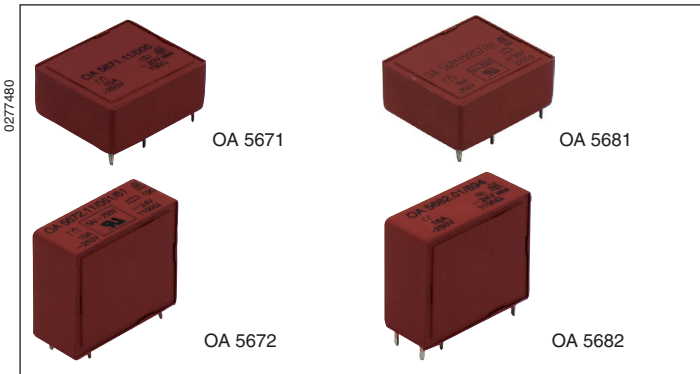


# PCB Relays

## Printed Circuit Board Relays Monostable OA 5671, OA 5681, OA 5672, OA 5682

Translation  
of the original instructions



- According to DIN EN 61810-1, DIN EN 60664-1
- Clearance and creepage distances:  
Contact - coil  $\geq 8$  mm
- Compact size, small height (at horizontal model)
- OA 5671 / 5681 horizontal mounting
- OA 5672 / 5682 vertical mounting
- OA 5671 and OA 5672 for continuous currents to 10 A or with contact with  $5 \mu\text{m Au}$
- OA 5681 and OA 5682 for continuous currents to 16 A
- OA 5672 as option with 7 mm or 10 mm pin distance
- For continuous operating temperature to  $110^\circ\text{C}$
- Voltage range  $0.7 \dots 2.2 U_N$
- Solder line proof

### Applications

- Control technique
- Interface

### Approvals and Markings



### Technical Data

Relay type	OA 5671, OA 5672	OA 5681, OA 5682
<b>1.0 Spule</b>		
1.1 Nominal voltage	DC 6; 12; 15; 20; 24; 48; 60; 110 V (others on request)	
1.2 Nominal consumption	0.53 W	
1.11 Voltage range	$0.7 \dots 2.2 U_N$	
1.13 Holding power (at $0.5 \times U_N$ )	0.14 W	
<b>2.0 Contacts</b>		
2.1 Contact arrangement <sup>1)</sup>	1 changeover contact	
2.2 Contact material	AgSnO <sub>2</sub> + 0.2 $\mu\text{m Au}$ ; AgNi + 5 $\mu\text{m Au}$	
2.3 Rated insulated voltage	AC 250 V	
Switching voltage min./max.	AC/DC 12 V / DC 250 V, AC 400 V ( $\approx 100\text{mV} / \approx 60\text{V}$ ) <sup>4)</sup>	AC/DC 12 V / DC 250 V, AC 400 V
2.4 Limiting continuous current $I_{th}$	10 A <sup>5)</sup>	16 A <sup>5)</sup>
Switching current min./max.	10 mA <sup>7)</sup> / 16 A (1 mA / 0.3 A) <sup>4)</sup>	0.3 A / 25 A <sup>2)</sup>
2.5 Switching power min./max.	4 VA / 2500 VA (1 mVA / 7 VA) <sup>4)</sup>	4 VA / 4000 VA
Switching power min./max.	35 ... 300 W <sup>6)</sup> (1mW / 7 W) <sup>4)</sup>	35 ... 500 W <sup>6)</sup>
2.6 Switching capacity to IEC/EN 60947-5-1		
AC 15	NC: AC 230 V / 5 A NO: AC 230 V / 10 A	
DC 13	NC: DC 24 V / 1 A NO: DC 24 V / 1 A	
to UL 508	B150	
2.7 Electrical life <sup>3)</sup>	(50 x 10 <sup>6</sup> switching cycles) <sup>4)</sup>	
at AC 250 V, $I_{th}$ (OA/OW)	Approx. 0.3 x 10 <sup>6</sup> / Approx. 0.15 x 10 <sup>6</sup>	Approx. 0.2 x 10 <sup>6</sup> / Approx. 0.1 x 10 <sup>6</sup>
2.8 Switching frequency max.	20 switching cycles/s	
2.9 Response time / Release time	Typically 7 ms / Typically 3 ms	
2.10 Contact force NO / NC	25 cN / 12 cN	
<b>3.0 Other</b>		
3.1 Mechanical life	Approx. 30 x 10 <sup>6</sup> switching cycles	
3.2 Temperature range	- 40 ... + 110 °C	
3.3 Degree of protection, housing	Solder line proof RT II	
3.5 Vibration resistance	$\leq 10$ g, to 100 Hz IEC/EN 60068-2-6	
3.6 Climate resistance	40 / 110 / 04 (climate category); A/B/D IEC/EN 60068-1	

<sup>1)</sup> NO and NC on request

<sup>2)</sup> Max. 4 s or 10 % ED

<sup>3)</sup> At 0.5 s On, 3.5 s Off

<sup>4)</sup> Values for contact with  $5 \mu\text{m Au}$

<sup>5)</sup> See operating voltage limit curve

<sup>6)</sup> See limit curve for arc free operation

<sup>7)</sup> Typical values

## 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 1.5 kV eff.
	Transient voltage contact-coil (1.2 - 50 μs)	≥ 6 kV
	Clearance and creepage distances	≥ 8 mm
3.9	Weight	17 g
<b>4.0 Packing</b>		
4.1	In blister	OA 5671: 20 pieces OA 5672: 20 pieces
		OA 5681: 20 pieces OA 5682: 20 pieces
4.2	In case package	OA 5671: 200 or 100 pieces OA 5672: 200 or 100 pieces
		OA 5681: 200 or 100 pieces OA 5682: 200 or 100 pieces
<b>5.0 Solder method</b>		
5.1	Solder method /-temperature /-duration	Wave soldering / 260 °C / 5 s

## Design versions

U <sub>N</sub> (DC V)	Voltage range (DC V)	R <sub>Coil</sub> Ω±10%	AgSnO <sub>2</sub>					AgNi + 5 μm Au		
			OA 5671	OA 5672 7 mm	OA 5672 10 mm	OA 5681	OA 5682	OA 5671	OA 5672 7 mm	OA 5672 10 mm
6	4.2 ... 13.2	70	001	046	821	851	881	031	076	061
12	8.4 ... 26.4	280	003	048	822	852	882	033	078	063
15	10.5 ... 33.0	420	004	049	823	853	883	034	079	064
20	14.0 ... 44.0	750	005	050	824	854	884	035	080	065
24	16.8 ... 52.8	1100	006	051	825	855	885	036	081	066
48	33.6 ... 105.6	4500	010	055	829	859	889	040	085	070
60	42.0 ... 132.0	7000	011	056	830	860	890	041	086	071
110	77.0 ... 242.0	23000	012	057	831	861	891	042	087	072

## Ordering Example

OA 56\_ .11 / \_ /61\*)

Design version

Contact arrangement  
1 changeover contact

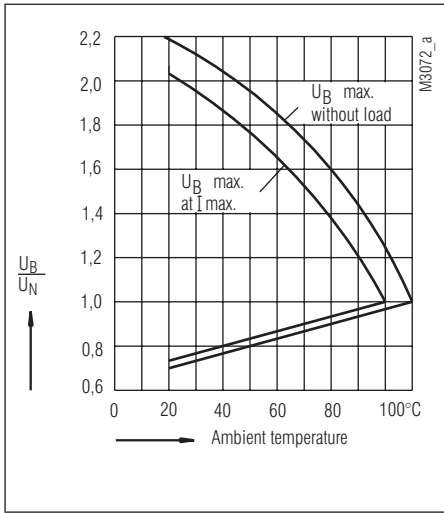
Mounting  
1 = Horizontal  
2 = Vertical

7 10A  
8 16A

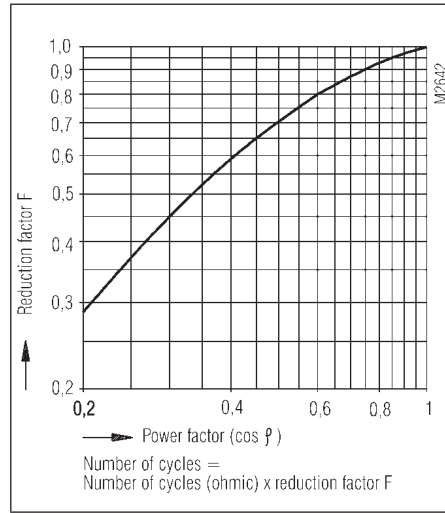
## Notes

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)

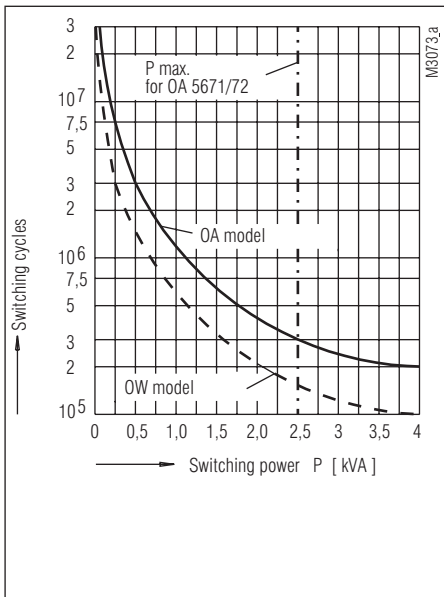
\*) /61 cURus approval



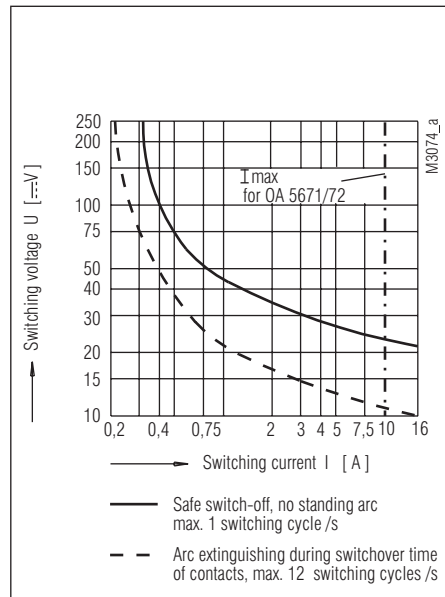
Operating voltage limit curve



Reduction factor for inductive loads



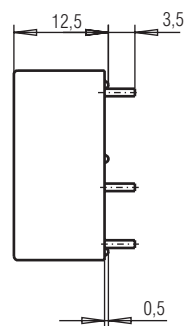
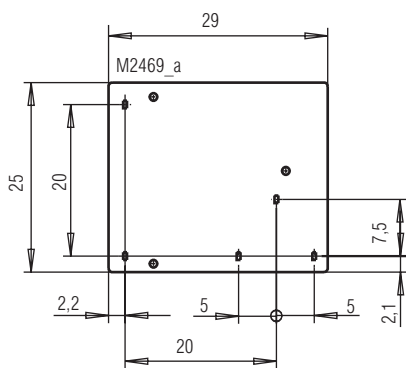
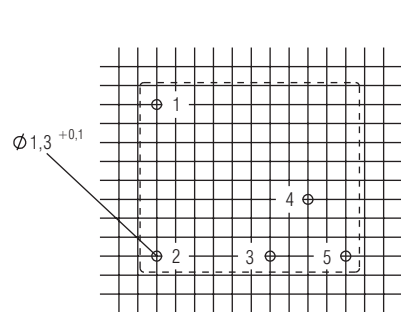
Contact service life (at  $t_u = 20^\circ\text{C}$ )



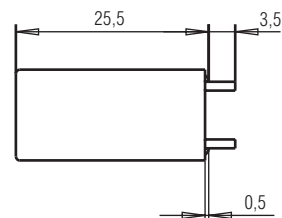
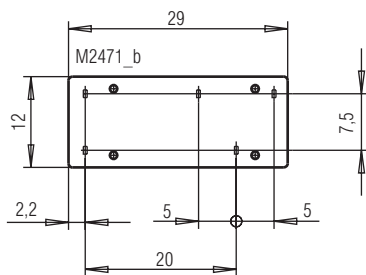
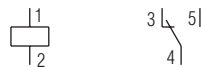
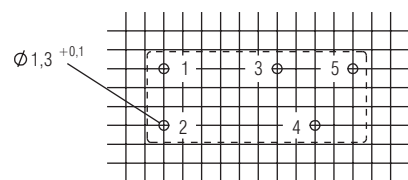
Arc limit curve

Drilling plan (solder side)

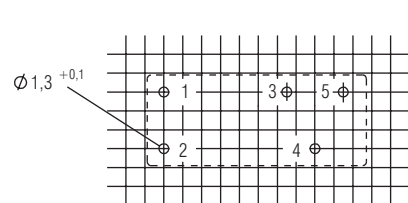
OA 5671  
10 mm pin distance



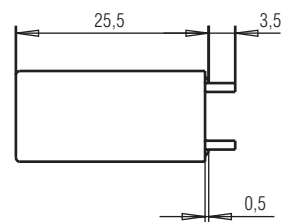
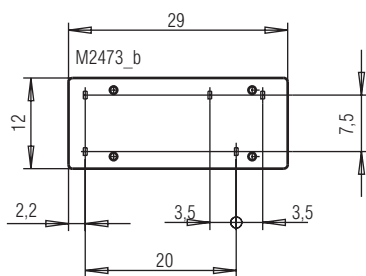
OA 5672  
10 mm pin distance



OA 5672  
7 mm pin distance



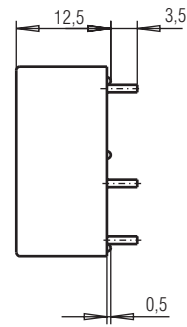
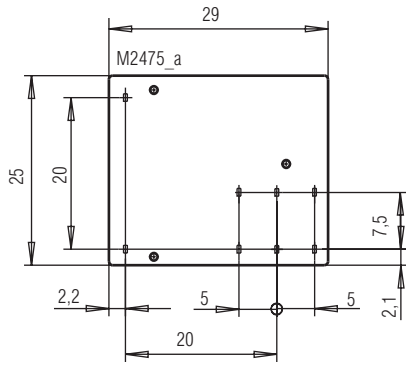
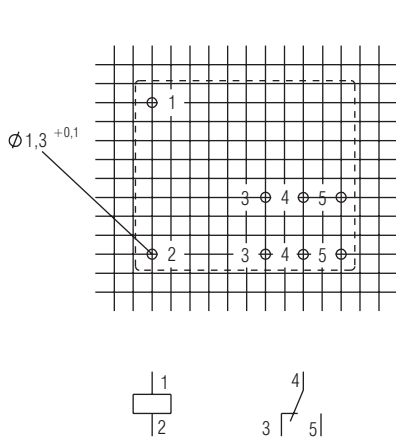
OA 5672



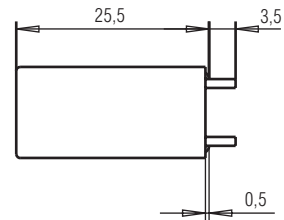
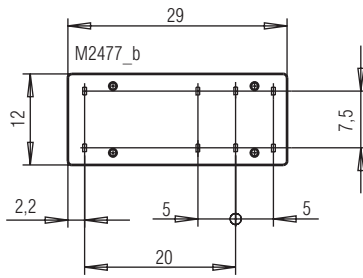
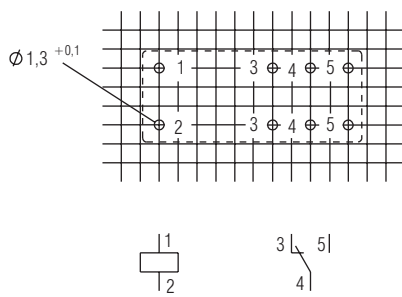
Connection for basic grid dimensions 2.5 mm as well as 2.54 mm according to IEC/EN 60097 and IEC 60326 average

Drilling plan (solder side)

OA 5681  
10 mm pin distance

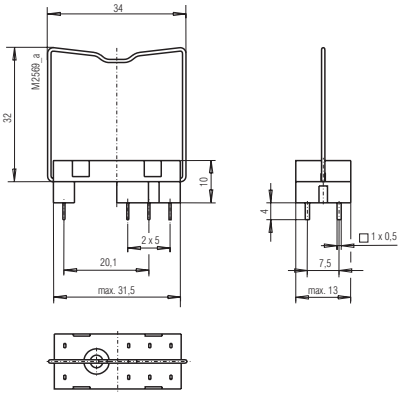


OA 5682  
10 mm pin distance



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 incl. Fixing Clip



### Relay socket ET 1415.021

Article number: 0034769

### Fixing clip (wire) ET 1415.025

Article number: 0034770

### Fixing clip (plastic) ET 1415.026

Article number: 0047726

Packing: 100 pieces

## Function Modules

ET1415.913: DC 24 V, with free-wheel diode and green LED  
Article number: 0056828

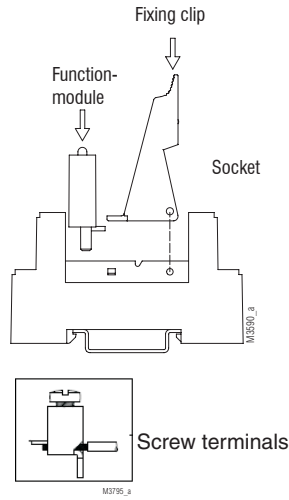
ET1415.911: DC 24 V, with free-wheel diode and red LED  
Article number: 0055909

ET1415.912: AC/DC 24 V, with varistor and green LED  
Article number: 0055910

ET1415.924: DC 60 V, with free-wheel diode and red LED  
Article number: 0062552

Packing: 20 pieces

## Socket ET 1415.041 incl. Fixing Clip - Screw Terminals -



Article number: 0055571

**Temperature range:** - 25 ... + 70 °C

### Clearance and creepage distance

Rated impulse voltage /  
degree of protection

Input / output: 6 kV / 2 IEC 60664-1

Output / output: 4 kV / 2 IEC 60664-1

Overvoltage category: III

**Degree of protection:** IP 20 IEC/EN 60529

### Wire connection

Solid / stranded: 0.5 - 2.5 mm<sup>2</sup> (20-14 AWG)

Sleeved end: 0.14 - 2.5 mm<sup>2</sup> (26-14 AWG)

**Stripping length** 7 mm

### Wire fixing:

Screw terminals

**Fixing torque:** Max. 0.8 Nm

**Mounting:** DIN-rail IEC/EN 60715

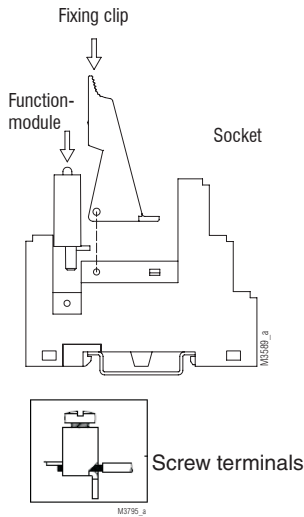
**Weight:** Approx. 38.5 g

**Packing:** 10 pieces

### Dimensions

**Width x height x depth:** 15.8 x 75 x 69.0 mm

### Socket ET 1415.044 incl. Fixing Clip - Screw Terminals -



- Incl. safe separation between coil and contacts according to DIN EN 60947-1, DIN EN 61140

Article number: 0059274

**Temperature range:** - 25 ... + 70 °C

**Clearance and creepage distance**

Rated impulse voltage / degree of protection

Input / output: 6 kV / 2 IEC 60664-1

Output / output: 4 kV / 2 IEC 60664-1

Overvoltage category: III

**Degree of protection:** IP 20 IEC/EN 60529

**Wire connection**

Solid / stranded: 0.5 - 2.5 mm<sup>2</sup> (20-14 AWG)

Sleeved end: 0.14 - 2.5 mm<sup>2</sup> (26-14 AWG)

**Stripping length** 7 mm

**Wire fixing:** Screw terminals

**Fixing torque:** Max. 0.8 Nm

**Mounting:** DIN-rail IEC/EN 60715

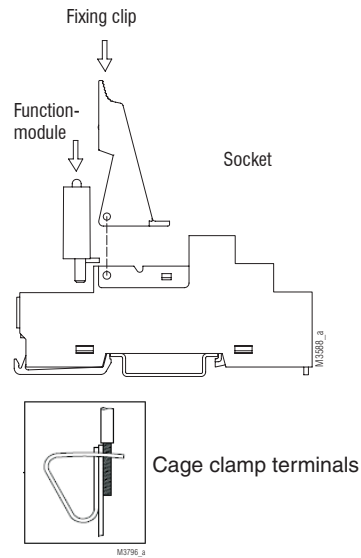
**Weight:** Approx. 43.5 g

**Packing:** 10 pieces

**Dimensions**

**Width x height x depth:** 15.8 x 75 x 75.0 mm

### Socket ET 1415.047 incl. Fixing Clip - Cage Clamp Terminals -



Article number: 0059270

**Temperature range:** - 25 ... + 70 °C

**Clearance and creepage distance**

Rated impulse voltage / degree of protection

Input / output: 6 kV / 2 IEC 60664-1

Output / output: 4 kV / 2 IEC 60664-1

Overvoltage category: III

**Degree of protection:** IP 20 IEC/EN 60529

**Wire connection**

2 x Solid / stranded: 0.5 - 1.5 mm<sup>2</sup> (20-16 AWG)

2 x Sleeved end: 0.14 - 1.5 mm<sup>2</sup> (26-16 AWG)

**Stripping length** 11 mm

**Wire fixing:** Cage clamp terminals

**Mounting:** DIN-rail IEC/EN 60715

**Weight:** Approx. 42.0 g

**Packing:** 10 pieces

**Dimensions**

**Width x height x depth:** 15.8 x 97 x 75.5 mm

