Safety Relay
OA 5623

Translation of the original instructions

0277453

8 poles

- According to DIN EN 61810-1, DIN EN 61810-3 (Type A)
- With forcibly guided contacts
- Clearance and creepage distances: contact - contact ≥ 5,5 mm
- Low rated power consumption and holding power
- High mechancial service life
- High temperature range
- High thermal continuous current
- Height: 15.8 mm

Applications

- Railway and signalling applications
- Automation
- Medical devices
- Radio- and telecontrol applications
- Fuel applications
- Process applications
- Elevator applications

Approvals and Markings

Product Safety
TÜVRheinland CERTIFIED
www.tuv.com ID 0600000000
c UL us
Canada / USA
File: E107778

Technical Data

Relay type		OA 5623
1.0	**Coil**	
1.1	Nominal voltage	DC 6, 12, 24, 48, 60, 110 V (others on request)
1.2	Nominal consumption	Approx. 1.2 W
1.11	Voltage range	0.8 ... 1.2 U_N
1.13	Holding Power (at 0.5 x U_N)	0.3 W
2.0	**Contacts**	
2.1	Contact arrangement (Type A)	7 NO / 1 NC 6 NO / 2 NC 5 NO / 3 NC 4 NO / 4 NC
2.2	Contact material	$AgSnO_2$ + 0.2 µm Au; AgNi + 0.2 µm Au, AgNi + 5 µm Au
2.3	Rated insulation voltage	AC 250 V
	Switching voltage min./max	AC/DC 10 V / DC 250 V, AC 400 V (AC/DC 2 V / 60 V) [3]
2.4	Limiting continuous current I_{th}	7 x 8 A [6] (see Operating voltage limit curve)
	Switching current min./max	10 mA [4] / 8 A (2 mA / 0,3 A) [3]
2.5	Switching power min./max	0.1 VA [4] / 2000 VA (10 mVA / 12 VA) [3]
	Switching power min./max	0.1 W [4] / 200 W (10 mW / 12 W) [3]
2.6	Switching capacityto IEC/EN 60947-5-1	
	AC 15 [5]	NO: AC 250 V / 3 A NC: AC 250 V / 2 A
	AC 15 [2]	NO: AC 250 V / 5 A NC: AC 250 V / 2 A
	DC 13 [5]	NO: DC 24 V / 2 A NC: DC 24 V / 2 A
	DC 13 [5] at 0.1 Hz	NO: DC 24 V / 4 A NC: DC 24 V / 4 A
	to UL 508	B300 / R300
2.7	Electrical life	At 1 s On, 4 s Off (see contacts service life)
	at AC 230 V, 8 A, cosφ = 1	> 10^5 switching cycles AgNi
	at DC 24 V 8 A ohmic	0.75 x 10^5 switching cycles AgNi
2.8	Switching frequency max	10 switching cycles/s
2.9	Response time / Release time	Typically 16 ms / Typically 8 ms
2.10	Contact force	≥ 8 cN
2.14	Contact gap	> 0.5 mm [1]
3.0	**Other**	
3.1	Mechanical life	20 x 10^6 switching cycles
3.2	Temperature range	- 40 ... + 80 °C
3.3	Degree of protection, housing	Wash proof RT III
3.4	Test procedure	A (group mounting)
3.5	Vibration resistance	10 ... < 60 Hz, Amplitude 0,35 mm IEC/EN 60068-2-6
	Criteria: contact opening ≥ 10 µs	60 ... 200 Hz, ≤ 5g (all contacts) IEC/EN 60068-2-6
3.6	Climate resistance	40 / 080 / 04 A / B / D IEC/EN 60068-1
3.7	Short circuit strength	1 kA / AC 250 V IEC/EN 60947-5-1 [2] [5]
	SCPD / Fuse	NO conctact: 10 A gG / gL / NC conctact: 6 A gG / gL IEC/EN 60269-1 [2] [5]

[1] Over entire service life acc. to DIN EN 61810-3
[2] Values for $AgSnO_2$-contacts
[3] Typical values for AgNi-contacts + 5 µm Au
[4] Typical values
[5] Values for AgNi-contacts
[6] See notes

All technical data in this list relate to the state at the moment of edition.
We reserve the right for technical improvements and changes at any time.

Technical Data

3.8	Insulation acc. to IEC 60664-1, EN 50178	
	Rated insulation voltage	AC 250 V
	Pollution degree	2
	Overvoltage category	III
	Test voltage	
	Contact-coil (1 min)	≥ AC 4 kV eff.
	Contact-contact (1 min)	≥ AC 4 kV eff.
	Contact open (1 min)	≥ AC 1.5 kV eff.
	Transient voltage	
	Contact-coil (1.2 - 50 µs)	≥ 6 kV
	Clearance and creepage distance	≥ 5.5 mm
3.9	Weight	Approx. 39.5 g
4.0	**Packing unit**	
4.1	On cardboard in slipcase	15 pieces
4.2	In case package	150 pieces
5.0	Solder method	
5.1	Solder method /-temperature /-duration	Wave soldering / 260 °C / 5 s

Design versions

			OA 5623			
U_N (DCV)	Voltage range (DC V)	R_{Coil} Ω±10%	.57 4S, 4Ö	.58 5S, 3Ö	.59 6S, 2Ö	.63 7S, 1Ö
AgNi-contacts + 0,2µm Au						
6	4.8 ... 7.2	31	8001	8201	8401	8601
12	9.6 ... 14.4	120	8002	8202	8402	8602
24	19.2 ... 28.8	500	8003	8203	8403	8603
48	38.4 ... 57.6	2000	8004	8204	8404	8604
60	48.0 ... 72.0	2880	8005	8205	8405	8605
110	88.0 ... 132.0	10100	8006	8206	8406	8606
AgNi-contacts + 5 µm Au (goldplated contacts)						
6	4.8 ... 7.2	31	8101	8301	8501	8701
12	9.6 ... 14.4	120	8102	8302	8502	8702
24	19.2 ... 28.8	500	8103	8303	8503	8703
48	38.4 ... 57.6	2000	8104	8304	8504	8704
60	48.0 ... 72.0	2880	8105	8305	8505	8705
110	88.0 ... 132.0	10100	8106	8306	8506	8706
$AgSnO_2$-contacts +0,2 µm Au						
6	4.8 ... 7.2	31	8151	8351	8551	8751
12	9.6 ... 14.4	120	8152	8352	8552	8752
24	19.2 ... 28.8	500	8153	8353	8553	8753
48	38.4 ... 57.6	2000	8154	8354	8554	8754
60	48.0 ... 72.0	2880	8155	8355	8555	8755
110	88.0 ... 132.0	10100	8156	8356	8556	8756

Ordering Example

OA 5623 ._ _ /_ _ _ _ _ _ / 61*)

- Pin configuration
- W = Wash proof RT III
- Design version
- Contact arrangement (Type A)
  - .57 4 NO, 4 NC
  - .58 5 NO, 3 NC
  - .59 6 NO, 2 NC
  - .63 7 NO, 1 NC
- Type

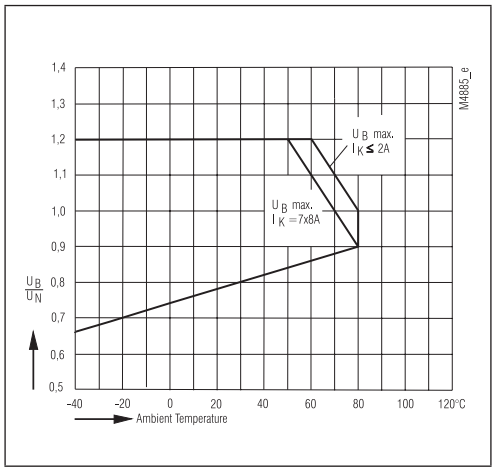
*) / 61 cURus approval

On request
version with double contacts

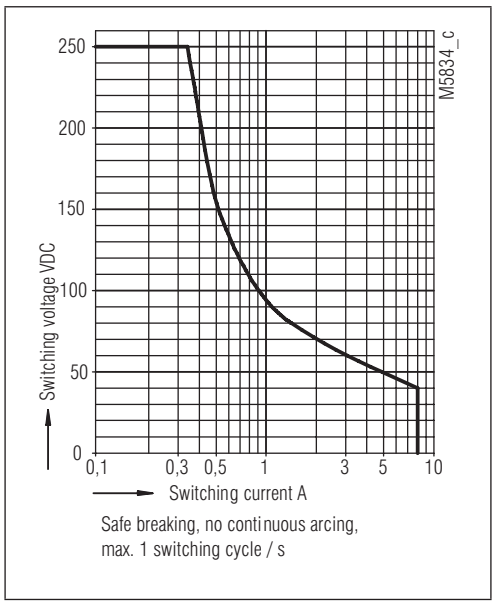
Notes

For the use and processing of our PCB relays, please refer to the **application and processing instructions** at www.dold.com

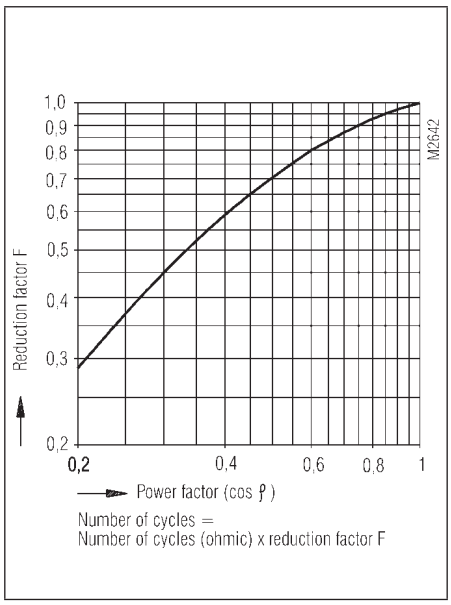
Characteristics



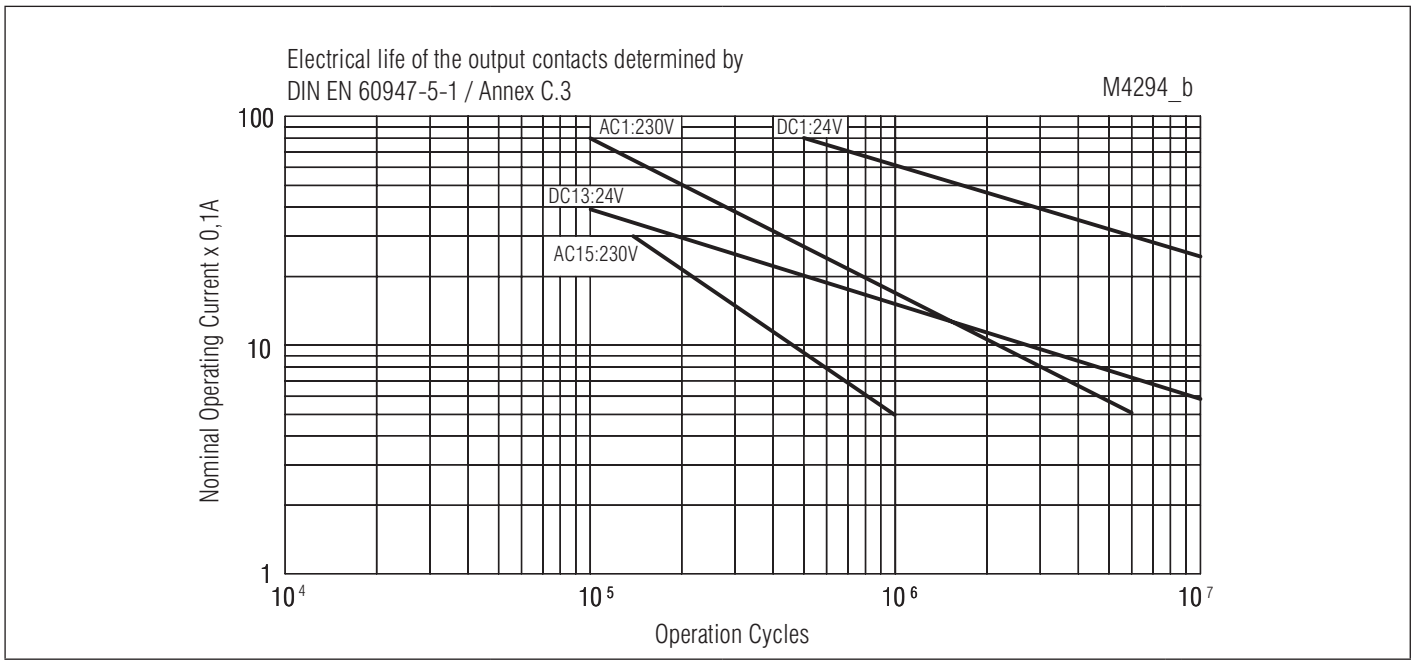
Operating voltage limit curve
without influence through self-heating of
surrounding components



Arc limit curve (load limit curve)

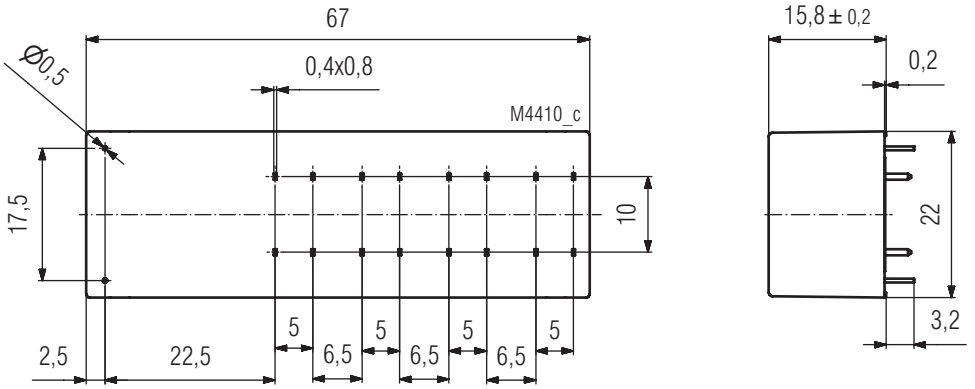


Reduction factor for inductive loads

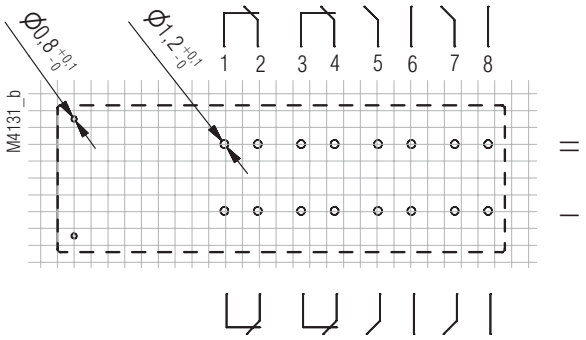


Electrical life

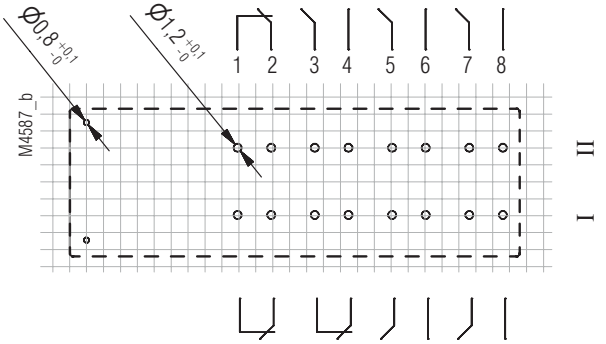
Pin configuration W1 / W5



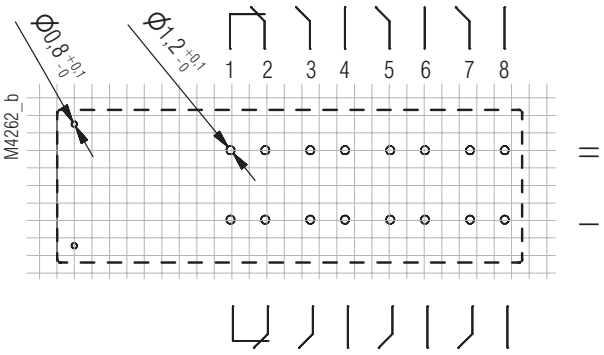
Pin configuration W1
Drilling plan (solder side)



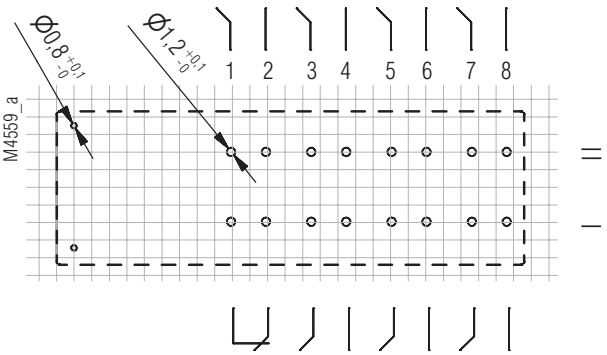
OA5623.57/_ _ _ _W1 4NO/4NC



OA5623.58/_ _ _ _W1 5NO/3NC

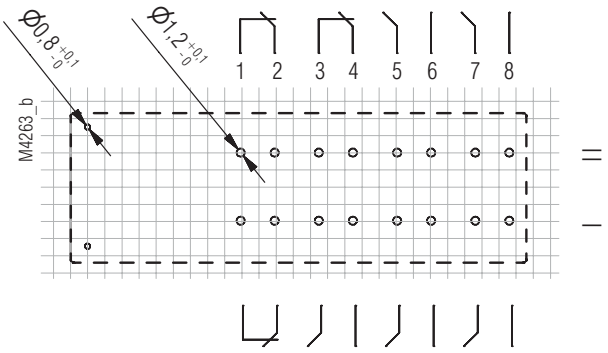


OA5623.59/_ _ _ _W1 6NO/2NC

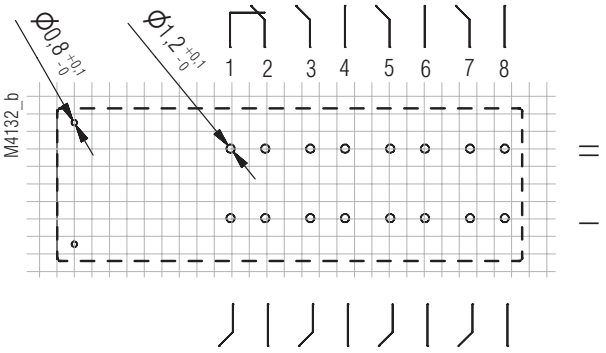


OA5623.63/_ _ _ _W1 7NO/1NC

Pin configuration W5
Drilling plan (solder side)



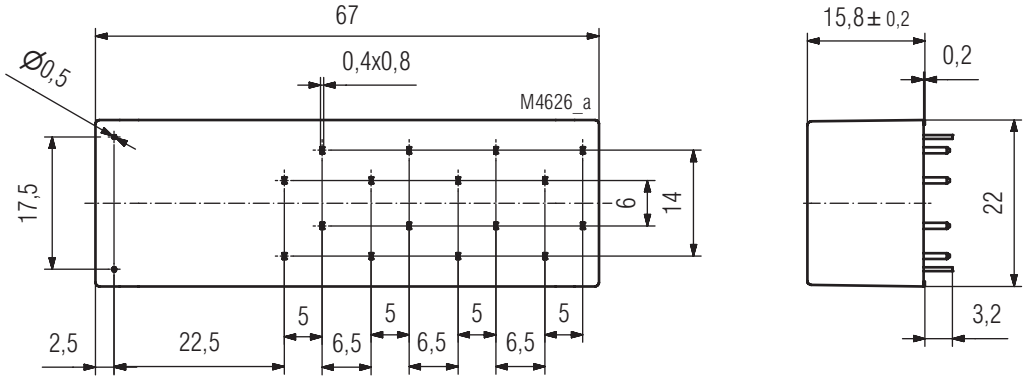
OA5623.58/_ _ _ _W5 5NO/3NC



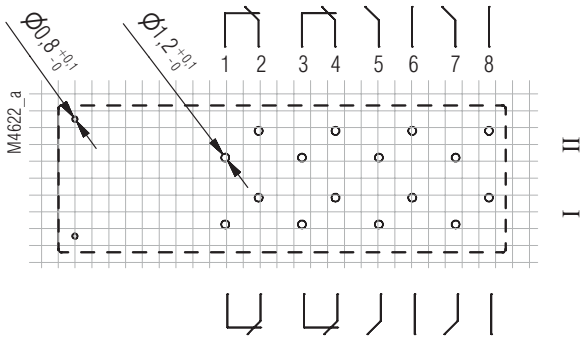
OA5623.63/_ _ _ _W5 7NO/1NC

Connection for basic grid divensions 2.50 mm as well as 2.54 mm according to IEC/EN 60 097, IEC 60 326

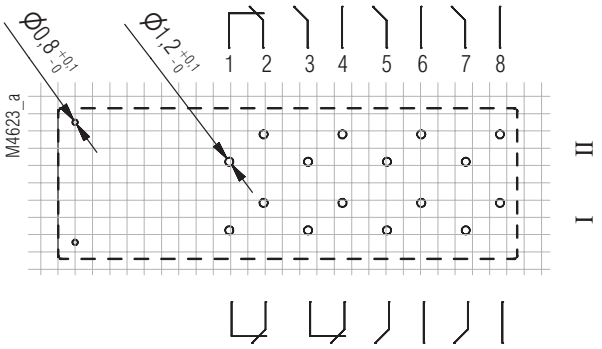
Pin configuration W7 / W8



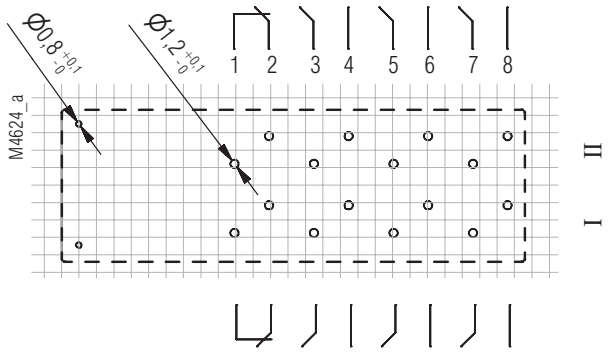
Pin configuration W7
Drilling plan (solder side)



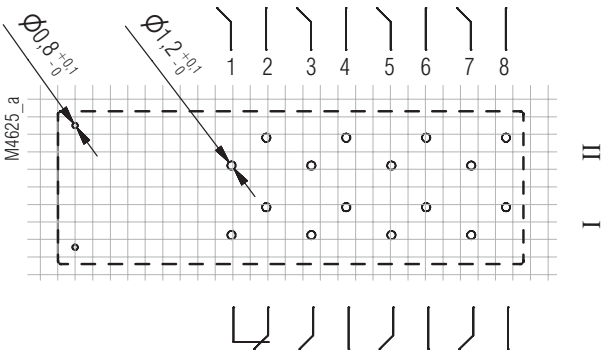
OA5623.57/_ _ _ _W7 4NO/4NC



OA5623.58/_ _ _ _W7 5NO/3NC

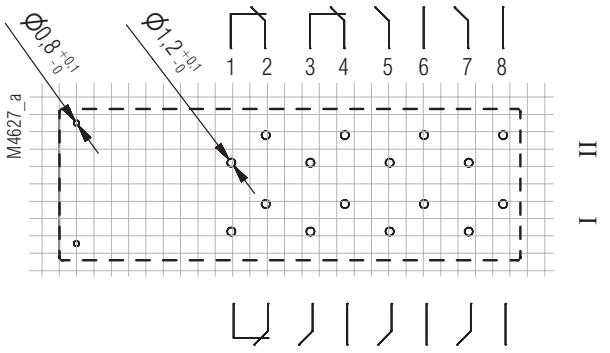


OA5623.59/_ _ _ _W7 6NO/2NC

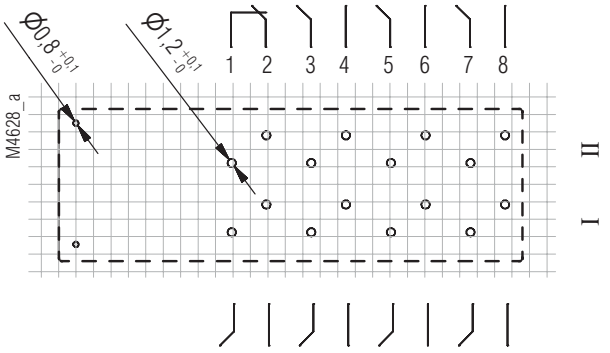


OA5623.63/_ _ _ _W7 7NO/1NC

Pin configuration W8
Drilling plan (solder side)



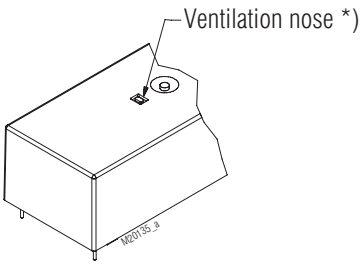
OA5623.58/_ _ _ _W8 5NO/3NC



OA5623.63/_ _ _ _W8 7NO/1NC

Connection for basic grid divensions 2.50 mm as well as 2.54 mm according to IEC/EN 60 097, IEC 60 326

Notes



*) When using the maximum switching capacity it is recommended to open the relay at the indicated position.