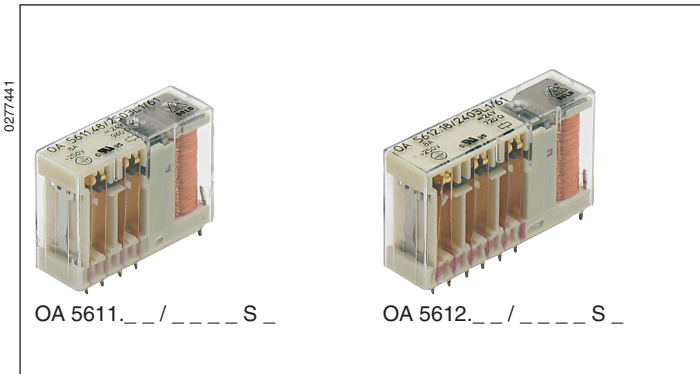


## Safety relays, sensitive

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

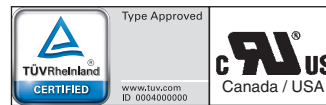


- According to DIN EN 61810-1, DIN EN 61810-3 (Type A)
- With forcibly guided contacts
- High switching reliability due to crown contacts
- Very low rated power consumption  
OA 5611: 0.36 W with 4 contacts  
OA 5612: 0.5 W with 6 contacts
- High mechanical service life
- High temperature range - 40 ... + 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 V	6, 12, 24, 48, 60, 110 (others on request) polarised	
1.2 Nominal consumption	W	0.36	0.5 / 0.8 <sup>3)</sup>
1.11 Voltage range	U <sub>N</sub>	0.75 ... 1.8	
1.13 Holding power (at 0,5 U <sub>N</sub> )	W	0.1	0.13 / 0.2 <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 V	250	
Switching voltage min./max	V	AC/DC 10 / DC 250, AC 400 (AC/DC 2 V / 60 V) <sup>1)</sup>	
2.4 Limit. contin. current I <sub>b</sub> max.	A	3 e.g. 5 x 6 (see operating voltage limit curve)	
Switching current min./max	A	> 10 mA <sup>4)</sup> / 6 (2 mA / 0.3 A) <sup>1)</sup>	
2.5 Switching power min./max.	VA	0.1 / 1500 (10 mVA / 12 VA) <sup>1)</sup>	
Switching power min./max	W	0.1 <sup>4)</sup> / 200 (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 V/A	NO: 250 / 2	NC: 250 / 1
AC 15 <sup>6)</sup>	AC V/A	NO: 250 / 3	NC: 250 / 2
DC 13 <sup>5)</sup>	DC V/A	NO: 24 / 1	NC: 24 / 1
DC 13 <sup>5)</sup> at 0.1 Hz	DC V/A	NO: 24 / 4	NC: 24 / 4
to UL 508		B300	
2.7 Electrical life		at 1 s On, 1 s Off (see contact service life)	
at AC 230 V, 6 A, cosφ = 1	switching cycles	> 3 x 10 <sup>5</sup> AgSnO <sub>2</sub>	> 2 x 10 <sup>5</sup> AgNi 10
2.8 Switching frequency max.	switching cycles/s	10	
2.9 Response time / Release time	ms	typically 20 / typically 6	
2.10 Contact force	cN	≥ 8	
2.14 Contact gap	mm	> 1 (normal operation) / > 0.5 <sup>2)</sup> (under fault)	
<b>3.0 Other</b>			
3.1 Mechanical life	switching cycles	≥ 50 x 10 <sup>6</sup>	
3.2 Temperature range	°C	- 40 ... + 85	- 40 ... + 85
3.3 Degree of protection		Solder line proof RT II	
3.4 Test procedure		A (group mounting)	
3.5 Vibration resistance		10 ... 200 Hz; 0.35 mm amplitude; 3 g max. 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> AgNi	NO: 10 A gL / NC: 10 A gL NO: 6 A gL / NC: 6 A gL	IEC/EN 60947-5-1 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, even under fault and at 1.5 x U<sub>N</sub>

<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 V		250
	Pollution degree			3
	Overvoltage category			III
	Test voltage			
	Contact - Coil (1 min)	AC kV eff.		≥ 4
	Contact - Contact (1min)	AC kV eff.		≥ 2.5
	Open contact acc. to DIN EN 61810-1	AC kV eff.		1.5
	Transient voltage			
	Contact - Coil (1,2 - 50 μs)	kV		≥ 6
	Clearance and creepage distances			
	Contact - Coil	mm		≥ 8
	Contact side-Contact side	mm		≥ 4.5
	Contact - Contact	mm		≥ 4.5
3.9	Weight	g	approx. 35	approx. 38
<b>4.0 Packing</b>				
4.1	on cardboard	piece	30	20
4.2	in case package	piece	150	100
<b>5.0 Solder method</b>				
5.1	Solder method /-temperature /-duration	°C / s	Wave soldering / 260 / 5	

## Design Versions

OA 5611					OA 5612							
U <sub>N</sub> (DC V)	Voltage range (DC V)	R <sub>Coil</sub> at 20 °C Ω	.48	.52	U <sub>N</sub> (DC V)	Voltage range (DC V)	R <sub>Coil</sub> at 20 °C Ω	.18	.54	.60	R <sub>Coil</sub> at 20 °C Ω	.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	on request		6	4.5 ... 9.0	70	on request			45	on request
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	

## Ordering example

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

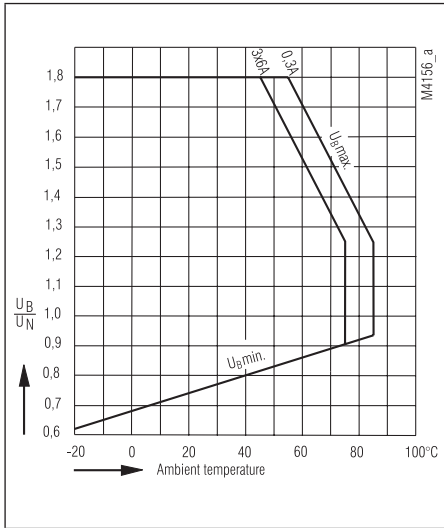
- Voltage, contact material, sensitive
- Contact arrangement (Type A)
  - .48 3 NO contacts, 1 NC contact
  - .52 2 NO contacts, 2 NC contacts
- Relay type

## Note

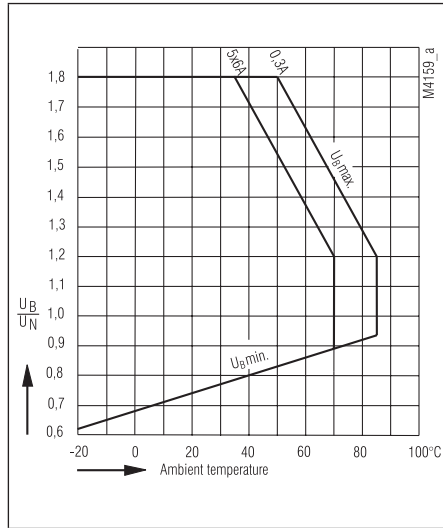
For the use and processing of our PCB relays, please refer to the **application and processing instructions** at [www.dold.com](http://www.dold.com)

\*) / 61 cURus approval

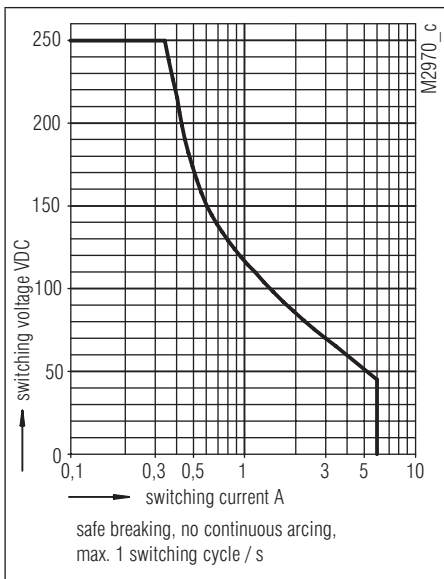
Characteristics



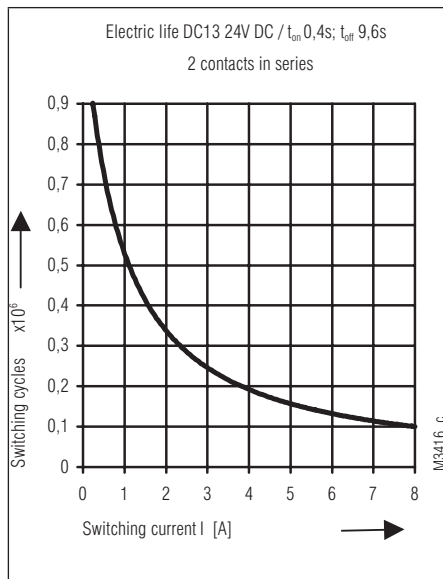
Operating voltage limit curve OA 5611



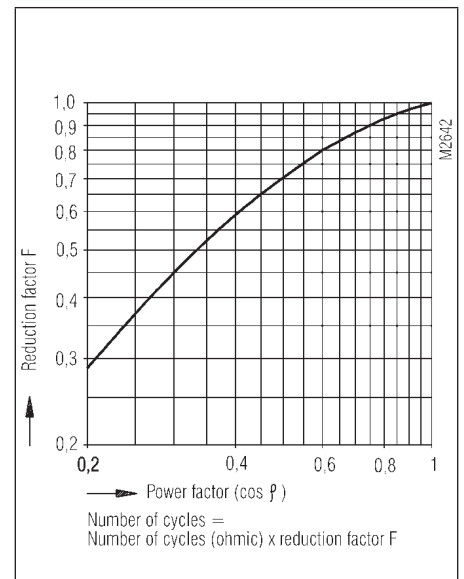
Operating voltage limit curve OA 5612



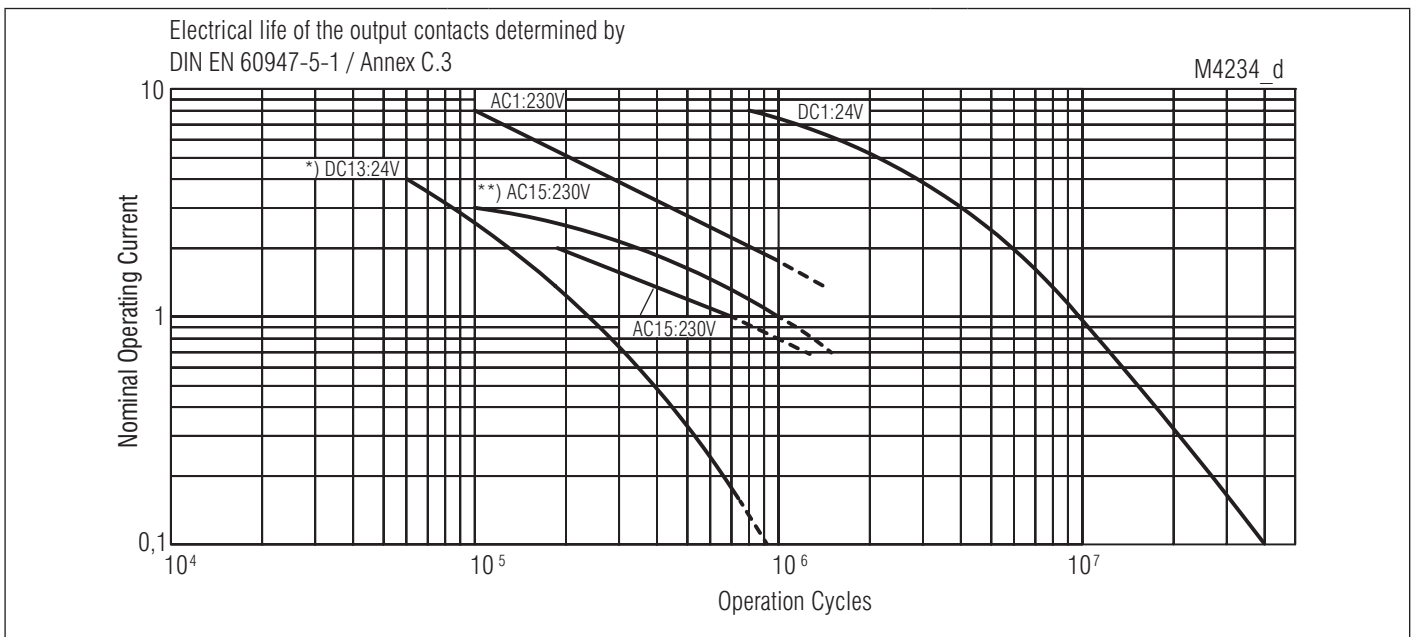
Arc limit curve (load limit curve)



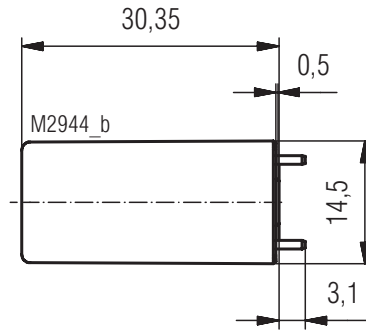
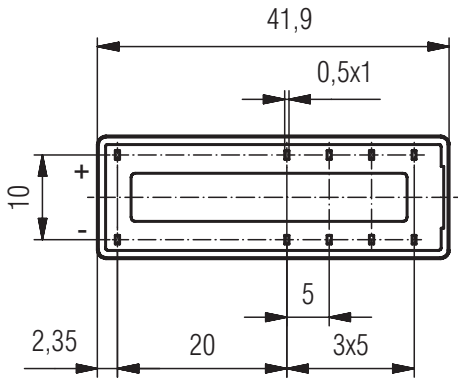
Electric life



Reduction factor for inductive loads

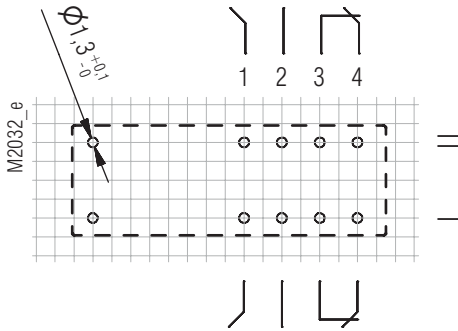


Electrical life for contact material AgNi  
 \*) ≤ 1 A with 1 Hz  
 > 1 A ... 4 A with 0.1 Hz  
 \*\*) for AgSnO<sub>2</sub>

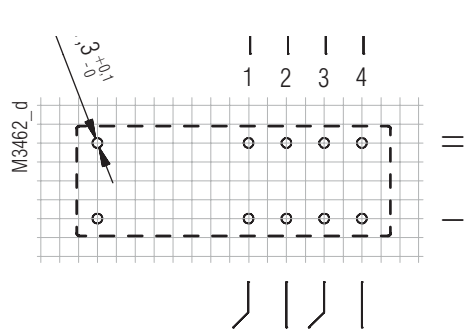


Drilling plan (solder side)

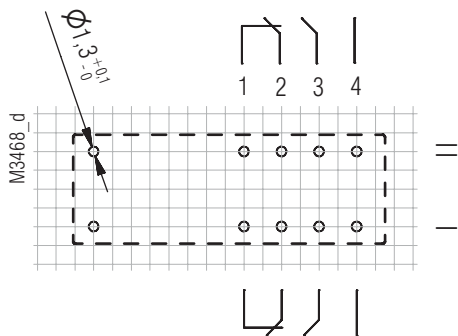
Pin arrangement OA 5611.52/...S1 2NO / 2NC



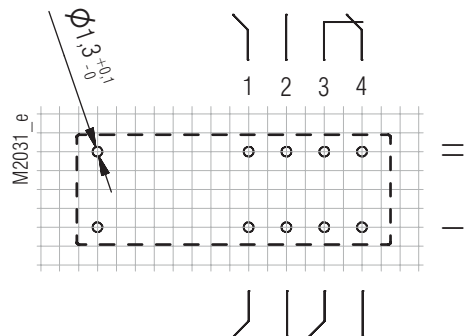
Pin arrangement OA 5611.52/...S4 2NO / 2NC



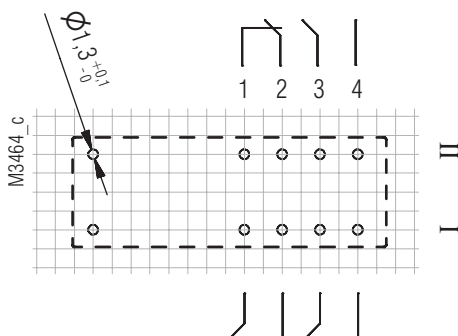
Pin arrangement OA 5611.52/...S5 2NO / 2NC



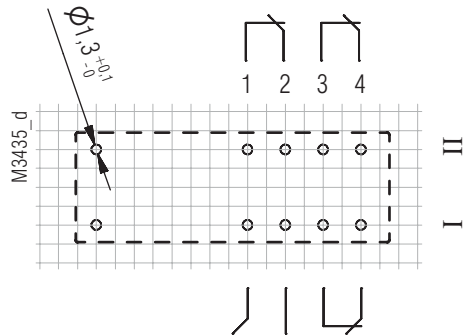
Pin arrangement OA 5611.48/...S1 3NO / 1NC



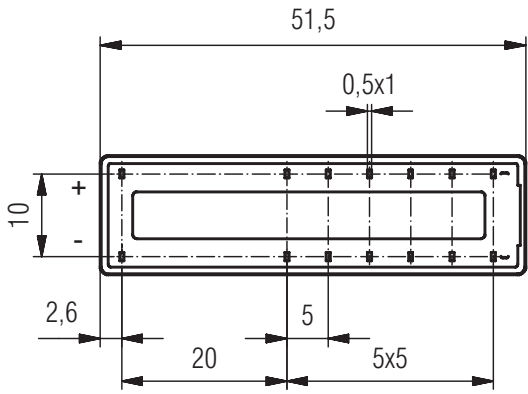
Pin arrangement OA 5611.48/...S4 3NO / 1NC



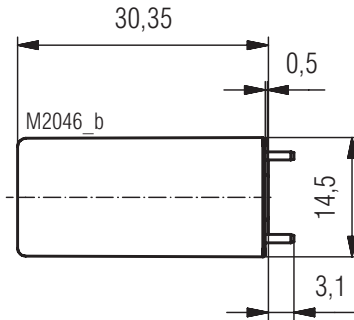
Pin arrangement OA 5611.28 1NO / 3NC



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

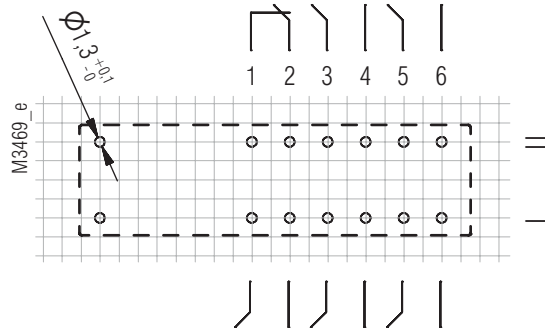


Drilling plan (solder side)

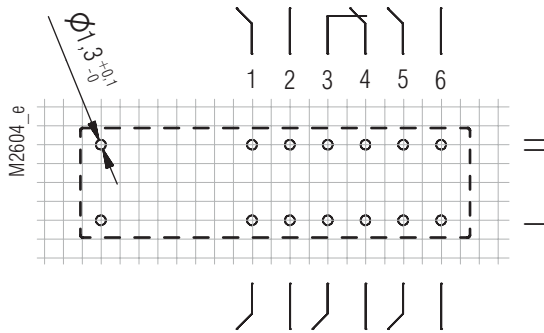


Drilling plan (solder side)

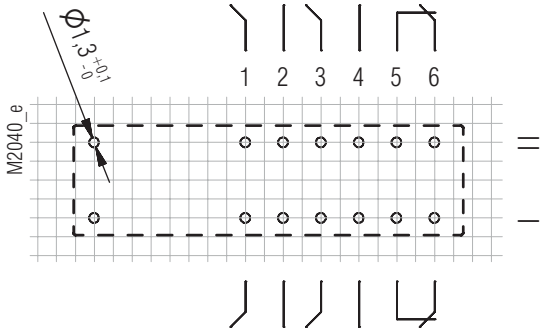
Pin arrangement OA 5612.60/...S4 5NO / 1NC



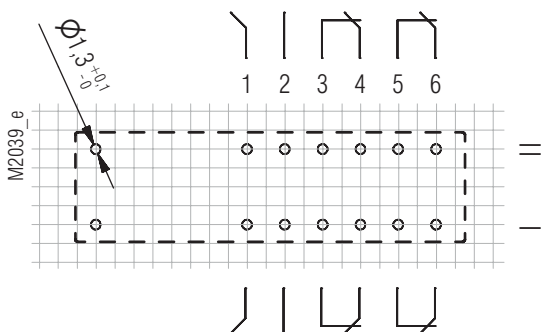
Pin arrangement OA 5612.60/...S1 5NO / 1NC



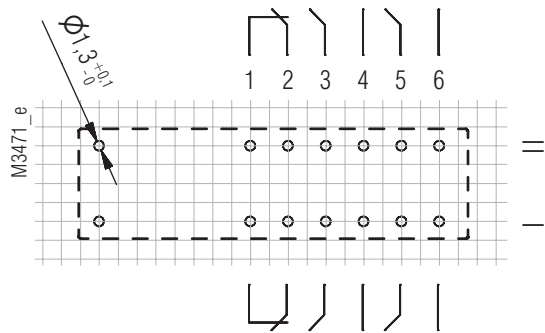
Pin arrangement OA 5612.54/...S1 4NO / 2NC



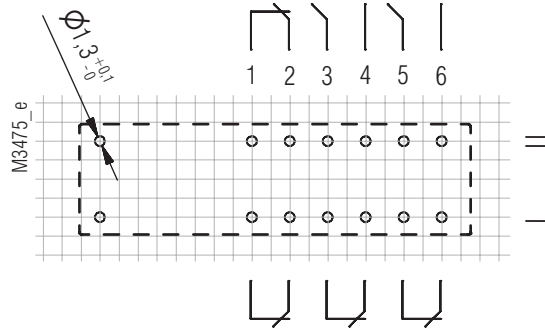
Pin arrangement OA 5612.50/...S1 2NO / 4NC



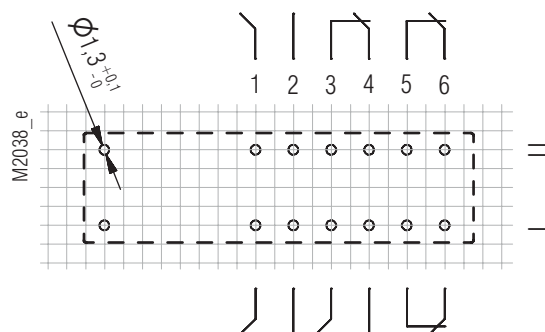
Pin arrangement OA 5612.54/...S4 4NO / 2NC



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



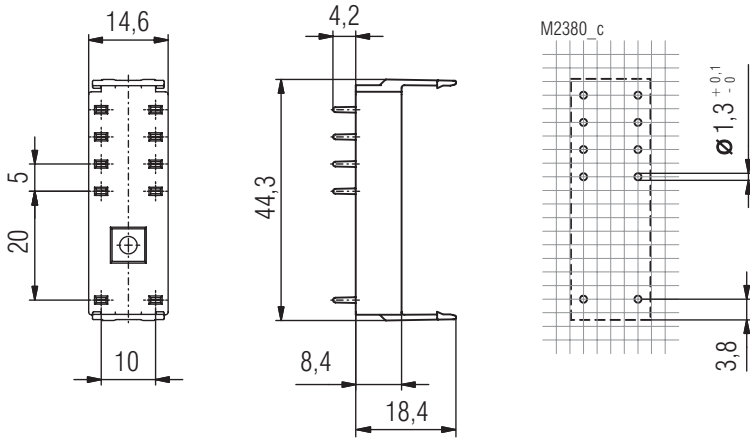
Pin arrangement OA 5612.18/...S1 3NO / 3NC



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

