



# Safety relay

## OA / OW 5669



- according to EN 50 205, IEC/EN 60 255, IEC 60 664-1
- with positively driven contacts
- wash proof model as option
- **double and reinforced insulataion between contact sets according to EN 50 178**
- low rated power consumption
- high mechanical service life
- compact size, small height
- Approvals:  

**TUV** approval: R 9012316

### Applications:

ZH1/457 press controls  
Switchgear for safety technology



OA / OW 5669

## Technical data

Relay type		OA 5669
<b>1. 0 Relay coil</b>		
1. 1 Nominal voltage	DC V	6, 12, 20, 24, 48, 60, 110 other on request
1. 2 Nominal consumption	W	0,7
<b>2. 0 Contacts</b>		
2. 1 Contact arrangement		1 NC / 1NO 2 changeover contacts, 1 No and 1 changeover contact
2. 2 Contact material		AgNi + 0,2 µm Au, optionally + 5 µm Au; AgSnO <sub>2</sub> + 0,2 µm Au;
2. 3 Rated insulation voltage	AC V	250
Switching voltage min./max.	V	AC/DC 10 / DC 250, AC 400 (AC/DC 100 mV / 60 V) <sup>1)</sup>
2. 4 Limiting continuous current	A	2 x 5 (see operating voltage limit curve)
Switching current min./max.	A	10mA <sup>3)</sup> / 8 (1 mA / 0,3 A) <sup>1)</sup>
2. 5 Switching power min./max.	VA	3 / 2 000 (1 mVA / 7 VA) <sup>1)</sup>
Switching power min./max.	W	3 / 200 (1 mW / 7 W) <sup>1)</sup> (s. limit curve for arc-free operation)
2. 6 Switching capacity		
to IEC/EN 60 947-5-1 AC 15	AC V/A	NC: 230 / 1 NO: 230 / 3
DC 13	DC V/A	NC: 24 / 2 NO: 24 / 2
to UL 508		R300
2. 7 Electrical life <sup>2)</sup>		at 1 s On, 1 s Off (s. contacts service life)
AC 230 V 6 A cos φ = 1	switching cycles	> 1 x 10 <sup>5</sup> AgNi > 2 x 10 <sup>5</sup> AgSnO <sub>2</sub>
2. 8 Switching frequency max.	switching cycles / s	10
2. 9 Response time / Release time	ms	≤ 15 / ≤ 12
2.10 Contact force NO / NC	cN	≥ 10 / ≥ 8
<b>3. 0 Other</b>		
3. 1 Mechanical life	switching cycles	≥ 50 x 10 <sup>6</sup>
3. 2 Temperature range	°C	- 40 ... + 70 mounted without distance (I <sub>th</sub> = 2 x 5 A)
3. 3 Degree of protection, housing		IP40 / IP67 IEC/EN 60 529 wash proof
3. 4 Housing		Thermoplast GF, PA
3. 5 Vibration resistance		10 ... 55 Hz; 0,35 mm amplitude; 5 g max. IEC/EN 60 068-2-6
3. 6 Climate resistance		40 / 060 / 04 (climate category); A/B/D IEC/EN 60 068-1
3. 8 Insulation according to IEC 60 664-1, EN 50 178		<b>double and reinforced insulation</b>
Rated insulation voltage	AC V	250
Contamination level		2

<sup>1)</sup> Values for AgNi -contacts + 5 µm Au      <sup>2)</sup> 10 A total current at t = 20°C and coil voltage UN      <sup>3)</sup> Typical values

## Technical data

Overvoltage category			III
3. 8 Test voltage	contact-coil (1 min)	AC kV eff.	≥ 4
	contact-contact (1 min)	AC kV eff.	≥ 4
	Transient volt. contact-coil (1,2 - 50 μs)	kV	≥ 6
Clearance and creepage distances as per IEC/EN 60 730, IEC/EN 60 335	contact-coil	mm	≥ 8
	contact-contact:	mm	≥ 5,5
		g	15
3. 9 Weight			

## Standard variants

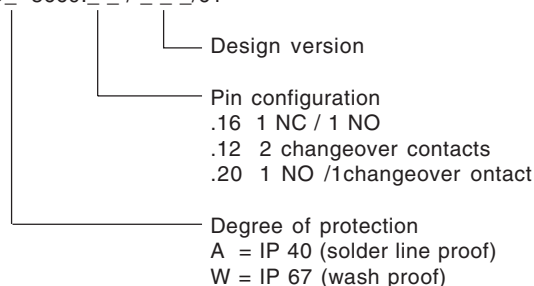
U <sub>N</sub> DC	Voltage range	Resistance Ω (±10%)	AgNi - contacts + 0,2μm Au			AgNi - contacts + 5μm Au		AgSnO <sub>2</sub> - contacts + 0,2μm Au	
			OA5669.12	OA5669.16		OA5669.12	OA5669.16	OA5669.12	OA5669.16
6	4,8 .. 9,6	50	981	992	462	691	771	581	
12	9,6 .. 19,2	210	982	993	463	692	772	582	553
20	16,0 .. 32,0	580	987	998	468	697	777	587	558
24	19,2 .. 38,4	820	983	994	464	693	773	583	554
48	38,4 .. 76,8	3200	984	995	465	694	774	584	555
60	48,0 .. 96,0	5200	985	996	466	695	775	585	556
110	88,0 .. 176,0	18000	986	997	467	696	776	586	557
				1)	2)		1)		1)

1) = Pin configuration standard

2) = Pin configuration reverse

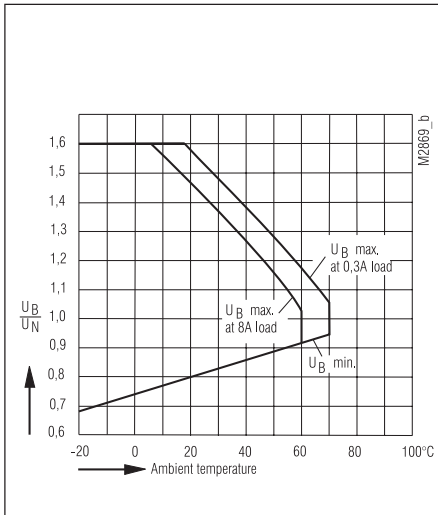
## Ordering example

O\_ 5669. \_ \_ / \_ \_ \_ /61\*)

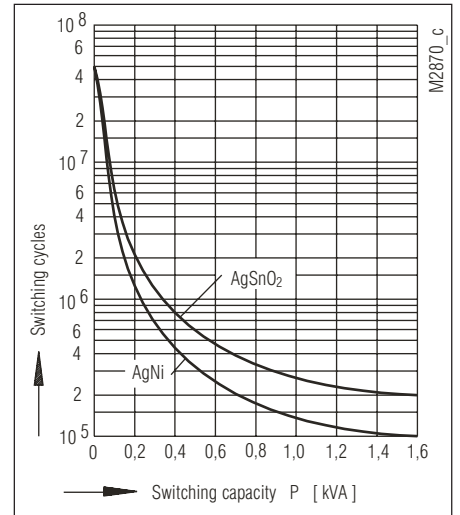


\*) /61 cURus approval

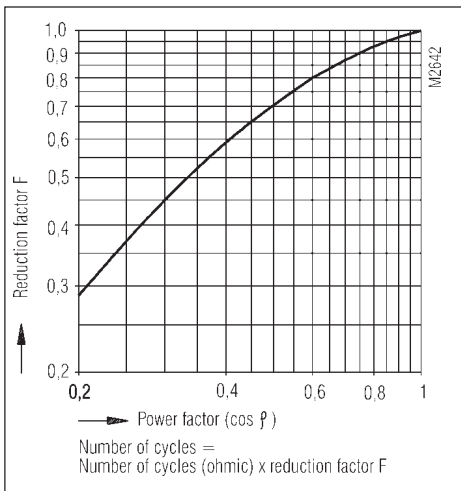
# Characteristics



Operating voltage limit curve

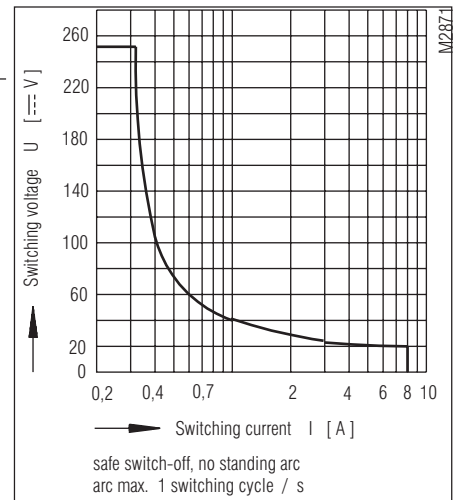


Contact service life (at  $t_u = 20^\circ\text{C}$ )



Reduction factor for inductive loads

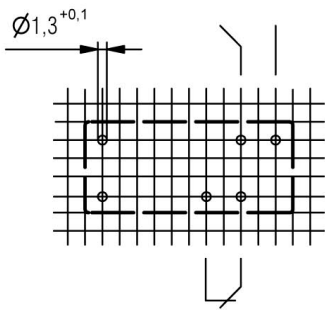
Contact material  
AgNi



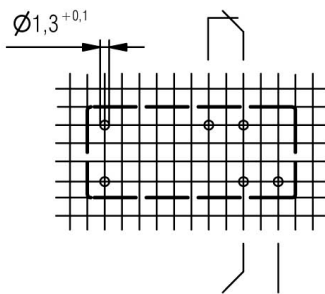
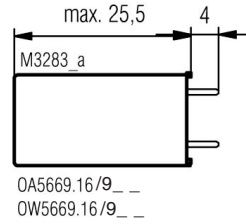
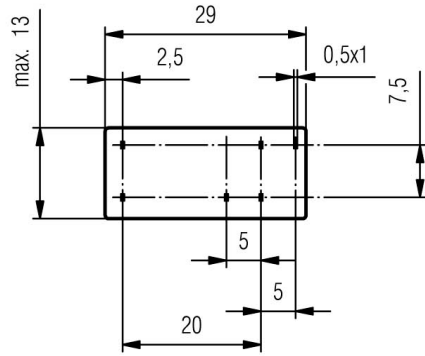
Limit curve for arc-free operation (at  $t_u = 20^\circ\text{C}$ )

# Dimensions, pin configuration, connection diagrams

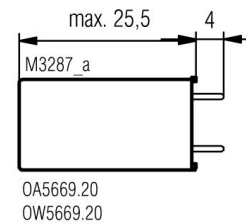
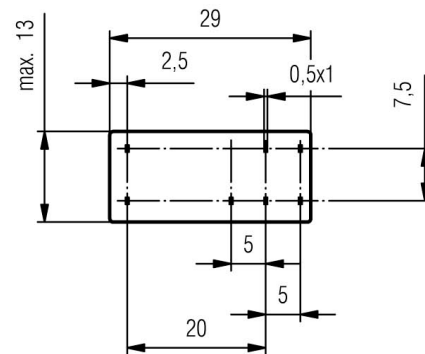
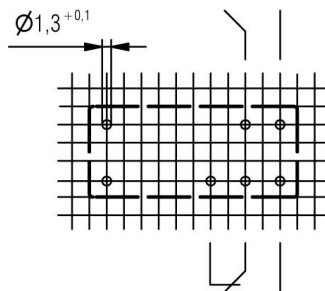
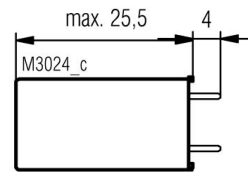
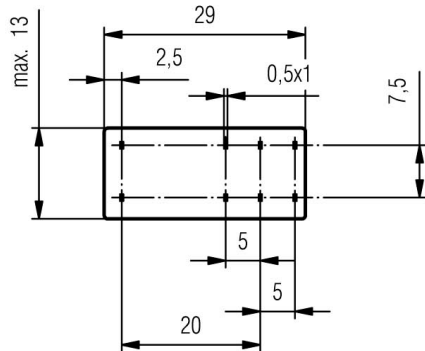
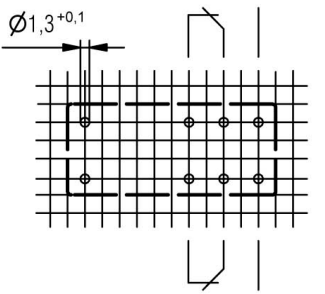
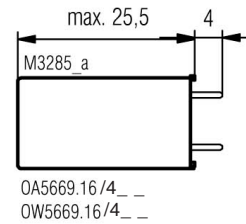
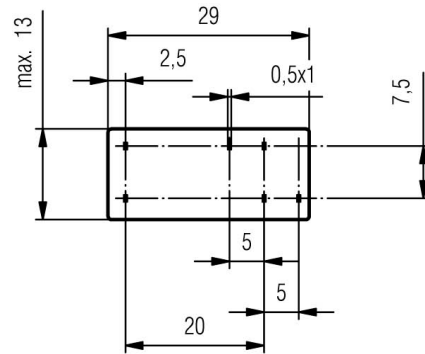
Drilling plan (solder side)



Pin configuration standard



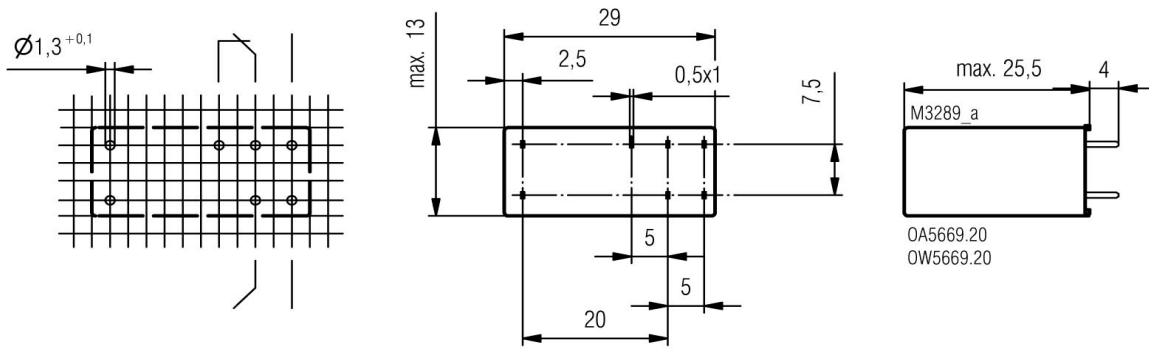
Pin configuration reverse



Connection for basic grid divisions 2,5 mm as well as 2,54 mm

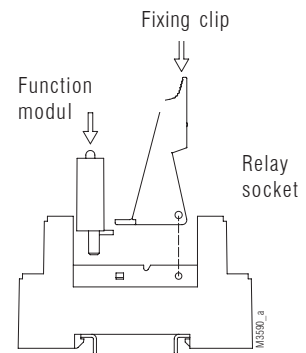
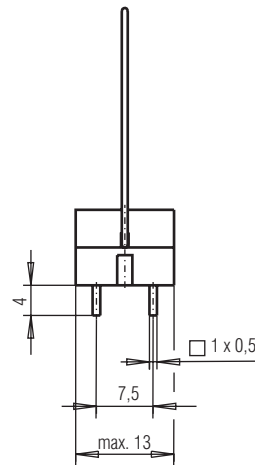
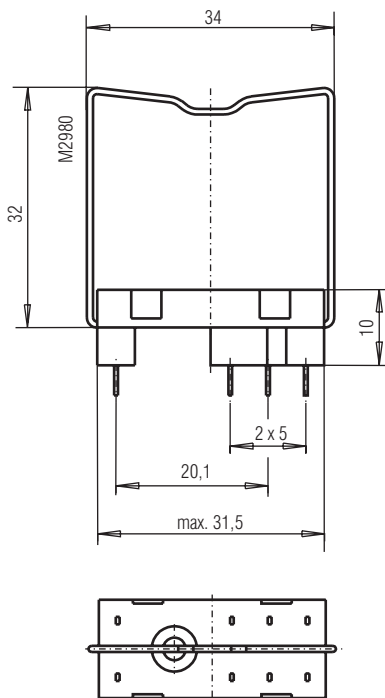
## Dimensions, pin configuration, connection diagrams

Drilling plan (solder side)



Connection for basic grid dimensions 2,5 mm as well as 2,54 mm

## Accessories



Socket ET 1415.021 ANR 0034 769  
 Fixing clip ET 1415.025 ANR 0034 770 Wire  
 Fixing clip ET 1415.026 ANR 0047 726 Plastic

Relay socket ET 1415.041 ANR 0055571  
 with fixing clip WN 1415.902.790

Function modul ET 1415.911 ANR 0055909  
 - DC, with free-wheeling diode and red LED

Function modul ET 1415.912 ANR 0055910  
 - AC/DC with green LED

