

## HLSA12,5-440/3+1 IT

- 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 IT power supply systems.
- The products consist of varistors with big discharge ability in the combination with gas discharge tube they ensure zero leakage current in the PE conductor.
- Installed at the boundaries of zones LPZ 0 – LPZ 1 and higher, closest to where the overhead line enters the building i.e. in the main distribution boards.
- Suitable for objects with considerable levels of protection LPL III and LPL IV.
- **S** indication specifies a version with remote monitoring.

Type		HLSA12,5-440/3+1 IT
Test class according to EN 61643-11:2012 (IEC 61643-11:2011)		T1, T2
System		IT
Number of poles		4
Nominal line voltage	$U_N$	400 V
Maximum continuous operating voltage AC	$U_C$	440 V
Maximum discharge current (8/20) L/PE	$I_{max}$	50 kA
Impulse discharge current for class I test (10/350) L/CP	$I_{imp}$	12.5 kA
Charge (L/CP)	$Q$	6.25 As
Specific energy for class I test (L/CP)	$W/R$	39 kJ/Ω
Impulse discharge current for class I test (10/350) CP/PE	$I_{imp}$	50 kA
Charge (CP/PE)	$Q$	25 As
Specific energy for class I test (CP/PE)	$W/R$	625 kJ/Ω
Total discharge current (10/350) L1+L2+L3+CP->PE	$I_{Total}$	50 kA
Total discharge current (8/20) L1+L2+L3+CP->PE	$I_{Total}$	100 kA
Nominal discharge current for class II test (8/20) L/PE	$I_n$	25 kA
Nominal discharge current for class II test (8/20) CP/PE	$I_n$	50 kA
Voltage protection level at $I_n$	$U_p$	< 1.8 kV
Temporary overvoltage test (TOV) for $t_T = 5$ s (L/CP)	$U_T$	580 V
Temporary overvoltage test (TOV) for $t_T = 0.2$ s (L/PE)	$U_T$	1 640 V
Response time (L/CP)	$t_A$	< 25 ns
Response time (CP/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
Operating temperature	$\theta$	-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)

Type		HLSA12,5-440/3+1 IT
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		7 TE
Operating position		Any
Signalling at the device		Optic
Importance of local signalling		OK – clear target FAULT – red target
Remote signalling		No
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	948 g
Mass (including the packaging)	m	992 g
Packaging dimensions (H x W x D)		71 x 177 x 106 mm
Packaging value	V	1.33 dm <sup>3</sup>
ETIM group		EG000021
ETIM class		EC001457
Customs tariff no.		85363010
EAN code		8590681169193
<b>Art. number</b>		<b>27 824</b>

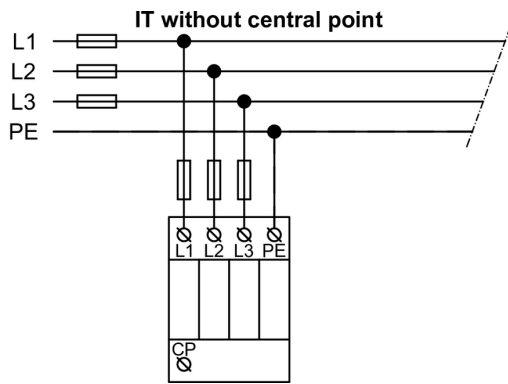
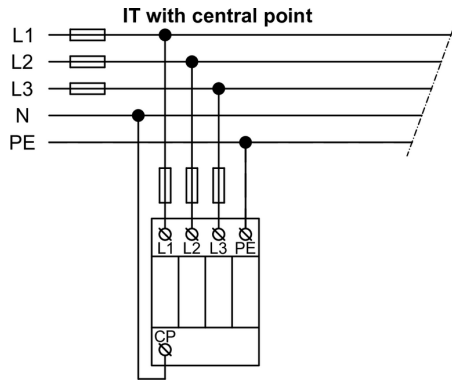


The link in the QR code leads to the online presentation of the **HLSA12,5-440/3+1 IT**. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit [www.hakel.com](http://www.hakel.com)



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## Application wiring diagram (installation)



## Internal diagram

