

# VAL-MS-T1/T2 335/12.5 ST - Type 1/2 surge protection plug



2800190

<https://www.phoenixcontact.com/gb/products/2800190>

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L-N replacement plug for VAL-MS-T1/T2 335/12.5 plug-in lighting/surge arrester.



## Your advantages

- Quality proven millions of times over in the widest range of applications
- Rapid installation with bridges, thanks to industry-standard overall width of 1 HP
- Easy testing and insulation measurement, thanks to pluggable protection modules
- Can be used in lightning protection level III and IV due to discharge capacity of 12.5 kA per position
- Vibration-resistant latching ensures the plug remains firmly in place

## Commercial data

Item number	2800190
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	CL1151
Product key	CL1151
GTIN	4046356518611
Weight per piece (including packing)	112.7 g
Weight per piece (excluding packing)	107.34 g
Customs tariff number	85363030
Country of origin	DE

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## Technical data

### Product properties

Product family	VALVETRAB MS
IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
IEC power supply system	TN-C
	TN-S
	TT
Type	DIN rail module, two-section, divisible
Number of positions	1
Surge protection fault message	optical

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

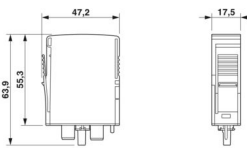
### Electrical properties

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	17.7 mm
Height	47 mm
Depth	67.3 mm
Horizontal pitch	1 Div.

### Material specifications

Color	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
	L-PEN
Direction of action	L-N / L-PEN
Nominal voltage $U_N$	240/415 V AC (TN-C, TN-S)
	240/415 V AC (TT)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$	335 V AC
Protective conductor current $I_{PE}$	$\leq 800 \mu\text{A}$
Standby power consumption $P_C$	$\leq 270 \text{ mVA}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	12.5 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	50 kA
Impulse discharge current (10/350) $\mu\text{s}$ , charge	6.25 As
Impulse discharge current (10/350) $\mu\text{s}$ , specific energy	39 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	12.5 kA
Short-circuit current rating $I_{SCCR}$	25 kA
Voltage protection level $U_p$	$\leq 1.2 \text{ kV}$
	$\leq 1.6 \text{ kV}$ (30 kA - 8/20 $\mu\text{s}$ )
Residual voltage $U_{res}$	$\leq 1.2 \text{ kV}$ (at $I_n$ )
	$\leq 1.1 \text{ kV}$ (at 10 kA)
	$\leq 1 \text{ kV}$ (at 5 kA)
	$\leq 0.9 \text{ kV}$ (at 3 kA)
TOV behavior at $U_T$	415 V AC (5 s / withstand mode)
	457 V AC (120 min / safe failure mode)
Response time $t_A$	$\leq 25 \text{ ns}$
Max. backup fuse with branch wiring	160 A (gG)

## Additional technical data

Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	65 kA
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## 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	$\leq 2000 \text{ m}$ (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

Maximum continuous operating voltage MCOV (L-N)	335 V AC
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Nominal discharge current $I_n$ (L-N)	20 kA
Mode of protection	L-N
Nominal voltage	240 V AC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	2630 V
SPD Type	4CA

## Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011

### EN 61643-11

Standards/specifications	EN 61643-11
Note	2012

## Mounting

Mounting type	on base element
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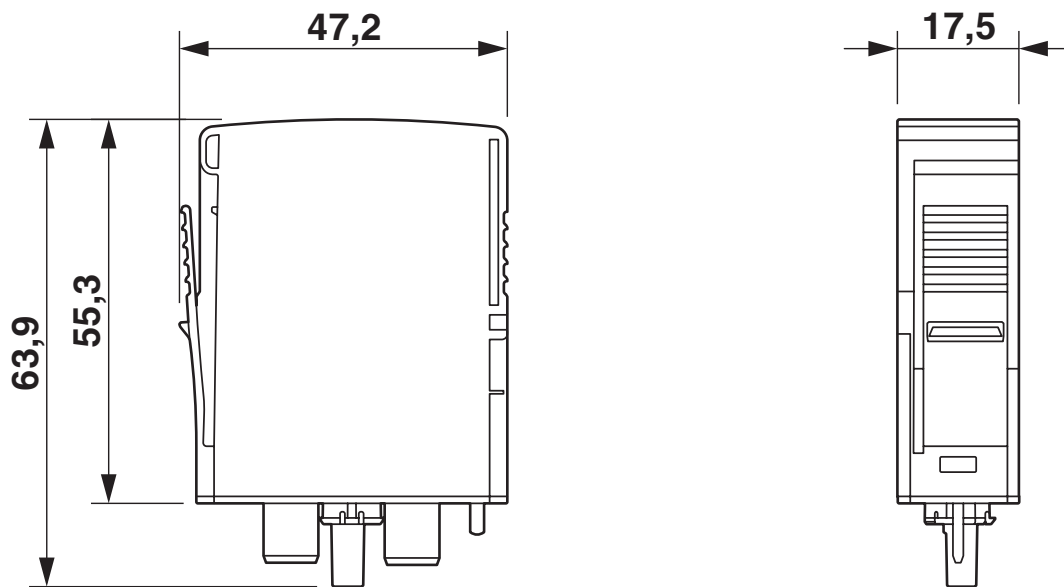
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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2800190>



**cUL Recognized**

Approval ID: FILE E 330181



**UL Recognized**

Approval ID: FILE E 330181



**IECEE CB Scheme**

Approval ID: AT 2584

**CCA**

Approval ID: NTR-AT 1906



**KEMA-KEUR**

Approval ID: 2162496-01



**DNV GL**

Approval ID: TAE00001N9



**ÖVE**

Approval ID: 18583-009-09

**UAE-RoHS**

Approval ID: 23-10-88705

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## Classifications

### ECLASS

ECLASS-13.0	27171292
ECLASS-15.0	27171292

### ETIM

ETIM 10.0	EC002496
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### 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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### EF3.1 Climate Change

CO2e kg	1.309 kg CO2e
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