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# Safety relay

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



- according to EN 50 205, IEC/EN 60 255, IEC 60 664-1
- for high ambient temperature up to + 85°C
- with positively driven contacts
- wash proof model as option
- **double and reinforced insulation between contact sets according to EN 50 178**
- low rated power consumption
- high mechanical service life
- compact size, small height
- Approval: UL, CSA, TÜV approval: R 9012316

#### Applications:

ZH1/457 press controls  
Switchgear for safety technology



OA/OW 5669

## Technical data

Relay type		OA/OW 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	
<b>2. 0 Contacts</b>			
2. 1 Contact arrangements	2 changeover contacts, optionally 1 NC and 1 NO, optionally 2 changeover contacts		
2. 2 Contact material	AgNi10 + 0,2 µm Au, AgCdO + 0,2 µm Au optionally + 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 100 mV / 60 V) <sup>1)</sup>	
2. 4 Limiting continuous current I <sub>th</sub> max.	A	2 x 5 ( see operating voltage limit curve)	
Switching current min./max.	A	10 mA <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
2. 7 Electrical life	at 1 s On, 1 s Off		(see contacts service life)
AC 230 V 6 A cos φ = 1	switching cycles	> 1 x 10 <sup>5</sup> AgNi 10	> 2 x 10 <sup>5</sup> AgCdO
2. 8 max. Switching frequency	switching cycles/s	10	
2. 9 Response time / Release time	ms	≥ 15 / ≥ 12	
2.10 Contact force	cN	NC ≥ 10, NO ≥ 13	
<b>3. 0 Other</b>			
3. 1 Mechanical life	switching cycles	≥ 50 x 10 <sup>6</sup>	
3. 2 Temperature range	°C	- 20 ... + 85 mounted without distance (I <sub>th</sub> = 2 x 5 A)	
3. 3 Degree of protection (OA/OW)	IP 40 / IP 67 IEC/EN 60 529 wash proof		
3. 4 Housing material	Thermoplast GF PA		
3. 5 Vibration resistance	10 ... 50 Hz; 0,35 mm amplitude; max. 5 g IEC/EN 60 068-2-6		
3. 6 Climate resistance	20 / 085 / 04 (climate category); A/B/D IEC/EN 60 068-1		
<sup>1)</sup> Values for AgNi 10-contacts + 5 µm Au <sup>2)</sup> 10 A total current at t = 20°C and coil voltage = U <sub>N</sub> <sup>3)</sup> Typical values			

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.

OA 5669, OW 5669 / 25.02.03 d

## Technical data

### 3. 8 Insulation according to IEC 60 664-1, EN 50 178 **double and reinforced insulation**

Rated insulation voltage	AC V	250
Contamination level		3
Overvoltage category		III
Test voltage	contact-coil (1 min)	AC kV eff. $\geq 4$
	contact-contact (1 min)	AC kV eff. $\geq 4$
Transient volt.	contact-coil (1,2 - 50 $\mu$ s)	kV $\geq 6$
Clearance and creepage distances as per IEC/EN 60 730, IEC/EN 60 335		
	contact-coil:	mm $\geq 8$
	contact-contact:	mm $\geq 5,5$

3. 9 Weight g approx. 15

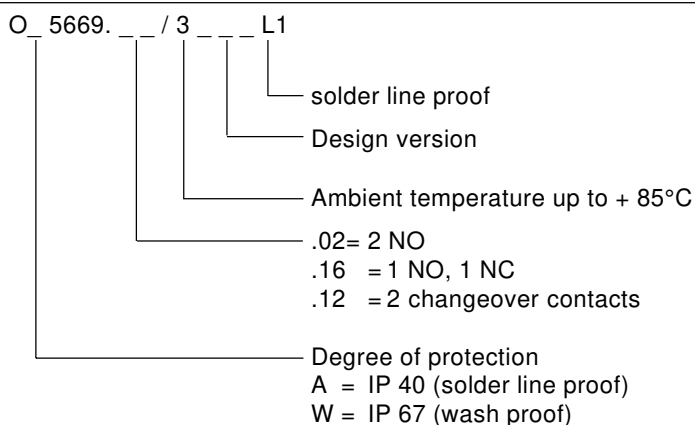
## Coil data with design version for standard type

Nominal voltage DC V	Voltage range V	Resistance $\Omega$ ( $\pm 10\%$ )	AgNi10 - contacts + 0,2 $\mu$ m Au	
			OA/OW 5669.12	OA/OW 5669.16
6	4,5 ... 8,4	44	3001L1	3011L1
12	9,0 ... 16,8	175	3002L1	3012L1
24	18,0 ... 33,6	720	3003L1	3013L1
48	36,0 ... 67,0	2 880	3004L1	3014L1
60	45,0 ... 84,0	4 500	3005L1	3015L1
110	82,0 ... 154,0	15 000	3006L1	3016L1

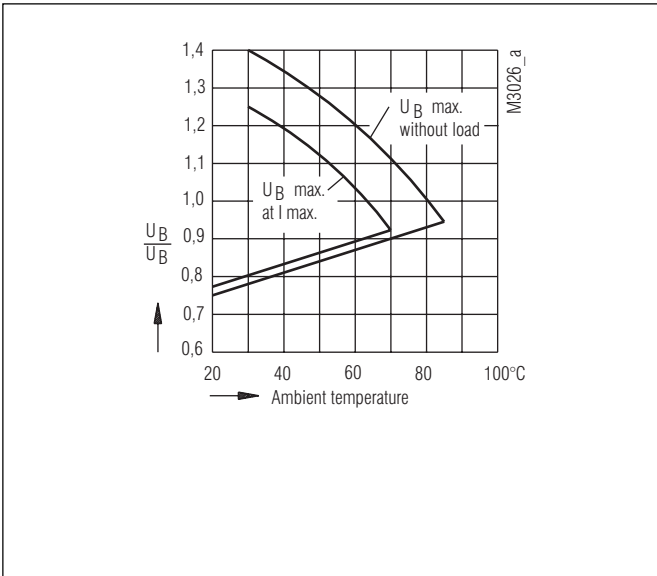
## Design version

Nominal voltage DC V	AgNi10 - contacts + 5 $\mu$ m Au		AgCdO - contacts + 0,2 $\mu$ m Au	
	OA/OW 5669.12	OA/OW 5669.16	OA/OW 5669.12	OA/OW 5669.16
6	3031L1	3041L1	3061L1	3071L1
12	3032L1	3042L1	3062L1	3072L1
24	3033L1	3043L1	3063L1	3073L1
48	3034L1	3044L1	3064L1	3074L1
60	3035L1	3045L1	3065L1	3075L1
110	3036L1	3046L1	3066L1	3076L1

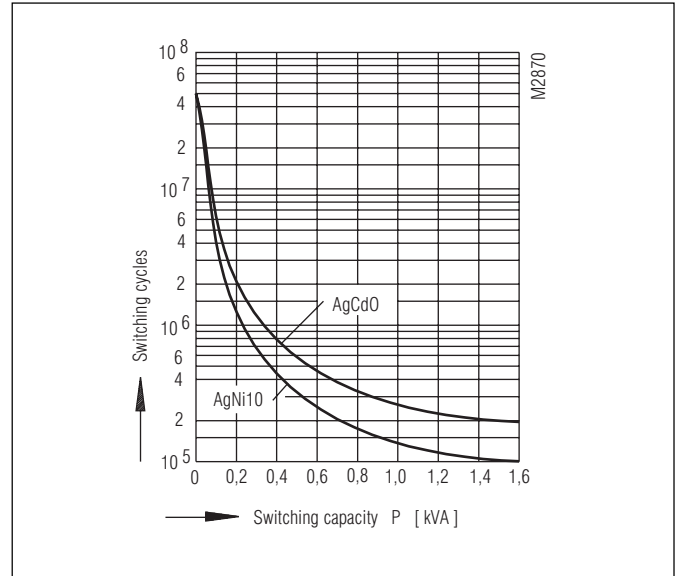
## Ordering example



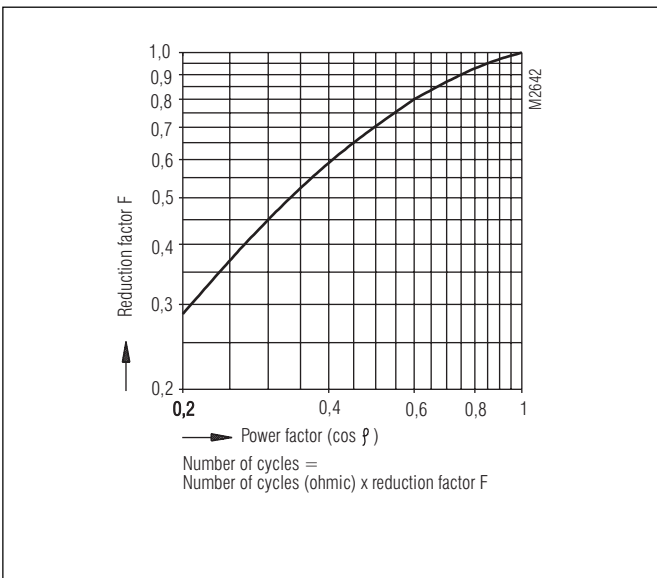
## Characteristics



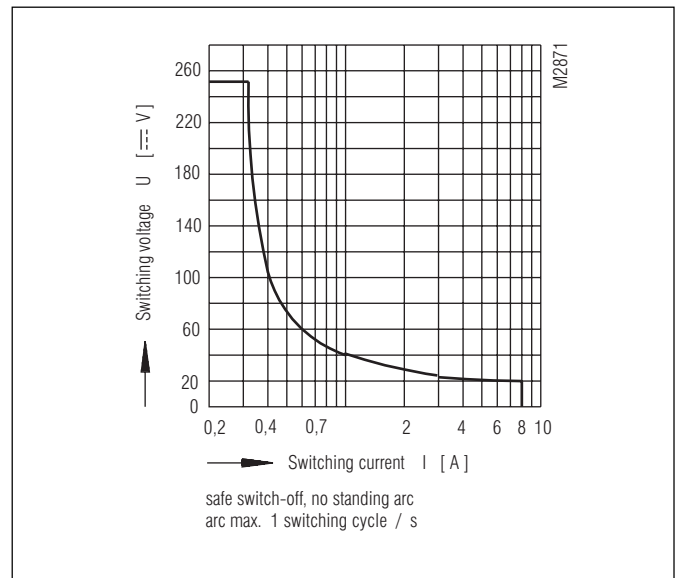
Operating voltage limit curve



Contact service life

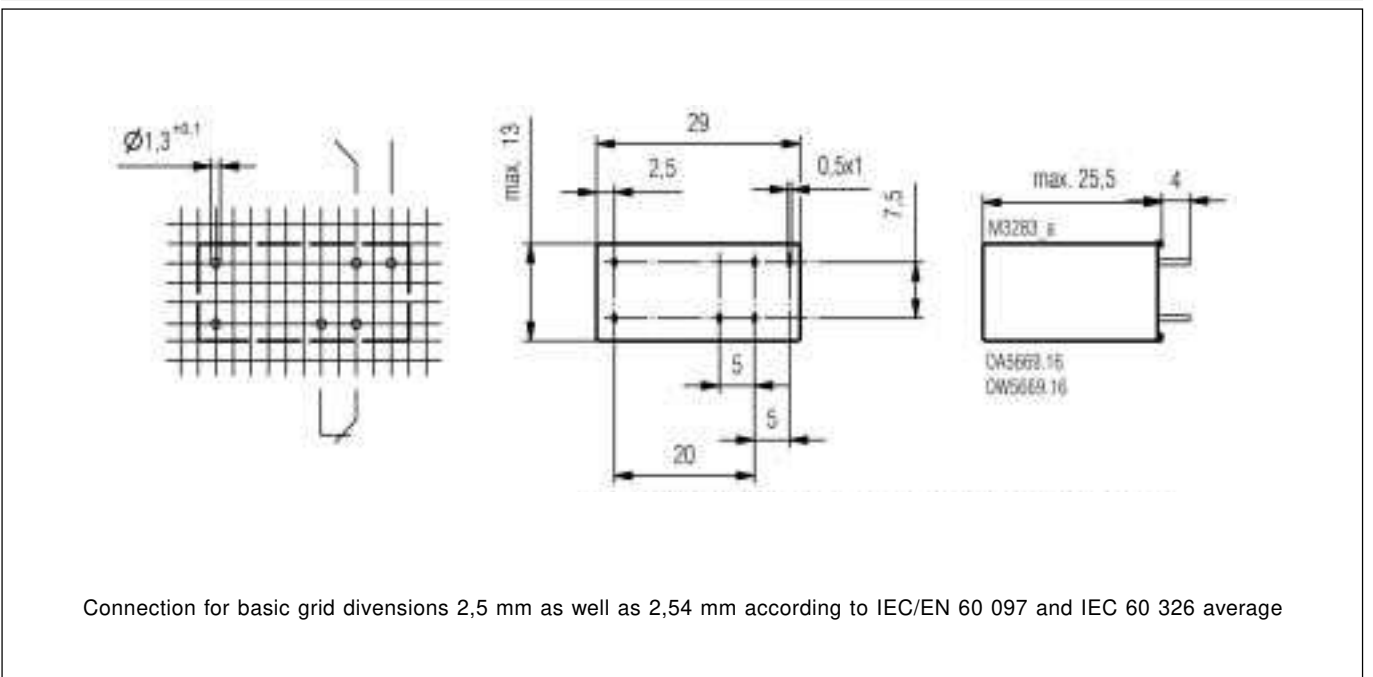


Reduction factor for reactive loads



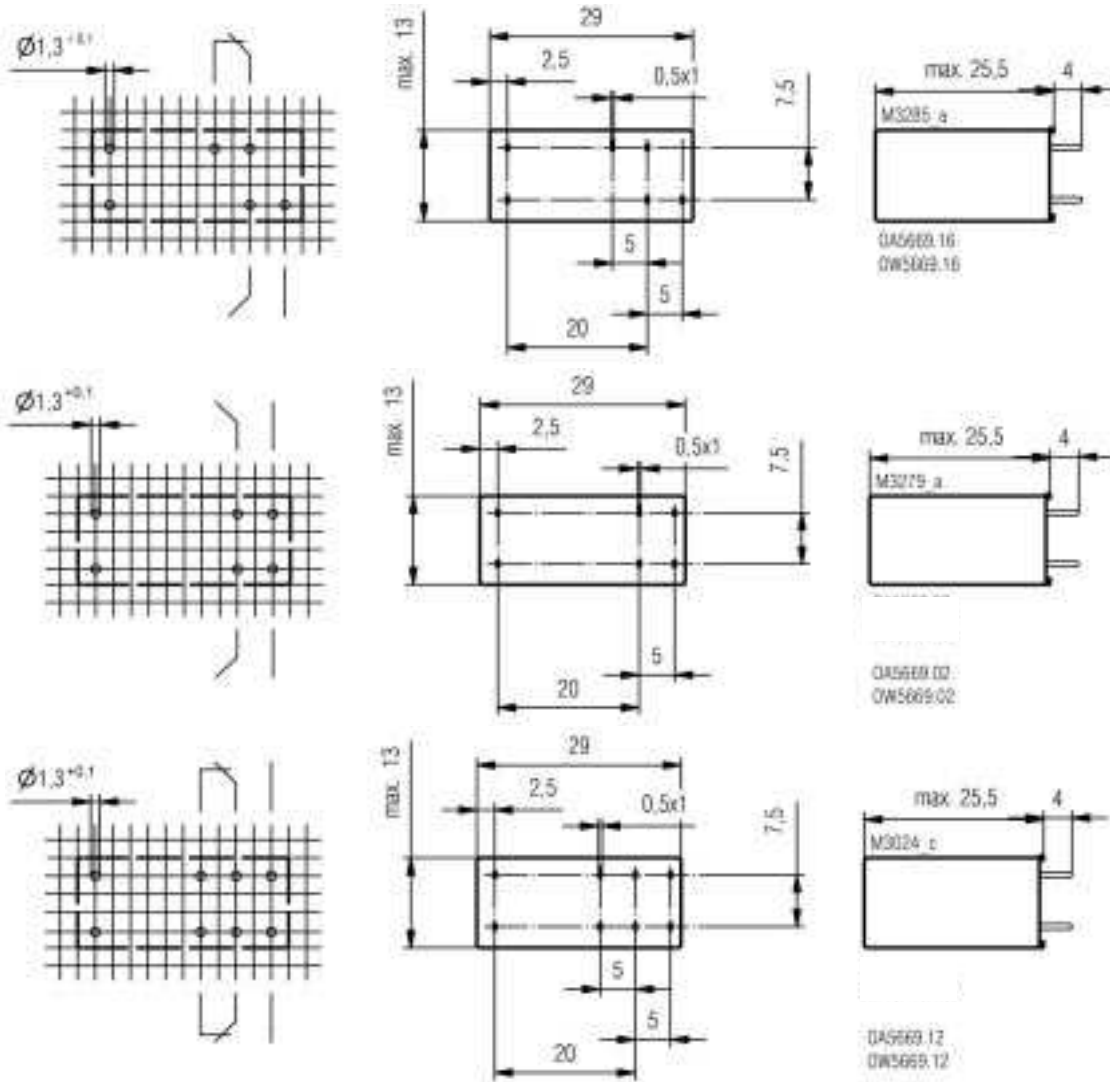
Limit curve for arc-free operation

## Dimensions, pin configuration, connection diagrams



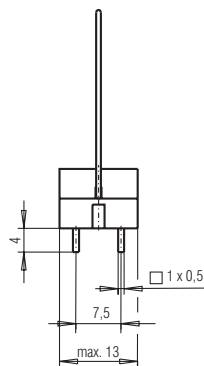
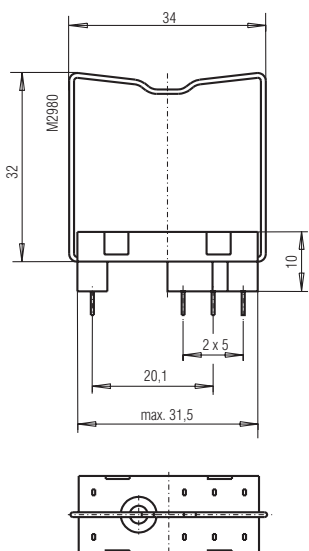
Connection for basic grid dimensions 2,5 mm as well as 2,54 mm according to IEC/EN 60 097 and IEC 60 326 average

## Dimensions, pin configuration, connection diagrams

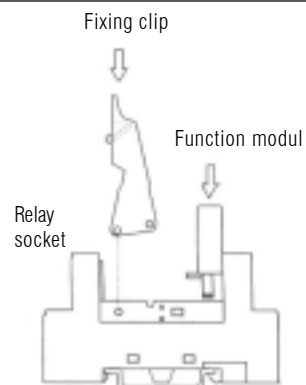


Connection for basic grid dimensions 2,5 mm as well as 2,54 mm according to IEC/EN 60 097 and IEC 60 326 average

## 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