

Safety Relay H-466



Technical Data mechanical

General

- 4, 6, 8 or 10 contacts
- Forced guided contact set
- According to EN 50205, application type A
- Ambient temperature -25 ... +80 °C
- Soldering heat resistance 260 °C/5s
- RoHS compliance
- Signal relay according to UIC 736e
- Includes a pair of retaining clips

Connections

- Soldering pins for PCB, pre-soldered with Sn100

Drive

- Direct current, AC-current upon request
- Current controlled or bistable on request

Approvals

- cULus • TÜV

Standards

- EN 50205 • IEC 61810-1 • UL 508

Dimensions L x W x H (in mm)

Size 1: 57,7 x 66,5 x 20,5
 Size 2: 67,4 x 66,5 x 20,5
 Size 3: 77,4 x 66,5 x 20,5
 Size 4: 87,4 x 66,5 x 20,5

Shock resistance NO-contact/NC-contact

10/10 g, 16 ms Half sinus

Vibration resistance NO-contact/NC-contact

10/10 g, 10 – 55 Hz

Operating time NC-contact, contact opens

typical 17 ... 22 ms

Operating time NO-contact, contact closes

typical 23 ... 29 ms

Releasing time NO-contact, contact opens

typical 5 ms

Releasing time NC-contact, contact closes

typical 7 ms

Mechanical service life (without load)

>10⁷ cycles

Weight

Size 1: 105 g
 Size 2: 120 g
 Size 3: 125 g
 Size 4: 135 g

Technical Data electrical

Max. switching capacity

AC 2.000 VA, DC *W

Max. switching voltage

AC 230/240 V, DC *V

Max. switching current

10 A

Constant current I_{th2}

10 A for deliveries from 2008 on:

Constant current I_{th2} at the same time over 2 contacts

10,0 A 10.0 A

Constant current I_{th2} at the same time over 3 contacts

8,4 A 10.0 A

Constant current I_{th2} at the same time over 4 contacts

7,3 A 10.0 A

Constant current I_{th2} at the same time over 5 contacts

6,5 A 9.5 A

Constant current I_{th2} at the same time over 6 contacts

5,9 A 8.7 A

Constant current I_{th2} at the same time over 7 contacts

5,5 A 8.0 A

Constant current I_{th2} at the same time over 8 contacts

5,1 A 7.5 A

Switching capacity AC-15 230/240 V

I_e = 4 A

DC-13 24 V

I_e = 2 A

Electrical service life (with nominal load)

>10⁵ cycles

Short-circuit capacity 1.000 A/AC 230 V

10 A gL/gG-fuse

* see DC-switching capacity

Insulation

Over voltage category (Ü) III

B-I = Basic insulation

Degree of pollution (V) 2

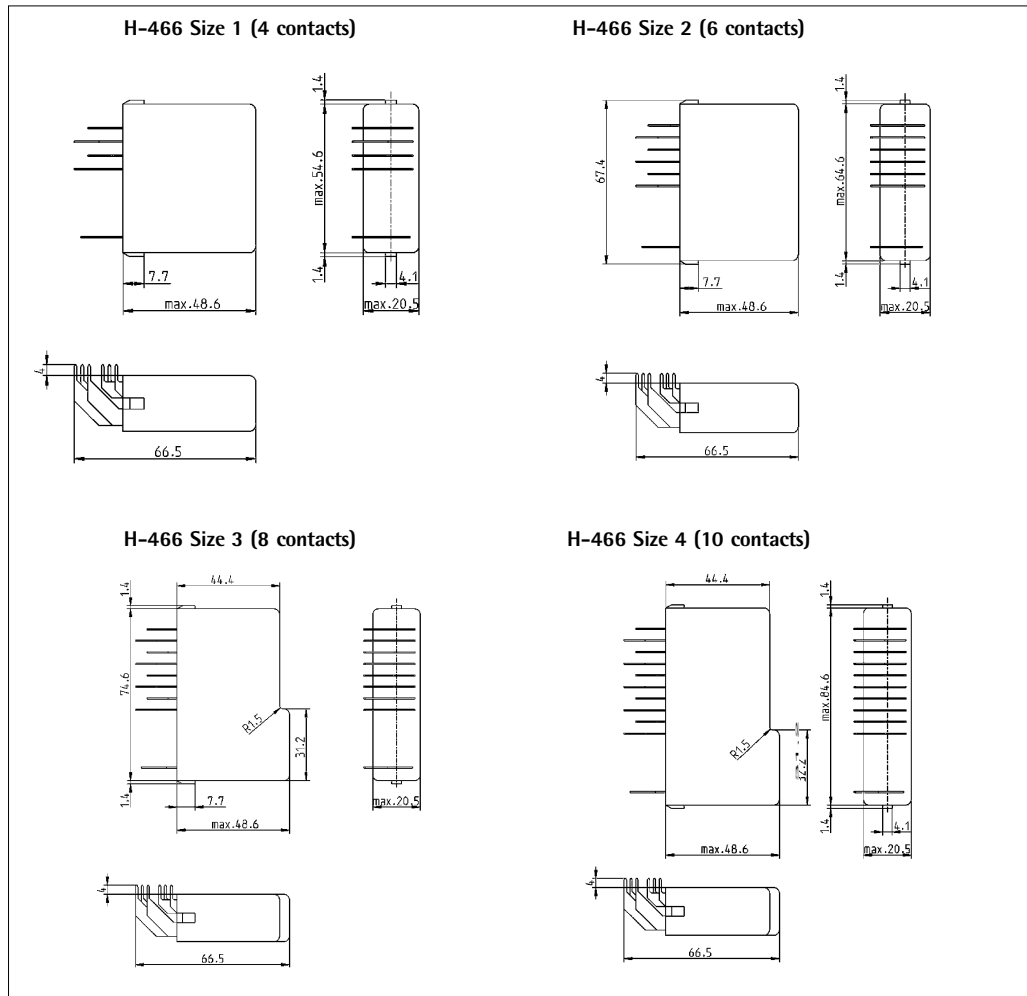
V-I = Reinforced (double) insulation

Insulating material group II

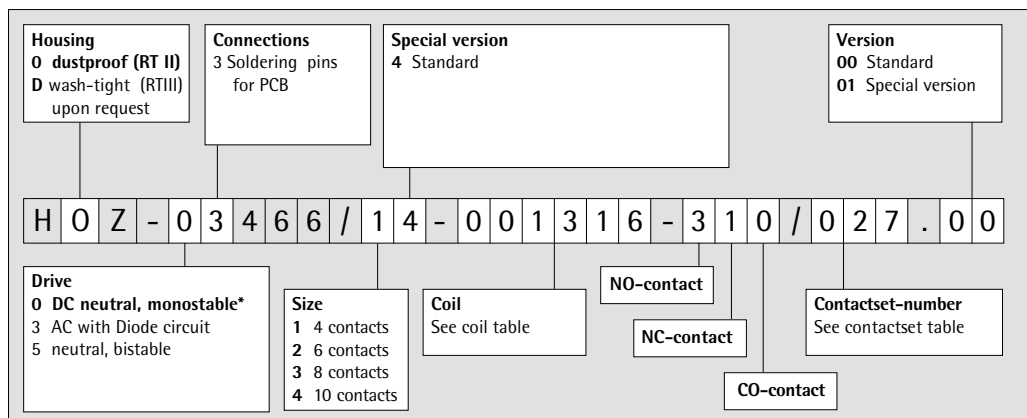
Insulation between	Nominal voltage network system		Air-/creeping distance	Test voltage 50Hz/60s
	AC 120/240 V	AC 230/400 V		
Contact - Contact	V-I	B-I	> 3 mm	AC 2.500 V
Contactset - Drive	V-I	B-I	> 3 mm	AC 2.500 V

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Dimensions



Type key



* Preferred version

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Contactset table

Number of contacts NO/NC/CO-contacts	AgCdO +0,2 µm Au	AgCdO + 5 µm Au	AgCdO + 10 µm Au	AgSnO ₂ +0,2 µm Au	AgSnO ₂ + 5 µm Au	Contact material
220	028	033	054	055	056	Contactset- number
260	036	037	057	058	059	
310	027	032	060	061	062	
330	030	035	063	064	065	
350	018	022	066	045	047	
370	068	069	067	070	071	
420	029	034	072	073	074	
440	015	019	049	040	042	
530	017	021	075	044	046	
550	077	078	076	079	080	
620	016	020	048	041	043	
640	023	025	051	081	082	
730	038	039	052	083	084	
820	024	026	053	085	086	

All values at ambient temperature Tu = 20 °C

Coil table

Number of contacts
310
220

Coil-No.	Resistance R/Ω	Resistance- tolerance ±	U ₁ /V	U ₂ /V	U ₃ /V	U _{rück} /V	Printing U _{nom} /V
1228	33	5%	3,4	11,6	11	0,8	6
1323	110	6%	6,2	21,2	19	1,4	12
1316	480	8%	13,9	43,9	42	3,0	24
1312	1.700	7%	27,3	82,9	83	5,9	48
1311	2.700	7%	34,4	104,4	104	7,4	60
1306	10.000	9%	69,8	199,7	205	14,7	110
1303	40.000	12%	139,8	395,0	394	28,2	220

All values at ambient temperature Tu = 20 °C

Number of contacts
420

Coil-No.	Resistance R/Ω	Resistance- tolerance ±	U ₁ /V	U ₂ /V	U ₃ /V	U _{rück} /V	Printing U _{nom} /V
1228	33	5%	3,7	11,6	11	0,8	6
1323	110	6%	6,9	21,2	19	1,4	12
1316	480	8%	15,5	43,9	42	3,0	24
1312	1.700	7%	30,3	82,9	83	5,9	48
1311	2.700	7%	38,2	104,4	104	7,4	60
1306	10.000	9%	77,8	199,7	205	14,7	110
1303	40.000	12%	155,7	395,0	394	28,2	220

All values at ambient temperature Tu = 20 °C

Number of contacts
330

Coil-No.	Resistance R/Ω	Resistance- tolerance ±	U ₁ /V	U ₂ /V	U ₃ /V	U _{rück} /V	Printing U _{nom} /V
1228	33	5%	4,1	11,6	11	0,8	6
1323	110	6%	7,6	21,2	19	1,4	12
1316	480	8%	17,1	43,9	42	3,0	24
1312	1.700	7%	33,5	82,9	83	5,9	48
1268	2.650	7%	39,5	103,5	98	7,0	60
1306	10.000	9%	86,0	199,7	205	14,7	110
1303	40.000	12%	172,2	395,0	394	28,2	220

U₁: Minimum operating voltage with consideration of coil self heating
 U₂: Thermal restricted maximum coil voltage
 U₃: Maximum admissible coil voltage to realize a contact gap of > 0.5 mm also at a contact fault
 U_{rück}: Releasing voltage

Further coils are possible and available

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All values at ambient temperature $T_u = 20\text{ °C}$

Coil table
Number of contacts
530

Coil-No.	Resistance R/ Ω	Resistance- tolerance \pm	U_1/V	U_2/V	U_3/V	$U_{rück}/V$	Printing U_{nom}/V
1131	25	5%	3,4	10,1	9	0,6	6
1223	96	6%	7,3	19,8	19	1,3	12
1219	320	10%	13,6	35,6	32	2,3	24
1213	1.180	8%	26,9	68,8	66	4,7	48
1212	1.870	7%	34,1	87,0	85	6,0	60
1208	5.750	7%	60,6	152,1	148	10,6	110
1105	18.200	10%	110,3	268,6	262	18,7	220

All values at ambient temperature $T_u = 20\text{ °C}$

Number of contacts
620

Coil-No.	Resistance R/ Ω	Resistance- tolerance \pm	U_1/V	U_2/V	U_3/V	$U_{rück}/V$	Printing U_{nom}/V
1131	25	5%	3,6	10,1	9	0,9	6
1223	96	6%	7,7	19,8	19	1,9	12
1219	320	10%	14,3	35,6	32	3,2	24
1213	1.180	8%	28,2	68,8	66	6,6	48
1212	1.870	7%	35,8	87,0	85	8,5	60
1208	5.750	7%	63,6	152,1	148	14,8	110
1105	18.200	10%	115,7	268,6	262	26,2	220

All values at ambient temperature $T_u = 20\text{ °C}$

Number of contacts
350
440

Coil-No.	Resistance R/ Ω	Resistance- tolerance \pm	U_1/V	U_2/V	U_3/V	$U_{rück}/V$	Printing U_{nom}/V
1131	25	5%	4,1	10,1	9	0,9	6
1223	96	6%	8,8	19,8	19	2,0	12
1219	320	10%	16,3	35,6	32	3,5	24
1213	1.180	8%	32,3	68,8	66	7,0	48
1212	1.870	7%	40,9	87,0	85	9,1	60
1208	5.750	7%	72,8	152,1	148	15,9	110
1105	18.200	10%	132,6	268,6	262	28,1	220

All values at ambient temperature $T_u = 20\text{ °C}$

Number of contacts
260
550
640

Coil-No.	Resistance R/ Ω	Resistance- tolerance \pm	U_1/V	U_2/V	U_3/V	$U_{rück}/V$	Printing U_{nom}/V
1131	25	5%	4,1	10,1	9	0,6	6
1223	96	6%	8,8	19,8	19	1,3	12
1718	350	7%	16,7	37,6	35	2,5	24
1269	1.560	8%	36,7	79,0	75	5,3	48
1168	2.280	7%	46,0	96,0	95	6,8	60
1708	6.500	7%	74,4	161,7	153	10,9	110
1105	18.200	10%	132,6	268,6	262	18,7	220

U_1 : Minimum operating voltage with consideration of coil self heating
 U_2 : Thermal restricted maximum coil voltage
 U_3 : Maximum admissible coil voltage to realize a contact gap of > 0.5 mm also at a contact fault
 $U_{rück}$: Releasing voltage

Further coils are possible and available

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All values at ambient temperature $T_u = 20\text{ °C}$

Coil table

Number of contacts

730

820

Coil-No.	Resistance R/ Ω	Resistance- tolerance \pm	U_1/V	U_2/V	U_3/V	$U_{rück}/V$	Printing U_{nom}/V
1131	25	5%	3,6	10,1	9	0,6	6
1323	110	6%	7,9	21,2	19	1,4	12
1718	350	7%	14,6	37,6	35	2,5	24
1269	1.560	8%	32,1	79,0	75	5,3	48
1168	2.280	7%	40,2	96,0	95	6,8	60
1708	6.500	7%	65,1	161,7	153	10,9	110
1504	32.000	11%	150,3	354,7	336	24	220

U_1 : Minimum operating voltage with consideration of coil self heating

U_2 : Thermal restricted maximum coil voltage

U_3 : Maximum admissible coil voltage to realize a contact gap of $> 0,5\text{ mm}$ also at a contact fault

$U_{rück}$: Releasing voltage

Further coils are possible and available

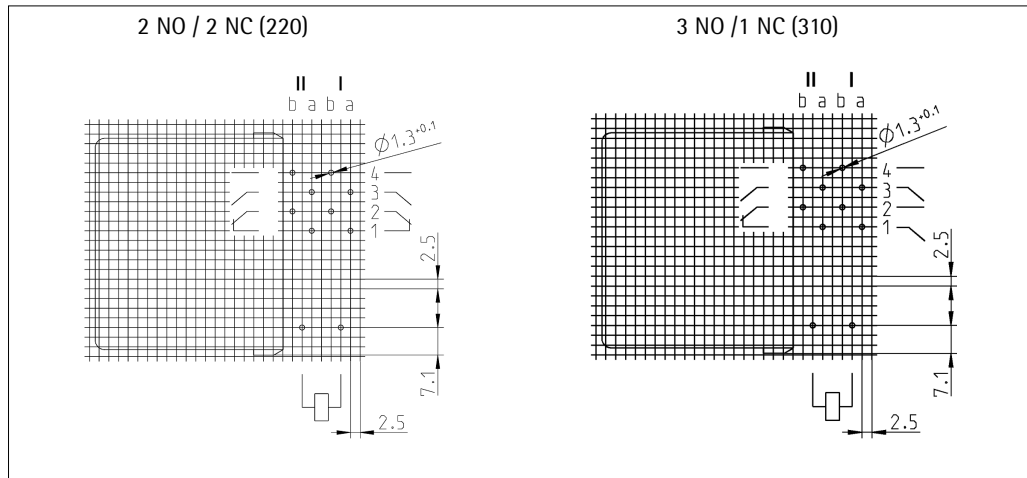
Running types

Article-No.	Type key	Printing U_{nom}	U_1/V	U_2/V	U_3/V	$U_{rück}/V$
466-1082	HOZ-03466/34-001219-620/020.03	DC 24 V	14,3	35,6	32	3,2
466-1090	HOZ-03466/34-001219-350/018.00	DC 24 V	16,3	35,6	32	3,5
466-1097	HOZ-03466/34-001219-350/022.00	DC 24 V	16,3	35,6	32	3,5
466-1100	HOZ-03466/14-001316-310/027.00	DC 24 V	13,9	43,9	42	3,0
466-1114	HOZ-03466/14-001316-220/028.00	DC 24 V	13,9	43,9	42	3,0
466-1121	HOZ-03466/14-001316-220/033.00	DC 24 V	13,9	43,9	42	3,0
466-1122	HOZ-03466/14-001312-220/033.00	DC 48 V	27,3	82,9	83	5,9
466-1128	HOZ-03466/24-001316-420/029.00	DC 24 V	15,5	43,9	42	3,0
466-1135	HOZ-03466/24-001316-420/034.00	DC 24 V	15,5	43,9	42	3,0
466-1149	HOZ-03466/24-001316-330/035.00	DC 24 V	17,1	43,9	42	3,0
466-1159	HOZ-03466/34-001131-440/019.00	DC 6 V	4,1	10,1	9	0,9
466-1160	HOZ-03466/34-001223-440/019.00	DC 12 V	8,8	19,8	19	2,0
466-1161	HOZ-03466/34-001219-440/019.00	DC 24 V	16,3	35,6	32	3,5
466-1162	HOZ-03466/34-001213-440/019.00	DC 48 V	32,3	68,8	66	7,0
466-1175	HOZ-03466/34-001219-620/020.00	DC 24 V	14,3	35,6	32	3,2
466-1176	HOZ-03466/34-001213-620/020.00	DC 48 V	28,2	68,8	66	6,6
466-1183	HOZ-03466/34-001219-530/017.00	DC 24 V	13,6	35,6	32	2,3
466-1212	HOZ-03466/44-001718-640/023.00	DC 24 V	36,7	79,0	75	5,3
466-1353	HOZ-03466/44-001223-550/076.00	DC 12 V	8,8	19,8	19	1,3

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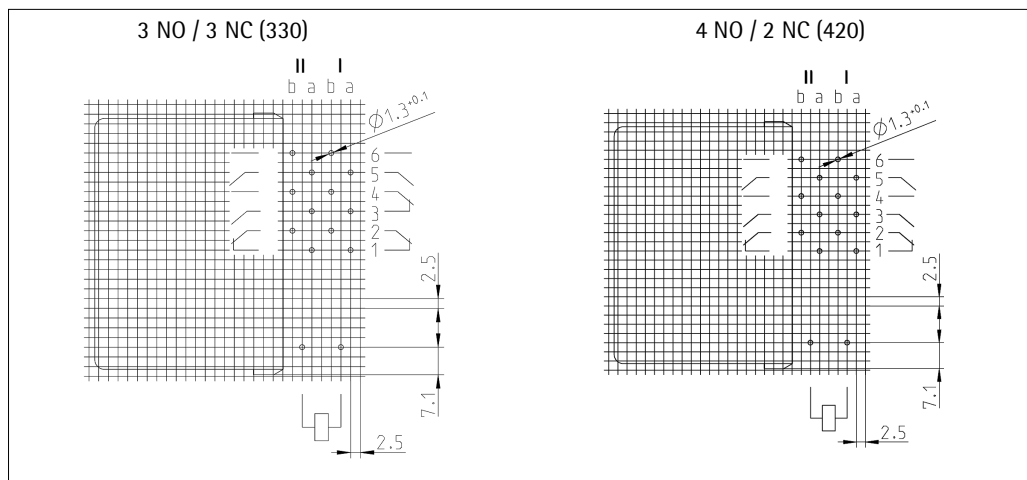
Connection grid
Few on soldering side

Size 1



Connection grid

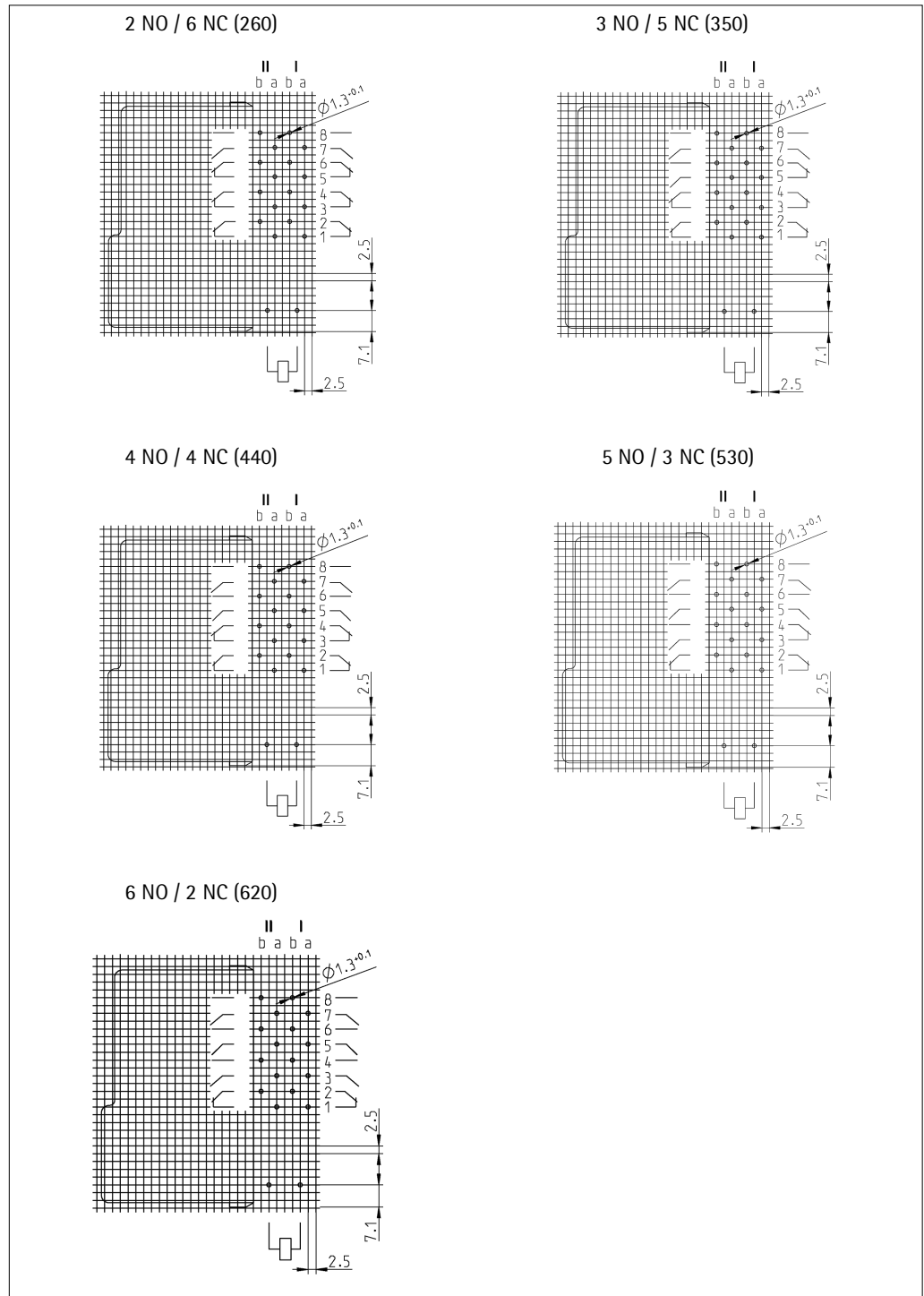
Size 2



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Connection grid

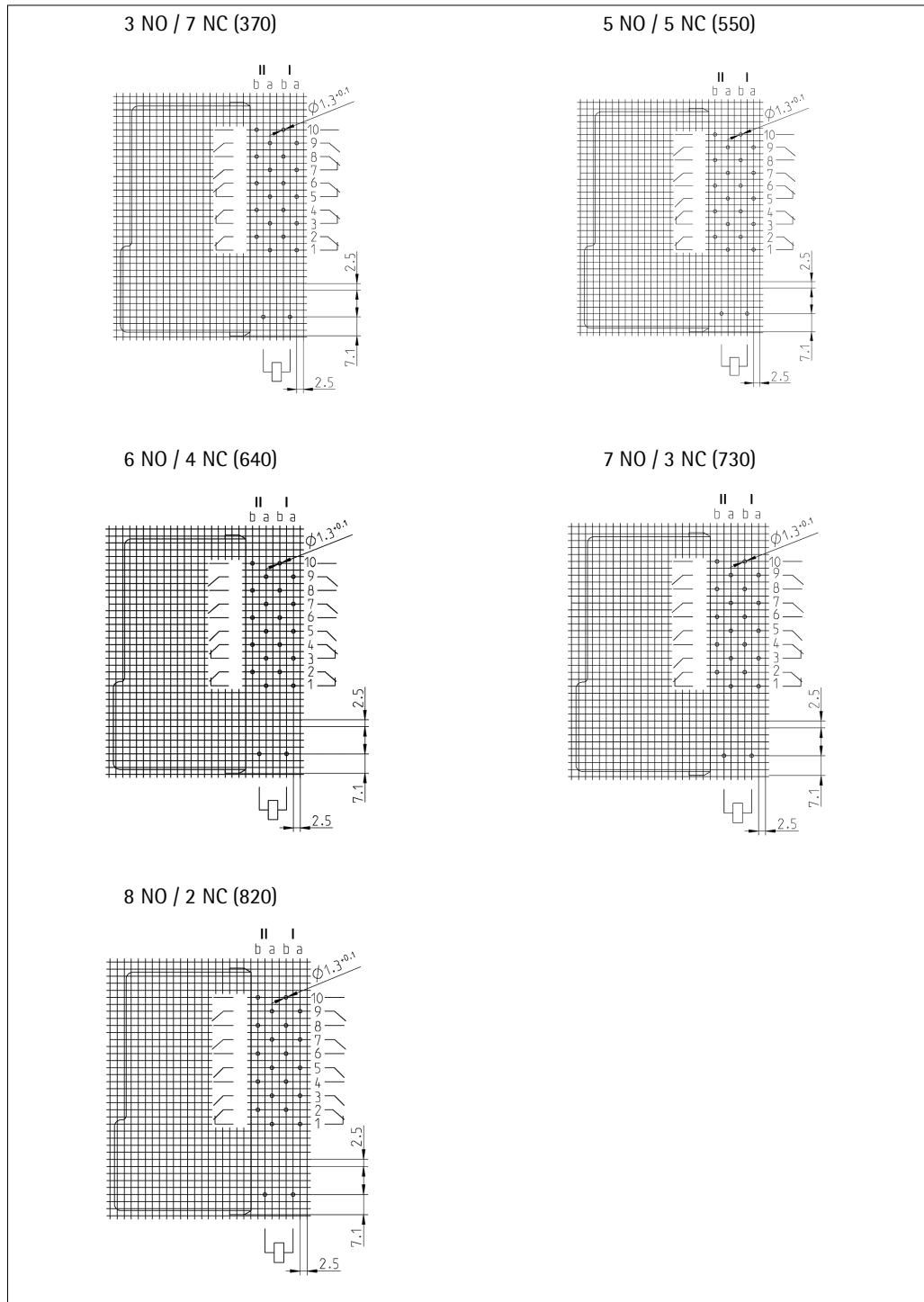
Size 3



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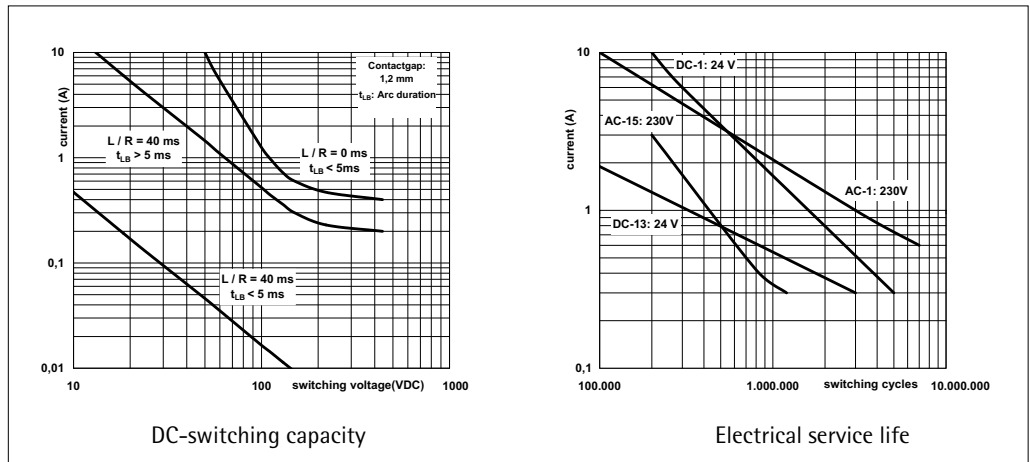
Connection grid

Size 4



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Diagrams



Accessories

