

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

Applications

- Control technique
- Interface

Approvals and Marking



Technical Data

Relay type		OB 5690
1.0 Relay coil		
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
2.0 Contacts		
2.1 Contact arrangement		1 NO, 1 changeover contact
2.2 Contact material		AgSnO ₂ + 0.3 μ m Au; AgNi + 0.3 μ m Au ¹⁾ ; 3 μ m Au on request
2.3 Rated insulation voltage	AC V	250
Switching voltage min./max.	V	AC/DC 10 / 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 ²⁾ / 5
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	switching cycles	at 1 s On, 1 s Off (see contact service life)
at AC 230 V 5 A $\cos \varphi=1$	switching cycles	1 x 10 ⁵
2.9 Response time / Release time	ms	≤ 5 (typically 3) / ≤ 4 (typically 2)
2.10 Contact force NC / NO	cN	approx. 10 / approx. 8
2.14 Contact gap	mm	≥ 0.3
3.0 Other		
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		20 / 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
Contamination level		3
Overvoltage category		III
Test voltage contact - coil (1 min)	AC kV eff.	≥ 4
3.9 Weight	g	approx. 6
4.0 Packing		
4.1 on cardboard in slipcase	piece	100
4.2 in case package	piece	800
5.0 Solder method		
5.1 Solder method /-temperature /-duration	$^{\circ}$ C / s	Wave soldering / 260 / 5

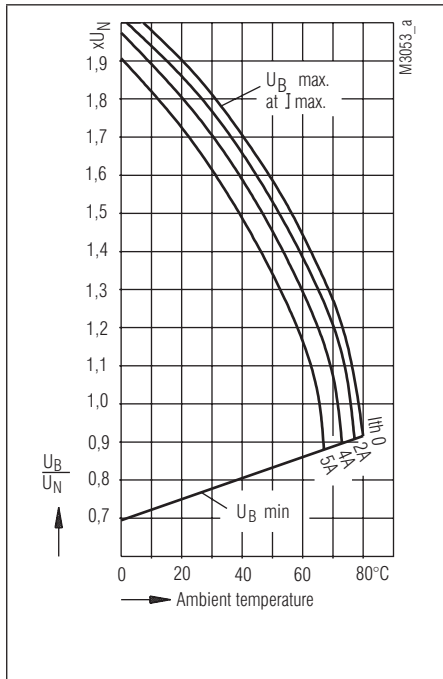
¹⁾ on request: AgSnO₂ + 0.3 μ m Au

²⁾ Typical values

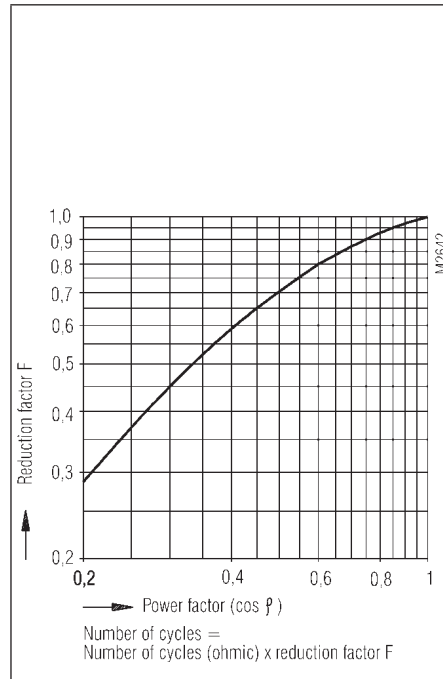
Design Versions

U _N DC V	Voltage range DC V	Resistance at 20°C Ω	OB 5690.01/...		OB 5690.11/...	
			AgSnO ₂	AgNi 0.15	AgSnO ₂	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

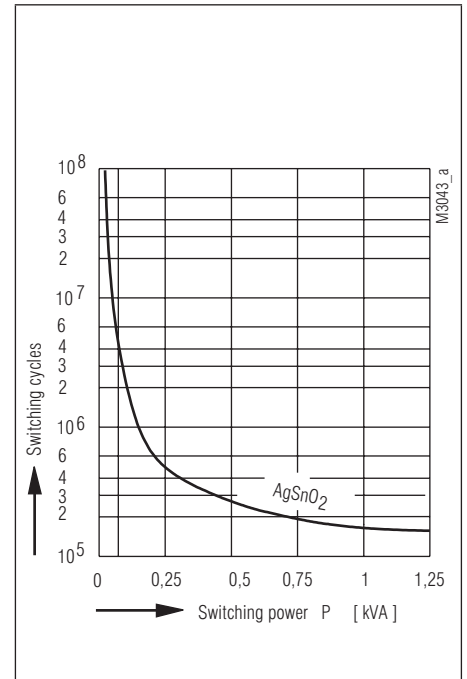
Characteristics



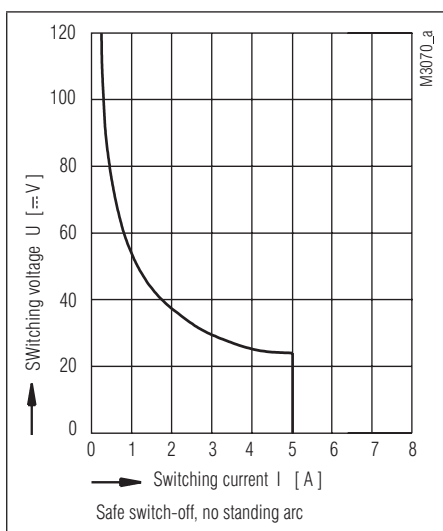
Operating voltage limit curve



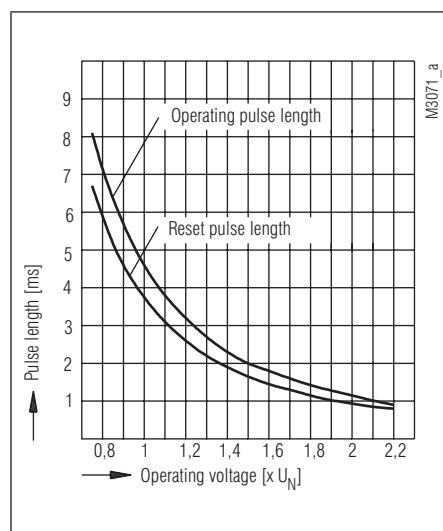
Reduction factor for inductive loads



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

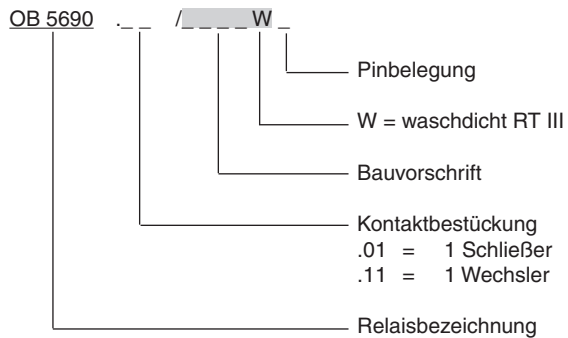


Limit curve for arc-free operation
(load limit curve)



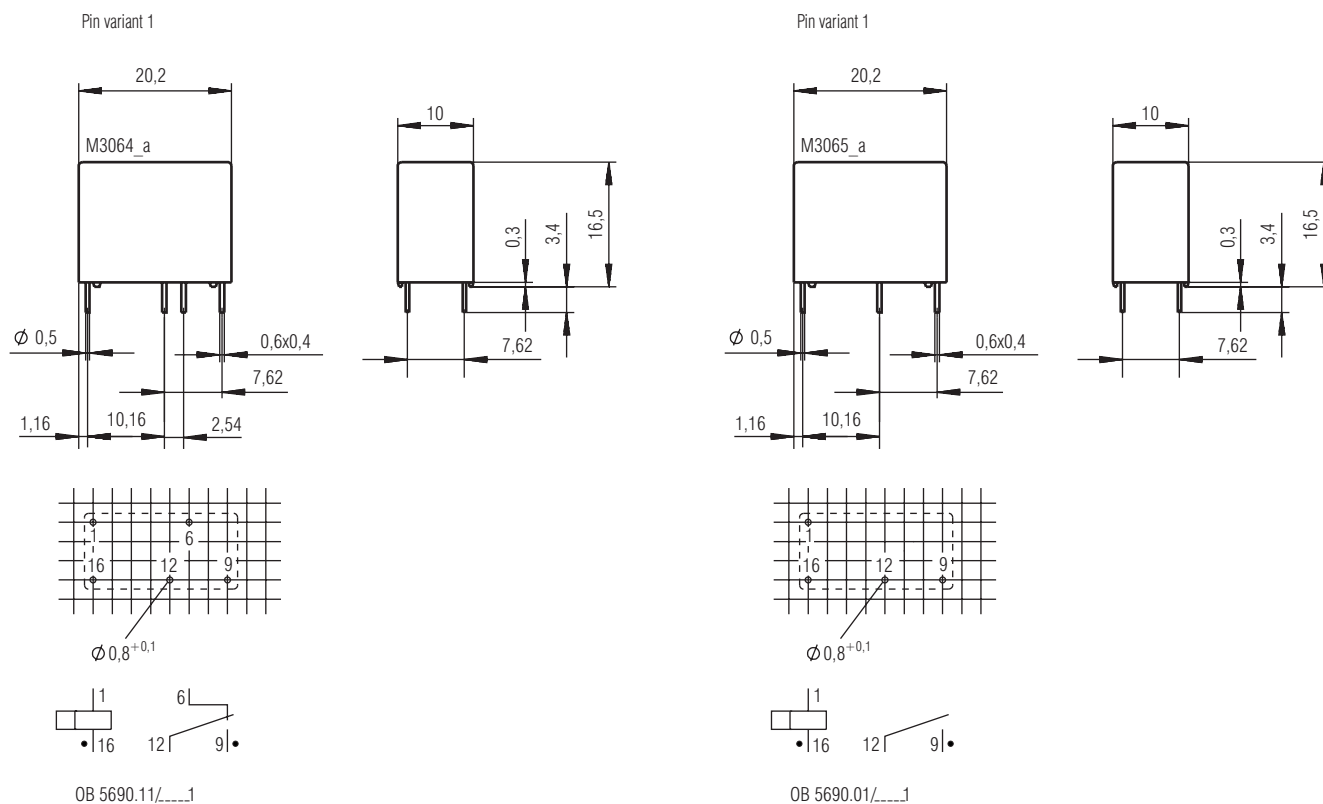
Operating / Reset pulse length

Ordering Example



Dimensions, Pin Configuration, Connection Diagrams

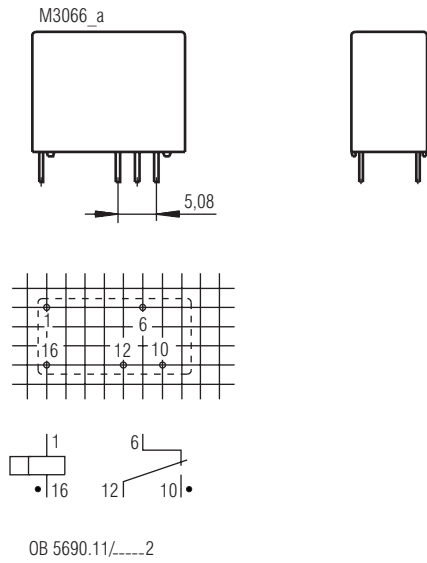
Drilling plan (solder side)



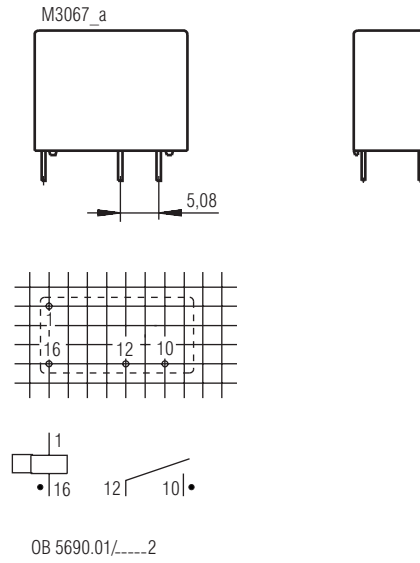
Connections for basic grid dimensions 2,5 mm as well as 2,54 mm according to IEC/EN 60 097 and IEC 60 326 average.
Pin distance tolerance measured at the pin ends ± 0.3 mm. Dimensions are valid for untinned state.

Drilling plan (solder side)

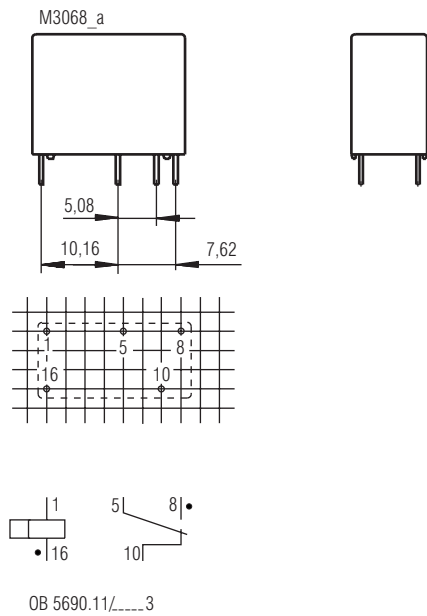
Pin variant 2



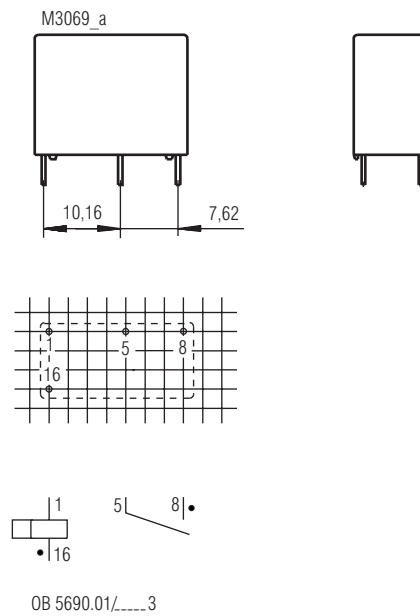
Pin variant 2



Pin variant 3



Pin variant 3



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 ± 0.3 mm. Dimensions are valid for untinned state.