp}$	12.5 kA
Short-circuit current rating $I_{SCCR}$	0.5 kA
Voltage protection level $U_p$	$\leq 0.7$ kV
Residual voltage $U_{res}$	$\leq 0.7$ kV (at $I_n$ )
	$\leq 0.65$ kV (at 10 kA)
	$\leq 0.6$ kV (at 5 kV)
	$\leq 0.55$ kV (at 4 kA)
	$\leq 0.55$ kV (at 3 kA)
TOV behavior at $U_T$	208 V AC (5 s / withstand mode)
	100 V DC (5 s / withstand mode)
Response time $t_A$	$\leq 25$ ns
Max. backup fuse with branch wiring	160 A (gG)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	$\leq 2000$ m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Approvals

### UL specifications

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Maximum continuous operating voltage MCOV (L-N)	75 V AC
Maximum continuous operating voltage MCOV (L+) - (L-)	100 V DC
Nominal discharge current $I_n$ (L-N)	20 kA
Nominal discharge current $I_n$ (L+) - (L-)	20 kA
Mode of protection	L-N (L+) - (L-)
Nominal voltage	60 V AC
Nominal voltage	60 V DC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	2080 V
Measured limiting voltage MLV (L+) - (L-)	2080 V
SPD Type	4CA

## Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

## Mounting

Mounting type	on base element
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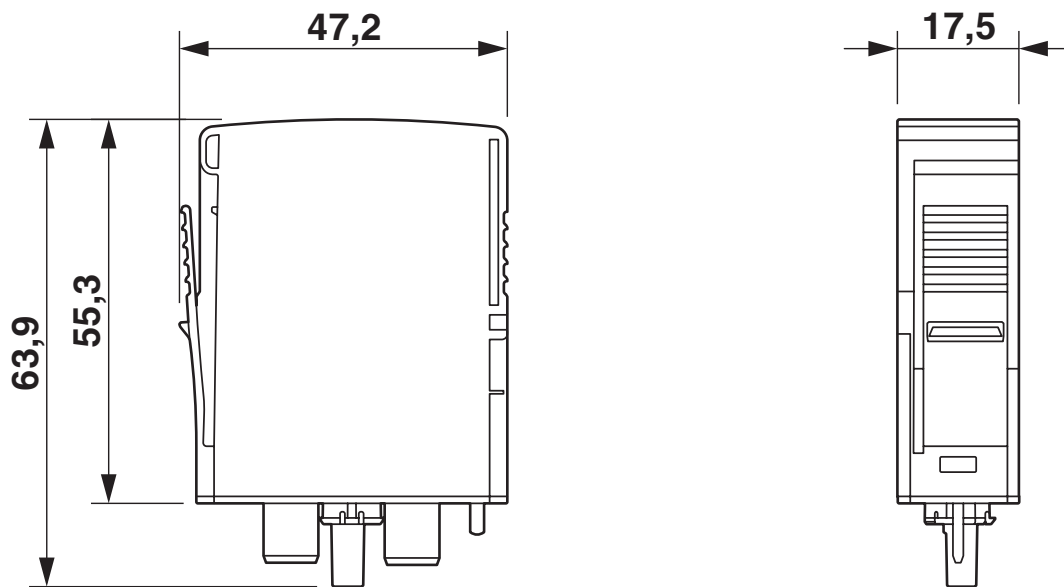


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## Drawings

Dimensional drawing



Circuit diagram



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## Classifications

### UNSPSC

UNSPSC 21.0	39121600
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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.)	No substance above 0.1 wt%
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