



HSAF16/220VDC

- Two-port 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 in DC power supply systems.
- Contain an improved thermal fuse, which ensures timely disconnection of HSAF*VDC S from the power grid during the MOV's overheating and thus prevents damage to the HSAF*VDC 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*VDC 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		HSAF16/220VDC
Test class according to EN 61643-11:2012 (IEC 61643-11:2011)		T3
System		DC
Rated operating DC voltage	U_N	220 V
Maximum continuous operating voltage DC	U_C	264 V
Rated load current	I_L	16 A
Open circuit voltage of the combination wave generator (+/-, \pm/PE)	U_{OC}	6 kV
Voltage protection level at U_{OC} (+/-)	U_p	< 1.3 kV
Voltage protection level at U_{OC} (\pm/PE)	U_p	< 0.8 kV
Nominal discharge current for class II test (8/20) +/-, \pm/PE	I_n	3 kA
Total discharge current (8/20) $\pm \rightarrow PE$	I_{Total}	6 kA
Asymmetrical attenuation of filter at $f = 4$ MHz		> 80 dB
Asymmetrical attenuation of filter at $f = 0.15 \div 30$ MHz		> 35 dB
Response time (+/-)	t_A	< 25 ns
Response time (\pm/PE)	t_A	< 100 ns
Power dissipation	P_Z	< 3.5 W
Maximal back-up fuse		16 A gL/gG
Residual current	I_{PE}	$\leq 1\,800 \mu A$
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
Operating temperature	θ	-40 \div 55 °C
Humidity range	RH	5 \div 95 %
Recommended cross-section of connected conductors	S	2.5 mm ²
Clamp fastening range (solid conductor)		0.2 \div 6 mm ²
Clamp fastening range (stranded conductor)		0.2 \div 4 mm ²
Tightening moment		0,5 Nm
Installation		On DIN rail 35 mm

Type		HSAF16/220VDC
Modular width		3 TE
Operating position		Any
Product placement environment		Internal
Signalling at the device		Optic
Importance of local signalling		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		8590681163740
Art. number		30 148



The link in the QR code leads to the online presentation of the HSAF16/220VDC. 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

