

## HLSA12,5-275/1+1 M

- Lightning impulse current and surge arresters type T1+T2+T3.
- The products consist of varistors with big discharge ability.
- HLSA12,5 in configurations 1+1, 3+1 and HLSA12,5G are additionally combined with a gas discharge tube which ensures zero leakage current through the PE conductor.
- Suitable for objects with considerable levels of protection LPL III and LPL IV.
- Installed at the boundaries of LPZ 0 – LPZ 1 and higher zones, closest to where overhead line enters the building i.e. in the main distribution boards.
- In case of the installation of a type T1+T2+T3 in the main switchboard, it is also necessary to install type T2 and T3 in any additional distribution boards in the electrical installation.
- If the product contains two PE (or PEN) terminals, it must not be used as a PE (PEN) bridge.
- **M** indication specifies a type of construction with removable module.
- **S** indication specifies a version with remote monitoring.

Type		HLSA12,5-275/1+1 M
Test class according to EN 61643-11:2012 (IEC 61643-11:2011)		T1, T2, T3
System		TN-S, TT
Number of poles		2
Rated operating AC voltage	$U_N$	230 V
Maximum continuous operating voltage AC	$U_C$	275 V
Maximum discharge current (8/20)	$I_{max}$	50 kA
Impulse discharge current for class I test (10/350) L/N	$I_{imp}$	12.5 kA
Charge (L/N)	$Q$	6.25 As
Specific energy for class I test (L/N)	W/R	39 kJ/Ω
Impulse discharge current for class I test (10/350) N/PE	$I_{imp}$	25 kA
Charge (N/PE)	$Q$	12.5 As
Specific energy for class I test (N/PE)	W/R	156 kJ/Ω
Total discharge current (10/350) L+N->PE	$I_{Total}$	25 kA
Total discharge current (8/20) L+N->PE	$I_{Total}$	50 kA
Nominal discharge current for class II test (8/20) L/N	$I_n$	25 kA
Nominal discharge current for class II test (8/20) N/PE	$I_n$	30 kA
Open circuit voltage of the combination wave generator	$U_{OC}$	6 kV
Voltage protection level at $I_n$ (L/N)	$U_p$	< 1.25 kV
Voltage protection level at $I_n$ (L/PE)	$U_p$	< 1.5 kV
Voltage protection level at $I_n$ (N/PE)	$U_p$	< 1.4 kV
Temporary overvoltage test (TOV) for $t_T = 5$ s (L/N)	$U_T$	337 V
Temporary overvoltage test (TOV) for $t_T = 120$ min (L/N)	$U_T$	440 V
Temporary overvoltage test (TOV) for $t_T = 0.2$ s (N/PE)	$U_T$	1 200 V
Response time (L/N)	$t_A$	< 25 ns
Response time (N/PE)	$t_A$	< 100 ns
Maximal back-up fuse		160 A gL/gG
Residual current	I	≤ 5 μA

Type	PE	HLSA12,5-275/1+1 M
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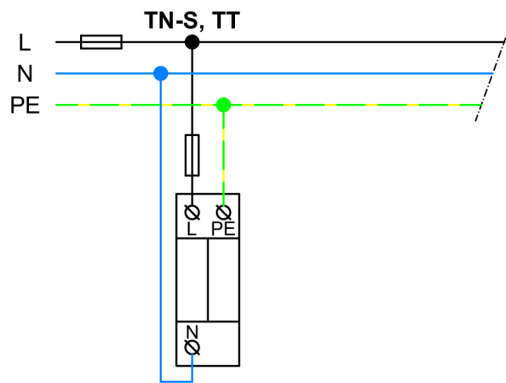
Type		HLSA12,5-275/1+1 M
Short-circuit current rating at maximum back-up fuse	$I_{SCCR}$	60 kA <sub>rms</sub>
Follow current interrupt rating (N/PE)	$I_{fi}$	0.1 kA <sub>rms</sub>
Lightning protection zone		LPZ 0-1, LPZ 1-2, LPZ 2-3
Housing material		Polyamid PA6, UL94 V-0
Degree of protection		IP20
Operating temperature	$\vartheta$	-40 ÷ 70 °C
Humidity range	RH	5 ÷ 95 %
Minimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022 (doesn't apply to „V“ connection) for T1	S	6 mm <sup>2</sup> (L, N) 16 mm <sup>2</sup> (PE, PEN)
Minimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022 (doesn't apply to „V“ connection) for T2	S	2.5 mm <sup>2</sup> (L, N) 6 mm <sup>2</sup> (PE, PEN)
Clamp fastening range (solid conductor)		1.5 ÷ 25 mm <sup>2</sup>
Clamp fastening range (stranded conductor)		1.5 ÷ 16 mm <sup>2</sup>
Tightening moment		3 Nm
Installation		On DIN rail 35 mm
Modular width		2 TE
Operating position		Any
Product placement environment		Internal
Signalling at the device		Optic
Importance of local signaling		OK – clear target FAULT – red target
Remote signalling		No
Modular design		Yes
Article number of spare module		16 086
Lifetime		> 100 000 h
<b>Designed according to standards</b>		
Requirements and test methods for SPDs connected to low-voltage power systems		IEC 61643-11:2011
Safety of Flammability of Plastic Materials		UL 94
<b>Application standards</b>		
Protection against lightning		IEC 62305:2010
Selection and erection of electrical equipment – Switchgear and controlgear		HD 60364-5-53:2022
Selection and application principles for SPDs connected to low-voltage power systems		CLC/TS 61643-12:2009
<b>Ordering, packaging and additional data</b>		
Mass	m	290 g
Mass (including the packaging)	m	304 g
Packaging dimensions (H x W x D)		45 x 102 x 74 mm
Packaging value	V	0.34 dm <sup>3</sup>
ETIM group		EG000021
ETIM class		EC001457
Customs tariff no.		85363010
EAN code		8590681114360
<b>Art. number</b>		<b>16 081</b>



The link in the QR code leads to the online presentation of the HLSA12,5-275/1+1 M. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit [www.hakil.com](http://www.hakil.com)



**Application wiring diagram (installation)**



**Internal diagram**

