

- 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  $\geq 8$  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



### Technical Data

| Relaistyp                                  | OA 5667.12   | OA 5667.16   |
|--|--|--|
| <b>1.0 Relay coil</b>                      |  |  |
| 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   |  |
| <b>2.0 Contacts</b>                        |  |  |
| 2.1 Contact arrangement                    | 2 changeover contacts (Type B)   | 1 NO, 1 NC (Type A)  |
| 2.2 Contact material                       | AgSnO <sub>2</sub> + 0.2 $\mu$ m Au; AgNi + 0.2 $\mu$ m Au, AgNi + 5 $\mu$ m 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) <sup>1)</sup>   |  |
| 2.4 Limiting continuous current $I_{th}$   | 2 x 6 A (see operating voltage limit curve)  |  |
| Switching current min./max.                | 10 mA <sup>3)</sup> / 6 A (2 mA / 0.3 A) <sup>1)</sup>   |  |
| 2.5 Switching power min./max.              | 0.1 VA / 1500 VA (10 mVA / 12 VA) <sup>1)</sup>  |  |
| Switching power min./max.                  | 0.1 W / 200 W (10 mW / 12 W) <sup>1)</sup> (s. limit curve for arc-free operation)                             |  |
| 2.6 Switching capacity to IEC/EN 60947-5-1 |  |  |
| AC 15 <sup>4)</sup>                        | NO: AC 250 V / 3 A   | NC: AC 250 V / 1 A   |
| AC 15 <sup>5)</sup>                        | NO: AC 250 V / 3 A   | NC: AC 250 V / 1 A   |
| DC 13 <sup>4)</sup>                        | NO: DC 24 V / 2 A  | NC: DC 24 V / 1 A  |
| DC 13 <sup>4)</sup> 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, $\cos\phi = 1$           | > 10 <sup>5</sup> switching cycles AgNi 10   | > 1.25 x 10 <sup>5</sup> switching cycles AgSnO <sub>2</sub> |
| 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                 | $\geq 20$ cN / $\geq 8$ cN   |  |
| 2.14 Contact gap                           | > 0.5 mm <sup>2)</sup>   |  |
| <b>3.0 Other</b>                           |  |  |
| 3.1 Mechanical life                        | $\geq 10^7$ 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<br>60 ... 200 Hz, $\leq 4g$ (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 <sub>2</sub> 6 A gG / gL IEC/EN 60947-5-1  |  |

<sup>1)</sup> Values for AgNi-contacts + 5  $\mu$ m Au

<sup>2)</sup> Over entire service life acc. to DIN EN 61810-3

<sup>3)</sup> Typical values

<sup>4)</sup> Values for AgNi-contacts

<sup>5)</sup> Values for AgSnO<sub>2</sub>-contacts

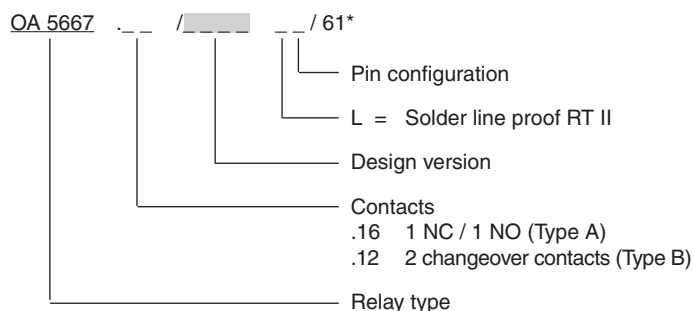
## Technical Data

|                          |  |                               |                        |
|--------------------------|--|-------------------------------|------------------------|
| 3.8                      | Insulation acc. to IEC 60664-1, EN 50178 | OA 5667.12<br>AC 250 V        | OA 5667.16<br>AC 250 V |
|                          | Rated insulation voltage                 | AC 250 V                      | AC 250 V               |
|                          | Pollution degree                         | 3                             | 3                      |
|                          | Overtoltage 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                  |                        |
| <b>4.0 Packing</b>       |  |                               |                        |
| 4.1                      | On cardboard                             | 24 pieces                     |                        |
| 4.2                      | In case package                          | 240 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><br>(DCV) | Voltage range<br>(DC V) | R <sub>Coil</sub><br>Ω±10% | AgSnO <sub>2</sub> -contacts + 0,2 μm Au |                           | AgNi10-contacts + 0,2 μm Au |                           | AgNi10-contacts + 5 μm Au |                           |
|-------------------------|-------------------------|----------------------------|--|---------------------------|-----------------------------|---------------------------|---------------------------|---------------------------|
|                         |                         |                            | OA 5667.12<br>2 C/O                      | OA 5667.16<br>1 NO / 1 NC | OA 5667.12<br>2 C/O         | OA 5667.16<br>1 NO / 1 NC | OA 5667.12<br>2 C/O       | OA 5667.16<br>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

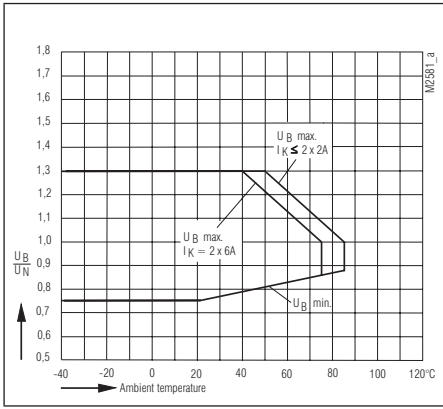


## Note

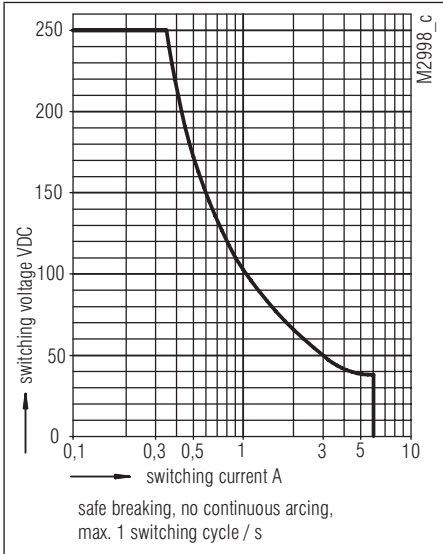
For the use and processing of our PCB relays, please refer to the **application and processing instructions** at [www.dold.com](http://www.dold.com)

\* /61 cURus approval

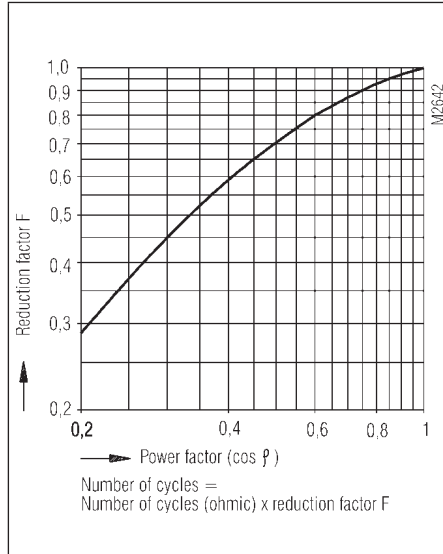
**Characteristics**



Operating voltage limit curve



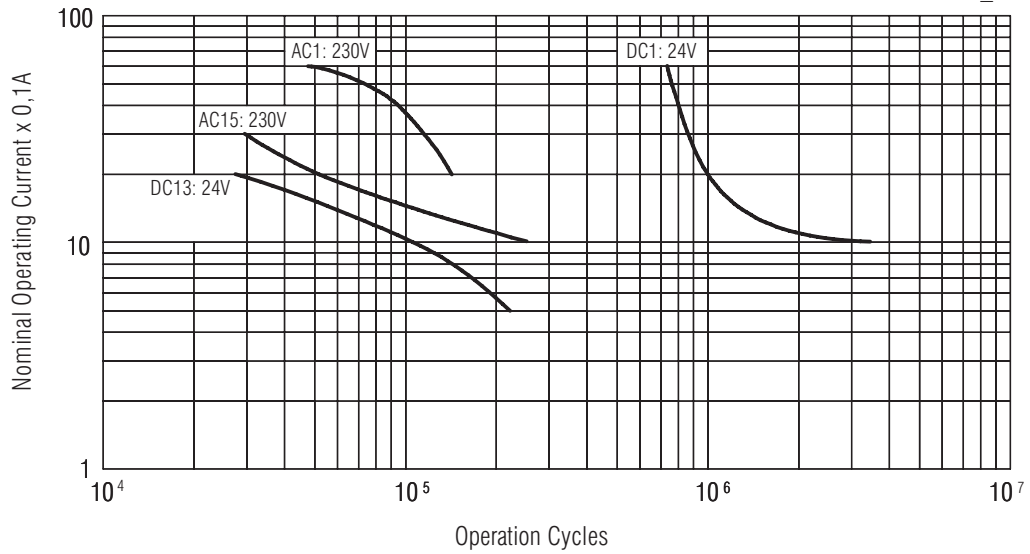
Arc limit curve



Reduction factor for inductive loads

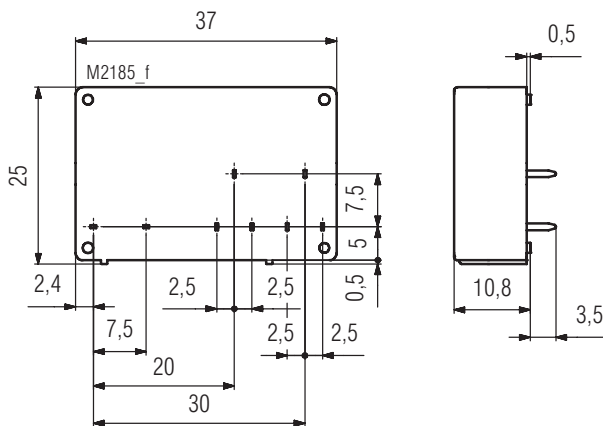
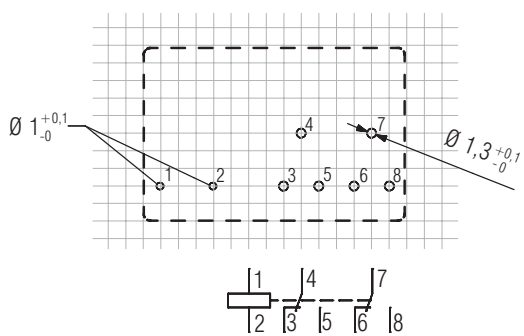
Electrical life of the output contacts determined by  
DIN EN 60947-5-1 / Annex C.3

M4727\_a

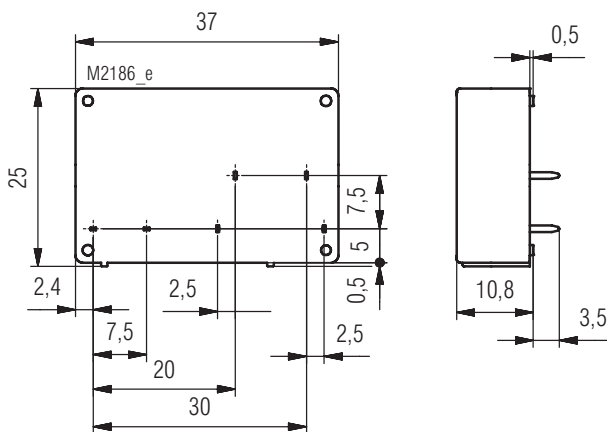
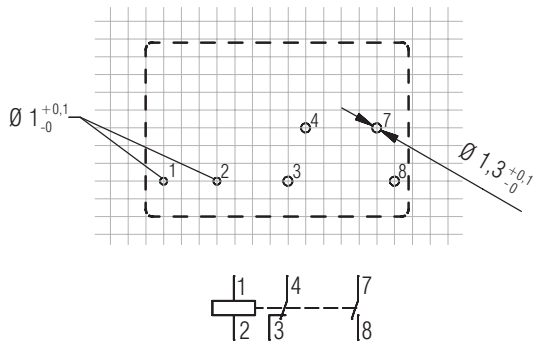


Electrical life

Drilling plan (solder side)



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



OA 5667.16/...L1

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