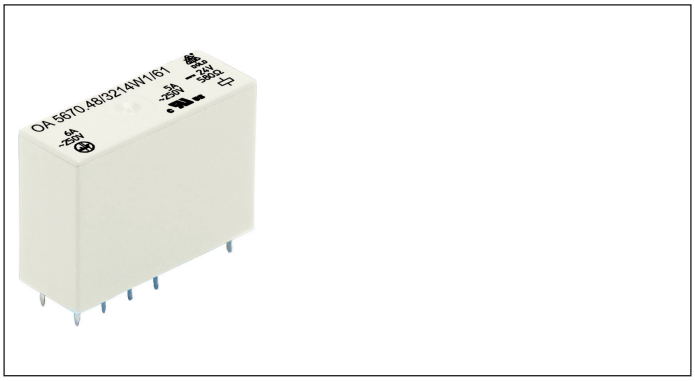
PCB Relays

Safety relay
monostable
OA 5670



- Acc. to DIN EN 50205, DIN EN 61810-1, DIN EN 60664-1
- With forcibly guided contacts
- **Double and reinforced insulation between contact sets according to EN 50178**
- High dielectric strength
- High mechanical service life
- High switching reliability
- Compact size
- High thermal continuous current
- High voltage range

Applications

- Switchgear for safety technology
- Press controls

Approvals and Marking

CE, TÜVRheinland CERTIFIED, Type Approved, www.tuv.com ID 0004000000, cULus Canada / USA

Technical Data

Relais type			OA 5670
1.0	**Relais coil**		
1.1	Nominal voltage	DC V	6; 12; 20; 24; 48; 60; 110 (others on request)
1.2	Nominal consumption	W	1.0
1.3	Holding power (at 0.5 x UN)	W	0.25
2.0	**Contacts**		
2.1	Contact arrangement		2 NO and 2 NC; 3 NO and 1 NC
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 V	250
	Switching voltage min./max	V	AC/DC 10 / DC 250, AC 400 (AC/DC 100 mV / 60 V) [1]
2.4	Limiting continuous current I_{th}	A	3 x 6 (see operating voltage limit curve)
	Switching current min./max.	A	10 mA[3] / 6 (1 mA / 0.3 A)[1]
2.5	Switching power min./max.	VA	3 / 1 500 (1 mVA / 7 VA)[1]
	Switching power min./max.	W	3 / 160 (1 mW / 7 W)[1] (s. limit curve for arc-free operation)
2.6	Switching capacity		
	to IEC/EN 60947-5-1 AC 15 [4]	AC V/A	NO: 250 / 2 NC: 250 / 1
	to IEC/EN 60947-5-1 AC 15 [5]	AC V/A	NO: 250 / 3 NC: 250 / 1
	to IEC/EN 60947-5-1 DC 13 [4]	DC V/A	NO: 24 / 1 NC: 24 / 1
	at 0.1 Hz DC 13 [4]	DC V/A	NO: 24 / 4 NC: 24 / 3
	to UL 508		B300 / R300
2.7	Electrical life	switching cycles	at 1 s On, 1 s Off (see contacts service life)
	at AC 230 V, 6 A, cosφ = 1	switching cycles	> 1.2 x 10^5 AgNi 10
	at DC 24 V, 6 A ohmsch	switching cycles	> 1.2 x 10^5 AgNi 10
2.8	Switching frequency max.	switching cycles/s	10
2.9	Response time / Release time	ms	typically 11 / typically 6
2.10	Contact force NO / NC	cN	≥ 10
3.0	**Other**		
3.1	Mechanical life	switching cycles	≥ 50 x 10^6
3.2	Temperature range	°C	- 40 ... + 75
3.3	Degree of protection, housing		Solder line proof RT II as option wash proof RT III
3.5	Vibration resistance		10 ... 200 Hz; NC 5 g; NO 10 g; IEC/EN 60068-2-6
3.6	Climate resistance		40 / 060 / 04 (climate category); A/B/D IEC/EN 60068-1
3.7	Short circuit strength 1 kA / AC 250 V	AgNi or $AgSnO_2$	6 A gL EN 60947-5-1

[1] Values for AgNi-Contacts + 5 µm Au
[2] 10 A total current at t = 20°C and coil voltage UN
[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		**double and reinforced insulation**
	Rated insulation voltage	AC V	250
	Contamination level		3
	Overvoltage category		III
	Test voltage		
	Contact-Coil (1 min)	AC kV eff.	≥ 4
	Left contact-right contact (1min)	AC kV eff.	≥ 4
	Contact-Coil (1min)	AC kV eff.	≥ 3
	Open contact acc. to DIN EN 61810-1	AC kV eff.	1.5
	Transient voltage		
	Contact-Coil (1.2 - 50 µs)	kV	≥ 6
	Clearance and creepage distances		
	Contact-Coil	mm	≥ 8
	Left contact-right contact	mm	≥ 5.5
	Contact-Contact	mm	≥ 4.5
3.9	Weight	g	approx. 21
4.0	**Packing**		
4.1	on cardboard	piece	42
4.2	in case package	piece	210
5.0	**Solder method**		
5.1	Solder method /-temperature /-duration	°C / s	Wafe soldering / 260 / 5

Design Versions

			OA 5670	
			.52	.48
U_N (DC V)	Voltage range (DC V)	Resistance at 20°C Ω±10%	2NO, 2NC	3NOS, 1NC
AgNi10 + 0,2 µm Au-contacts				
6	4.2 ... 8.4	36	3201	3211
12	8.4 ... 16.8	150	3202	3212
20	14.0 ... 28.0	400	3203	3213
24	16.8 ... 33.6	580	3204	3214
48	33.6 ... 67.2	2300	3205	3215
60	42.0 ... 84.0	3600	3206	3216
110	77.0 ... 154.0	12100	3207	3217
$AgSnO_2$ + 0,2 µm Au-contacts				
6	4.2 ... 8.4	36	3221	3231
12	8.4 ... 16.8	150	3222	3232
20	14.0 ... 28.0	400	3223	3233
24	16.8 ... 33.6	580	3224	3234
48	33.6 ... 67.2	2300	3225	3235
60	42.0 ... 84.0	3600	3226	3236
110	77.0 ... 154.0	12100	3227	3237
AgNi10 + 5 µm Au-contacts				
6	4.2 ... 8.4	36	3241	3251
12	8.4 ... 16.8	150	3242	3252
20	14.0 ... 28.0	400	3243	3253
24	16.8 ... 33.6	580	3244	3254
48	33.6 ... 67.2	2300	3245	3255
60	42.0 ... 84.0	3600	3246	3256
110	77.0 ... 154.0	12100	3247	3257

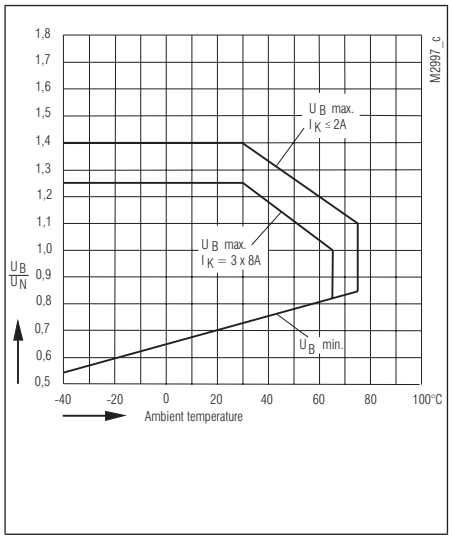
Ordering Example

OA 5670 ._ _ / _ _ _ _ _ _ / 61*)

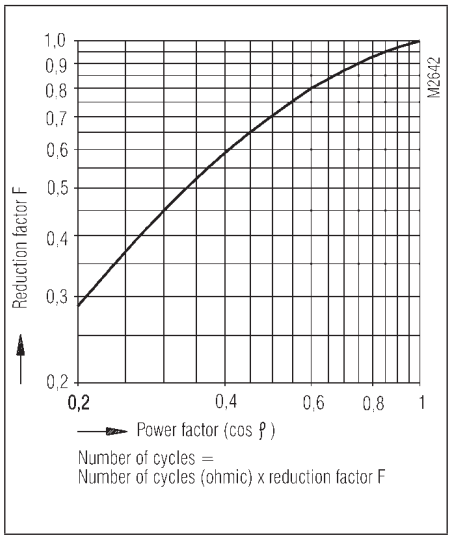
- Pin configuration
- L = standard, solder line proof RT II
  W = wash proof RT III
- Design version
- Contacts
  .52 2 NO, 2 NC
  .48 3 NO, 1 NC
- Relay type

*) /61 cURus approval

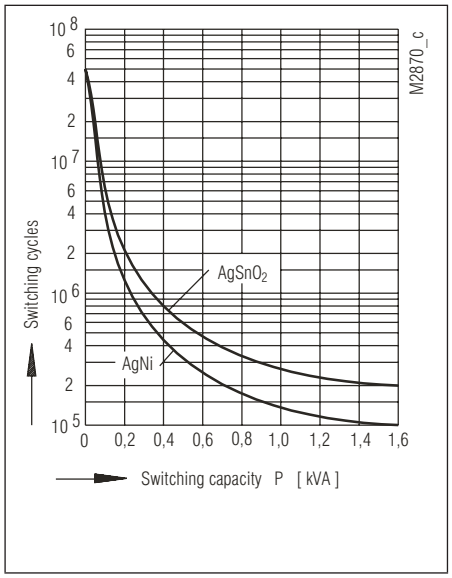
Characteristics



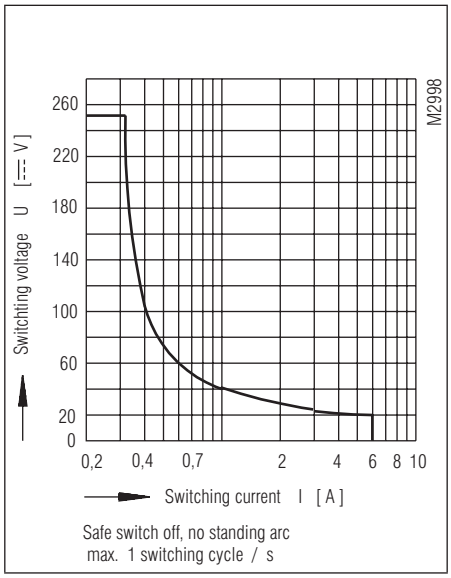
Operating voltage limit curve



Reduction factor for inductive loads



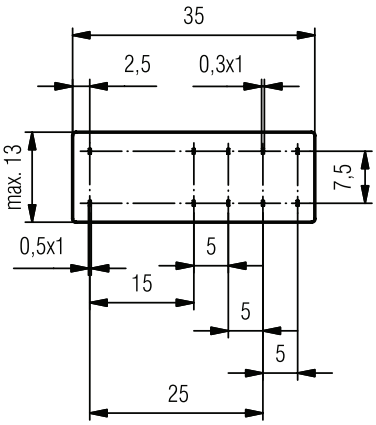
Contact service life (at t_u = 20°C)

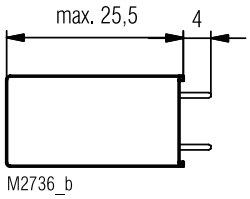


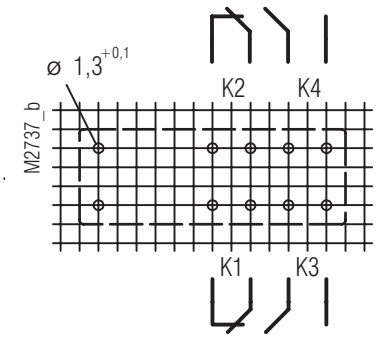
Limit curve for arc-free operation (at t_u = 20°C)

Dimensions, Pin Configuration, Connection Diagrams

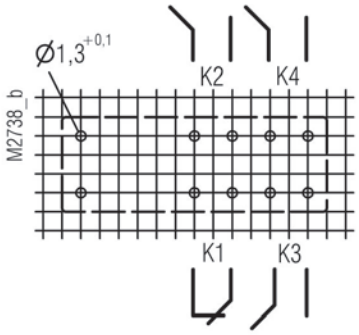
Drilling plan (solder side)



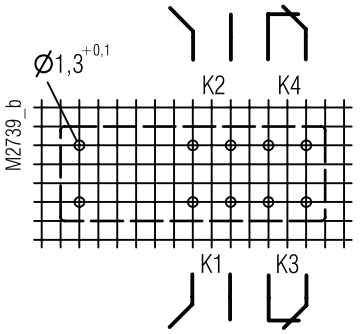




OA5670.52___L1 2NO/2NC



OA5670.48___L1 3NO/1NC



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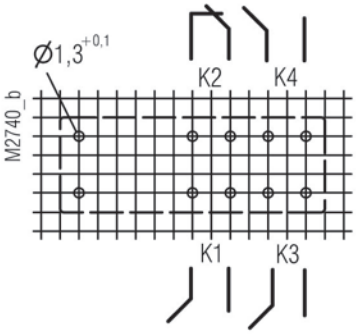

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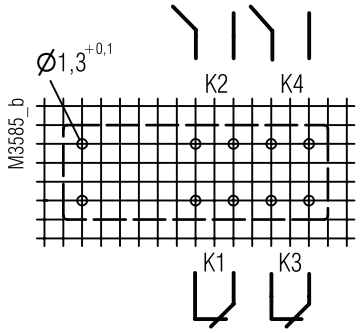
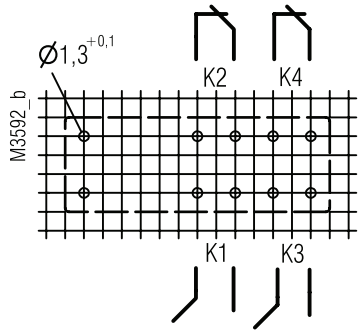


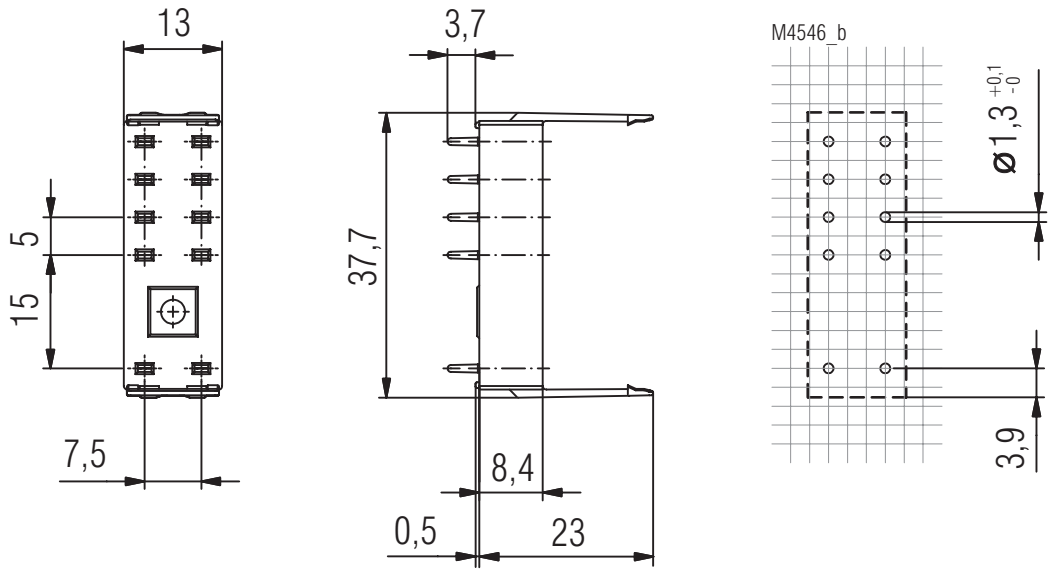
OA5670.52___L3 2NO/2NC



OA5670.52___L4 2NO2NC

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

Sockel ET 1415.034



Article number: 0064297