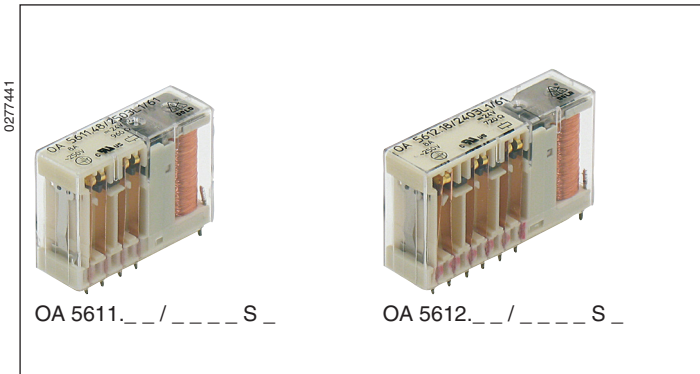


## Safety relays, sensitive

OA 5611. \_ \_ / \_ \_ \_ \_ S \_ ; OA 5612. \_ \_ / \_ \_ \_ \_ S \_

Translation  
of the original instructions



- According to DIN EN 61810-1, DIN EN 61810-3 (Type A)
- With forcibly guided contacts
- High switching reliability due to crown contacts
- Very low rated power consumption  
OA 5611: 0.36 W with 4 contacts  
OA 5612: 0.5 W with 6 contacts
- High mechanical service life
- High temperature range - 40 ... + 85 °C
- Compact size

### Applications

- To be used in electrical circuits for safety applications.
- Escalators and walkways
- Elevators for men and load
- Railway technology

### Approvals and Markings



### Technical Data

Relay type	OA 5611. _ _ / _ _ _ _ S _	OA 5612. _ _ / _ _ _ _ S _
<b>1.0 Relay coil</b>		
1.1 Nominal voltage	DC 6, 12, 24, 48, 60, 110 V	(others on request) polarised
1.2 Nominal consumption	0.36 W	0.5 W / 0.8 W <sup>3)</sup>
1.11 Voltage range	0.75 ... 1.8 U <sub>N</sub>	
1.13 Holding power (at 0,5 U <sub>N</sub> )	0.1 W	0.13 W / 0.2 W <sup>3)</sup>
<b>2.0 Contacts</b>		
2.1 Contact arrangement (Type A)	2 NO / 2 NC 3 NO / 1 NC	2 NO / 4 NC 3 NO / 3 NC 4 NO / 2 NC 5 NO / 1 NC
2.2 Contact material	AgSnO <sub>2</sub> + 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) <sup>1)</sup>	
2.4 Limit. contin. current I <sub>b</sub> max. Switching current min./max	3 x 6 A e.g. 5 x 6 A (see operating voltage limit curve) > 10 mA <sup>4)</sup> / 6 A (2 mA / 0.3 A) <sup>1)</sup>	
2.5 Switching power min./max. Switching power min./max	0.1 VA / 1500 VA (10 mVA / 12 VA) <sup>1)</sup> 0.1 W <sup>4)</sup> / 200 W (10 mW / 12 W) <sup>1)</sup> (see limit curve for arc-free operation)	
2.6 Switching capacity to IEC/EN 60947-5-1 AC 15 <sup>5)</sup> AC 15 <sup>6)</sup> DC 13 <sup>5)</sup> DC 13 <sup>5)</sup> at 0.1 Hz to UL 508	NO: AC 250 V / 2 A NO: AC 250 V / 3 A NO: DC 24 V / 1 A NO: DC 24 V / 4 A	NC: AC 250 V / 1 A NC: AC 250 V / 2 A NC: DC 24 V / 1 A NC: DC 24 V / 4 A
2.7 Electrical life at AC 230 V, 6 A, cosφ = 1	At 1 s On, 1 s Off (see contact service life) > 3 x 10 <sup>5</sup> switching cycles AgSnO <sub>2</sub>   > 2 x 10 <sup>5</sup> switching cycles AgNi 10	
2.8 Switching frequency max.	10 switching cycles/s	
2.9 Response time / Release time	Typically 20 ms / Typically 6 ms	
2.10 Contact force	≥ 8 cN	
2.14 Contact gap	> 0.5 mm <sup>2)</sup>	
<b>3.0 Other</b>		
3.1 Mechanical life	≥ 50 x 10 <sup>6</sup> switching cycles	
3.2 Temperature range	- 40 ... + 85 °C	
3.3 Degree of protection	Solder line proof RT II	
3.4 Test procedure	A (group mounting)	
3.5 Vibration resistance	10 ... < 60 Hz; 0,35 mm Amplitude IEC/EN 60068-2-6 60 ... 200 Hz, ≤ 5g (all contacts) IEC/EN 60068-2-6	
3.6 Climate resistance	40 / 085 / 04; A / B / D IEC/EN 60068-1	
3.7 Short circuit strength 1 kA / AC 250 V	AgSnO <sub>2</sub> NO: 10 A gG / gL / NC: 10 A gG / gL IEC/EN 60947-5-1 AgNi NO: 6 A gG / gL / NC: 6 A gG / gL IEC/EN 60947-5-1	

<sup>1)</sup> Values for AgNi10-contacts + 5 µm Au

<sup>3)</sup> OA 5612.50 (2 NO contacts / 4 NC contacts)

<sup>5)</sup> Values for AgNi-Contacts

<sup>2)</sup> Over entire service life acc. to DIN EN 61810-3

<sup>4)</sup> Typical values for AgSnO<sub>2</sub> and AgNi

<sup>6)</sup> Values for AgSnO<sub>2</sub>-Contacts

## Technical Data

3.8	Insulation acc. to IEC 60664-1, EN 50178		
	Rated insulation voltage		AC 250 V
	Pollution degree		3
	Overtoltage category		III
	Test voltage		
	Contact - Coil (1 min)		≥ AC 4 kV eff.
	Contact - Contact (1 min)		≥ AC 2.5 kV eff.
	Contact open (1 min)		≥ AC 1.5 kV eff.
	Transient voltage		
	Contact - Coil (1,2 - 50 μs)		≥ 6 kV
	Clearance and creepage distances		
	Contact - Coil		≥ 8 mm
	Contact side-Contact side		≥ 4.5 mm
	Contact - Contact		≥ 4.5 mm
3.9	Weight	Approx. 35 g	Approx. 38 g
<b>4.0 Packing</b>			
4.1	On cardboard	30 pieces	20 pieces
4.2	In case package	150 pieces	100 pieces
<b>5.0 Solder method</b>			
5.1	Solder method /-temperature /-duration	Wave soldering / 260 °C / 5 s	

## Design versions

OA 5611					OA 5612							
U <sub>N</sub> (DC V)	Voltage range (DC V)	R <sub>Coil</sub> Ω±10%	.48	.52	U <sub>N</sub> (DC V)	Voltage range (DC V)	R <sub>Coil</sub> Ω±10%	.18	.54	.60	R <sub>Coil</sub> Ω±10%	.50
			3 NO / 1 NC	2 NO / 2 NC				3 NO / 3 NC	4 NO / 2 NC	5 NO / 1 NC		2 NO / 4 NC
6	4.5 ... 9.0	100			6	4.5 ... 9.0	70				45	
12	9.0 ... 18.0	400			12	9.0 ... 18.0	290				180	
24	18.0 ... 36.0	1600			24	18.0 ... 36.0	1150				720	
48	36.0 ... 72.0	6400			48	36.0 ... 72.0	4600				2880	
60	45.0 ... 90.0	10000			60	45.0 ... 90.0	7200				4500	
110	82.5 ... 165.0	33600			110	82.5 ... 165.0	24200				15125	
			on request					on request				on request

## Ordering Example

OA 5611 . \_ \_ / \_ \_ \_ S \_ / 61\*)

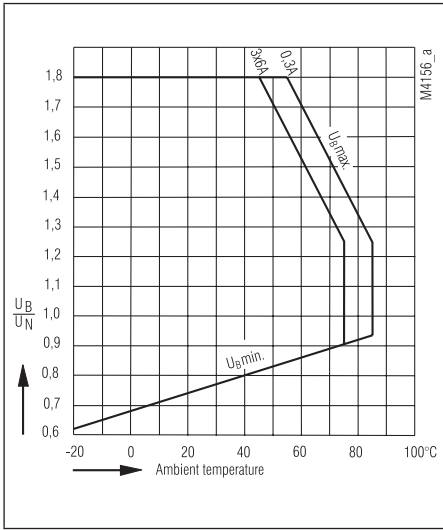
- Voltage, contact material, sensitive
- Contact arrangement (Type A)
  - .48 3 NO contacts, 1 NC contact
  - .52 2 NO contacts, 2 NC contacts
- Relay type

## Notes

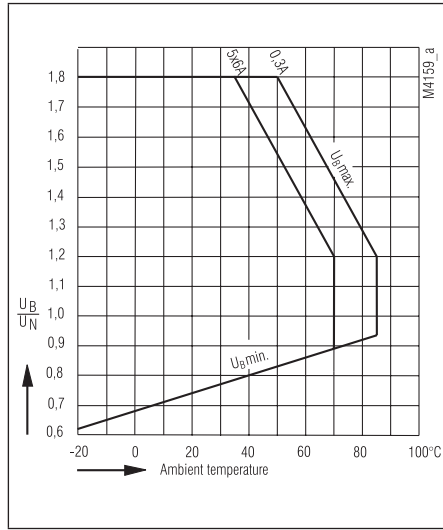
For the use and processing of our PCB relays, please refer to the **application and processing instructions** at [www.dold.com](http://www.dold.com)

\*) / 61 cURus approval

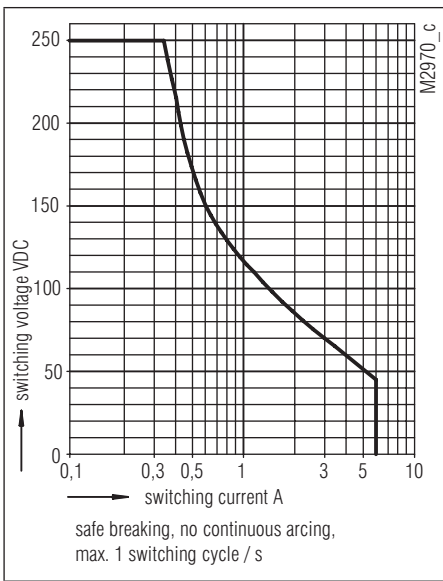
**Characteristics**



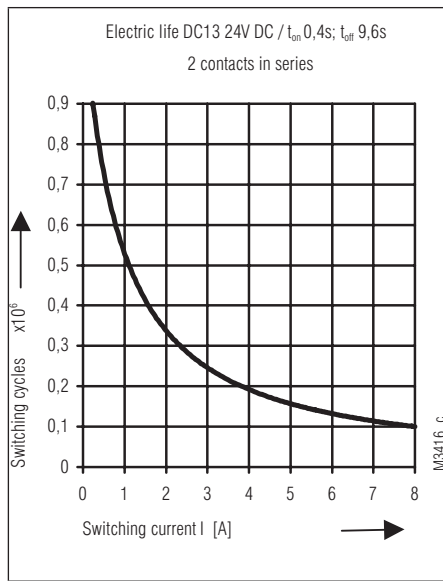
Operating voltage limit curve OA 5611



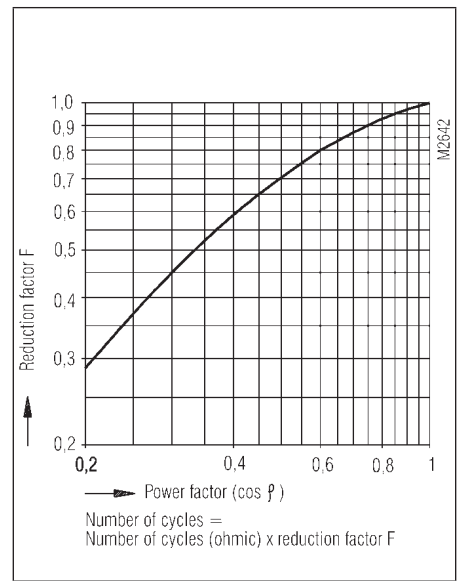
Operating voltage limit curve OA 5612



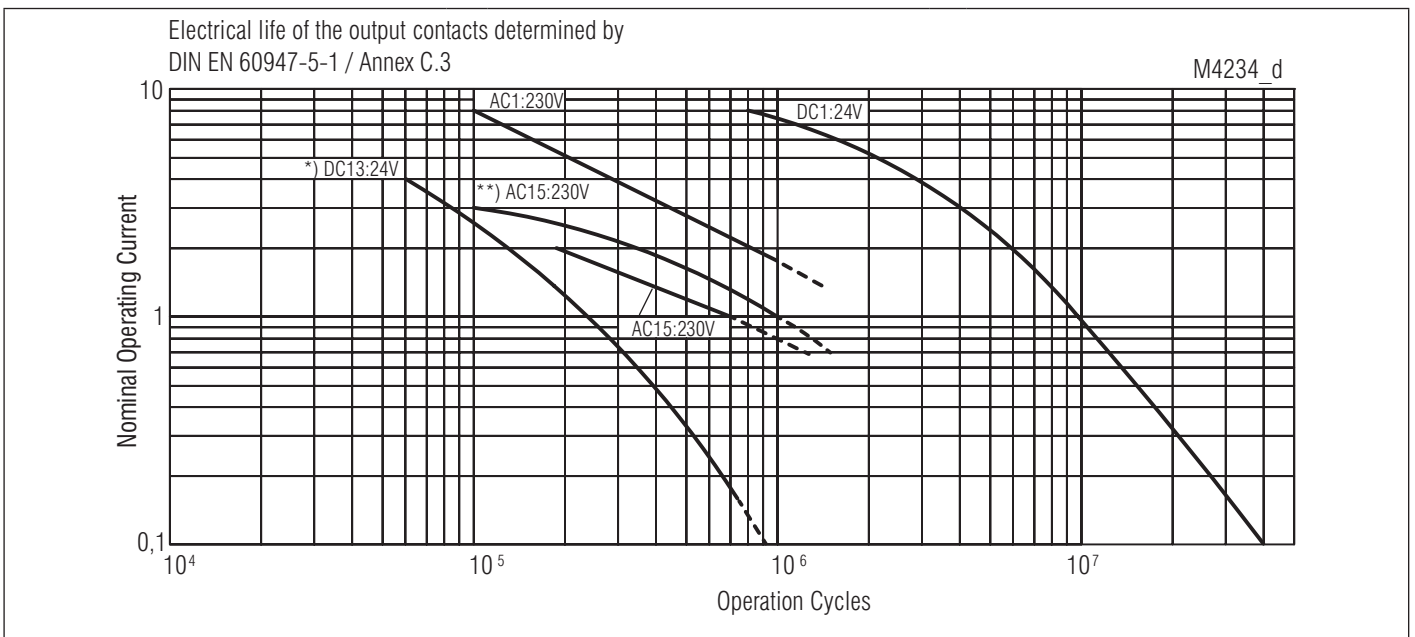
Arc limit curve (load limit curve)



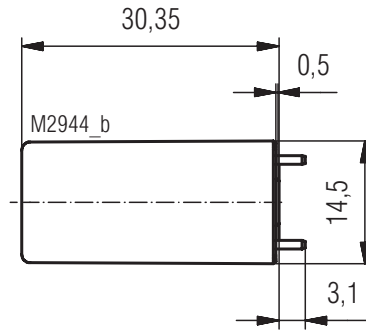
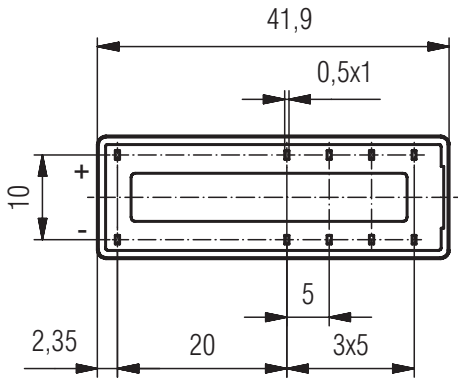
Electric life



Reduction factor for inductive loads

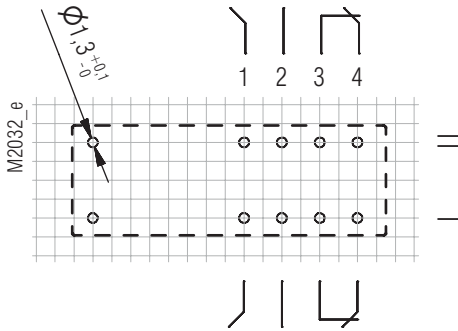


Electrical life for contact material AgNi  
 \*) ≤ 1 A with 1 Hz  
 > 1 A ... 4 A with 0.1 Hz  
 \*\*) for AgSnO<sub>2</sub>

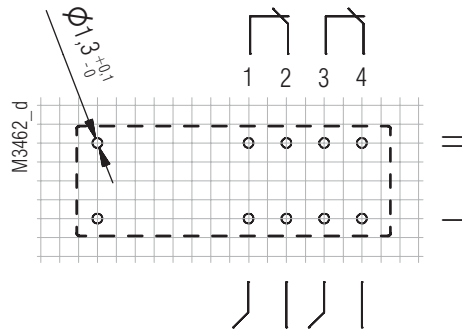


Drilling plan (solder side)

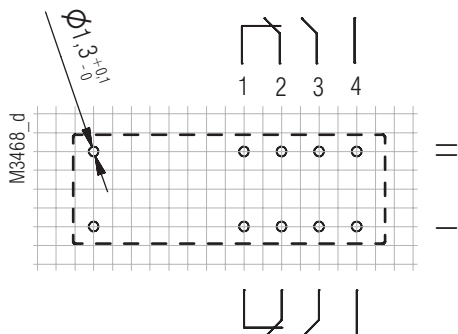
Pin arrangement OA 5611.52/...S1 2NO / 2NC



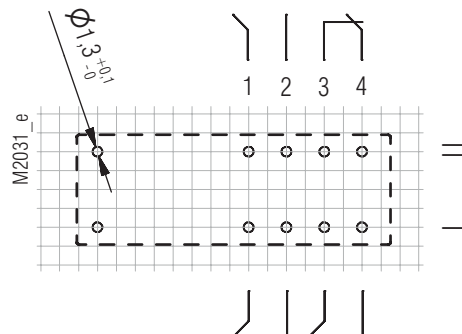
Pin arrangement OA 5611.52/...S4 2NO / 2NC



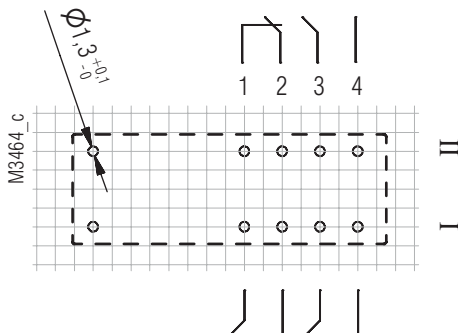
Pin arrangement OA 5611.52/...S5 2NO / 2NC



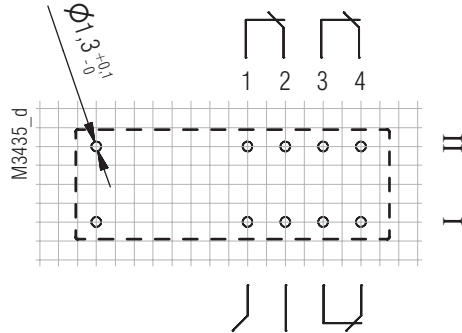
Pin arrangement OA 5611.48/...S1 3NO / 1NC  
OA 5611.48/...S6 3NO / 1NC (wash proof)



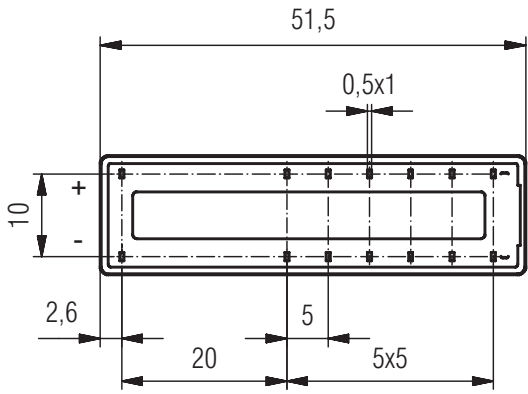
Pin arrangement OA 5611.48/...S4 3NO / 1NC  
OA 5611.48/...S7 3NO / 1NC (wash proof)



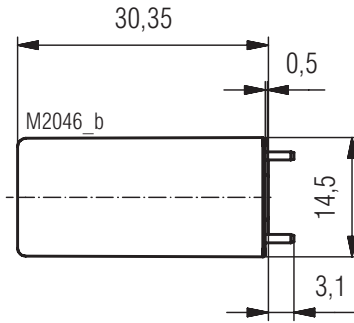
Pin arrangement OA 5611.28 1NO / 3NC



Connection for basic grid dimensions 2.5 mm as well as 2.54 mm according to IEC/EN 60097 and IEC 60326 average

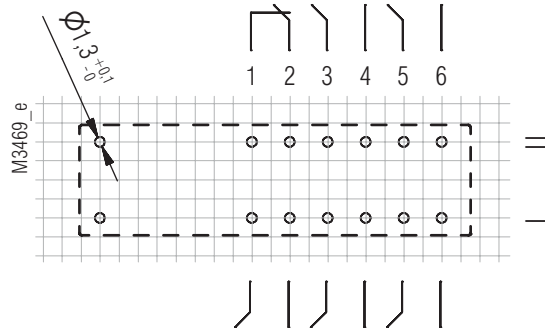


Drilling plan (solder side)

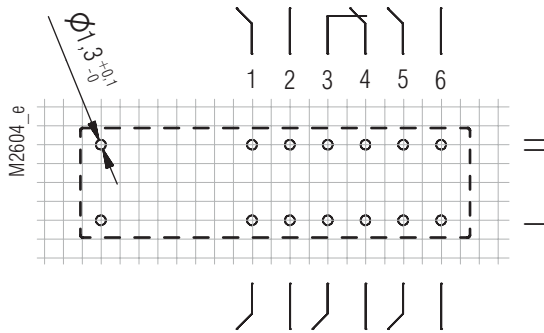


Drilling plan (solder side)

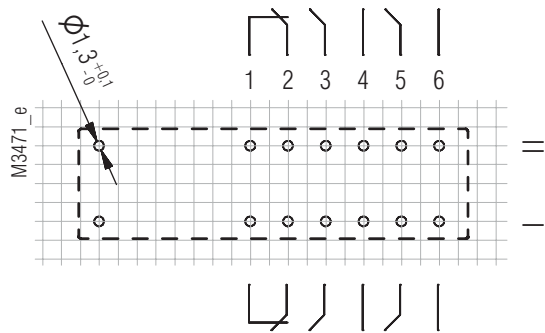
Pin arrangement OA 5612.60/...S4 5NO / 1NC



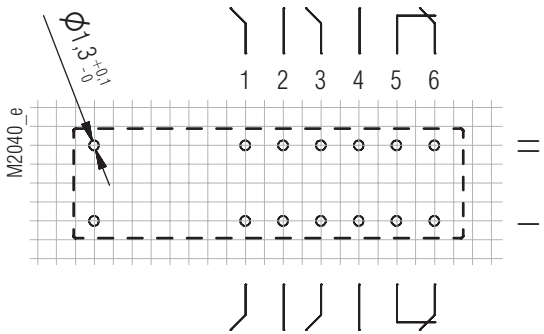
Pin arrangement OA 5612.60/...S1 5NO / 1NC



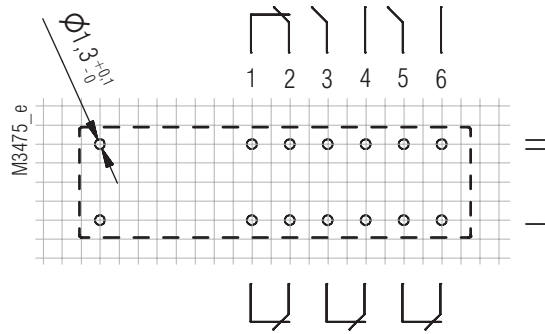
Pin arrangement OA 5612.54/...S4 4NO / 2NC



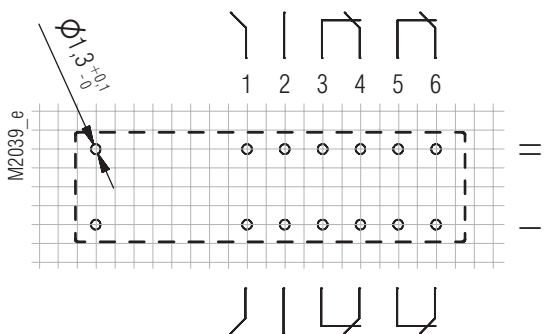
Pin arrangement OA 5612.54/...S1 4NO / 2NC



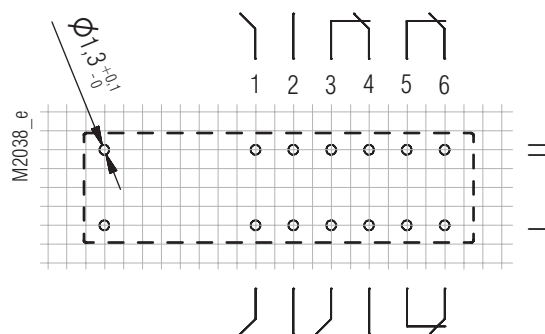
Pin arrangement OA 5612.50/...S4 2NO / 4NC



Pin arrangement OA 5612.50/...S1 2NO / 4NC



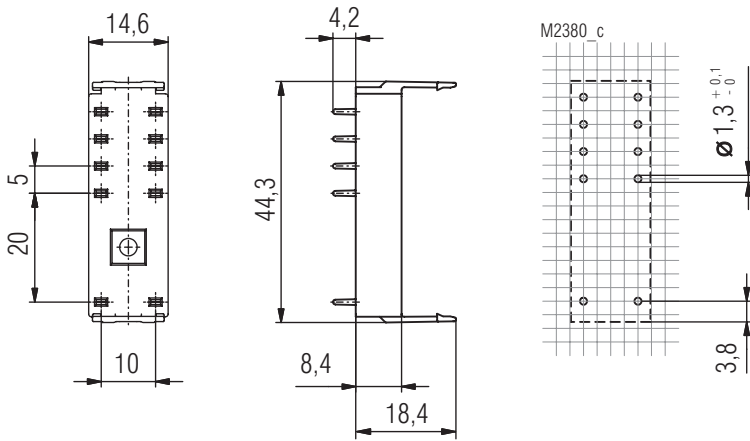
Pin arrangement OA 5612.18/...S1 3NO / 3NC



Connection for basic grid dimensions 2.5 mm as well as 2.54 mm according to IEC/EN 60097 and IEC 60326 average

Relay socket ET 1415.031/61 for OA 5611

Article number: 0049512



Relay socket ET 1415.032/61 for OA 5612

Article number: 0049513

