

# F-MS-T1/T2 50 ST - Type 1/2 surge protection plug



2800191

<https://www.phoenixcontact.com/us/products/2800191>

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N-PE 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

## Commercial data

Item number	2800191
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1151
GTIN	4046356518628
Weight per piece (including packing)	77.9 g
Weight per piece (excluding packing)	77.9 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
	T1
EN type	T1 / T2
	T1
IEC power supply system	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

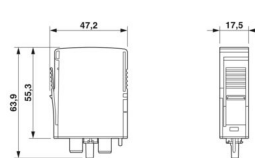
### Electrical properties

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

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	PBT
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## Protective circuit

Mode of protection	N-PE
Direction of action	N-PE
Nominal voltage $U_N$	240/415 V AC (TN-S) 240/415 V AC (TT)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$	264 V AC
Protective conductor current $I_{PE}$	$\leq 5 \mu\text{A}$
Standby power consumption $P_C$	$\leq 1.3 \text{ mVA}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	50 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	50 kA
Impulse discharge current (10/350) $\mu\text{s}$ , charge	25 As
Impulse discharge current (10/350) $\mu\text{s}$ , specific energy	625 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	50 kA
Follow current interrupt rating $I_{fi}$	100 A (264 V AC)
Voltage protection level $U_p$	$\leq 1.7 \text{ kV}$
Residual voltage $U_{res}$	$\leq 0.6 \text{ kV}$ (at $I_n$ ) $\leq 0.5 \text{ kV}$ (at 10 kA) $\leq 0.5 \text{ kV}$ (at 5 kA) $\leq 0.4 \text{ kV}$ (at 3 kA)
Front-of-wave sparkover voltage at 6 kV (1.2/50) $\mu\text{s}$	$\leq 1.7 \text{ kV}$
TOV behavior at $U_T$	1200 V AC (200 ms / withstand mode)
Response time $t_A$	$\leq 100 \text{ ns}$

## 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 (N-G)	264 V AC
Nominal discharge current $I_n$ (N-G)	20 kA
Mode of protection	N-G
Power distribution system	Single phase
Nominal frequency	50/60 Hz

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Measured limiting voltage MLV (N-G)	2600 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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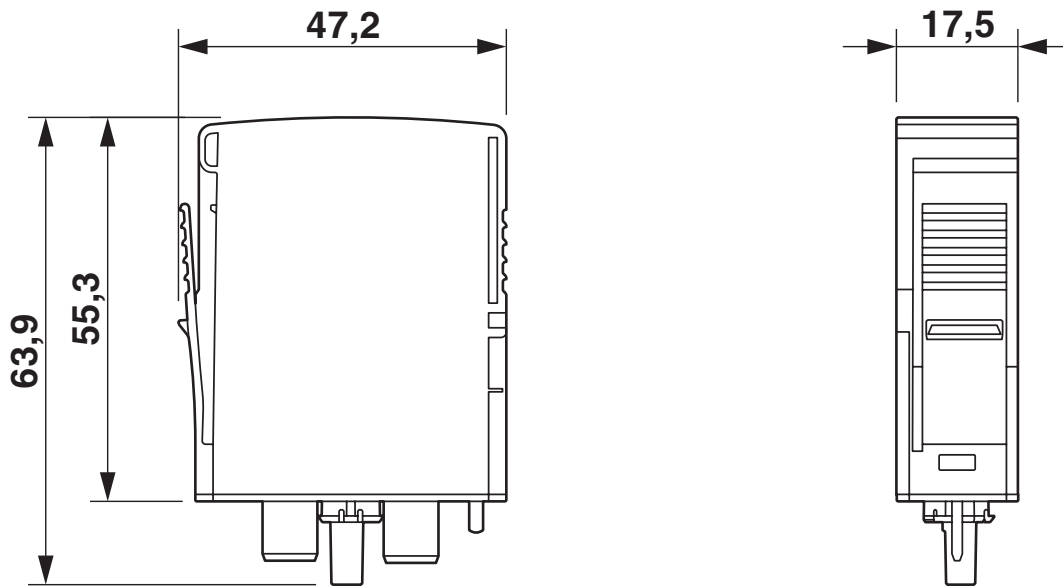


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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2800191>



**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

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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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