

- According to DIN EN 61810-1, DIN EN 60664-1
- Safe separation according to IEC/EN 60335; IEC/EN 60730
- 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
- Large voltage range
- 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

### Approvals and Markings



### Technical Data

Relay type		single contacts (10 A)	single contacts (5 A)
<b>1.0 Relay coil</b>			
1.1 Nominal voltage	DC V	4, 5, 6, 12, 20, 24, 48	
1.2 Nominal consumption			
1 NO contact	mW	160	135
1 changeover contact	mW	280	250
1.11 Voltage range	$U_N$	0.75 ... 1.8	
1.13 Holding power			
1 NO contact	mW	40	34
1 changeover contact	mW	70	62.5
<b>2.0 Contacts</b>		single contacts	
2.1 Contact arrangement		1 NO contact, 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>
2.3 Rated insulation voltage	AC V	250	
Switching voltage min./max.	V	AC/DC 10 (AC/DC 2 / AC/DC 60) <sup>2)</sup> / DC 120, AC 400 V	
2.4 Limiting continuous current $I_{th}$	A	10	5
Switching current min./max.	A	0.01 <sup>3)</sup> / 10	0.01 <sup>3)</sup> / 5 (1mA/0.3) <sup>2)</sup>
2.5 Switching power min./max.	VA	3 / 2 500	1 / 1 250
Switching power min./max.	W	3 / 120	1 / 120
2.6 Switching capacity to IEC/EN 60947-5-1			
AC 15	AC V/A	NC: 230 / 2    NO: 230 / 5	
2.7 Electrical life		at 1 s On, 1 s Off (see contacts service life)	
at AC 230 V, 5 A, $\cos\phi = 1$	switching cycles	1 x 10 <sup>5</sup>	
at AC 230 V, 10 A, $\cos\phi = 1$	switching cycles	1 x 10 <sup>5</sup>	
2.8 Switching frequency max.	switching cycles/s	20	
2.9 Pick-up / Reset time	ms	$\leq 6$ (typically 4.5) / $\leq 5$ (typically 3)	
2.10 Contact force	cN	NC approx. 8; NO approx. 10	
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, housing		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	

<sup>1)</sup> as option AgNi + 5  $\mu$ m Au

<sup>2)</sup> Values for AgNi 0.15 + 5  $\mu$ m Au

<sup>3)</sup> Typical values

## Technical Data

3.8	Insulation acc. to IEC 60664-1			
	Rated insulation voltage	AC V	250	
	Pollution degree		3	
	Overtoltage category		III	
	Test voltage			
	Contact-coil (1 min)	AC kV eff.	≥ 4	
	Clearance and creepage distances			
	Contact- Coil	mm	≥ 8	IEC/EN 60730, IEC/EN 60335
3.9	Weight	g	4	
<b>4.0 Packing</b>				
4.1	on cardboard	piece	100	
4.2	in case package	piece	800	
<b>5.0 Solder method</b>				
5.1	Solder method /-temperature /-duration	°C / s	Wave soldering / 260 / 5	

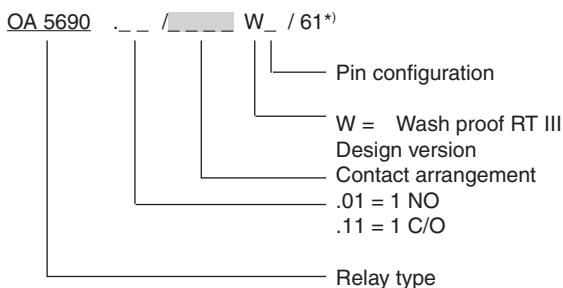
## Design Versions

Standard variant for switching current max. I = 5 A				
U <sub>N</sub> V =	Resistance at 20°C Ω ± 10%		OA 5690 AgNi + 0,3 μm Au	
	1 S	1 W	.01/	.11/
4,5	155	78	5461	5441
6	315	155	5462	5442
12	1070	600	5463	5443
20	2960	1600	5464	5444
24	4300	2400	5465	5445
48	-	9200	-	5446

Standard variant for switching current max. I = 10 A				
U <sub>N</sub> V =	Resistance at 20°C Ω ± 10%		OA 5690 AgSnO <sub>2</sub> + 0,3 μm Au	
	1 S	1 W	.01/	.11/
4,5	130	78	5421	5401
6	225	130	5422	5402
12	900	510	5423	5403
20	2 400	1 450	5424	5404
24	3 600	2 050	5425	5405
48	-	6 560	-	5406

Standard variant with goldplated contacts				
U <sub>N</sub> V =	Resistance at 20°C Ω ± 10%		OA 5690 AgNi + 5 μm Au	
	1 S	1 W	.01/	.11/
4,5	155	78	5511	5491
6	315	155	5512	5492
12	1070	600	5513	5493
20	2960	1600	5514	5494
24	4300	2400	5515	5495
48	-	9200	-	5496

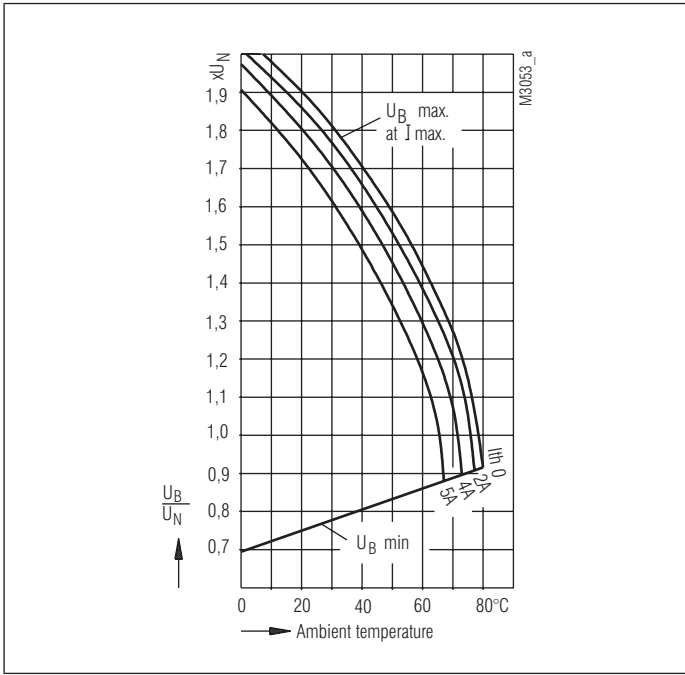
## Ordering example



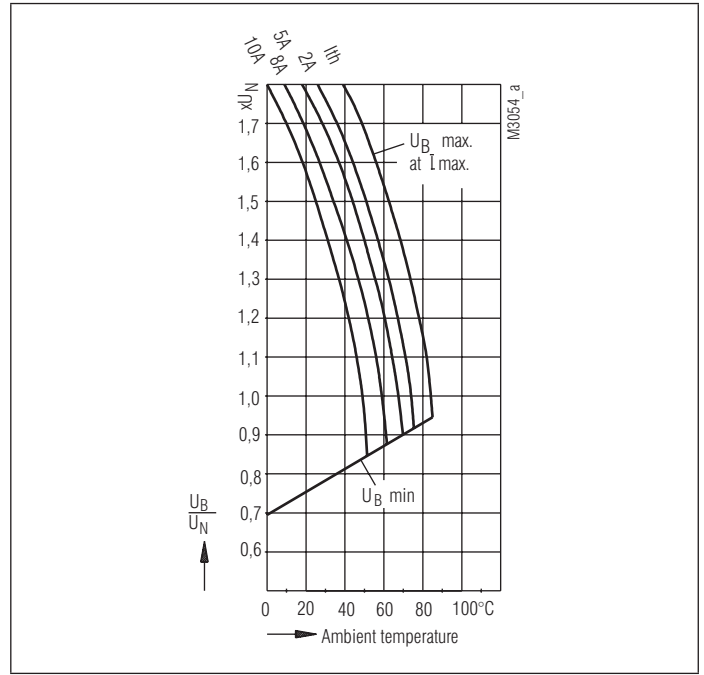
## Note

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)

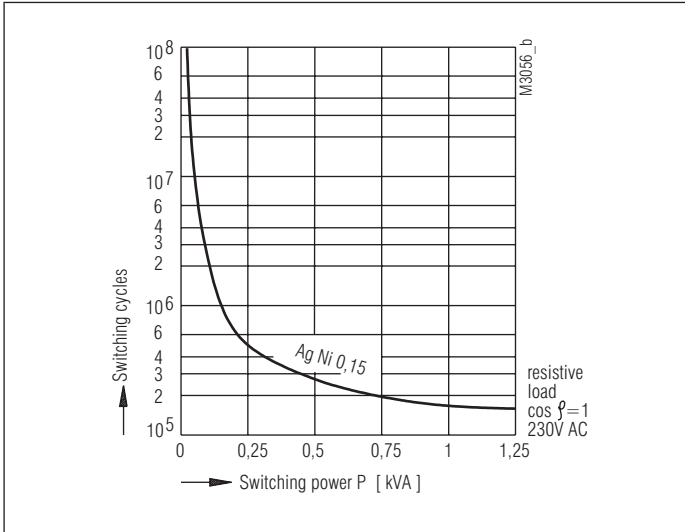
\*) /61 cURus approval



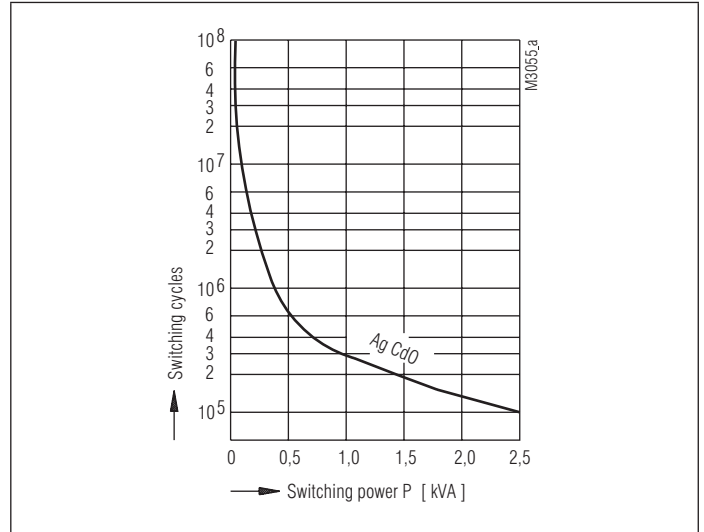
Operating voltage limit curve  
OA 5690.11 5 A - model



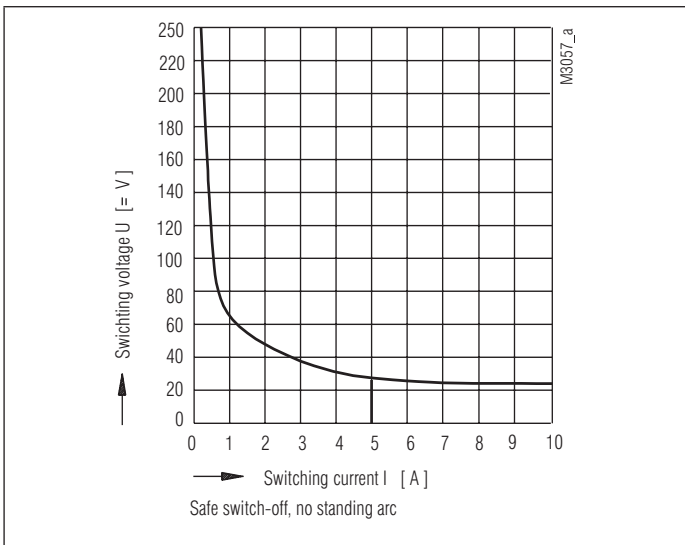
Operating voltage limit curve  
OA 5690.11 10 A - model



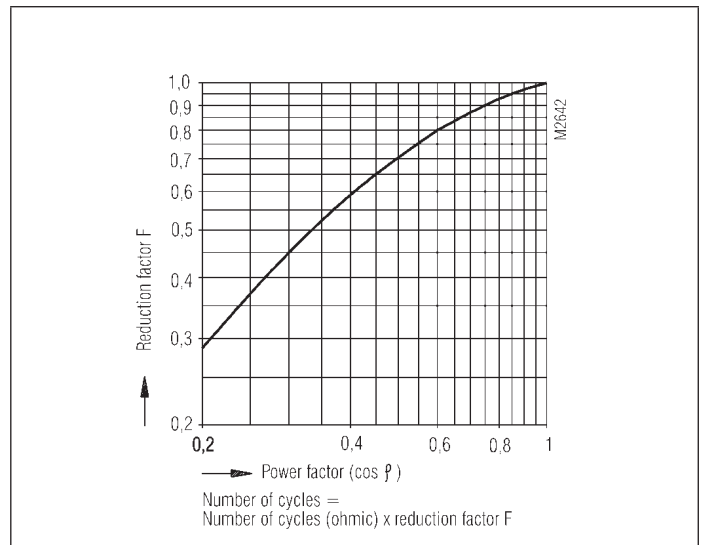
Contact service life OA 5690.11 5 A - model



Contact service life OA 5690.11 10 A - model



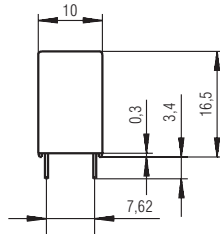
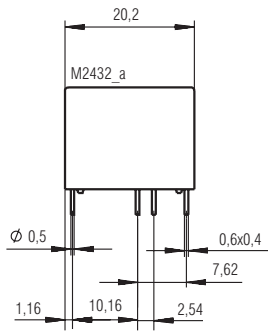
Arc limit curve



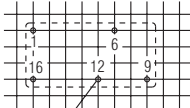
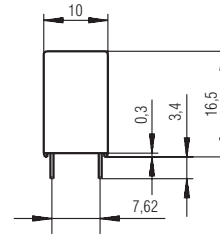
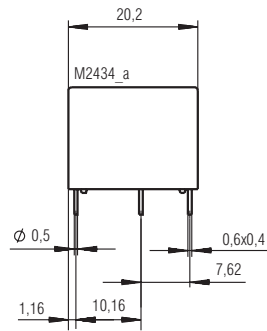
Reduction factor for inductive loads

Drilling plan (solder side)  
Pin variant 1, pin compatible to OW 5699

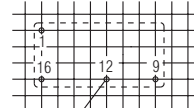
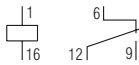
OA 5690.11 / \_\_\_\_\_ 1



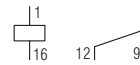
OA 5690.01 / \_\_\_\_\_ 1



$\varnothing 0,8^{+0,1}$

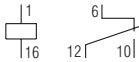
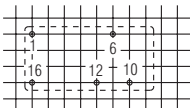
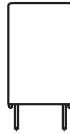
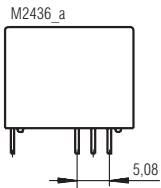


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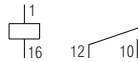
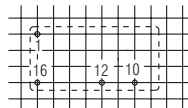
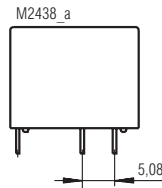


Pin variant 2, pin compatible to OW 5691

OA 5690.11 / \_\_\_\_\_ 2

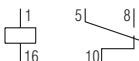
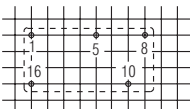
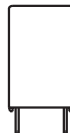
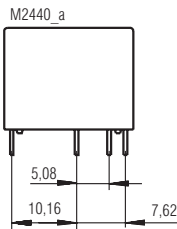


OA 5690.01 / \_\_\_\_\_ 2

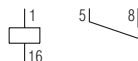
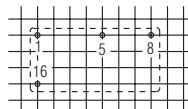
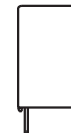
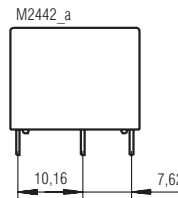


Pin variant 3, pin compatible to various competitors relays

OA 5690.11 / \_\_\_\_\_ 3



OA 5690.01 / \_\_\_\_\_ 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  $\pm 0.3$  mm. Dimensions are valid for untinned state.