

## **HSAF10 S**

- 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.

Туре		HSAF10 S
Test class according to EN 61643-11:2012 (IEC 61643-11:2011)		Т3
System		TN-C-S, TN-S
Number of poles		2
Rated operating AC voltage	$U_N$	230 V
Maximum continuous operating voltage AC	U <sub>c</sub>	275 V
Rated load current	ار	10 A
Open circuit voltage of the combination wave generator (L/N, L/PE)	U <sub>oc</sub>	6 kV
Open circuit voltage of the combination wave generator (N/PE)	U <sub>oc</sub>	10 kV
Voltage protection level at U <sub>OC</sub> (L/N)	$U_p$	< 0.75 kV
Voltage protection level at U <sub>OC</sub> (L/PE)	$U_p$	< 1 kV
Voltage protection level at U <sub>OC</sub> (N/PE)	$U_p$	< 1.5 kV
Nominal discharge current for class II test (8/20) L/N, L/PE	I <sub>n</sub>	3 kA
Nominal discharge current for class II test (8/20) N/PE	I <sub>n</sub>	5 kA
Total discharge current (8/20) L+N->PE	I <sub>Total</sub>	6 kA
Asymmetrical attenuation of filter at f = 4 MHz		> 80 dB
Asymmetrical attenuation of filter at $f = 0.15 \div 30 \text{ MHz}$		> 35 dB
Temporary overvoltage test (TOV) for $t_T = 5 \text{ s (L/N)}$	U <sub>T</sub>	337 V
Temporary overvoltage test (TOV) for $t_T = 120 \text{ min (L/N)}$	U <sub>T</sub>	440 V
Temporary overvoltage test (TOV) for $t_T = 0.2 \text{ s}$ (N/PE)	U <sub>T</sub>	1 200 V
Response time (L/N)	t <sub>A</sub>	< 25 ns
Response time (L/PE, N/PE)	t <sub>A</sub>	< 100 ns
Power dissipation	Pz	< 2.2 W
Maximal back-up fuse		10 A gL/gG
Residual current	I <sub>PE</sub>	≤ 1 800 μA
Short-circuit current rating at maximum back-up fuse	I <sub>SCCR</sub>	6 kA <sub>rms</sub>
Lightning protection zone		LPZ 2-3
Housing material		Polyamid PA6, UL94 V-0
Degree of protection		IP20

## Surge arresters T3 with EMI/RFI filter for AC systems



Operating temperature         9         40 ÷ 55 ° C           Humidity range         RH         5 + 95 %           Recommended cross-section of connected conductors         S         1.5 mm²           Clamp fastening range (solid conductor)         0.2 ÷ 6 mm²           Clamp fastening range (stranded conductor)         0.2 ÷ 4 mm²           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         FAULT - red light on           Femole signalling         FAULT - red light on           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 max. 1 mm²           Includes EM / EMC filter         Yes           Vesigned according to standards         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           Methods of measurement of the suppression characteristics of passive EMC filtering devices	Туре		HSAF10 S
Recommended cross-section of connected conductors   0.2 + 6 mm²	Operating temperature	9	-40 ÷ 55 °C
Recommended cross-section of connected conductors         S         1.5 mm²           Clamp fastering range (solid conductor)         0.2 ÷ 6 mm²           Clamp fastering range (stranded conductor)         0.5 Nm           Tightening moment         0,5 Nm           Installation         On DIN rail 35 mm           Modular width         3 TE           Operating position         Any           Product placement environment         Internal           Signaling at the device         Optic           Importance of local signaling         KK - red light off           Feunce signaling         Yes           Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²)         No           Includes EMI / EMC filter         Yes           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         IEC 6643-11:2010           Protection against lightning         IEC 6643-11:2010           Selection and erection of electrical equipment – Switchgear and controlgear         HO 60364-5-53:2022           Selection and application	Humidity range	RH	5 ÷ 95 %
Clamp fastening range (stranded conductor)         0.2 ÷ 4 mm²           Tightening moment         0,5 km           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 (S) (recommended cross-section of remote monitoring max. 1 mm²)         AC: 250 V/1.5 A, DC: 250 V/0.1 A           Includes EMI / EMC filter         Yes           Modular design         No           Lefetime         > 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           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         IEC 62305:2010           Protection against lightning         IEC 62305:2010           Selection and rection of electrical equipment – Switchgear and controlgear         IEC 61643-12:2009	Recommended cross-section of connected conductors	S	1.5 mm <sup>2</sup>
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         K red light off FAULT - red light on FAULT red light on Paux. 1 mm²)           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 and 2.250 V / 0.250 V /	Clamp fastening range (solid conductor)		0.2 ÷ 6 mm <sup>2</sup>
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 FAULT - red ligh	Clamp fastening range (stranded conductor)		0.2 ÷ 4 mm <sup>2</sup>
Modular width         3 TE           Operating position         Any           Product placement environment         Internal           Signalling at the device         Optic           Importance of local signaling         OK - red light off           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           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         H6 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) <t< td=""><td>Tightening moment</td><td></td><td>0,5 Nm</td></t<>	Tightening moment		0,5 Nm
Operating position         Any           Product placement environment         Internal           Signalling at the device         Optic           Importance of local signaling         OK – red light off FAULT – red light on Paux. 1 mm²)           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 max. 1 mm²)           Includes EMI / EMC filter         Yes           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           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         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 </td <td>Installation</td> <td></td> <td>On DIN rail 35 mm</td>	Installation		On DIN rail 35 mm
Product placement environment Signalling at the device Optic Importance of local signaling CK - red light off FAULT - red light on Yes Potential free signal contact (S) (recommended cross-section of remote monitoring max.1 mm²) Production of light of liter Amax.1 mm² AC: 250 V / 1.5 A, DC: 250 V / 0.1 A Max.1 mm² AC: 250 V / 1.5 A, DC: 250 V / 0.1 A Max.1 mm² No Lifetime Yes Modular design No Lifetime Solono on Lifetime Solono Lifetime Solono on Lifetime Solono Lifetime Sol	Modular width		3 TE
Signalling at the device       Optic         Importance of local signaling       OK - red light off FAULT - red light off PAULT - red light off P	Operating position		Any
Remote signalling       OK - red light off FAULT - red light on FAULT - red light on PAULT - red light on FAULT - red light on PAULT - red light of PAULT - red light on PAULT - re	Product placement environment		Internal
Remote signalling Yes Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) Includes EMI / EMC filter Modular design Lifetime Sessignal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) Includes EMI / EMC filter Yes Modular design No Lifetime Sessigned according to standards Requirements and test methods for SPDs connected to low-voltage power systems Methods of measurement of the suppression characteristics of passive EMC filtering devices 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 61643-11:2010  Ordering, packaging and additional data  Mass (including the packaging) m 165 g Mass (including the packaging) m 189 g Packaging dimensions (H x W x D) Packaging value V 0.5 dm³ ETIM group ETIM group ETIM group ETIM group ETIM class Lessing Mass (including the packaging) EAN code B890681116890	Signalling at the device		Optic
Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²)  Include EMI / EMC filter  Modular design  Lifetime  Posigned according to standards  Requirements and test methods for SPDs connected to low-voltage power systems  Methods of measurement of the suppression characteristics of passive EMC filtering devices  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  Ordering, packaging and additional data  Mass	Importance of local signaling		
max. 1 mm²)         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         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         m         165 g           Mass (including the packaging)         m         189 g           Packaging dimensions (H x W x D)         60 x 113 x 73 mm           Packaging value         V         0.5 dm³           ETIM group         EG0000021           ETIM class         EC000942           Customs tariff no.         85363010           EAN code         8590681116890	Remote signalling		Yes
Modular design 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 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 165 g Mass (including the packaging) m 189 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 EC000942  Customs tariff no. 85363010  EAN code 8590681116890			AC: 250 V / 1.5 A, DC: 250 V / 0.1 A
Lifetime > 100 000 h  Pesigned 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  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 165 g  Mass (including the packaging) m 189 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 EC000942  Customs tariff no. 85363010  EAN code \$859681116890	Includes EMI / EMC filter		Yes
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       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       m       165 g         Mass (including the packaging)       m       189 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       EC000942         Customs tariff no.       85363010         EAN code       8590681116890	Modular design		No
Requirements and test methods for SPDs connected to low-voltage power systems  Methods of measurement of the suppression characteristics of passive EMC filtering devices  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  Ordering, packaging and additional data  Mass  m  165 g  Mass (including the packaging)  Packaging dimensions (H x W x D)  Packaging value  V  0.5 dm³  ETIM group  EG000021  ETIM class  EC000942  Customs tariff no.  EAN code	Lifetime		> 100 000 h
Methods of measurement of the suppression characteristics of passive EMC filtering devices  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  Ordering, packaging and additional data  Mass  m  165 g  Mass (including the packaging)  Packaging dimensions (H x W x D)  Packaging value  TIM group  EG000021  ETIM class  EC000942  Customs tariff no.  EN 55017:2011 / CISPR 17:2011  B N 55017:2011 / CISPR 17:2011	Designed according to standards		
devices 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  CLC/TS 61643-12:2009  Ordering, packaging and additional data  Mass m 165 g Mass (including the packaging) m 189 g Packaging dimensions (H x W x D) Packaging dimensions (H x W x D) Function and application principles for SPDs connected to low-voltage power systems  Mass  Mass Function and application principles for SPDs connected to low-voltage power systems  Mass Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and application principles for SPDs connected to low-voltage power systems  Function and erection a			
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 165 g Mass (including the packaging) m 189 g Packaging dimensions (H x W x D) Packaging value  V 0.5 dm³  ETIM group  ETIM class Customs tariff no.  EAN code  IEC 62305:2010  IEC 62305	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  CLC/TS 61643-12:2009  Ordering, packaging and additional data  Mass  m 165 g Mass (including the packaging) m 189 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 Customs tariff no. 85363010  EAN code	Methods of measurement of the suppression characteristics of passive EMC filtering		
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 165 g  Mass (including the packaging)  Packaging dimensions (H x W x D)  Packaging value  V 0.5 dm³  ETIM group  ETIM class  EC000942  Customs tariff no.  EAN code  HD 60364-5-53:2022  CLC/TS 61643-12:2009	Methods of measurement of the suppression characteristics of passive EMC filtering devices		EN 55017:2011 / CISPR 17:2011
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  165 g  M  189 g  60 x 113 x 73 mm  V  0.5 dm³  ETIM group  EG000021  ETIM class  EC000942  Customs tariff no.  85363010  EAN code	Methods of measurement of the suppression characteristics of passive EMC filtering devices  Safety of Flammability of Plastic Materials		EN 55017:2011 / CISPR 17:2011
Ordering, packaging and additional data           Mass         m         165 g           Mass (including the packaging)         m         189 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         EC000942           Customs tariff no.         85363010           EAN code         8590681116890	Methods of measurement of the suppression characteristics of passive EMC filtering devices  Safety of Flammability of Plastic Materials  Application standards		EN 55017:2011 / CISPR 17:2011 UL 94
Mass (including the packaging)         m         165 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         EC000942           Customs tariff no.         85363010           EAN code         8590681116890	Methods of measurement of the suppression characteristics of passive EMC filtering devices  Safety of Flammability of Plastic Materials  Application standards  Protection against lightning		EN 55017:2011 / CISPR 17:2011 UL 94 IEC 62305:2010
Mass (including the packaging)         m         165 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         EC000942           Customs tariff no.         85363010           EAN code         8590681116890	Methods of measurement of the suppression characteristics of passive EMC filtering devices  Safety of Flammability of Plastic Materials  Application standards  Protection against lightning  Selection and erection of electrical equipment – Switchgear and controlgear		EN 55017:2011 / CISPR 17:2011  UL 94  IEC 62305:2010  HD 60364-5-53:2022
Packaging dimensions (H x W x D)       60 x 113 x 73 mm         Packaging value       V       0.5 dm³         ETIM group       EG000021         ETIM class       EC000942         Customs tariff no.       85363010         EAN code       8590681116890	Methods of measurement of the suppression characteristics of passive EMC filtering devices  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		EN 55017:2011 / CISPR 17:2011  UL 94  IEC 62305:2010  HD 60364-5-53:2022
Packaging value         V         0.5 dm³           ETIM group         EG000021           ETIM class         EC000942           Customs tariff no.         85363010           EAN code         8590681116890	Methods of measurement of the suppression characteristics of passive EMC filtering devices  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	m	EN 55017:2011 / CISPR 17:2011  UL 94  IEC 62305:2010  HD 60364-5-53:2022  CLC/TS 61643-12:2009
ETIM group       EG000021         ETIM class       EC000942         Customs tariff no.       85363010         EAN code       8590681116890	Methods of measurement of the suppression characteristics of passive EMC filtering devices  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		EN 55017:2011 / CISPR 17:2011  UL 94  IEC 62305:2010  HD 60364-5-53:2022  CLC/TS 61643-12:2009
ETIM class         EC000942           Customs tariff no.         85363010           EAN code         8590681116890	Methods of measurement of the suppression characteristics of passive EMC filtering devices  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  Mass (including the packaging)		EN 55017:2011 / CISPR 17:2011  UL 94  IEC 62305:2010  HD 60364-5-53:2022  CLC/TS 61643-12:2009  165 g 189 g
Customs tariff no.         85363010           EAN code         8590681116890	Methods of measurement of the suppression characteristics of passive EMC filtering devices  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  Mass (including the packaging)  Packaging dimensions (H x W x D)	m	EN 55017:2011 / CISPR 17:2011  UL 94  IEC 62305:2010  HD 60364-5-53:2022  CLC/TS 61643-12:2009  165 g 189 g 60 x 113 x 73 mm
EAN code 8590681116890	Methods of measurement of the suppression characteristics of passive EMC filtering devices  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  Mass (including the packaging)  Packaging dimensions (H x W x D)  Packaging value	m	EN 55017:2011 / CISPR 17:2011  UL 94  IEC 62305:2010  HD 60364-5-53:2022  CLC/TS 61643-12:2009  165 g  189 g  60 x 113 x 73 mm  0.5 dm <sup>3</sup>
	Methods of measurement of the suppression characteristics of passive EMC filtering devices  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  Mass (including the packaging)  Packaging dimensions (H x W x D)  Packaging value  ETIM group	m	UL 94  IEC 62305:2010  HD 60364-5-53:2022  CLC/TS 61643-12:2009  165 g  189 g  60 x 113 x 73 mm  0.5 dm³  EG000021
And more than 100 and	Methods of measurement of the suppression characteristics of passive EMC filtering devices  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  Mass (including the packaging)  Packaging dimensions (H x W x D)  Packaging value  ETIM group  ETIM class	m	EN 55017:2011 / CISPR 17:2011  UL 94  IEC 62305:2010  HD 60364-5-53:2022  CLC/TS 61643-12:2009  165 g 189 g 60 x 113 x 73 mm 0.5 dm³  EG000021 EC000942
Art. number 30 170	Methods of measurement of the suppression characteristics of passive EMC filtering devices  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  Mass (including the packaging)  Packaging dimensions (H x W x D)  Packaging value  ETIM group  ETIM class  Customs tariff no.	m	EN 55017:2011 / CISPR 17:2011  UL 94  IEC 62305:2010  HD 60364-5-53:2022  CLC/TS 61643-12:2009  165 g 189 g 60 x 113 x 73 mm 0.5 dm³  EG000021  EC000942 85363010

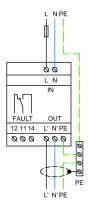


**The link in the QR code** leads to the online presentation of the **HSAF10 S**. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit **www.hakel.com** 





## Application wiring diagram (installation)



## Internal diagram

