



<p><b>General</b></p> <ul style="list-style-type: none"> <li>• 6 contacts</li> <li>• Forcibly guided contact set</li> <li>• According to DIN EN 61810-3, type A</li> <li>• Reinforced (double) insulation at all contacts</li> <li>• Low coil power consumption</li> <li>• Ambient temperature - 25 ... + 75 °C</li> <li>• Soldering heat resistance 260 °C / 5 s</li> <li>• RoHS compliance</li> </ul>	<p><b>Connections</b></p> <ul style="list-style-type: none"> <li>• Pre-soldered pins for PCB</li> </ul> <p><b>Drive:</b></p> <ul style="list-style-type: none"> <li>• Direct current, monostable</li> </ul> <p><b>Approvals:</b></p> <ul style="list-style-type: none"> <li>• TÜV</li> <li>• cULus</li> </ul> <p><b>Standards:</b></p> <ul style="list-style-type: none"> <li>• IEC 61810-1 • DIN EN 61810-3 • UL 508</li> </ul>
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**Technical Data**  
mechanical

Dimensions L x W x H (in mm)	55 x 16,5 x 15,7
Shock resistance NO / NC contact	15/3 g, 11 ms half sine
Vibration resistance NO / NC contact	10/3 g, 10 - 200 Hz
Operating time NC-contact, contact opens	max. 11 ms <sup>1)</sup>
Operating time NO-contact, contact closes	max. 17 ms <sup>1)</sup>
Releasing time NO-contact, contact opens	max. 5 ms <sup>1)</sup>
Releasing time NC-contact, contact closes	max. 17 ms <sup>1)</sup>
Mechanical service life (without load)	> 10 <sup>7</sup> cycles
Weight	30 g

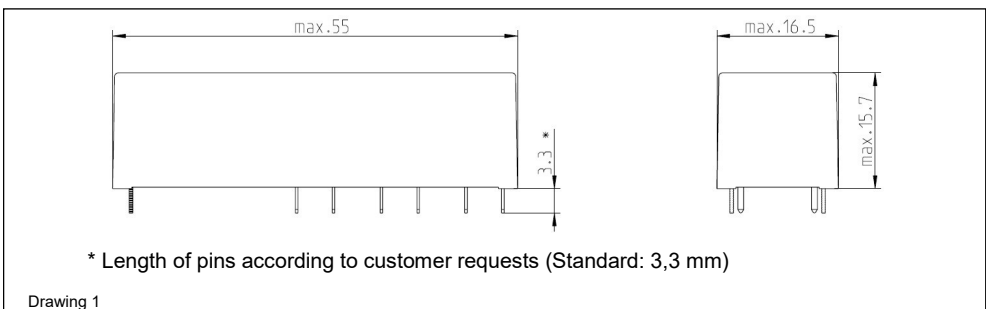
<sup>1)</sup> At nominal voltage, 20°C ambient temperature and without contact bouncing

**Technical Data**  
electrical

Max. switching capacity	AC 2,000 VA; DC <sup>1)</sup> W
Max. switching voltage	AC 230/240 V; DC <sup>1)</sup> V
Max. switching current (NO / NC contact)	8/8 A at contactmaterial AgSnO <sub>2</sub> + 0.2 µm Au
Max. switching current (NO / NC contact)	8/6 A at contactmaterial AgSnO <sub>2</sub> + 2.0 µm Au
Max. switching current (NO / NC contact)	8/6 A at contactmaterial AgNi
Constant current I <sub>th2</sub> over 1 contact at the same time	8 A
Constant current I <sub>th2</sub> over 2 contact at the same time	5.6 A
Constant current I <sub>th2</sub> over 3 contact at the same time	4.6 A
Constant current I <sub>th2</sub> over 4 contact at the same time	4.0 A
Min. switching capacity (recommendation)	10 mA / 5 V
Contact resistance (factory setting)	< 100 mΩ (at 1 A / 24 VDC contact load)
Switching capacity (NO-contacts)	AC-15 230/240 V DC-13 24 V DC-13 24 V
	I <sub>e</sub> = 5 A at contactmaterial AgSnO <sub>2</sub> I <sub>e</sub> = 6 A <sup>2)</sup> at contactmaterial AgSnO <sub>2</sub> I <sub>e</sub> = 5 A <sup>2)</sup> at contactmaterial AgNi
Electrical service life (at T <sub>A</sub> = 75 °C) (NO-contacts)	AC-1 230 V / 8 A DC-1 24 V / 8 A
	80,000 cycles <sup>3)</sup> 100,000 cycles <sup>4)</sup>
Short-circuit capacity 1,000 A / AC 230 V	6 A gL/gG-fuse at contact material AgSnO <sub>2</sub> 4 A gL/gG-fuse at contact material AgNi

<sup>1)</sup> See DC-switching capacity (page 4, graph 1).  
<sup>2)</sup> Modified test according IEC DIN EN 60947-5-1: 50 switching cycles at 0,1 Hz / 1.1 x U<sub>e</sub>  
6000 switching cycles at 0,1 Hz / 1.0 x U<sub>e</sub>  
<sup>3)</sup> Values at open ventilation element (drawing 10, page 4)  
Values at closed ventilation element: See electrical lifetime at drawing 2, page 4.  
<sup>4)</sup> Value independent from ventilation element

**Dimensions**



## Insulation

Over voltage category (Ü) III  
Degree of pollution (V) 2  
Insulating material group II

B-I = Basic insulation  
V-I = Reinforced (double) insulation  
F-I = Functional insulation

Insulation between	Nominal voltage network system		Air-/creeping distance <sup>3)</sup>	Test voltage <sup>1)</sup> 50 Hz / 60 s
	AC 120/240 V	AC 230/400 V		
Drive - Contactset	V-I	V-I	> 6.0 mm	3,000 V
Contact - Contact	V-I	V-I	> 6.0 mm	3,000 V
Between open contact	F-I	F-I	> 1.0 mm <sup>2)</sup>	500 V

<sup>1)</sup> Rated impuls withstand voltage at V-I: 6,000 V (1.2/50µs)  
<sup>2)</sup> When opening failure at the antivalent contacts > 0.5 mm (DIN EN 61810-3)  
<sup>3)</sup> The below drawing should support the design of the circuit board (diameter of the solder pad):

Drawing 2

Drawing 3

Variant 1
Variant 2

## Type code

<b>Housing</b> D washtight (RT III)	<b>Connections</b> 3 Soldering pins for PCB	<b>Special version</b> 1 Variant 1 (Contact set 420) 2 Variant 2 (Contact set 420) 3 Variant 3 (Contact set 510) Variants 1+2 see at connection grid at page 3	<b>Version</b> 00 Standard 01 Special version
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H D Z - 0 3 4 8 0 / 2 1 - 0 0 1 0 1 2 - 4 2 0 / 0 0 2 . 0 0

<b>Special feature</b> Z forcibly guided contacts	<b>Drive</b> 0 DC, monostable	<b>Size</b> 2 6 Contacts	<b>Coil</b> See coil table	NO NC CO	<b>Contactset-number</b> See contactset table
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## Contactset table

Number of contacts	Contact material				Contactset-number
	AgSnO <sub>2</sub> + 0,2 µm Au	AgSnO <sub>2</sub> + 2 µm Au	AgNi + 0,2 µm Au	AgNi	
420 (Variant 1)	002	008	014	020	Contactset-number
420 (Variant 2)	004	010	016	022	
510 (Variant 3)	001	007	013	019	

**Coil table**  
 Number of contacts  
 420  
 510

Coil-No.	Resistance [Ω]	Resistance-tolerance ± [%]	Ambient temperature				Printing (U <sub>nom</sub> )
			+ 20 °C	+ 75 °C	- 25 °C	+ 20 °C	
			U <sub>1</sub> [V]	U <sub>2</sub> [V]	U <sub>3</sub> [V]	U <sub>rel</sub> [V]	
001022	52	8	4,4	7,5	23	0,7	6 V
001088	110	9	6,5	10,9	34	1,0	9 V
001016	210	11	8,9	14,9	46	1,4	12 V
001080	400	10	12,7	20,6	65	1,9	18 V
001076	555	13	14,8	24,3	75	2,2	21 V
001012	785	9	18,0	28,9	91	2,7	24 V
001082	1600	9	25,6	41,1	129	3,8	36 V
001078	2830	12	34,2	54,8	173	5,1	48 V
001006	4860	12	45,4	71,7	228	6,8	62 V
001090	15510	15	81,4	128,0	408	12,1	110 V
Further coils are possible and available							

U<sub>1</sub>: Minimum operating voltage with consideration of coil self heating  
 U<sub>2</sub>: Thermal restricted maximum coil voltage  
 U<sub>3</sub>: Maximum admissible coil voltage to realize a contact gap of > 0.5 mm also at a contact fault  
 U<sub>rel</sub>: Releasing voltage

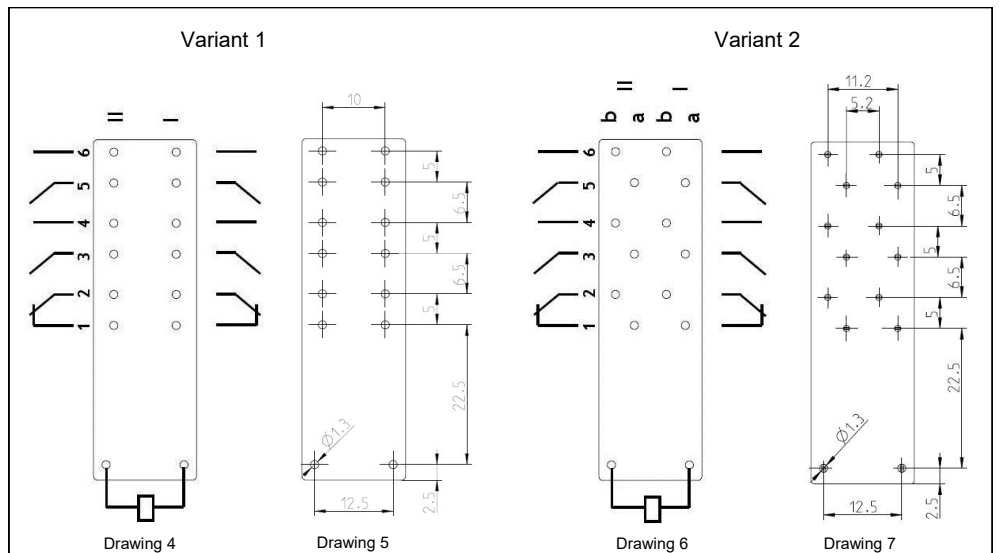
All values only valid for new (unused) relays!

Running types

Printing (U <sub>nom</sub> )	Type code	Article-No.	U <sub>1</sub> [V]	U <sub>2</sub> [V]	U <sub>3</sub> [V]	U <sub>rel</sub> [V]
12 V	HDZ-03480/21-001016-420/002.00	480-1003	8,9	14,9	46	1,4
12 V	HDZ-03480/22-001016-420/004.00	480-1009	8,9	14,9	46	1,4
18 V	HDZ-03480/21-001080-420/002.00	480-1008	12,7	20,6	65	1,9
21 V	HDZ-03480/21-001076-420/002.00	480-1013	14,8	24,3	75	2,2
24 V	HDZ-03480/21-001012-420/002.00	480-1001	18,0	28,9	91	2,7
24 V	HDZ-03480/22-001012-420/004.00	480-1022	18,0	28,9	91	2,7
24 V	HDZ-03480/23-001012-510/001.00	480-1016	18,0	28,9	91	2,7
48 V	HDZ-03480/21-001078-420/002.00	480-1005	34,2	54,8	173	5,1
110 V	HDZ-03480/21-001090-420/002.00	480-1007	81,4	128,0	408	12,1
110 V	HDZ-03480/22-001090-420/004.00	480-1012	81,4	128,0	408	12,1

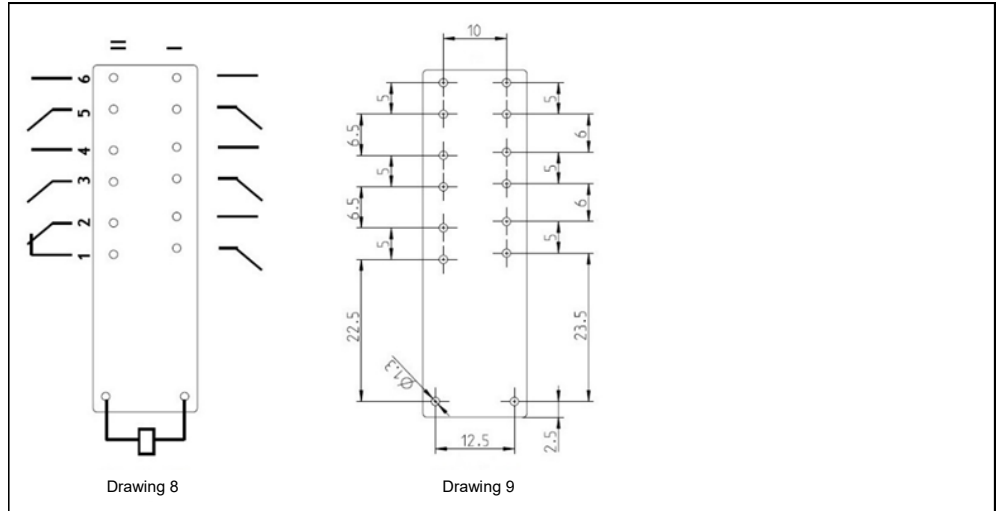
**Connection grid**  
 View on soldering side

Number of contacts  
 420

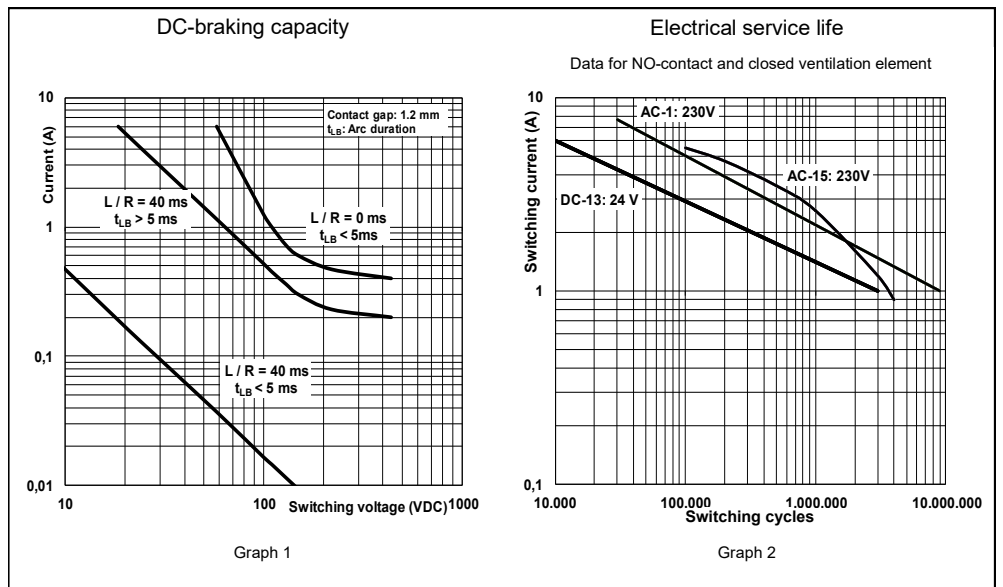


**Connection grid**  
View on soldering side

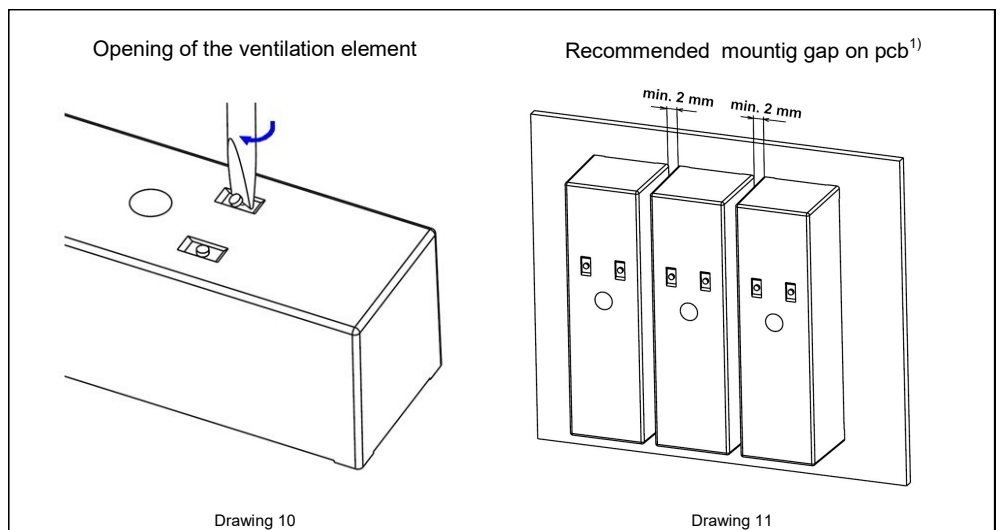
Number of contacts  
510



**Diagram**



**Others**



<sup>1)</sup> Mounting gaps until 0 mm are after consulting with Hengstler possible