

- According to DIN EN 61810-1, DIN EN 60664-1
- Safe separation according to IEC/EN 60730; IEC/EN 60335
- Poled
- Clearance and creepage distances:  
contact - coil  $\geq 8$  mm
- Low rated power consumption
- High voltage resistance  $\geq 4$  kV
- High mechanical service life
- High continuous thermal current
- For pulse operation, continuous operation permitted
- Large voltage range
- Very low mutual capacitance
- High switching power
- Very small volume **DIL model**, can be plugged into standard IC-socket
- Different connection arrangements and contact materials
- Wash proof RT III

### Applications

- Control technique
- Interface

### Technical Data

Relay type		OB 5690
<b>1.0 Relay coil</b>		
1.1 Nominal voltage	DC V	4, 5, 6, 12, 20, 24, 48
1.2 Nominal consumption 1 changeover contact	mW	250
1.11 Voltage range	$U_N$	0.75 ... 1.9
<b>2.0 Contacts</b>		
2.1 Contact arrangement		1 NO, 1 changeover contact
2.2 Contact material		AgSnO <sub>2</sub> + 0.3 $\mu$ m Au; AgNi + 0.3 $\mu$ m Au <sup>1)</sup> ; 5 $\mu$ m Au on request
2.3 Rated insulation voltage	AC V	250
Switching voltage min./max.	V	AC/DC 10 (AC/DC 2 AC/DC 60) <sup>3)</sup> / DC 120, AC 400
2.4 Limiting continuous current $I_{th}$	A	5 (see operating voltage limit curve)
Switching current min./max.	A	0,01 <sup>2)</sup> / 5 (1mA / 0,3) <sup>3)</sup>
2.5 Switching power min./max.	VA	0.1 / 1250
Switching power min./max.	W	0.1 / 120
2.6 Switching capacity to IEC/EN 60947-5-1 AC 15	AC V/A	NC: 230 / 1 NO: 230 / 5
2.7 Electrical life at AC 230 V 5 A $\cos \varphi=1$	switching cycles switching cycles	at 1 s On, 1 s Off (see contact service life) 1 x 10 <sup>5</sup>
2.9 Response time / Release time	ms	$\leq 5$ (typically 3) / $\leq 4$ (typically 2)
2.10 Contact force NC / NO	cN	approx. 10 / approx. 8
2.14 Contact gap	mm	$\geq 0.3$
<b>3.0 Other</b>		
3.1 Mechanical life	switching cycles	$> 50 \times 10^6$
3.2 Temperature range	$^{\circ}$ C	- 40 ... + 80
3.3 Degree of protection		Wash proof RT III
3.5 Vibration resistance		10 ... 55 Hz; 1.2 mm amplitude; 10 g max. IEC/EN 60068-2-6
3.6 Climate resistance		40 / 080 / 04 (climate category); A/B/D IEC/EN 60068-1
3.8 Insulation according to IEC 60664-1		
Rated insulation voltage	AC V	250
Pollution degree		3
Overvoltage category		III
Test voltage		
Contact - coil (1 min)	AC kV eff.	$\geq 4$
Clearance and creepage distances		
Contact- Coil	mm	$\geq 8$ IEC/EN 60730, IEC/EN 60335
3.9 Weight	g	approx. 6
<b>4.0 Packing</b>		
4.1 on cardboard in slipcase	piece	100
4.2 in case package	piece	800
<b>5.0 Solder method</b>		
5.1 Solder method /-temperature /-duration	$^{\circ}$ C / s	Wave soldering / 260 / 5

<sup>1)</sup> On request: AgSnO<sub>2</sub> + 0.3  $\mu$ m Au

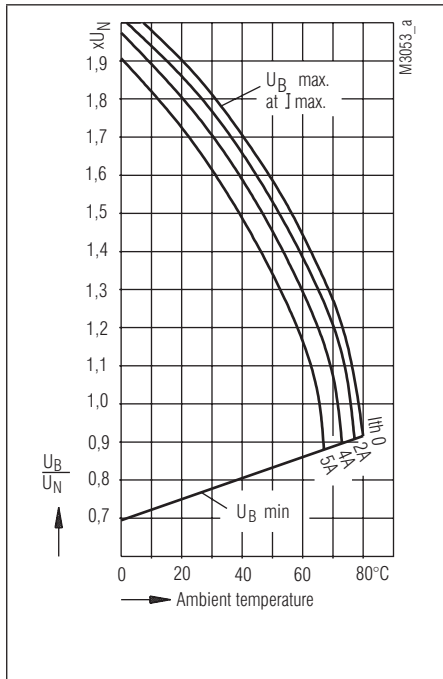
<sup>2)</sup> Typical values

<sup>3)</sup> Values for AgNi + 5  $\mu$ m Au

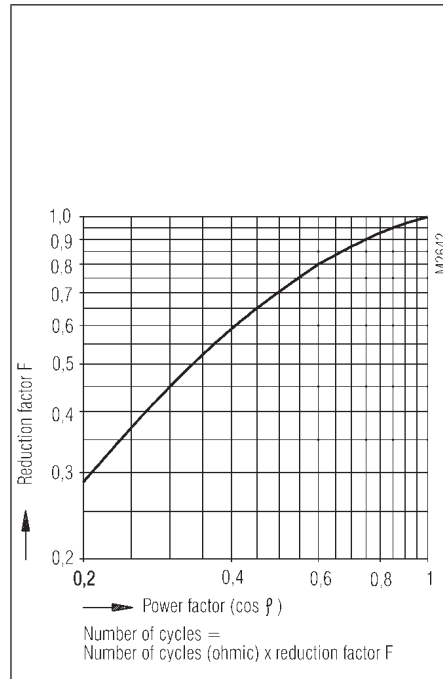
## Design Versions

U <sub>N</sub> DC V	Voltage range DC V	Resistance at 20°C Ω	OB 5690.01/...		OB 5690.11/...	
			AgSnO <sub>2</sub>	AgNi 0.15	AgSnO <sub>2</sub>	AgNi 0.15
4.5	3.3 ... 9.9	80	7831 W	7851 W	7821 W	7841 W
6	4.5 ... 13.2	150	7832 W	7852 W	7822 W	7842 W
12	9.0 ... 26.4	585	7833 W	7853 W	7823 W	7843 W
20	15.0 ... 44.0	1 650	7834 W	7854 W	7824 W	7844 W
24	18.0 ... 52.8	2 400	7835 W	7855 W	7825 W	7845 W
48	36.0 ... 105.0	9 160	7836 W	7856 W	7826 W	7846 W

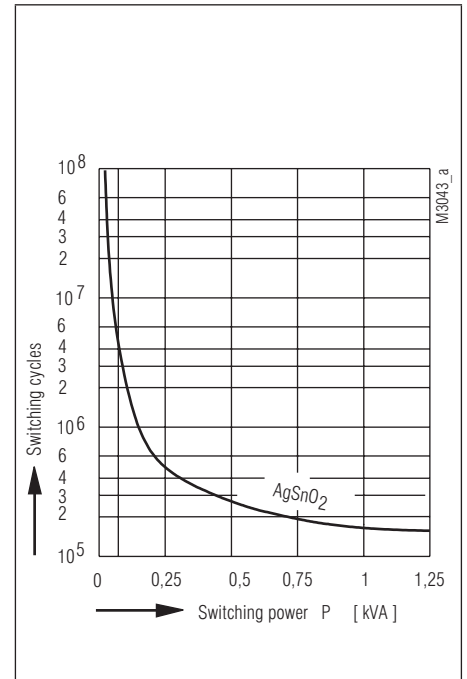
## Characteristics



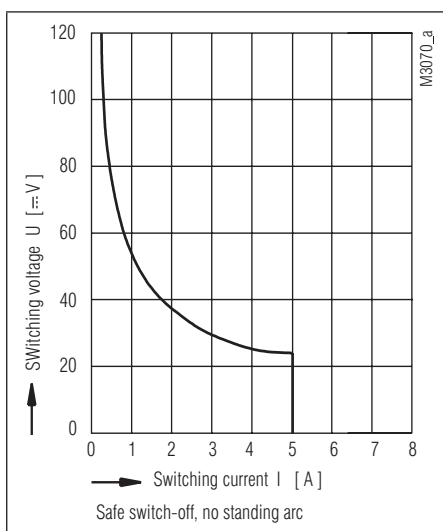
Operating voltage limit curve



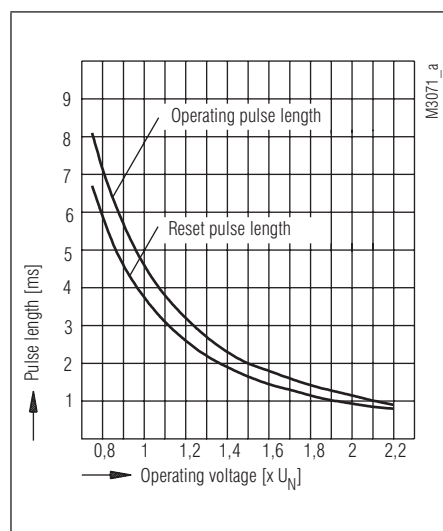
Reduction factor for inductive loads



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

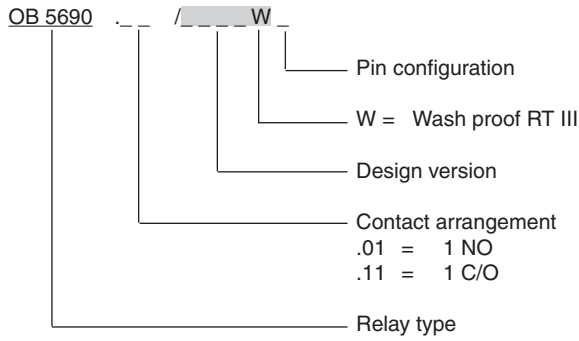


Arc limit curve  
(load limit curve)



Operating / Reset pulse length

## Ordering example

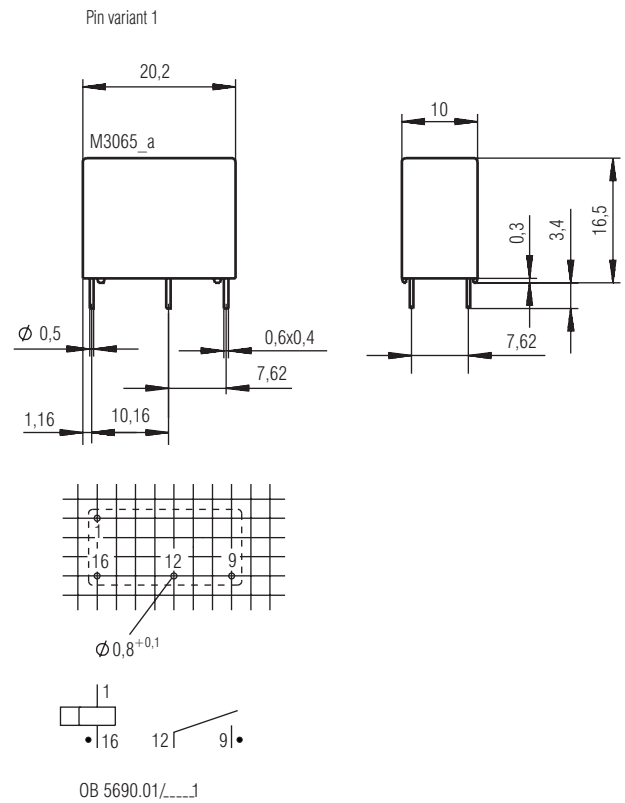
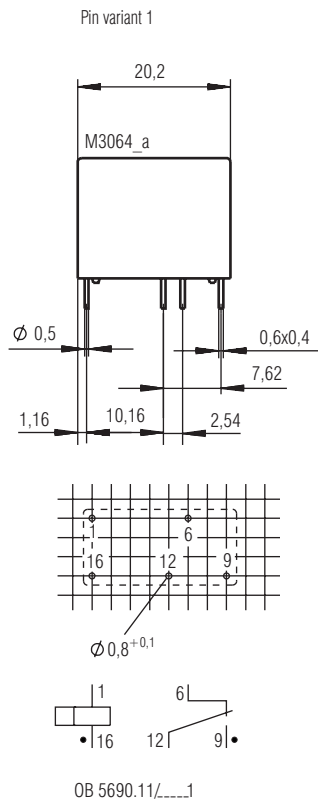


## Note

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)

## Dimensions, Pin Configuration, Connection Diagrams

### Drilling plan (solder side)

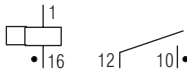
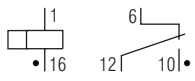
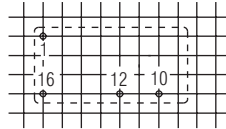
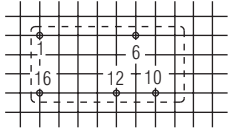
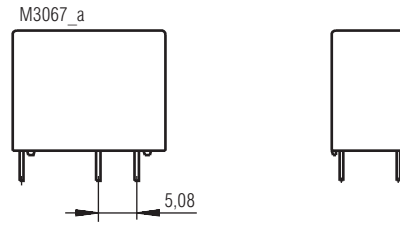
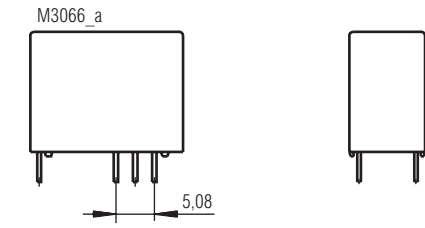


Connections for basic grid dimensions 2,5 mm as well as 2,54 mm according to IEC/EN 60 097 and IEC 60 326 average.  
Pin distance tolerance measured at the pin ends  $\pm 0,3$  mm. Dimensions are valid for untinned state.

Drilling plan (solder side)

Pin variant 2

Pin variant 2



OB 5690.11/.....2

OB 5690.01/.....2

Connections for basic grid dimensions 2,5 mm as well as 2,54 mm according to IEC/EN 60 097 and IEC 60 326 average.  
Pin distance tolerance measured at the pin ends  $\pm 0.3$  mm. Dimensions are valid for untinned state.