

## HSAD-S M S

- Surge arresters type T3 for serial (HSAD-S M S) or parallel (HSAD-P M S) connection.
- Intended for protection of one-phase electronic appliances against the effects of switching, induced and residual overvoltage generated in LV power supply systems.
- 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 HSAD-S M S/HSAD-P M S must be installed a lightning current and surge arrester T1 and T2 from HAKEL company.
- Compact dimensions with a constructional modular width of 1 TE.
- A type of construction with a removable module.
- **S** indication specifies a version with remote monitoring.

Type	HSAD-S M S	
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)	$U_p$	< 1 kV
Voltage protection level at $U_{OC}$ (L/PE, 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
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
Maximal back-up fuse	10 A gL/gG	
Residual current	$I_{PE}$	$\leq 5 \mu A$
Lightning protection zone	LPZ 2-3	
Housing material	Polyamid PA6, UL94 V-0	
Degree of protection	IP20	
Operating temperature	$\theta$	$-40 \div 55$ °C
Humidity range	RH	$5 \div 95$ %
Recommended cross-section of connected conductors	S	$1.5$ mm <sup>2</sup>
Clamp fastening range (solid conductor)	$0.2 \div 4$ mm <sup>2</sup>	
Clamp fastening range (stranded conductor)	$0.2 \div 2.5$ mm <sup>2</sup>	
Tightening moment	0,5 Nm	

Type		HSAD-S M S
Installation		On DIN rail 35 mm
Modular width		1 TE
Operating position		Any
Product placement environment		Internal
Signalling at the device		Optic
Importance of local signaling		OK – green light on FAULT – green light off
Remote signalling		Yes
Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm <sup>2</sup> )		AC: 250 V / 1.5 A, DC: 250 V / 0.1 A
Includes EMI / EMC filter		No
Modular design		Yes
Article number of spare module		30 390
Lifetime		> 100 000 h
<b>Designed according to standards</b>		
Requirements and test methods for SPDs connected to low-voltage power systems		IEC 61643-11:2011
Safety of Flammability of Plastic Materials		UL 94
<b>Application standards</b>		
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
<b>Ordering, packaging and additional data</b>		
Mass	m	75 g
Mass (including the packaging)	m	86 g
Packaging dimensions (H x W x D)		26 x 98 x 73 mm
Packaging value	V	0.19 dm <sup>3</sup>
ETIM group		EG000021
ETIM class		EC000942
Customs tariff no.		85363010
EAN code		8590681173619
<b>Art. number</b>		<b>30 370</b>

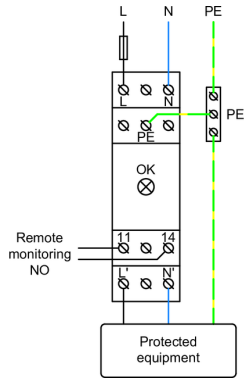


The link in the QR code leads to the online presentation of the **HSAD-S M S**.

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](http://www.hakel.com)



### Application wiring diagram (installation)



### Internal diagram

