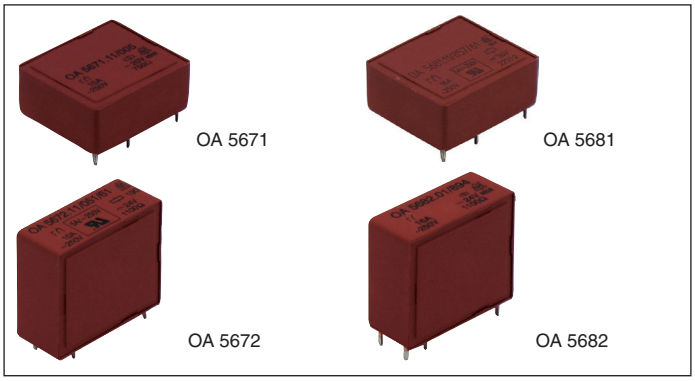
PCB Relays

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

Translation of the original instructions

DOLD

0277480



- According to DIN EN 61810-1, DIN EN 60664-1
- Clearance and creepage distances: Contact - coil ≥ 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 µm 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 °C
- Voltage range 0.7 ... 2.2 U_N
- Solder line proof

Applications

- Control technique
- Interface

Approvals and Markings

c UL us
Canada / USA

Technical Data

Relay type		OA 5671, OA 5672	OA 5681, OA 5682
1.0	**Spule**		
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 ... 2.2 U_N	
1.13	Holding power (at 0.5 x U_N)	0.14 W	
2.0	**Contacts**		
2.1	Contact arrangement[1]	1 changeover contact	
2.2	Contact material	$AgSnO_2$ + 0.2 µm Au; AgNi + 5 µm Au	
2.3	Rated insulated voltage	AC 250 V	
	Switching voltage min./max.	AC/DC 12 V / DC 250 V, AC 400 V (≈ 100mV / ≈ 60 V)[4]	AC/DC 12 V / DC 250 V, AC 400 V
2.4	Limiting continuous current I_{th}	10 A [5]	16 A [5]
	Switching current min./max.	10 mA[7] / 16 A (1 mA / 0.3 A)[4]	0.3 A / 25 A [2]
2.5	Switching power min./max.	4 VA / 2500 VA (1 mVA / 7 VA)[4]	4 VA / 4000 VA
	Switching power min./max.	35 ... 300 W [6] (1mW / 7 W)[4]	35 ... 500 W [6]
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 [3]	(50 x 10^6 switching cycles)[4]	
	at AC 250 V, I_{th} (OA/OW)	Approx.0.3 x 10^6 / Approx. 0.15 x 10^6	Approx.0.2 x 10^6 / Approx. 0.1 x 10^6
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	
3.0	**Other**		
3.1	Mechanical life	Approx. 30 x 10^6 switching cycles	
3.2	Temperature range	- 40 ... + 110 °C	
3.3	Degree of protection, housing	Solder line proof RT II	
3.5	Vibration resistance	≤ 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	

[1] NO and NC on request
[2] Max. 4 s or 10 % ED
[3] At 0,5 s On, 3,5 s Off
[4] Values for contact with 5 µm Au
[5] See operating voltage limit curve
[6] See limit curve for arc free operation
[7] 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.

Technical Data

3.8	Insulation acc. to IEC 60664-1, EN 50178		
	Rated insulation voltage	AC 250 V	
	Pollution degree	3	
	Overvoltage 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	17 g
4.0	**Packing**		
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
5.0	**Solder method**		
5.1	Solder method /-temperature /-duration	Wave soldering / 260 °C / 5 s	

Design versions

			$AgSnO_2$					AgNi + 5 µm Au		
U_N (DC V)	Voltage range (DC V)	R_{Coil} Ω ± 10 %	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*)

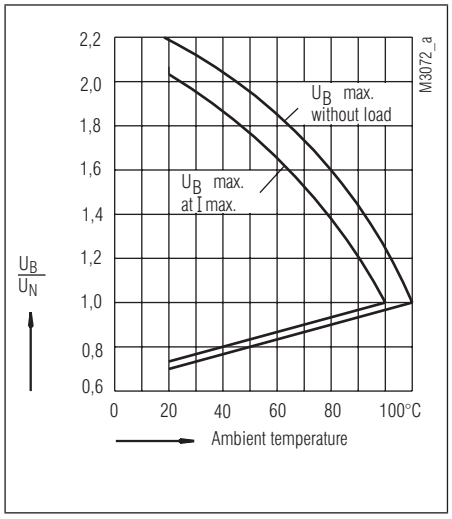
- Design version
- Contact arrangement
  1 changeover contact
- Mounting
  1 = Horizontal
  2 = Vertical
- 7 10 A
  8 16 A

*) /61 cURus approval

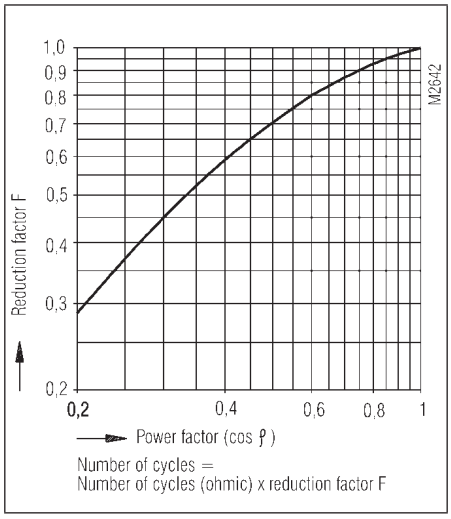
Notes

For the use and processing of our PCB relays, please refer to the **application and processing instructions** at www.dold.com

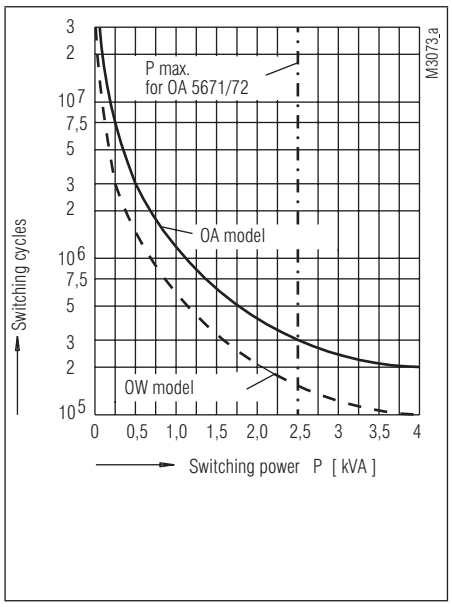
Characteristics



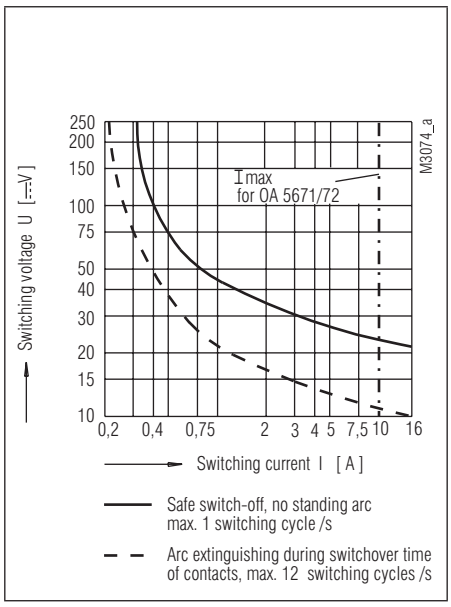
Operating voltage limit curve



Reduction factor for inductive loads



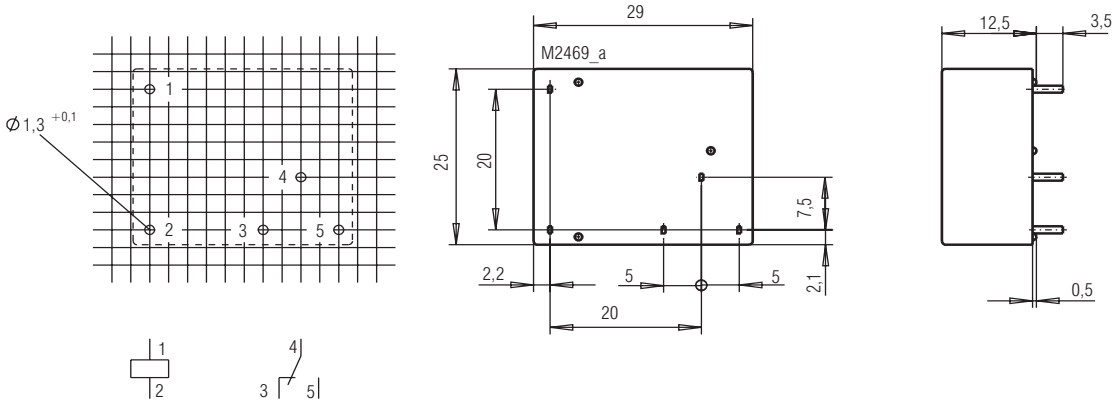
Contact service life (at t_u = 20 °C)



Arc limit curve

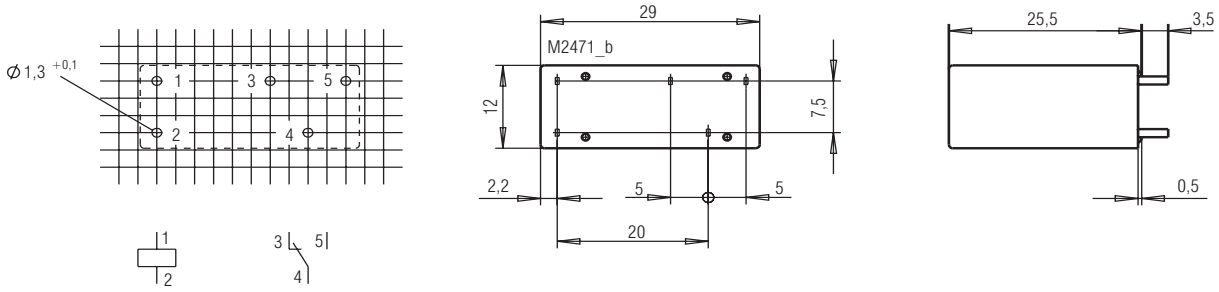
Drilling plan (solder side)

OA 5671
10 mm pin distance



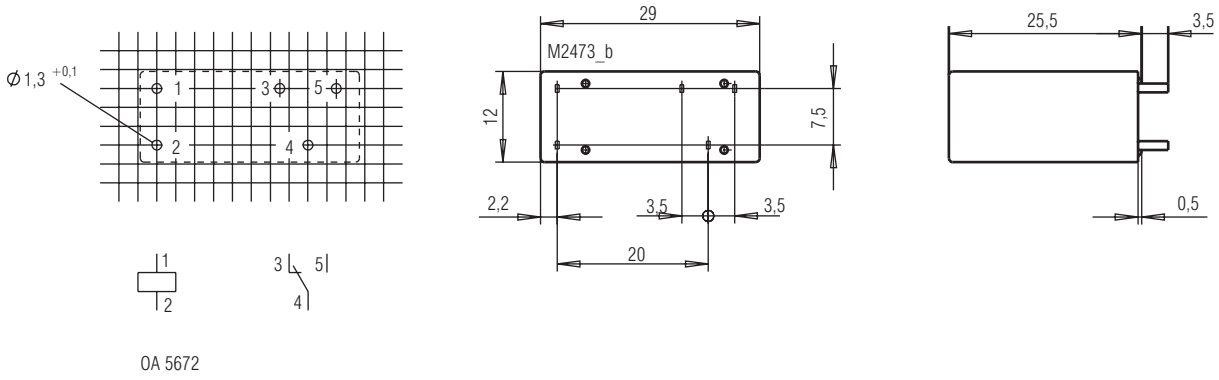
OA 5671

OA 5672
10 mm pin distance



OA 5672

OA 5672
7 mm pin distance

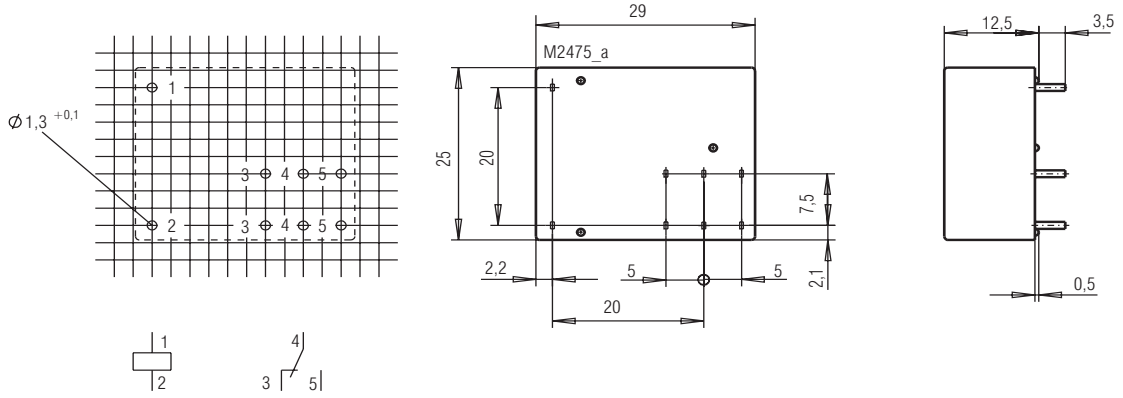


OA 5672

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

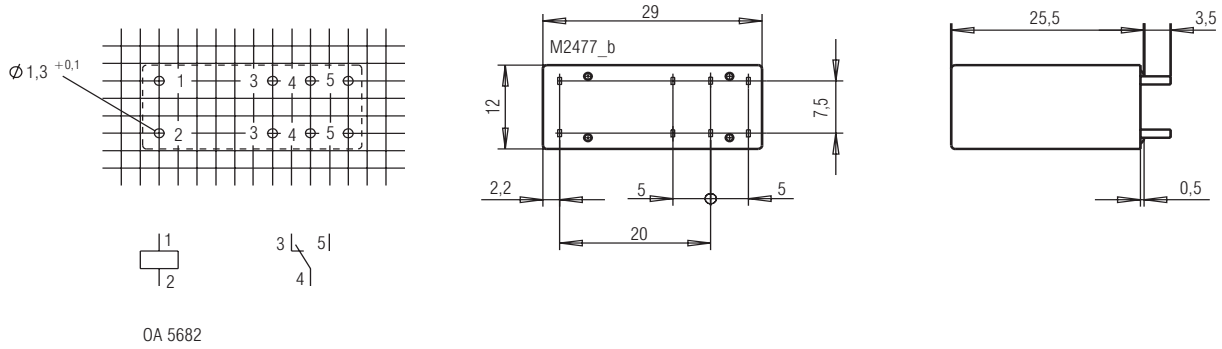
Drilling plan (solder side)

OA 5681
10 mm pin distance



OA 5681
OW 5681

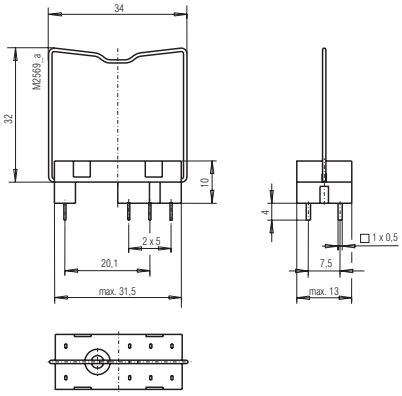
OA 5682
10 mm pin distance



OA 5682

Connection for basic grid divensions 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

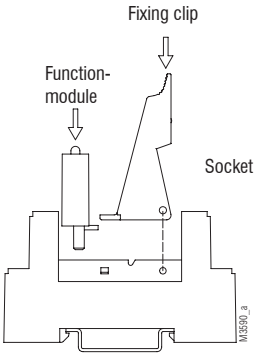
ET1415.911: DC 24 V, with free-wheel diode and red LED
Article number: 0055909

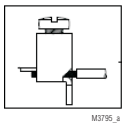
ET1415.912: AC/DC 24 V, with varistor and green LED
Article number: 0055910

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 -





Screw terminals

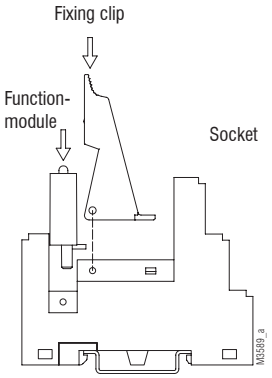
Article number:: 0055571

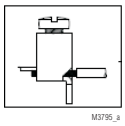
Temperature range:	- 25 ... + 85 °C	
Clearance and creepage distance		
Rated impulse voltage / degree of protection		
Input / output:	6 kV / 2	IEC 60664-1
Output / output:	4 kV / 2	IEC 60664-1
Overvoltage category:	III	
Degree of protection:	IP 20	IEC/EN 60529
Wire connection		
Solid / stranded:	0.5 - 2.5 mm² (20-14 AWG)	
Sleeved end:	0.14 - 2.5 mm² (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 -





Screw terminals

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

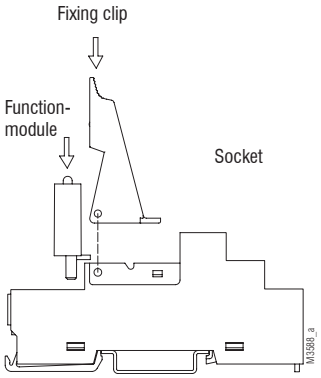
Article number: 0059274

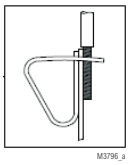
Temperature range:	- 25 ... + 85 °C	
Clearance and creepage distance		
Rated impulse voltage / degree of protection		
Input / output:	6 kV / 2	IEC 60664-1
Output / output:	4 kV / 2	IEC 60664-1
Overvoltage category:	III	
Degree of protection:	IP 20	IEC/EN 60529
Wire connection		
Solid / stranded:	0.5 - 2.5 mm² (20-14 AWG)	
Sleeved end:	0.14 - 2.5 mm² (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 -





Cage clamp terminals

Article number: 0059270

Temperature range:	- 25 ... + 85 °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 mm² (20-16 AWG)	
2 x Sleeved end:	0.14 - 1.5 mm² (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