

Pcb relays

Safety relay according to UIC 736 (signal relay)
monostable
OA 5611.48/31 __ _L1, OA 5611.52/31 __ _L1

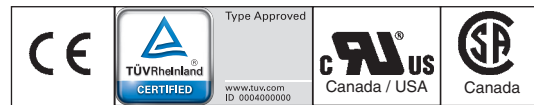


- According to DIN EN 50205, DIN EN 61810-1, DIN EN 60664-1, UIC 736
- With forcibly guided contacts
- Low rated power consumption
- High mechanical service life
- High switching reliability due to crown contacts with large relative movement
- Compact size

Anwendungen

- To be used in electrical circuits for safety applications.
- For railway signalling circuits according to UIC 736 R: 2004

Approvals and Marking



Technical Data

Relay type		OA 5611	
1.0 Relay coil			
1.1 Nominal voltage	DC V	6, 12, 24, 48, 60, 110 (others on request)	
1.2 Nominal consumption	W	0.7	
1.11 Voltage range	U_N	0.75 ... 1.4	
1.13 Holding power (at 0.5 U_N)	W	0.18	
1.14 Airgap in magnetic circuit	mm	> 0.1	
2.0 Contacts			
2.1 Contact arrangement		2 NO / 2 NC 3 NO / 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 8 (see operating voltage limit curve)	
Switching current min./max.	A	> 10 mA ³⁾ / 8 (1 mA / 0.3 A) ¹⁾	
2.5 Switching power min./max.	VA	3 / 2000 (1 mVA / 7 VA) ¹⁾	
Switching power min./max	W	0.1 ³⁾ / 200 (1 mW / 7 W) ¹⁾ (see limit curve for arc-free operation)	
2.6 Switching capacity		B300	
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 / 2
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 / 4
to UL 508			
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	> 3 x 10 ⁵ AgSnO ₂	> 2 x 10 ⁵ AgNi 10
at AC 230 V, 8 A, $\cos\phi = 1$	switching cycles	> 1.5 x 10 ⁵ AgSnO ₂	> 10 ⁵ AgNi 10
2.8 Switching frequency max	switching cycles / s	10	
2.9 Response time / Release time	ms	typically 20 / typically 6	
2.10 Contact force	cN	≥ 15	
2.14 Contact gap	mm	> 0.5 ²⁾	
3.0 Other			
3.1 Mechanical life	switching cycles	≥ 10 ⁷	
3.2 Temperature range	°C	- 40 ... + 70	
3.3 Degree of protection, housing		Solder line proof RT II	
3.5 Vibration resistance		5 ... 55 Hz; amplitude; 2 g max. IEC/EN 60068-2-6	
3.6 Climate resistance		Humid heat IEC/EN 60068-2-30	
3.7 Short circuit strength 1 kA / AC 250 V	AgSnO ₂	NO: 10 A gL / NC: 10 A gL	EN 60947-5-1
	AgNi	NO: 10 A gL / NC: 6 A gL	EN 60947-5-1

¹⁾ Values for AgNi-contacts + 5 μm Au

²⁾ over entire service life, even when under fault and at 1.4 x U_N

³⁾ Typical values

⁴⁾ Values for AgNi-Contacts

⁵⁾ Values for AgSnO₂-contacts

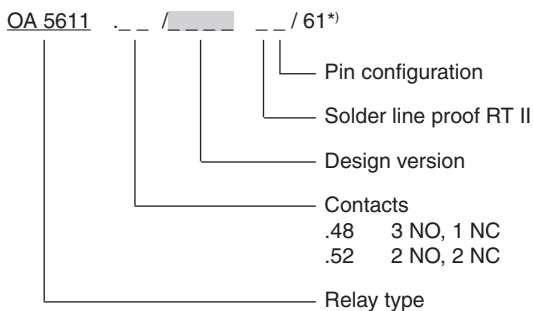
Technical Data

3.8	Insulation acc. to IEC 60664-1, EN 50178		
	Rated insulation voltage	AC V	250
	Contamination level		3
	Overvoltage category		III
	Test voltage		
	Contact-coil (1 min)	AC kV eff.	≥ 4
	Contact-contact (1min)	AC kV eff.	≥ 2.5
	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	mm	≥ 8
3.9	Weight	g	approx. 35
4.0 Packing			
4.1	on cardboard	piece	30
4.2	in case package	piece	150
5.0 Solder method			
5.1	Solder method /-temperature /-duration	°C / s	Wafer soldering / 260 / 5

Design Versions

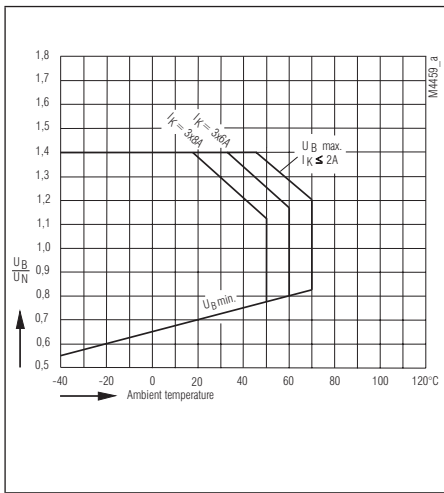
OA 5611				
U _N (DC V)	Voltage range (DC V)	R _{Spulse} Ω ± 10%	.48	.52
			3NO / 1NC	2NO / 2NC
AgNi-contacts + 0,2 μm Au				
6	4,5 ... 8,4	51	3121	3104
12	9,0 ... 16,8	205	3122	3102
24	18,0 ... 33,6	805	3123	3103
48	36,0 ... 67,2	3 290	3124	3105
60	45,0 ... 84,0	5 150	3125	3106
110	82,5 ... 154,0	17 300	3126	3107
AgNi-contacts + 5 μm Au				
6	4,5 ... 8,4	51	3131	3111
12	9,0 ... 16,8	205	3132	3112
24	18,0 ... 33,6	805	3133	3113
48	36,0 ... 67,2	3 290	3134	3114
60	45,0 ... 84,0	5 150	3135	3115
110	82,5 ... 154,0	17 300	3136	3116

Ordering Example

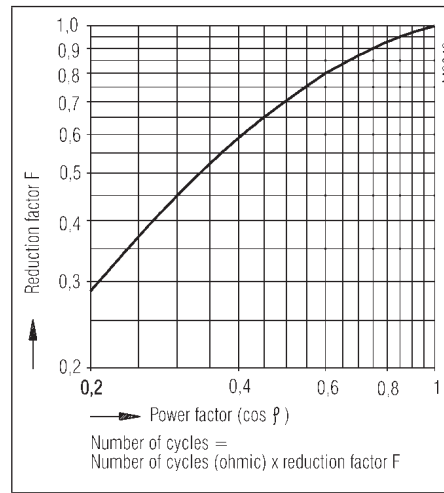


*) / 61 cURus approval

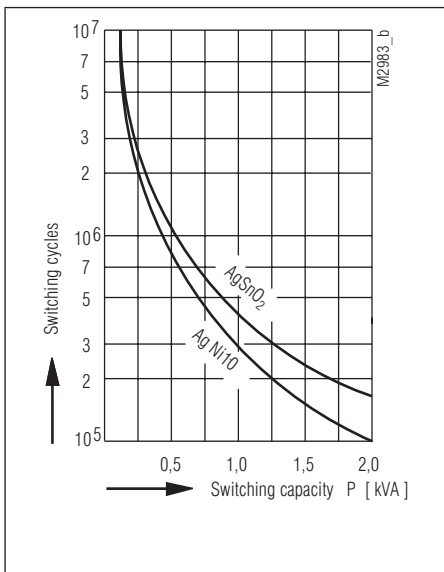
Characteristics



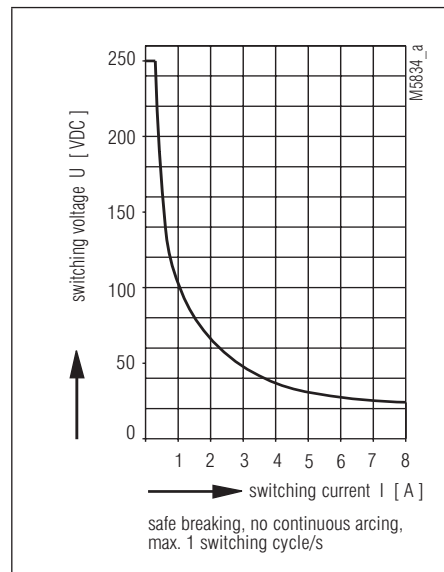
Operating voltage limit curve OA 5611



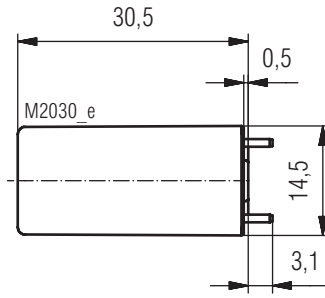
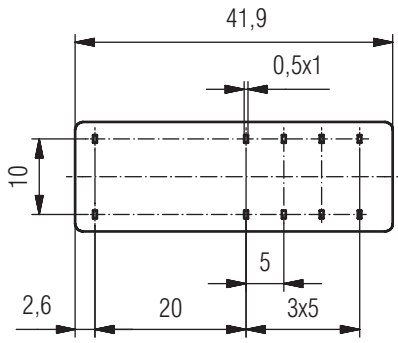
Reduction factor for inductive loads



Contact service life

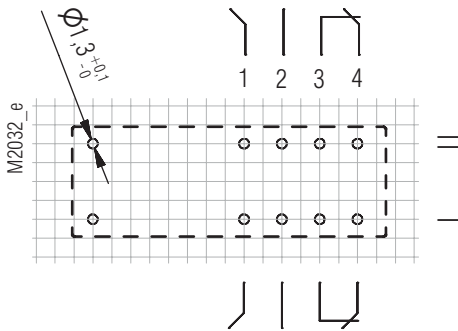


Limit curve for arc-free operation (load limit curve)

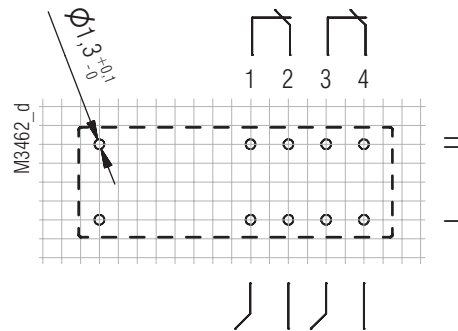


Drilling plan (solder side)

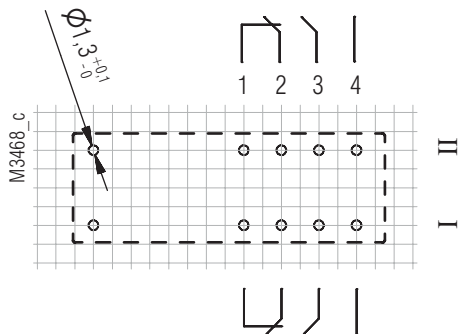
Pin arrangement OA 5611.52/...L1 2NO / 2NC



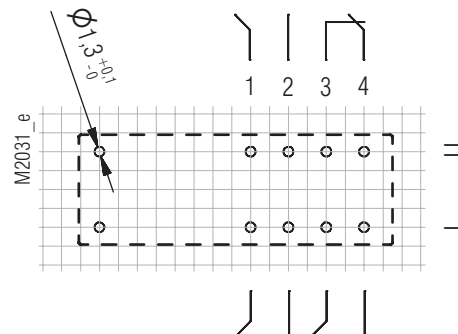
Pin arrangement OA 5611.52/...L4 2NO / 2NC



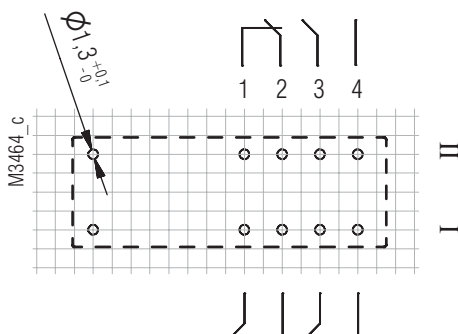
Pin arrangement OA 5611.52/...L5 2NO / 2NC



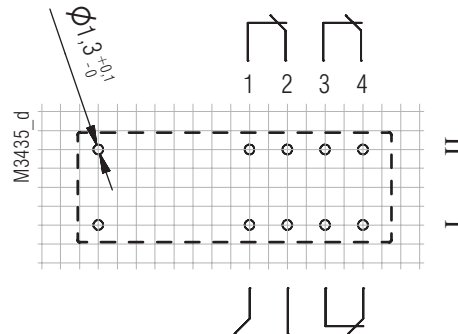
Pin arrangement OA 5611.48/...L1 3NO / 1NC



Pin arrangement OA 5611.48/...L4 3NO / 1NC

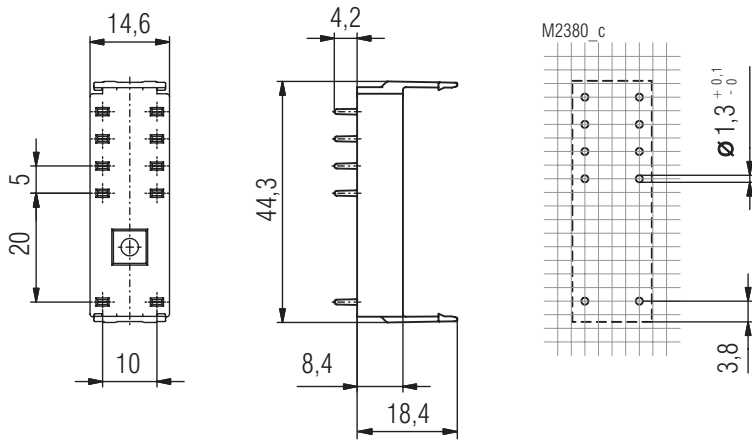


Pin arrangement OA 5611.28 1NO / 3NC



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

Socket ET 1415.031



Article number: 0049512

