

## HLSA12,5-385/3+0

- 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 with considerable levels of protection LPL III and LPL IV, such as small administration complexes, residential buildings, family houses or properties 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.

Test class according to EN 61643-11:2012 (IEC 61643-11:2011)  System  Number of poles  Rated operating AC voltage  Maximum continuous operating voltage AC  Maximum discharge current (8/20)	U <sub>N</sub>	T1, T2 TN-C 3 230 V
Number of poles Rated operating AC voltage Maximum continuous operating voltage AC		3
Rated operating AC voltage  Maximum continuous operating voltage AC		
Maximum continuous operating voltage AC		230 V
1 3 3	Uc	200 V
Maximum discharge current (8/20)	<b>O</b> C	385 V
Maximum discharge current (0/20)	I <sub>max</sub>	50 kA
Impulse discharge current for class I test (10/350)	l <sub>imp</sub>	12.5 kA
Charge	Q	6.25 As
Specific energy for class I test	W/R	39 kJ/Ω
Total discharge current (10/350) L1+L2+L3->PEN	I <sub>Total</sub>	37.5 kA
Total discharge current (8/20) L1+L2+L3->PEN	I <sub>Total</sub>	150 kA
Nominal discharge current for class II test (8/20)	l <sub>n</sub>	20 kA
Open circuit voltage of the combination wave generator	U <sub>oc</sub>	6 kV
Voltage protection level at I <sub>n</sub>	$U_p$	< 1.5 kV
Temporary overvoltage test (TOV) for $t_T = 5 \text{ s}$	U <sub>T</sub>	466 V
Response time	t <sub>A</sub>	< 25 ns
Maximal back-up fuse		160 A gL/gG
Short-circuit current rating at maximum back-up fuse	I <sub>SCCR</sub>	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	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 S	6 mm² (L, N) 16 mm² (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 mm² (L, N) 6 mm² (PE, PEN)
Clamp fastening range (solid conductor)		1.5 ÷ 25 mm <sup>2</sup>



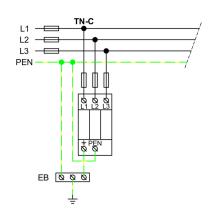
Tightening moment         3 Nm           Installation         On DIN rail 35 mm           Modular width         6 TE           Operating position         Any           Signalling at the device         Optic           Importance of local signaling         OK - clear target FAULT - red target           Remote signalling         No           Modular design         No           Modular design         No           Lifetime         > 100 000 h           Designed according to standards           Requirements and test methods for SPDs connected to low-voltage power systems         IEC 61643-11:2011           Safety of Flammability of Plastic Materials         UL 94           Application standards         IEC 62305:2010           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           Ordering, packaging and additional data         m           Mass         m         711 g           Mass (including the packaging)         m         755 g           Packaging dimensions (H x W x D)         71 x 177 x 106 mm           Pack	Туре		HLSA12,5-385/3+0
Installation On DIN rail 35 mm Modular width 6 TE Operating position Any Signalling at the device Optic Importance of local signaling Modular width ON C-clear target FAULT - red target PAULT - red target	Clamp fastening range (stranded conductor)		$1.5 \div 16 \text{ mm}^2$
Modular width 6 TE Operating position Any Signalling at the device Optic Importance of local signaling CMC - clear target Remote signalling No Modular design No Modular design No Lifetime No Designed according to standards Requirements and test methods for SPDs connected to low-voltage power systems IEC 61643-11:2011 Safety of Flammability of Plastic Materials UL 94  Application standards 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  Ordering, packaging and additional data  Mass m 711 g Mass (including the packaging) m 755 g Packaging dimensions (H x W x D) 71 x 177 x 106 mm Packaging value V 1.33 dm³ ETIM group EG000021 ETIM class EG000021 ETIM class EG000021 EAN code 8590681113707	Tightening moment		3 Nm
Operating position Signalling at the device Optic Importance of local signaling OK - clear target FAULT - red target No Modular design No No Lifetime > 100 000 h  Designed according to standards Requirements and test methods for SPDs connected to low-voltage power systems Requirements and test methods for SPDs connected to low-voltage power systems UL 94  Application standards Protection against lightning Relection and erection of electrical equipment - Switchgear and controlgear FDG 62305:2010 Selection and application principles for SPDs connected to low-voltage power systems CLC/TS 61643-12:2009  Ordering, packaging and additional data Mass m 711 g Mass (including the packaging) m 755 g Packaging dimensions (H x W x D) Packaging value V 1.33 dm³ ETIM group ETIM group ETIM class EC001457 Customs tariff no. 859681113707	Installation		On DIN rail 35 mm
Signalling at the device Optic Importance of local signaling OK - clear target FAULT - red target Remote signalling No Modular design No Modular design No Designed according to standards Requirements and test methods for SPDs connected to low-voltage power systems IEC 61643-11:2011 Safety of Flammability of Plastic Materials UL 94  Application standards 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  Ordering, packaging and additional data Mass (including the packaging) m 711 g Mass (including the packaging) m 755 g Packaging dimensions (H x W x D) 71 x 177 x 106 mm Packaging value V 1.33 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681113707	Modular width		6 TE
Importance of local signaling  OK - clear target FAULT - red target FAULT - red target FAULT - red target Remote signalling  Modular design  No  Modular design  No  Designed according to standards  Requirements and test methods for SPDs connected to low-voltage power systems  Requirements and test methods for SPDs connected to low-voltage power systems  Requirements and test methods for SPDs connected to low-voltage power systems  Requirements and test methods for SPDs connected to low-voltage power systems  IEC 61643-11:2011  UL 94  Application standards  Protection against lightning  Relection and erection of electrical equipment - Switchgear and controlgear  Selection and application principles for SPDs connected to low-voltage power systems  Ordering, packaging and additional data  Mass  Mass  Mass (including the packaging)  Mass (including the packaging)  Packaging dimensions (H x W x D)  Packaging value  V  1.33 dm³  ETIM group  EG000021  ETIM class  Customs tariff no.  85363010  EAN code  8590681113707	Operating position		Any
Remote signalling  No  Modular design  Lifetime  No  Designed according to standards  Requirements and test methods for SPDs connected to low-voltage power systems  Requirements and test methods for SPDs connected to low-voltage power systems  Safety of Flammability of Plastic Materials  UL 94  Application standards  Protection against lightning  Selection and erection of electrical equipment – Switchgear and controlgear  Selection and application principles for SPDs connected to low-voltage power systems  CLC/TS 61643-12:2009  Ordering, packaging and additional data  Mass  m  711 g  Mass (including the packaging)  m  755 g  Packaging dimensions (H x W x D)  Packaging value  V  1.33 dm³  ETIM group  EG000021  ETIM class  Customs tariff no.  85363010  EAN code	Signalling at the device		Optic
Modular design No Lifetime > 100 000 h  Designed according to standards Requirements and test methods for SPDs connected to low-voltage power systems IEC 61643-11:2011 Safety of Flammability of Plastic Materials UL 94  Application standards 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  Ordering, packaging and additional data Mass m 711 g Mass (including the packaging) m 755 g Packaging dimensions (H x W x D) 71 x 177 x 106 mm Packaging value V 1.33 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681113707	Importance of local signaling		
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Designed according to standards Requirements and test methods for SPDs connected to low-voltage power systems  Safety of Flammability of Plastic Materials  Application standards Protection against lightning  Selection and erection of electrical equipment – Switchgear and controlgear  Selection and application principles for SPDs connected to low-voltage power systems  CLC/TS 61643-12:2009  Ordering, packaging and additional data  Mass  m 711 g  Mass (including the packaging) m 755 g  Packaging dimensions (H x W x D)  Packaging value  V 1.33 dm³  ETIM group  EG000021  ETIM class  EC001457  Customs tariff no.  8590681113707	Modular design		No
Requirements and test methods for SPDs connected to low-voltage power systems  Safety of Flammability of Plastic Materials  Application standards  Protection against lightning  Selection and erection of electrical equipment – Switchgear and controlgear  Selection and application principles for SPDs connected to low-voltage power systems  Ordering, packaging and additional data  Mass  m  711 g  Mass (including the packaging)  Packaging dimensions (H x W x D)  Packaging value  T1 g  T1 x 177 x 106 mm  Packaging value  V  1.33 dm³  ETIM group  EG000021  ETIM class  EC001457  Customs tariff no.  EAN code	Lifetime		> 100 000 h
Safety of Flammability of Plastic Materials  Application standards  Protection against lightning Selection and erection of electrical equipment – Switchgear and controlgear Selection and application principles for SPDs connected to low-voltage power systems  Ordering, packaging and additional data  Mass  m 711 g  Mass (including the packaging) mm 755 g  Packaging dimensions (H x W x D) Packaging value  ETIM group  ETIM group  ETIM class  Customs tariff no.  EAN code  UL 94  UL 94  UL 94  UL 94  UL 94  DUL	Designed according to standards		
Application standards Protection against lightning Selection and erection of electrical equipment – Switchgear and controlgear Selection and application principles for SPDs connected to low-voltage power systems  Ordering, packaging and additional data  Mass  m 711 g  Mass (including the packaging) Packaging dimensions (H x W x D) Packaging value  ETIM group  ETIM group  ETIM class Customs tariff no.  EAN code  IEC 62305:2010  HD 60364-5-53:2022  CLC/TS 61643-12:2009  DT 1 x 177 x 61643-12:2009  T 1 x 177 x 106 mm  T 1 x 177 x 106 mm  Y 1.33 dm³  EC001457  B5363010  8590681113707	Requirements and test methods for SPDs connected to low-voltage power systems		IEC 61643-11:2011
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Selection and application principles for SPDs connected to low-voltage power systems  Ordering, packaging and additional data  Mass  Mass   m   711 g    Mass (including the packaging)   m   755 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   8590681113707	Protection against lightning		IEC 62305:2010
Ordering, packaging and additional data           Mass         m         711 g           Mass (including the packaging)         m         755 g           Packaging dimensions (H x W x D)         71 x 177 x 106 mm           Packaging value         V         1.33 dm³           ETIM group         EG000021           ETIM class         EC001457           Customs tariff no.         85363010           EAN code         8590681113707	Selection and erection of electrical equipment – Switchgear and controlgear		HD 60364-5-53:2022
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Customs tariff no.       85363010         EAN code       8590681113707	ETIM group		EG000021
EAN code 8590681113707	ETIM class		EC001457
	Customs tariff no.		85363010
Art. number 10 324	EAN code		8590681113707
	Art. number		10 324



**The link in the QR code** leads to the online presentation of the **HLSA12,5-385/3+0**. 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** 



## Application wiring diagram (installation)



## Internal diagram

