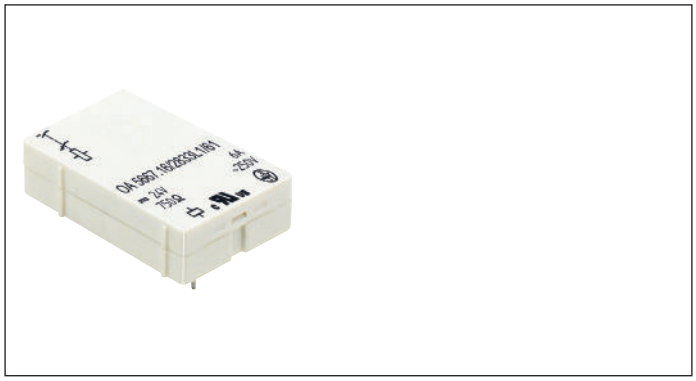
Safety relay
OA 5667

Translation of the original instructions

0277471



- According to DIN EN 61810-1, DIN EN 61810-3 (Type A resp. Type B)
- With forcibly guided contacts
- Clearance and creepage distances:
  Contact - coil ≥ 8 mm
  Version OA 5667.16 with double and reinforced insulation
- Low rated power consumption
- High mechanical service life
- Compact size, small height

Applications

- Switchgear for safety applications
- Press controls

Approvals and Markings

Product Safety
TÜVRheinland CERTIFIED
www.tuv.com ID 0600000000
c UL us Canada / USA

Technical Data

Relaistyp		OA 5667.12	OA 5667.16
1.0	**Relay coil**		
1.1	Nominal voltage	DC 6; 12; 24; 48; 60; 110 V	
1.2	Nominal consumption	0.75 W	
1.11	Voltage range	0.75 ... 1.3 U_N	
1.13	Holding Power (at 0.5 x U_N)	0.19 W	
2.0	**Contacts**		
2.1	Contact arrangement	2 changeover contacts (Type B)	1 NO, 1 NC (Type A)
2.2	Contact material	$AgSnO_2$ + 0.2 µm Au; AgNi + 0.2 µm Au, AgNi + 5 µm Au	
2.3	Rated insulation voltage	AC 250 V	
	Switching voltage min./max.	AC/DC 10 V / DC 250 V, AC 400 V (AC/DC 2 V / 60 V) [1]	
2.4	Limiting continuous current I_{th}	2 x 6 A (see operating voltage limit curve)	
	Switching current min./max.	10 mA [3] / 6 A (2 mA / 0.3 A) [1]	
2.5	Switching power min./max.	0.1 VA / 1500 VA (10 mVA / 12 VA) [1]	
	Switching power min./max.	0.1 W / 200 W (10 mW / 12 W) [1] (s. limit curve for arc-free operation)	
2.6	Switching capacityto IEC/EN 60947-5-1		
	AC 15 [4]	NO: AC 250 V / 3 A	NC: AC 250 V / 1 A
	AC 15 [5]	NO: AC 250 V / 3 A	NC: AC 250 V / 1 A
	DC 13 [4]	NO: DC 24 V / 2 A	NC: DC 24 V / 1 A
	DC 13 [4] at 0.1 Hz	NO: DC 24 V / 4 A	NC: DC 24 V / 3 A
	to UL 508	R300	
2.7	Electrical life	At 1 s On, 1 s Off (see contacts service life)	
	at AC 230 V, 5 A, cosφ = 1	> 10^5 switching cycles AgNi 10	> 1.25 x 10^5 switching cycles $AgSnO_2$
2.8	Switching frequency max.	10 switching cycles/s	
2.9	Response time / Release time	Typically 10 ms / Typically 6 ms	
2.10	Contact force NO / NC	≥ 20 cN / ≥ 8 cN	
2.14	Contact gap	> 0.5 mm [2]	
3.0	**Other**		
3.1	Mechanical life	≥ 10^7 switching cycles	
3.2	Temperature range	- 40 ... + 85 °C	
3.3	Degree of protection, housing	Solder line proof RT II	
3.4	Test procedure	A (group mounting)	
3.5	Vibration resistance	10 ... < 60 Hz; 0,35 mm Amplitude IEC/EN 60068-2-6	
		60 ... 200 Hz, ≤ 4g (all contacts) 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	AgNi or $AgSnO_2$ 6 A gG / gL IEC/EN 60947-5-1	

[1] Values for AgNi-contacts + 5 µm Au
[2] Over entire service life acc. to DIN EN 61810-3
[3] Typical values
[4] Values for AgNi-contacts
[5] Values for $AgSnO_2$-contacts

Technical Data

3.8	Insulation acc. to IEC 60664-1, EN 50178	OA 5667.12	OA 5667.16
	Rated insulation voltage	AC 250 V	AC 250 V
	Pollution degree	3	3
	Overvoltage category	III	III
	Test voltage		
	Contact-coil (1 min)	≥ AC 4 kV eff.	≥ AC 4 kV eff.
	Contact-contact (1min)	≥ AC 2.5 kV eff.	≥ AC 4 kV eff.
	Contact open (1 min)	≥ AC 1.5 kV eff.	≥ AC 1.5 kV eff.
	Transient voltage		
	Contact-coil (1.2 - 50 µs)	≥ 6 kV	≥ 6 kV
	Clearance and creepage distances		
	Contact-coil	≥ 8 mm	≥ 8 mm
	Contact-contact	≥ 4.5 mm	≥ 8 mm
3.9	Weight	Approx. 17 g	

4.0	**Packing**	
4.1	On cardboard	24 pieces
4.2	In case package	240 pieces

5.0	**Solder method**	
5.1	Solder method /-temperature /-duration	Wave soldering / 260 °C / 5 s

Design Versions

U_N (DCV)	Voltage range (DC V)	R_{Coil} Ω±10%	$AgSnO_2$-contacts + 0,2 µm Au		AgNi10-contacts + 0,2 µm Au		AgNi10-contacts + 5 µm Au	
			OA 5667.12 2 C/O	OA 5667.16 1 NO / 1 NC	OA 5667.12 2 C/O	OA 5667.16 1 NO / 1 NC	OA 5667.12 2 C/O	OA 5667.16 1 NO / 1 NC
6	4.5 ... 7.8	48	2801	2831	2811	2841	2821	2851
12	9.0 ... 15.6	183	2802	2832	2812	2842	2822	2852
24	18.0 ... 31.2	750	2803	2833	2813	2843	2823	2853
48	36.0 ... 62.4	3200	2804	2834	2814	2844	2824	2854
60	45.0 ... 78.0	4700	2805	2835	2815	2845	2825	2855
110	82.5 ... 143.5	15300	2806	2836	2816	2846	2826	2856

Ordering example

OA 5667 ._ _ /_ _ _ _ _ _ / 61*

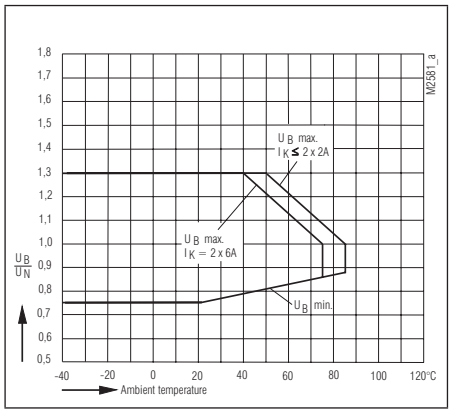
- Pin configuration
- L = Solder line proof RT II
- Design version
- Contacts
  - .16 1 NC / 1 NO (Type A)
  - .12 2 changeover contacts (Type B)
- Relay type

* /61 cURus approval

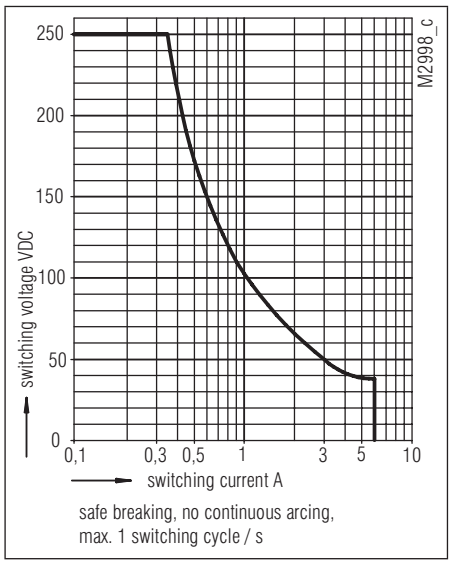
Note

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

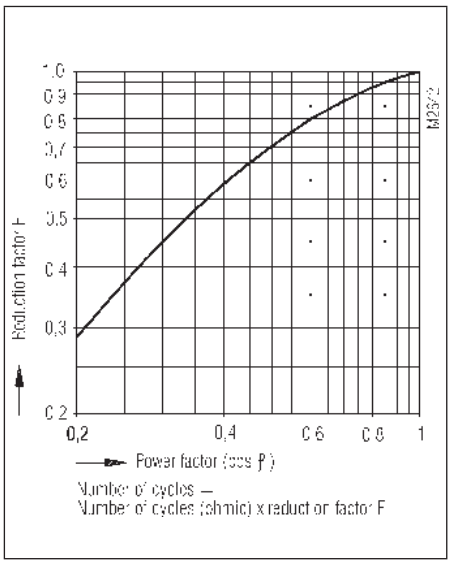
Characteristics



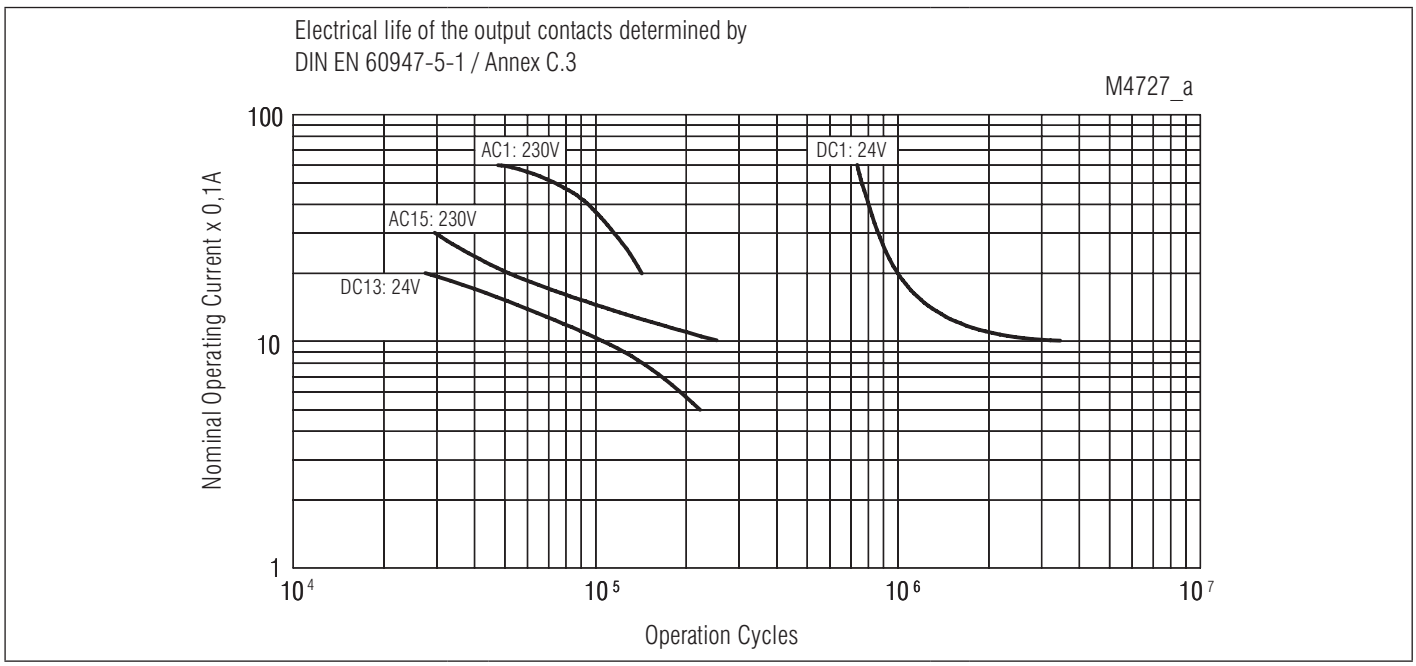
Operating voltage limit curve



Arc limit curve

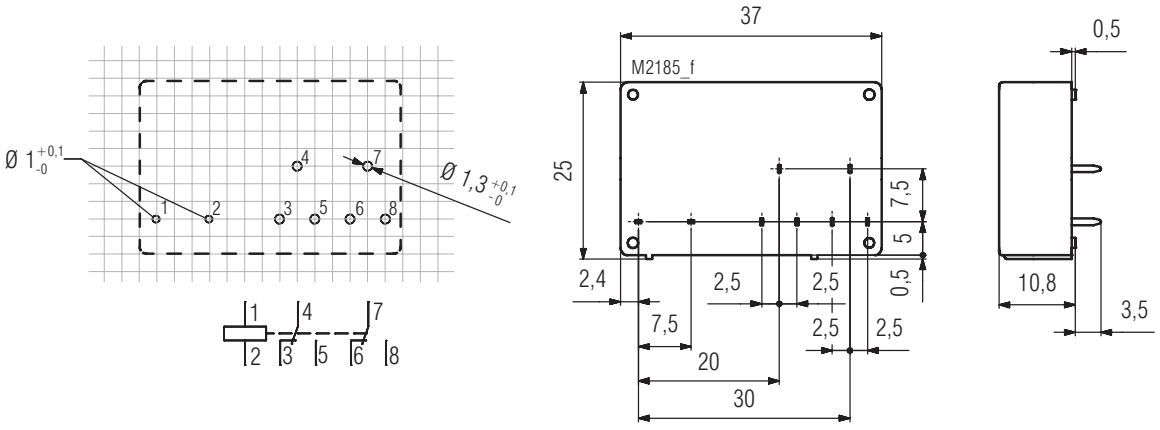


Reduction factor for inductive loads

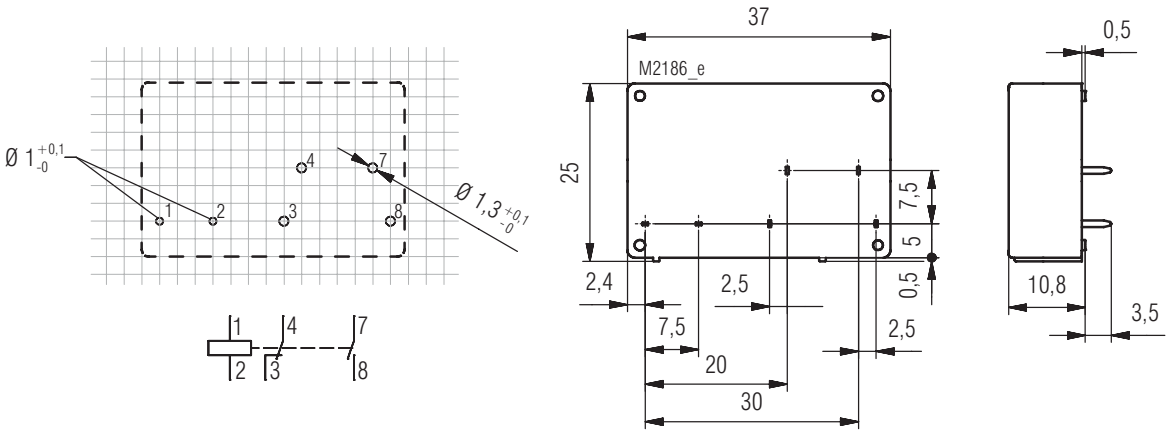


Electrical life

Drilling plan (solder side)



OA 5667.12/...L1
OA 5667.20//...L1 contact 6 not fitted



OA 5667.16/...L1

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