



Ref. Certif. No.

AT 4793

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product

Surge protective device

Name and address of the applicant

HAKEL spol. s r.o.
Bratří Štefanů 980,
500 03 Hradec Králové, Czech Republic

Name and address of the manufacturer

HAKEL spol. s r.o.
Bratří Štefanů 980,
500 03 Hradec Králové, Czech Republic

Name and address of the factory

HAKEL spol. s r.o.
Bratří Štefanů 980,
500 03 Hradec Králové, Czech Republic

Note: When more than one factory, please report on page 2

Additional Information on page 2

Ratings and principal characteristics

Uc = AC 150, 255, 275, 320, 385, 440 V;
In = 15 or 20 kA;
Imax = 40 or 50 kA; see pages 2 to 6

Trademark / Brand (if any)

hakil®
Hz In Hearts

Customer's Testing Facility (CTF) Stage used

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Model / Type Ref.

Series HSA-... and HGDT..., see pages 2 to 6

Additional information (if necessary may also be reported on page 2)

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Additional Information on pages 2 to 6

A sample of the product was tested and found to be in conformity with

IEC 61643-11:2011

As shown in the Test Report Ref. No. which forms part of this Certificate

CTI-CB 1113-1 to 1113-11

This CB Test Certificate is issued by the National Certification Body



Österreichischer Verband für Elektrotechnik

OVE Certification

Kahlenberger Str. 2A, 1190 Wien, Austria



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Signature: Dipl.-Ing. T. Neumayer

Date: 2022-07-18

Type spectrum:

HSA non-pluggable SPDs:

HSA-440 SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 400/690$ V AC	Construction	Details	Poles
HSA-440 S	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=440$ V AC, $I_n=15$ kA, $I_{max}=40$ kA, $U_{OC}=6$ kV, $U_p \leq 1,7$ kV unit with remote contact	1
HSA-440	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=440$ V AC, $I_n=15$ kA, $I_{max}=40$ kA, $U_{OC}=6$ kV, $U_p \leq 1,7$ kV unit without remote contact	1

HSA-385 SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 230/400$ V AC	Construction	Details	Poles
HSA-385 S	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=385$ V AC, $I_n=15$ kA, $I_{max}=40$ kA, $U_{OC}=6$ kV, $U_p \leq 1,5$ kV unit with remote contact	1
HSA-385	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=385$ V AC, $I_n=15$ kA, $I_{max}=40$ kA, $U_{OC}=6$ kV, $U_p \leq 1,5$ kV unit without remote contact	1

HSA-320 SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 230/400$ V AC	Construction	Details	Poles
HSA-320 S	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=320$ V AC, $I_n=20$ kA, $I_{max}=50$ kA, $U_{OC}=6$ kV, $U_p \leq 1,35$ kV unit with remote contact	1
HSA-320	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=320$ V AC, $I_n=20$ kA, $I_{max}=50$ kA, $U_{OC}=6$ kV, $U_p \leq 1,35$ kV unit without remote contact	1

Additional information (if necessary)


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HSA-275 SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 230/400$ V AC	Construction	Details	Poles
HSA-275 S	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ unit with remote contact	1
HSA-275	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ unit without remote contact	1
HSA-275/2+0 S	TN	L/N-PE: varistor	$U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ unit with remote contact	2
HSA-275/2+0	TN	L/N-PE: varistor	$U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ unit without remote contact	2
HSA-275/3+0 S	TN	L1/L2/L3-PEN: varistor	$U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ unit with remote contact	3
HSA-275/3+0	TN	L1/L2/L3-PEN: varistor	$U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ unit without remote contact	3
HSA-275/4+0 S	TN	L1/L2/L3/N-PE: varistor	$U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ unit with remote contact	4
HSA-275/4+0	TN	L1/L2/L3/N-PE: varistor	$U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ unit without remote contact	4
HSA-275/1+1 S	TN/TT	1+1 circuit L-N: varistor N-PE: gas discharge tube	L-N: $U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ N-PE: $U_C=255V$ AC, $I_n=20kA$, $U_{OC}=10kV$, $U_p \leq 1,4kV$ unit with remote contact	2
HSA-275/1+1	TN/TT	1+1 circuit L-N: varistor N-PE: gas discharge tube	L-N: $U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ N-PE: $U_C=255V$ AC, $I_n=20kA$, $U_{OC}=10kV$, $U_p \leq 1,4kV$ unit without remote contact	2
HSA-275/3+1 S	TN/TT	3+1 circuit L1/L2/L3-N: varistor N-PE: gas discharge tube	L-N: $U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ N-PE: $U_C=255V$ AC, $I_n=20kA$, $U_{OC}=10kV$, $U_p \leq 1,4kV$ unit with remote contact	4
HSA-275/3+1	TN/TT	3+1 circuit L1/L2/L3-N: varistor N-PE: gas discharge tube	L-N: $U_C=275V$ AC, $I_n=20kA$, $I_{max}=50kA$, $U_{OC}=6kV$, $U_p \leq 1,2kV$ N-PE: $U_C=255V$ AC, $I_n=20kA$, $U_{OC}=10kV$, $U_p \leq 1,4kV$ unit without remote contact	4

HSA-150 SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 120/208$ V AC	Construction	Details	Poles
HSA-150 S	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=150V$ AC, $I_n=15kA$, $I_{max}=40kA$, $U_{OC}=6kV$, $U_p \leq 650V$ unit with remote contact	1
HSA-150	TN → L-(PE)N, N-PE TT → only L-N	varistor	$U_C=150V$ AC, $I_n=15kA$, $I_{max}=40kA$, $U_{OC}=6kV$, $U_p \leq 650V$ unit without remote contact	1

HGDT20 SPD, test class I + II

SPD product name	Earthing system $U_0 \leq 230/400$ V AC	Construction	Details	Poles
HGDT20	TN/TT → only N-PE	gas discharge tube	$U_C=255V$ AC, $I_n=20kA$, $I_{imp}=20kA$, $U_p \leq 1,4kV$ (also used in 1+1 and 3+1 modules for N-PE mode)	1

Additional information (if necessary)


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HSA pluggable SPDs:
HSA-440 M SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 400/690 \text{ V AC}$	Construction	Details	Poles
HSA-440 M S	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=440\text{V AC}$, $I_n=15\text{kA}$, $I_{max}=40\text{kA}$, $U_{OC}=6\text{kV}$, $U_p \leq 1,8\text{kV}$ unit with remote contact	1
HSA-440 M	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=440\text{V AC}$, $I_n=15\text{kA}$, $I_{max}=40\text{kA}$, $U_{OC}=6\text{kV}$, $U_p \leq 1,8\text{kV}$ unit without remote contact	1

HSA-385 M SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 230/400 \text{ V AC}$	Construction	Details	Poles
HSA-385 M S	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=385\text{V AC}$, $I_n=15\text{kA}$, $I_{max}=40\text{kA}$, $U_{OC}=6\text{kV}$, $U_p \leq 1,55\text{kV}$ unit with remote contact	1
HSA-385 M	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=385\text{V AC}$, $I_n=15\text{kA}$, $I_{max}=40\text{kA}$, $U_{OC}=6\text{kV}$, $U_p \leq 1,55\text{kV}$ unit without remote contact	1

HSA-320 M SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 230/400 \text{ V AC}$	Construction	Details	Poles
HSA-320 M S	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=320\text{V AC}$, $I_n=20\text{kA}$, $I_{max}=50\text{kA}$, $U_{OC}=6\text{kV}$, $U_p \leq 1,4\text{kV}$ unit with remote contact	1
HSA-320 M	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=320\text{V AC}$, $I_n=20\text{kA}$, $I_{max}=50\text{kA}$, $U_{OC}=6\text{kV}$, $U_p \leq 1,4\text{kV}$ unit without remote contact	1

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HSA-275 M SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 230/400 \text{ V AC}$	Construction	Details	Poles
HSA-275 M S	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ unit with remote contact	1
HSA-275 M	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ unit without remote contact	1
HSA-275/2+0 M S	TN	L/N-PE: plug-in varistor module	$U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ unit with remote contact	2
HSA-275/2+0 M	TN	L/N-PE: plug-in varistor module	$U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ unit without remote contact	2
HSA-275/3+0 M S	TN	L1/L2/L3-PEN: plug-in varistor module	$U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ unit with remote contact	3
HSA-275/3+0 M	TN	L1/L2/L3-PEN: plug-in varistor module	$U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ unit without remote contact	3
HSA-275/4+0 M S	TN	L1/L2/L3/N-PE: plug-in varistor module	$U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ unit with remote contact	4
HSA-275/4+0 M	TN	L1/L2/L3/N-PE: plug-in varistor module	$U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ unit without remote contact	4
HSA-275/1+1 M S	TN/TT	1+1 circuit L-N: plug-in varistor module N-PE: gas discharge tube*	L-N: $U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ N-PE: $U_C=255 \text{ V AC}$, $I_n=20 \text{ kA}$, $U_{OC}=10 \text{ kV}$, $U_p \leq 1,4 \text{ kV}$ unit with remote contact	2
HSA-275/1+1 M	TN/TT	1+1 circuit L-N: plug-in varistor module N-PE: gas discharge tube*	L-N: $U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ N-PE: $U_C=255 \text{ V AC}$, $I_n=20 \text{ kA}$, $U_{OC}=10 \text{ kV}$, $U_p \leq 1,4 \text{ kV}$ unit without remote contact	2
HSA-275/3+1 M S	TN/TT	3+1 circuit L1/L2/L3-N: plug-in varistor module N-PE: gas discharge tube*	L-N: $U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ N-PE: $U_C=255 \text{ V AC}$, $I_n=20 \text{ kA}$, $U_{OC}=10 \text{ kV}$, $U_p \leq 1,4 \text{ kV}$ unit with remote contact	4
HSA-275/3+1 M	TN/TT	3+1 circuit L1/L2/L3-N: plug-in varistor module N-PE: gas discharge tube*	L-N: $U_C=275 \text{ V AC}$, $I_n=20 \text{ kA}$, $I_{max}=50 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 1,25 \text{ kV}$ N-PE: $U_C=255 \text{ V AC}$, $I_n=20 \text{ kA}$, $U_{OC}=10 \text{ kV}$, $U_p \leq 1,4 \text{ kV}$ unit without remote contact	4

*...N-PE gas discharge tube not pluggable

HSA-150 M SPDs, test class II + III

SPD product name	Earthing system $U_0 \leq 120/208 \text{ V AC}$	Construction	Details	Poles
HSA-150 M S	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=150 \text{ V AC}$, $I_n=15 \text{ kA}$, $I_{max}=40 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 700 \text{ V}$ unit with remote contact	1
HSA-150 M	TN → L-(PE)N, N-PE TT → only L-N	plug-in varistor module	$U_C=150 \text{ V AC}$, $I_n=15 \text{ kA}$, $I_{max}=40 \text{ kA}$, $U_{OC}=6 \text{ kV}$, $U_p \leq 700 \text{ V}$ unit without remote contact	1

Additional information (if necessary)


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HSA-... M plug-in modules, test class II + III

Name plug in module	Information	Uc [V]	Class I I _{imp} [kA]	Class II		Class III U _{oc} [kV]	U _p [kV]
				I _n [kA]	I _{max} [kA]		
HSA-440 M	Varistor plug-in module → for HSA-440 M (S) units	440	---	15	40	6	≤ 1,8
HSA-385 M	Varistor plug-in module → for HSA-385 M (S) units	385	---	15	40	6	≤ 1,55
HSA-320 M	Varistor plug-in module → for HSA-320 M (S) units	320	---	20	50	6	≤ 1,4
HSA-275 M	Varistor plug-in module → for HSA-275 M (S) units	275	---	20	50	6	≤ 1,25
HSA-150 M	Varistor plug-in module → for HSA-150 M (S) units	150	---	15	40	6	≤ 0,7

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