

## Type 2 surge protection plug - VAL-US 690 ST - 2800744

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Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 690 V AC

RoHS

### Key Commercial Data

Packing unit	10 pc
GTIN	
GTIN	4046356641944

### Technical data

#### Dimensions

Height	52.4 mm
Width	17.5 mm
Depth	55.3 mm
Horizontal pitch	1 Div.

#### Ambient conditions

Degree of protection	IP20
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)

#### General

IEC test classification	II
	T2
EN type	T2
Mode of protection	L-PE

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## Technical data

### General

	L-PEN
Mounting type	on base element
Color	jet black RAL 9005
Housing material	PA 6.6
Degree of pollution	2
Distance between live and grounded parts	8 mm
Flammability rating according to UL 94	V-0
Type	Male
Number of positions	1
Surge protection fault message	optical

### Additional descriptions

Note	Usable in all low-voltage systems between L-N or L-PEN. Only usable in IT Systems between L-PE, if the exposed-conductive-parts (bodies) of the equipment of the low-voltage installation is connected to the earthing arrangement of the transformer substation. (interconnected earthing arrangement of the HV-transformer substation with the bodies of the LV-installation. $R_E = R_A$ accordance to IEC 60364-4-442 / VDE 0100-442 Fig. 44D / Example a)
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### Protective circuit

Nominal voltage $U_N$	554/960 V AC (TN)
	690 V AC (IT)
Nominal frequency $f_N$	60 Hz (50 Hz)
Maximum continuous voltage $U_C$	760 V AC
Residual current $I_{PE}$	$\leq 0.5$ mA
Standby power consumption $P_C$	$\leq 400$ mVA
Nominal discharge current $I_n$ (8/20) $\mu$ s	15 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s	30 kA
Short-circuit current rating $I_{SCCR}$	25 kA
Voltage protection level $U_p$	$\leq 2.9$ kV
Residual voltage $U_{res}$	$\leq 2.9$ kV (at $I_n$ )
	$\leq 2.7$ kV (at 10 kA)
	$\leq 2.5$ kV (at 5 kA)
	$\leq 2.3$ kV (at 3 kA)
TOV behavior at $U_T$	1000 V AC (5 s / withstand mode)
	1056 V AC (120 min / safe failure mode)
Response time $t_A$	$\leq 25$ ns
Max. backup fuse with branch wiring	100 A (gG)

### Connection data

Connection method	VALVETRAB plug-in system
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### UL specifications

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### Technical data

#### UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-N)	750 V AC
Nom. voltage	690 V AC
Mode of protection	L-N
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	2700 V
Nominal discharge current $I_n$ (L-N)	10 kA

#### Standards and Regulations

Standards/regulations	IEC 61643-11 2011
	EN 61643-11 2012

### Drawings

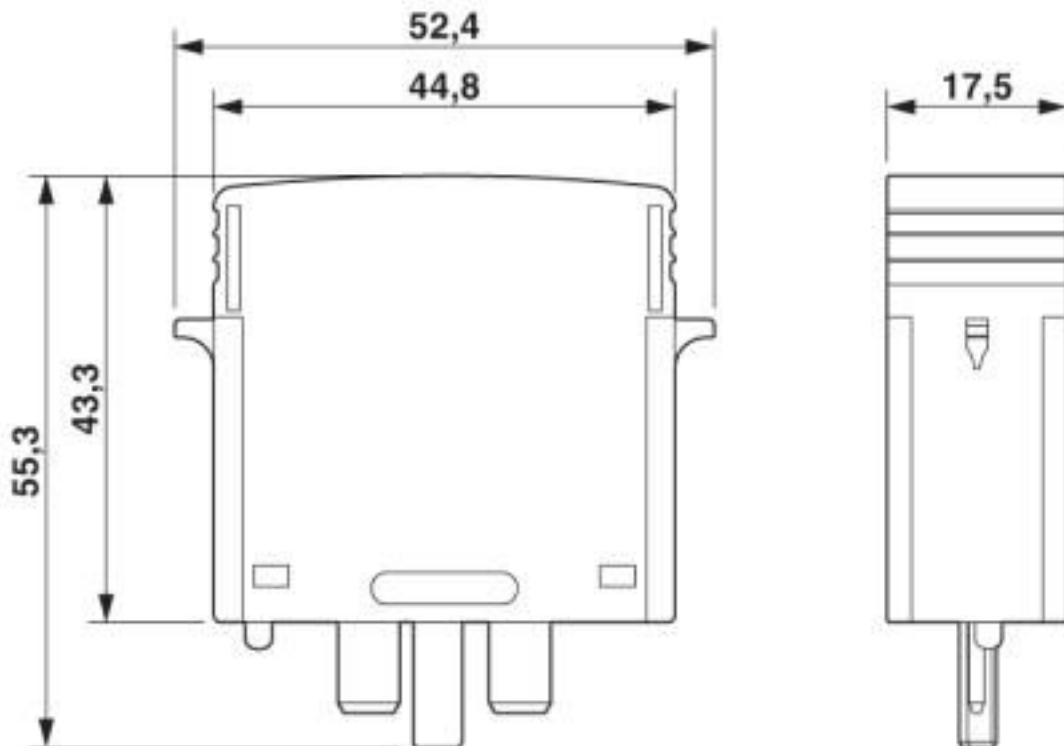
## Type 2 surge protection plug - VAL-US 690 ST - 2800744

Circuit diagram



## Type 2 surge protection plug - VAL-US 690 ST - 2800744

Dimensional drawing



### Classifications

#### eCl@ss

eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
eCl@ss 7.0	27130805
eCl@ss 8.0	27130890
eCl@ss 9.0	27130890

#### ETIM

ETIM 3.0	EC000472
ETIM 4.0	EC000472
ETIM 5.0	EC002496
ETIM 6.0	EC000941
ETIM 7.0	EC000941

#### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610

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## Classifications

### UNSPSC

UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

## Accessories

### Accessories

#### Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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#### Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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#### Marker pen

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### Accessories

Marker pen - B-STIFT - 1051993



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

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### Additional products

Type 2 surge protection base element - VAL-MS 1+1-BE/FM/HD/S1A - 2800257



Base element for type 2 arresters of the VALVETRAB MS product range, with remote indication contact. Version for 1-phase power supply with separate installation of N and PE conductors.

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