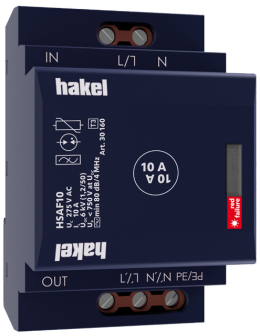

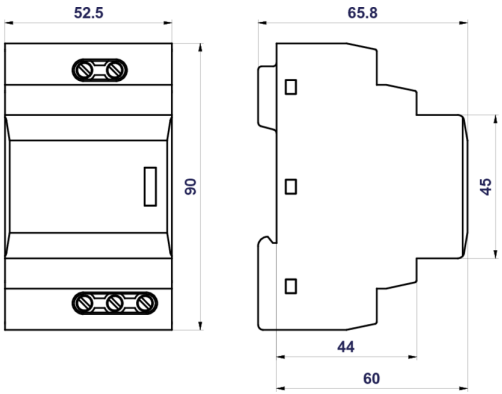

HSAF10

- Two-stage surge arresters type T3 with high-frequency filters for serial connection.
- Intended for protection of electronic appliances against the effects of switching, induced and residual overvoltage generated in LV power supply systems.
- Contain an improved thermal fuse, which ensures timely disconnection of HSAF* S from the power grid during the MOV's overheating and thus prevents damage to the HSAF* S.
- Installed at the boundaries of LPZ 2 – LPZ 3, as close to the device to be protected as possible (no further than 5 m).
- In front of HSAF* S must be installed a lightning current and surge arrester T1 and T2 from HAKEL company.
- **S** indication specifies a version with remote monitoring.

Type		HSAF10
Test class according to EN 61643-11:2012 (IEC 61643-11:2011)		T3
System		TN-C-S, TN-S
Number of poles		2
Rated operating AC voltage	U_N	230 V
Maximum continuous operating voltage AC	U_C	275 V
Rated load current	I_L	10 A
Open circuit voltage of the combination wave generator (L/N, L/PE)	U_{OC}	6 kV
Open circuit voltage of the combination wave generator (N/PE)	U_{OC}	10 kV
Voltage protection level at U_{OC} (L/N)	U_p	< 0.75 kV
Voltage protection level at U_{OC} (L/PE)	U_p	< 1 kV
Voltage protection level at U_{OC} (N/PE)	U_p	< 1.5 kV
Nominal discharge current for class II test (8/20) L/N, L/PE	I_n	3 kA
Nominal discharge current for class II test (8/20) N/PE	I_n	5 kA
Total discharge current (8/20) L+N->PE	I_{Total}	6 kA
Asymmetrical attenuation of filter at f = 4 MHz		> 80 dB
Asymmetrical attenuation of filter at f = 0.15 ÷ 30 MHz		> 35 dB
Temporary overvoltage test (TOV) for t_T = 5 s (L/N)	U_T	337 V
Temporary overvoltage test (TOV) for t_T = 120 min (L/N)	U_T	440 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 (L/PE, N/PE)	t_A	< 100 ns
Power dissipation	Pz	< 2.2 W
Maximal back-up fuse		10 A gL/gG
Residual current	I_{PE}	≤ 1 800 µA
Short-circuit current rating at maximum back-up fuse	I_{SCCR}	6 kA_{rms}
Lightning protection zone		LPZ 2-3
Housing material		Polyamid PA6, UL94 V-0
Degree of protection		IP20

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Type		HSAF10
Operating temperature	ϑ	-40 ÷ 55 °C
Humidity range	RH	5 ÷ 95 %
Recommended cross-section of connected conductors	S	1.5 mm^2
Clamp fastening range (solid conductor)		0.2 ÷ 6 mm^2
Clamp fastening range (stranded conductor)		0.2 ÷ 4 mm^2
Tightening moment		0,5 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 – red light off FAULT – red light on
Remote signalling		No
Includes EMI / EMC filter		Yes
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
Methods of measurement of the suppression characteristics of passive EMC filtering devices		EN 55017:2011 / CISPR 17:2011
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	180 g
Mass (including the packaging)	m	204 g
Packaging dimensions (H x W x D)		60 x 113 x 73 mm
Packaging value	V	0.5 dm^3
ETIM group		EG000021
ETIM class		EC000942
Customs tariff no.		85363010
EAN code		8590681116876
Art. number		**30 160**

The link in the QR code leads to the online presentation of the **HSAF10**.
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**

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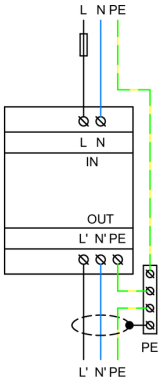
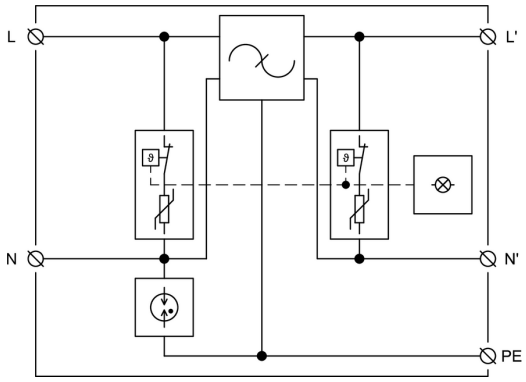
Application wiring diagram (installation)



Internal diagram



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