

HLSA12,5G-255/3+0 S

- 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.

Туре		HLSA12,5G-255/3+0 S
Test class according to EN 61643-11:2012 (IEC 61643-11:2011)		T1, T2, T3
System		TN-C
Number of poles		3
Rated operating AC voltage	U_N	230 V
Maximum continuous operating voltage AC	U _c	255 V
Maximum discharge current (8/20)	I _{max}	50 kA
Impulse discharge current for class I test (10/350)	l _{imp}	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 _{Total}	37.5 kA
Total discharge current (8/20) L1+L2+L3->PEN	I _{Total}	150 kA
Nominal discharge current for class II test (8/20)	I _n	25 kA
Open circuit voltage of the combination wave generator	U _{oc}	6 kV
Voltage protection level at I _n	U_p	< 1.1 kV
Temporary overvoltage test (TOV) for t _T = 5 s	U _T	337 V
Temporary overvoltage test (TOV) for t _T = 120 min	U_{T}	440 V
Response time	t _A	< 100 ns
Maximal back-up fuse		160 A gL/gG
Residual current	I _{PE}	≤ 5 µA
Short-circuit current rating at maximum back-up fuse	I _{SCCR}	60 kA _{rms}
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
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 mm² (L, N) 16 mm² (PE, PEN)

Lightning and surge arresters T1+T2+T3



Minimum cross-section of connected Cu conductors accord. to HD 60364-5-53-2022 S 6 mm² (P.E., PEN) Clamp fastening range (solid conductor) 1.5 + 25 mm² Clamp fastening range (stranded conductor) 1.5 + 16 mm² Tightening moment 3 Nm Installation On DIN rail 35 mm Modular width 3 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 Yes Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) AC: 250 V / 1.5 A, DC: 250 V / 0.1 A Modular design No Lifetime > 100 000 h Designed according to standards IEC 61643-11:2011 Requirements and test methods for SPDs connected to low-voltage power systems IEC 61643-11:2011 Safety of Flammability of Plastic Materials U. 94 Application standards IEC 62305:2010 Protection against lightning IEC 62305:2010 Selection and erection of electrical equipment – Switchgear and controlgear HD 60364-5-5	Туре		HLSA12,5G-255/3+0 S
Clamp fastening range (stranded conductor) 1.5 ± 16 mm² Tightening moment 3 Nm Installation On DIN rail 35 mm Modular width 3 TE Operating position Any Product placement environment Internal Signalling at the device Optic Importance of local signaling OK - clear target FAULT - red target FAULT - red target Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) No Modular design No Lifetime > 100 000 h Designed according to standards IEC 61643-11:2011 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 Mass (S	
Tightening moment 3 Nm Installation On DIN rail 35 mm Modular width 3 TE Operating position Any Product placement environment Internal Signalling at the device Optic Importance of local signaling Yes Remote signalling Yes Potential free signal contact (\$) (recommended cross-section of remote monitoring max. 1 mm²) AC: 250 V / 1.5 A, DC: 250 V / 0.1 A Modular design No Lifetime > 100 0000 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 (including the packaging) m 450 g Mass (including the packaging)	Clamp fastening range (solid conductor)		1.5 ÷ 25 mm ²
Installation On DIN rail 35 mm Modular width 3 TE Operating position Any Product placement environment Internal Signalling at the device Optic Importance of local signalling OK - clear target Remote signalling Yes Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) AC: 250 V / 1.5 A, DC: 250 V / 0.1 A 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 # 426 g Mass m 426 g Mass (including the packaging) m 450 g Packaging dimensions	Clamp fastening range (stranded conductor)		1.5 ÷ 16 mm ²
Modular width 3 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 Yes Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) AC: 250 V / 1.5 A, DC: 250 V / 0.1 A Modular design No Lifetime > 100 0000 h Designed according to standards IEC 61643-11:2011 Requirements and test methods for SPDs connected to low-voltage power systems IEC 61643-11:2011 Safety of Flammability of Plastic Materials UL 94 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 CLCTS 61643-12:2009 Ordering, packaging and additional data m 426 g Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³	Tightening moment		3 Nm
Operating position Any Product placement environment Internal Signalling at the device Optic Importance of local signalling OK - clear target FAULT - red target FAULT - red target Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) AC: 250 V / 1.5 A, DC: 250 V / 0.1 A 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 426 g Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG0000021<	Installation		On DIN rail 35 mm
Product placement environment Signalling at the device Optic Importance of local signalling CK - clear target FAULT - red targe	Modular width		3 TE
Signalling at the device Optic Importance of local signaling OK - clear target FAULT - red target Remote signalling Yes Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) AC: 250 V / 1.5 A, DC: 250 V / 0.1 A 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 426 g Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 <td>Operating position</td> <td></td> <td>Any</td>	Operating position		Any
Importance of local signaling OK - clear target FAULT - red target Remote signalling Yes Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) AC: 250 V / 1.5 A, DC: 250 V / 0.1 A 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 426 g Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681185889	Product placement environment		Internal
Remote signalling Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) Modular design No Lifetime Lifetime No	Signalling at the device		Optic
Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) Modular design Lifetime No Lifetime Solution 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 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 426 g Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 8590681185889	Importance of local signaling		G G
max. 1 mm²) Modular design Lifetime No Safety of Flammability of Plastic Materials 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 Mass	Remote signalling		Yes
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 426 g Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 859081185889			AC: 250 V / 1.5 A, DC: 250 V / 0.1 A
Designed according to standards 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 426 g Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681185889	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 426 g Mass (including the packaging) Packaging dimensions (H x W x D) Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC01457 Customs tariff no. 8590681185889	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 426 g Mass (including the packaging) Packaging dimensions (H x W x D) Packaging value V 0.5 dm³ ETIM group ETIM group ETIM class EC001457 Customs tariff no. EAN code	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 CLC/TS 61643-12:2009 Ordering, packaging and additional data Mass m 426 g Mass (including the packaging) Packaging dimensions (H x W x D) Packaging value V 0.5 dm³ ETIM group ETIM class EC001457 Customs tariff no. 85363010 EAN code	Requirements and test methods for SPDs connected to low-voltage power systems		IEC 61643-11:2011
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 Mass (including the packaging) Packaging dimensions (H x W x D) Packaging value ETIM group ETIM class Customs tariff no. EAN code IEC 62305:2010 HD 60364-5-53:2022 CLC/TS 61643-12:2009 TO CLC/TS 61643-12:2009 CLC/TS 61643-12:2009 CLC/TS 61643-12:2009 CLC/TS 61643-12:2009 TO CLC/TS 61643	Safety of Flammability of Plastic Materials		UL 94
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 426 g Mass (including the packaging) Packaging dimensions (H x W x D) Packaging value V 0.5 dm³ ETIM group ETIM class EC001457 Customs tariff no. EAN code HD 60364-5-53:2022 CLC/TS 61643-12:2009	Application standards		
Selection and application principles for SPDs connected to low-voltage power systems Ordering, packaging and additional data Mass Mass (including the packaging) Packaging dimensions (H x W x D) Packaging value V 0.5 dm³ ETIM group ETIM class CLC/TS 61643-12:2009 M 426 g M 450 g 60 x 113 x 73 mm V 0.5 dm³ EC000021 ETIM class EC001457 Customs tariff no. 85363010 8590681185889	Protection against lightning		IEC 62305:2010
Ordering, packaging and additional data Mass m 426 g Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681185889	Selection and erection of electrical equipment – Switchgear and controlgear		HD 60364-5-53:2022
Mass m 426 g Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681185889	Selection and application principles for SPDs connected to low-voltage power systems		CLC/TS 61643-12:2009
Mass (including the packaging) m 450 g Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681185889	Ordering, packaging and additional data		
Packaging dimensions (H x W x D) 60 x 113 x 73 mm Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681185889	Mass	m	426 g
Packaging value V 0.5 dm³ ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681185889	Mass (including the packaging)	m	450 g
ETIM group EG000021 ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681185889	Packaging dimensions (H x W x D)		60 x 113 x 73 mm
ETIM class EC001457 Customs tariff no. 85363010 EAN code 8590681185889	Packaging value	V	0.5 dm ³
Customs tariff no. 85363010 EAN code 8590681185889	ETIM group		EG000021
EAN code 8590681185889	ETIM class		EC001457
	Customs tariff no.		85363010
Art. number 10 270	EAN code		8590681185889
	Art. number		10 270

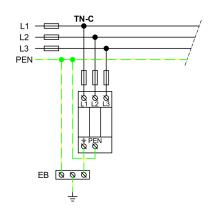


The link in the QR code leads to the online presentation of the **HLSA12,5G-255/3+0 S**. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit **www.hakel.com**





Application wiring diagram (installation)



Internal diagram

