



## HLSA7-720/1+1 S

- Lightning impulse current and surge arresters type T1+T2 ensure the equipotential bonding, eliminate the effects of lightning current and reduce switching, induced and residual overvoltage in single-phase and three-phase power supply systems.
- Suitable for objects and halls without the incidence of persons and indoor equipment.
- 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.
- The products consist of varistors with big discharge ability.
- Configurations 1+1 and 3+1 are additionally combined with a gas discharge tube which ensures zero leakage current through the PE conductor.
- If the product contains two PE (or PEN) terminals, it must not be used as a PE (PEN) bridge.
- **S** indication specifies a version with remote monitoring.

Type	HLSA7-720/1+1 S	
Test class according to EN 61643-11:2012 (IEC 61643-11:2011)	T1, T2	
System	TN-S, TT	
Number of poles	2	
Rated operating AC voltage	$U_N$	600 V
Maximum continuous operating voltage AC	$U_C$	720 V
Maximum discharge current (8/20)	$I_{max}$	50 kA
Impulse discharge current for class I test (10/350) L/N	$I_{imp}$	7 kA
Charge (L/N)	$Q$	3.5 As
Specific energy for class I test (L/N)	W/R	12.25 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	$I_{Total}$	14 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)	$U_p$	< 2.6 kV
Voltage protection level at $I_n$ (N/PE)	$U_p$	< 1.3 kV
Temporary overvoltage test (TOV) for $t_T = 5$ s (L/N)	$U_T$	875 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	
Short-circuit current rating at maximum back-up fuse	$I_{SCCR}$	60 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	

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Operating temperature	θ	-40 ÷ 70 °C
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		4 TE
Operating position		Any
Signalling at the device		Optic
Importance of local signalling		OK – clear target FAULT – red target
Remote signalling		Yes
Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm <sup>2</sup> )		AC: 250 V / 1.5 A, DC: 250 V / 0.1 A
Modular design		No
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	420 g
Mass (including the packaging)	m	448 g
Packaging dimensions (H x W x D)		74 x 112 x 73 mm
Packaging value	V	0.61 dm <sup>3</sup>
ETIM group		EG000021
ETIM class		EC001457
Customs tariff no.		85363010
EAN code		8590681169537
<b>Art. number</b>		<b>10 607</b>



The link in the QR code leads to the online presentation of the **HLSA7-720/1+1 S**. 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.hakel.com](http://www.hakel.com)



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Application wiring diagram (installation)



Internal diagram

