

HSA-385/1+1 M S

- Surge arresters type T2+T3 ensure the equipotential bonding and reduce switching, induced and residual overvoltage in LV power supply systems.
- 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.
- Installed at the boundaries of LPZ 1 LPZ 3 into subsidiary switchboards and control panels.
- 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		HSA-385/1+1 M S
Test class according to EN 61643-11:2012 (IEC 61643-11:2011)		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}	385 V
Maximum discharge current (8/20)	I _{max}	40 kA
Nominal discharge current for class II test (8/20)	I _n	15 kA
Open circuit voltage of the combination wave generator	U_oc	6 kV
Total discharge current (8/20) L+N->PE	I _{Total}	50 kA
Voltage protection level at I _n (L/N)	U_p	< 1.55 kV
Voltage protection level at I _n (N/PE)	U_p	< 1.4 kV
Voltage protection level at U _{OC} (L/N)	U_p	< 1.25 kV
Impulse discharge current for class I test (10/350) N/PE	l _{imp}	20 kA
Temporary overvoltage test (TOV) for $t_T = 5 s (L/N)$	U_T	337 V
Temporary overvoltage test (TOV) for $t_T = 120 \text{ min (L/N)}$	U _T	440 V
Temporary overvoltage test (TOV) for $t_T = 0.2 \text{ s}$ (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 _{PE}	≤ 5 µA
Short-circuit current rating at maximum back-up fuse	I _{SCCR}	60 kA _{rms}
Follow current interrupt rating (N/PE)	I _{fi}	0.1 kA _{rms}
Lightning protection zone		LPZ 1-2, LPZ 2-3
Housing material		Polyamid PA6, UL94 V-0
Degree of protection		IP20
Operating temperature	Э	-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 T2	S	2.5 mm ² (L, N) 6 mm ² (PE, PEN)



Clamp fastening range (stranded conductor) 1.5 ÷ 16 mm² 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 NK - clear target FAULT - red target FAULT - red target Remote signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) AC: 250 V/ 1.5 A, DC: 250 V/ 0.1 A Max. 1 mm²) Yes Article number of spare module 27 193 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 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 224 g Mass </th <th>Туре</th> <th></th> <th>HSA-385/1+1 M S</th>	Туре		HSA-385/1+1 M S
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	Customs tariff no.		85363010
Art. number 27 535	EAN code		8590681116609
	Art. number		27 535

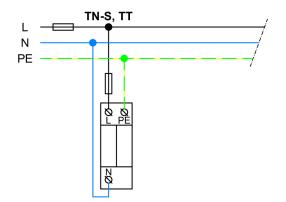


The link in the QR code leads to the online presentation of the **HSA-385/1+1 M S**. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit **www.hakel.com**





Application wiring diagram (installation)



Internal diagram

