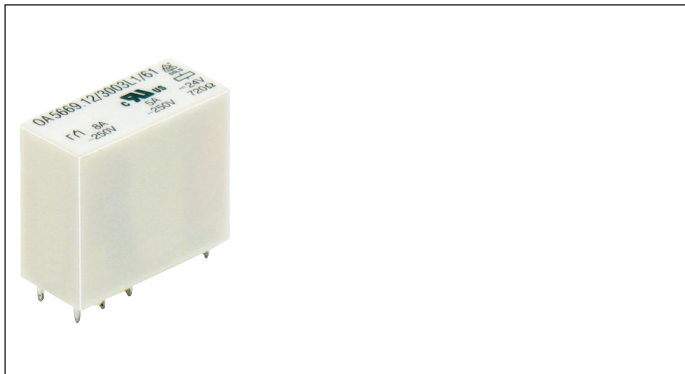


## Safety relay

OA 5669. \_ \_ /3 \_ \_ \_

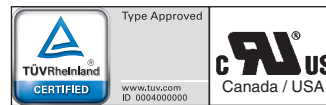


- According to DIN EN 61810-1, DIN EN 61810-3
- Clearance and creepage distances:  
contact - coil  $\geq 8$  mm,  
contact - contact  $\geq 5.5$  mm  
**double and reinforced insulation between contact sets**
- Low rated power consumption
- High mechanical service life
- For high ambient temperature up to  $+ 85^{\circ}\text{C}$
- Compact size, small height
- As option wash proof RT III

### Applications

- Switchgear for safety technology
- Press controls

### Approvals and Markings



### Technical Data

Relaistyp		OA 5669
<b>1.0 Relay coil</b>		
1.1 Nominal voltage	DC V	6; 12; 24; 48; 60; 110 (others on request)
1.2 Nominal consumption	W	0.8
1.11 Voltage range	$U_N$	0.75 ... 1.4
1.13 Holding Power (at $0.5 \times U_N$ )	W	0.2
<b>2.0 Contacts</b>		
2.1 Contact arrangements		2 changeover contacts, 1 NC and 1 NO
2.2 Contact material		$\text{AgSnO}_2 + 0.2 \mu\text{m Au}$ ; $\text{AgNi} + 0.2 \mu\text{m Au}$ , $\text{AgNi} + 5 \mu\text{m Au}$
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 Limiting continuous current $I_{th}$	A	$2 \times 5$ (see operating voltage limit curve)
Switching current min./max.	A	$10 \text{ mA}^{3) / 8 (2 \text{ mA} / 0.3 \text{ A})^{1)}$
2.5 Switching power min./max.	VA	$0.1 / 2000 (10 \text{ mVA} / 12 \text{ VA})^{1)}$
Switching power min./max.	W	$0.1^{3) / 200 (10 \text{ mW} / 12 \text{ W})^{1)}$ (s. limit curve for arc-free operation)
2.6 Switching capacity to IEC/EN 60947-5-1		R300
AC 15 <sup>4)</sup>	AC V/A	NO: 250 / 2 NC: 250 / 1
AC 15 <sup>5)</sup>	AC V/A	NO: 250 / 3 NC: 250 / 2
DC 13 <sup>4)</sup>	DC V/A	NO: 24 / 1 NC: 24 / 1
DC 13 <sup>4)</sup> at 0.1 Hz	DC V/A	NO: 24 / 4 NC: 24 / 4
to UL 508		
2.7 Electrical life	switching cycles	at 1 s On, 1 s Off (see contacts service life)
at AC 230 V, 6 A, $\cos\phi = 1$	switching cycles	$> 2 \times 10^5 \text{ AgNi}$ $> 2 \times 10^5 \text{ AgSnO}_2$
2.8 max. switching frequency	switching cycles/s	10
2.9 Response time / Release time	ms	$\leq 15 / \leq 12$
2.10 Contact force NO / NC	cN	$\geq 13 / \geq 10$
<b>3.0 Other</b>		
3.1 Mechanical life	switching cycles	$\geq 50 \times 10^6$
3.2 Temperature range	$^{\circ}\text{C}$	- 40 ... + 85 mounted without distance ( $I_{th} = 2 \times 5 \text{ A}$ )
3.3 Degree of protection		Solder line proof RT II as option wash proof RT III
3.4 Test procedure		A (group mounting)
3.5 Vibration resistance		10 ... 200 Hz; NC 2 g; NO 10 g; 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	$\text{AgSnO}_2$	10 A gL IEC/EN 60947-5-1
	AgNi	6 A gL IEC/EN 60947-5-1

<sup>1)</sup> Values for AgNi-contacts +  $5 \mu\text{m Au}$

<sup>2)</sup> 10 A total current at  $t = 20^{\circ}\text{C}$  and coil voltage =  $U_N$

<sup>3)</sup> Typical values for  $\text{AgSnO}_2$  and AgNi

<sup>4)</sup> Values for AgNi-contacts

<sup>5)</sup> Values for  $\text{AgSnO}_2$ -contacts

## Technical Data

3.8	Insulation acc. to IEC 60664-1, EN 50178		<b>double and reinforced insulation</b>
	Rated insulation voltage	AC V	250
	Pollution degree		2
	Overtoltage category		III
	Test voltage		
	Contact-coil (1 min)	AC kV eff.	≥ 4
	Contact-contact (1min)	AC kV eff.	≥ 4
	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-contact	mm	≥ 5.5
3.9	Weight	g	approx. 19
<b>4.0 Packing</b>			
4.1	on cardboard	piece	56
4.2	in case package	piece	280
<b>5.0 Solder method</b>			
5.1	Solder method /-temperature /-duration	°C / s	Wafer soldering / 260 / 5

## Design Versions

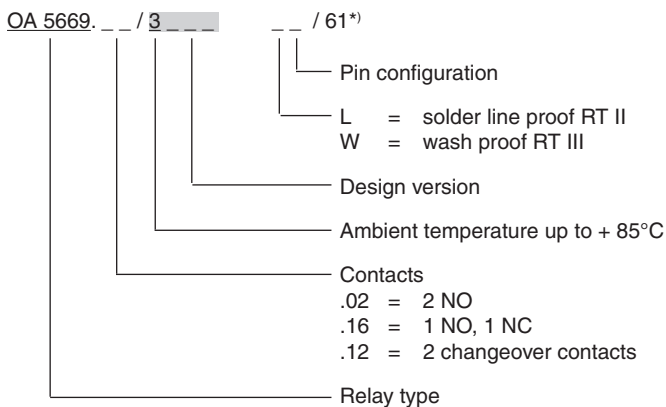
U <sub>N</sub> (DC V)	Voltage range (DC V)	Resistance at 20°C	AgNi-contacts + 0,2 µm Au		
			OA 5669.12	OA 5669.16	
6	4,5 ... 7,8	44	3001	3011	3501
12	9,0 ... 16,8	175	3002	3012	3502
24	18,0 ... 33,6	720	3003	3013	3503
48	36,0 ... 67,0	2880	3004	3014	3504
60	45,0 ... 84,0	4500	3005	3015	3505
110	82,0 ... 154	15000	3006	3016	3506
				1)	2)

U <sub>N</sub> (DC V)	AgNi - contacts + 5 µm Au			AgSnO <sub>2</sub> - contacts + 0,2 µm Au		
	OA 5669.12	OA 5669.16		OA 5669.12	OA 5669.16	
6	3031	3041	3511	3061	3071	3521
12	3032	3042	3512	3062	3072	3522
24	3033	3043	3513	3063	3073	3523
48	3034	3044	3514	3064	3074	3524
60	3035	3045	3515	3065	3075	3525
110	3036	3046	3516	3066	3076	3526
		1)	2)		1)	2)

1) = Pin configuration standard

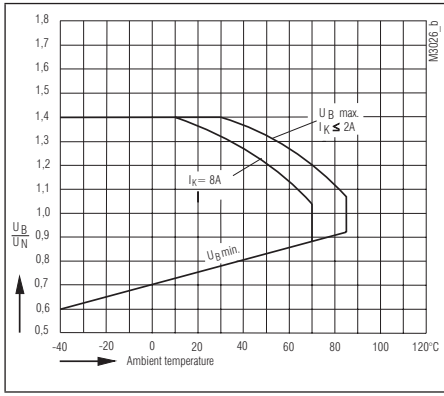
2) = Pin configuration reverse

## Ordering Example

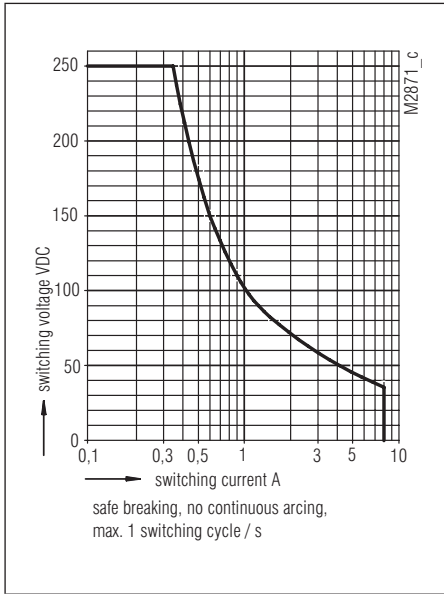


\*) /61 cURus approval

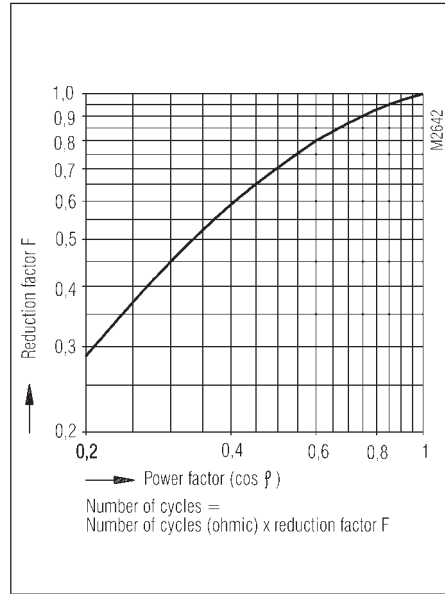
Characteristics



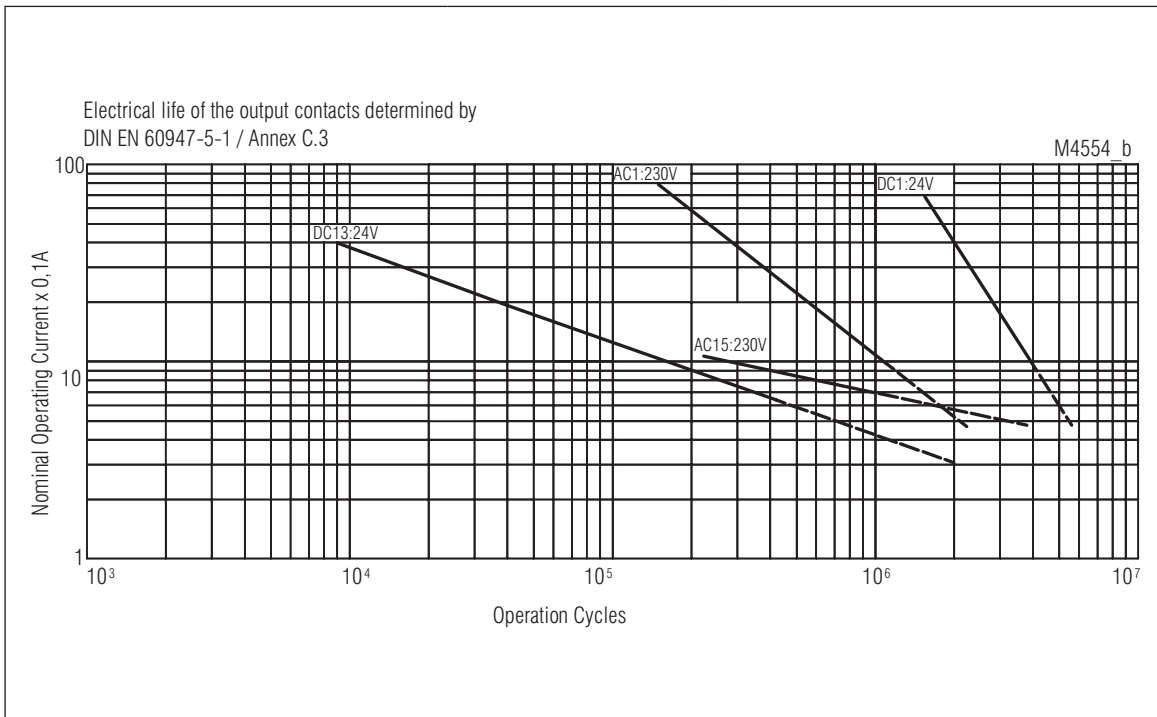
Operating voltage limit curve



Limit curve for arc-free operation



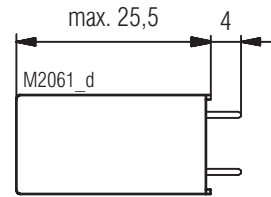
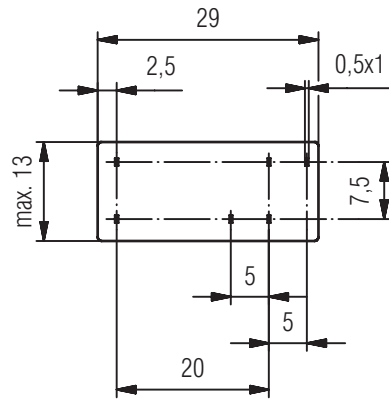
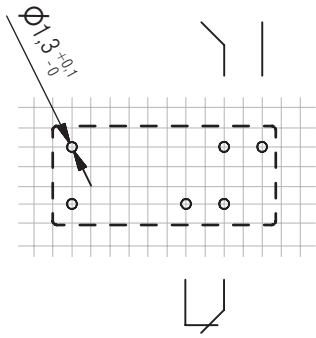
Reduction factor for reactive loads



Electrical life for contact material AgNi

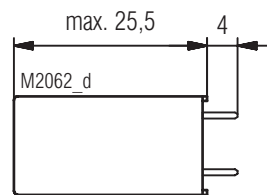
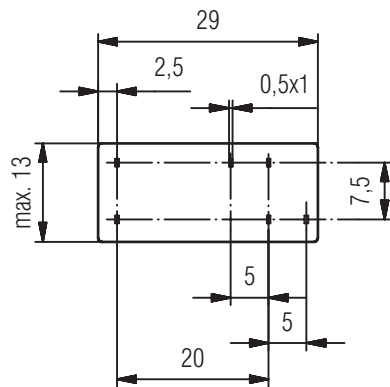
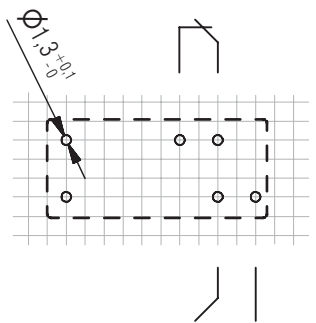
Bohrbild (Lötseite)

Pin configuration standard

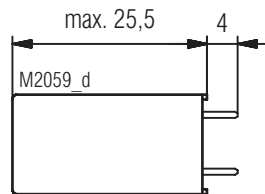
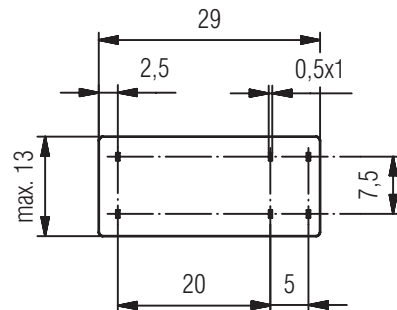
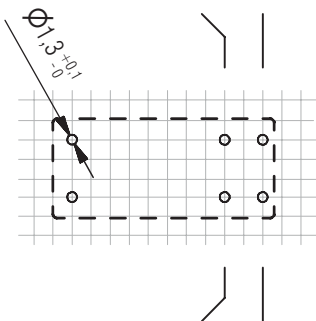


OA5669.16  
OW5669.16

Pin configuration reverse

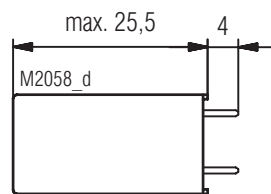
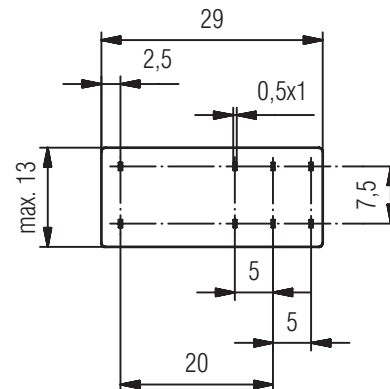
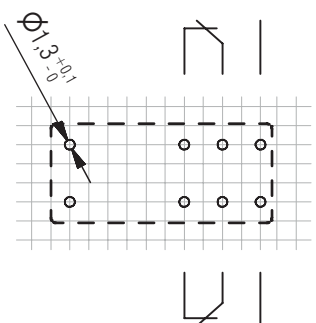


OA5669.16  
OW5669.16



OA5668.02  
OW5668.02

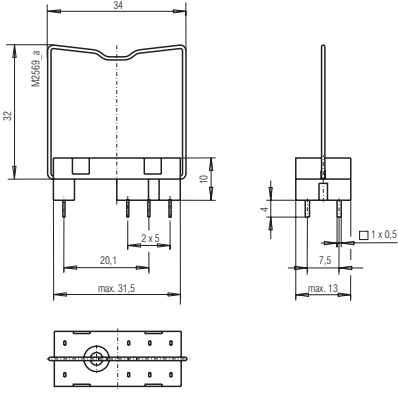
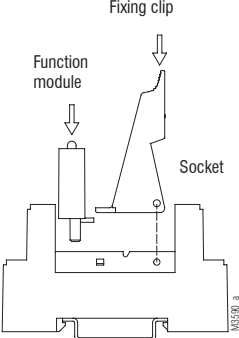
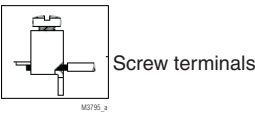
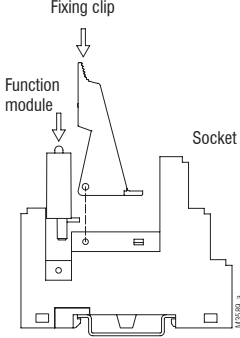
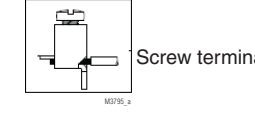
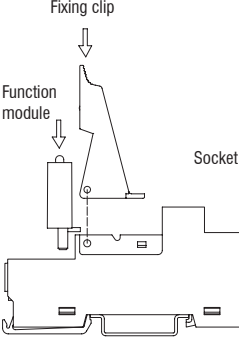
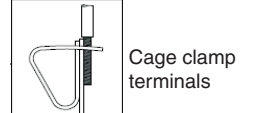
OA5669.02  
OW5669.02



OA5668.12  
OW5668.12

OA5669.12  
OW5669.12

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

<b>Socket ET 1415.021</b> <b>Fixing clip ET 1415.025</b>	<b>Socket ET 1415.041</b>	<b>Socket ET 1415.044</b>	<b>Socket ET 1415.047</b>								
	<ul style="list-style-type: none"> <li>• Socket for DIN-rail</li> <li>• incl. fixing clip</li> </ul>	<ul style="list-style-type: none"> <li>• Socket for DIN-rail</li> <li>• incl. fixing clip</li> </ul>									
	<p>Fixing clip</p>  	<p>Fixing clip</p>  	<p>Fixing clip</p>  								
<p>Article number: 0034769</p>	<p>Article number: 0055571</p>	<p>Article number: 0059274</p>	<p>Article number: 0059270</p>								
	<p>wire connection solid / stranded: 0.14 ... 2.5 mm<sup>2</sup> (14 - 20 AWG) wire connection with sleeved end: 0.14 ... 1.5 mm<sup>2</sup> (14 - 25 AWG)</p>	<p>wire connection solid / stranded: 0.14 ... 2.5 mm<sup>2</sup> (14 - 20 AWG) wire connection with sleeved end: 0.14 ... 1.5 mm<sup>2</sup> (14 - 25 AWG)</p>	<p>wire connection solid / stranded / sleeved end: 2 x (0.2 ... 1.5) mm<sup>2</sup> (16 - 25 AWG)</p>								
<p>Fixing clip (wire): 0034770 Fixing clip (plastic): 0047726</p>	<p><b>Function modules</b></p> <table border="0"> <tr> <td><b>ET1415.913:</b> DC 24 V, with free-wheel diode and green LED</td> <td>Article number: 0056828</td> </tr> <tr> <td><b>ET1415.911:</b> DC 24 V, with free-wheel diode and red LED</td> <td>Article number: 0055909</td> </tr> <tr> <td><b>ET1415.924:</b> DC 60 V, with free-wheel diode and red LED</td> <td>Article number: 0062552</td> </tr> <tr> <td><b>ET1415.912:</b> AC/DC 24 V, with varistor and green LED</td> <td>Article number: 0055910</td> </tr> </table>			<b>ET1415.913:</b> DC 24 V, with free-wheel diode and green LED	Article number: 0056828	<b>ET1415.911:</b> DC 24 V, with free-wheel diode and red LED	Article number: 0055909	<b>ET1415.924:</b> DC 60 V, with free-wheel diode and red LED	Article number: 0062552	<b>ET1415.912:</b> AC/DC 24 V, with varistor and green LED	Article number: 0055910
<b>ET1415.913:</b> DC 24 V, with free-wheel diode and green LED	Article number: 0056828										
<b>ET1415.911:</b> DC 24 V, with free-wheel diode and red LED	Article number: 0055909										
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