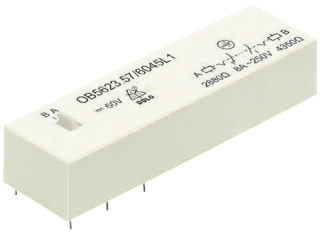
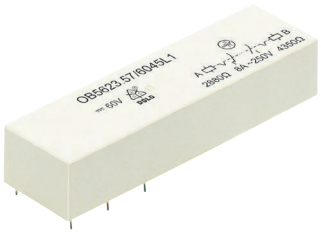
Relay Bistable
OB 5623



8-polig
with manual operation



8-polig
without manual operation

- According to DIN EN 61810-1, DIN EN 61810-3
- With forcibly guided contacts
- Energy efficient; Low energy consumption, because of impulse control, no holding consumption
- Bistable
  Mechanical latching of contact position
- Safe separation between all current circuits
- Both coils non-polarised, neutral
- Defined position when both coils are operated simultaneously
- Impulse operation, duty cycle possible (under fault condition)
- Wide temperature range
- As option with manual operation (mechanical indication)
- Washproof (only without manual operation)
- Height 15.8 mm

Applications

- Railway and signalling applications
- Automation
- Medical devices
- Radio- and telecontrol applications
- Fuel applications
- Process applications

Approvals and Markings

Type Approved
TÜVRheinland CERTIFIED
www.tuv.com ID 0004000000

c UL us Canada / USA

* in preparation

Technical Data

Relay type			OB 5623	OB 5623
1.0	**Coil**		interlocking	unlocking
1.1	Nominal voltage	DC V	6, 12, 24, 48, 60, 110 (others on request)	6; 12; 24; 48; 60, 110 [3] (others on request)
1.2	Nominal consumption	W	approx. 1.2	approx. 0.7
1.4	Pulse length	ms	≥ 200	
1.11	Voltage range	U_N	0.85 ... 1,2	
2.0	**Contacts**			
2.1	Contact arrangement		4 NO / 4 NC (other on request)	
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 2 V / 60 V) [7]	
2.4	Limiting continuous current I_{th}	A	7 x 8 [8] (see Operating voltage limit curve)	
	Switching current min./max	A	10 mA [6] / 8 (2 mA / 0,3 A) [7]	
2.5	Switching power min./max	VA	0.1 [6] / 2000 (10 mVA / 12 VA) [7]	
	Switching power min./max	W	0.1 [6] / 200 (10 mW / 12 W) [7]	
2.6	Switching capacity to IEC/EN 60947-5-1			
	AC 15 [9]	AC V/A	NC: 230 / 3	NO: 230 / 2
	AC 15 [2]	AC V/A	NC: 230 / 5	NO: 230 / 2
	DC 13 [9]	DC V/A	NC: 24 / 2	NO: 24 / 2
2.7	Electrical life		at 1 s On, 4 s Off (see contacts service life)	
	at AC 230 V, 8 A, cosφ = 1	switching cycles	> 10^5 AgNi	
	at DC 24 V 8 A ohmic	switching cycles	> 0.75 x 10^5 AgNi	
2.8	Switching frequency max	switching cycles/s	2	
2.9	Response time [4] / Release time [5]	ms	typically 20 / typically 12	
2.10	Contact force	cN	≥ 8	
2.14	Contact gap	mm	1.0 (> 0.5[1])	
3.0	**Other**			
3.1	Mechanical life	switching cycles	10 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 (without manual operation)	
3.4	Test procedure		A (group mounting)	
3.5	Vibration resistance		10 ... 85 Hz; 0.35 mm amplitude; 4 g max. IEC/EN 60068-2-6	
3.6	Climate resistance		40 / 075 / 04; A / B / D IEC/EN 60068-1	
3.7	Short circuit strength		1 kA / AC 250 V IEC/EN 60947-5-1 [2] [9]	
	SCPD / Fuse		NO conctact: 10 A gG/gL / NC conctact: 6 A gG/gL IEC/EN 60269-1 [2] [9]	

[1] Over entire service life, even when under fault and at 1.1 x U_N
[2] Values for $AgSnO_2$ -contacts
[3] Only impulse operation
[4] Interlocking
[5] Unlocking
[6] Typical values
[7] Typical values for AgNi-contacts + 5 µm Au
[8] See notes
[9] Values for AgNi-contacts

Technical Data

3.8	Insulation acc. to IEC 60664-1, EN 50178		OB 5623 (interlocking)	OB 5623 (unlocking)
	Rated insulation voltage	AC V	250	250
	Pollution degree		2	2
	Overvoltage category		III	III
	Test voltage			
	contact-coil (1 min)	AC kV eff.	≥ 4	≥ 4
	contact-contact (1min)	AC kV eff.	≥ 4	≥ 4
	between open contacts	AC kV eff.	≥ 1,5	≥ 1,5
	Transient voltage			
	contact-coil (1.2 - 50 µs)	kV	≥ 6	≥ 6
	Clearance and creepage distance		≥ 5,5	≥ 4,5
3.9	Weight	g	approx. 47	

4.0	**Packing unit**		
4.1	on cardboard in slipcase	piece	10
4.2	in case package	piece	100

5.0	Solder method		
5.1	Solder method /-temperature /-duration	°C / s	Wafe soldering / 260 / 5

Ordering Example

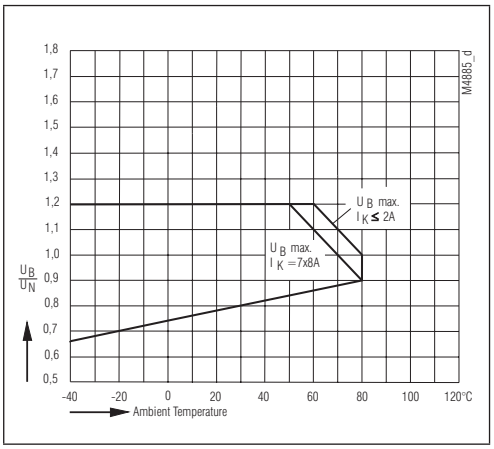
OB 5623 ._ _ /_ _ _ _ _ _

- Pin configuration
- W = Wash proof RT III (only without manual operation)
  L = Solder line proof RT II
- Design version
- Contact arrangement
  .57 4 NO, 4 NC
  (others on request)
- Type

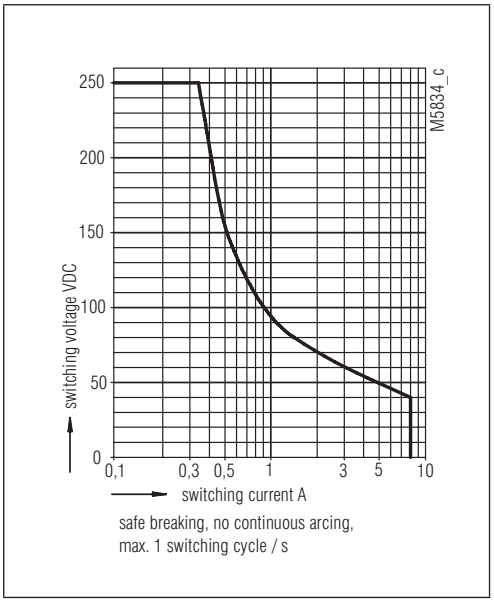
OB 5623 with manual operation				
		interlocking	unlocking	OB 5623
				.57
U_N (DCV)	Voltage range (DC V)	R_{Coil} at 20° C Ω±10%	R_{Coil} at 20° C Ω±10%	4NO, 4NC
AgNi-contacts + 0.2 µm Au				
6	5.1 ... 7.2	31	52	6001L
12	10.2 ... 14.4	120	200	6002L
24	20.4 ... 28.8	500	750	6003L
48	40.8 ... 57.6	2000	3600	6004L
60	51.0 ... 72.0	2880	4350	6005L
110 [3)]	93.5 ... 132.0	10100	9216	6006L
AgNi-contacts + 5 µm Au (gold plated contacts)				
6	5.1 ... 7.2	31	52	6041L
12	10.2 ... 14.4	120	200	6042L
24	20.4 ... 28.8	500	750	6043L
48	40.8 ... 57.6	2000	3600	6044L
60	51.0 ... 72.0	2880	4350	6045L
110 [3)]	93.5 ... 132.0	10100	9216	6046L
$AgSnO_2$-contacts +0.2 µm Au				
6	5.1 ... 7.2	31	52	6081L
12	10.2 ... 14.4	120	200	6082L
24	20.4 ... 28.8	500	750	6083L
48	40.8 ... 57.6	2000	3600	6084L
60	51.0 ... 72.0	2880	4350	6085L
110 [3)]	93.5 ... 132.0	10100	9216	6086L
[3)] only impulse operation				

OB 5623 without manual operation				
		interlocking	unlocking	OB 5623
				.57
U_N (DCV)	Voltage range (DC V)	R_{Coil} at 20° C Ω±10%	R_{Coil} at 20° C Ω±10%	4NO, 4NC
AgNi-contacts + 0.2 µm Au				
6	5.1 ... 7.2	31	52	6121W
12	10.2 ... 14.4	120	200	6122W
24	20.4 ... 28.8	500	750	6123W
48	40.8 ... 57.6	2000	3600	6124W
60	51.0 ... 72.0	2880	4350	6125W
110 [3)]	93.5 ... 132.0	10100	9216	6126W
AgNi-contacts + 5 µm Au (gold plated contacts)				
6	5.1 ... 7.2	31	52	6161W
12	10.2 ... 14.4	120	200	6162W
24	20.4 ... 28.8	500	750	6163W
48	40.8 ... 57.6	2000	3600	6164W
60	51.0 ... 72.0	2880	4350	6165W
110 [3)]	93.5 ... 132.0	10100	9216	6166W
$AgSnO_2$-contacts + 0.2 µm Au				
6	5.1 ... 7.2	31	52	6201W
12	10.2 ... 14.4	120	200	6202W
24	20.4 ... 28.8	500	750	6203W
48	40.8 ... 57.6	2000	3600	6204W
60	51.0 ... 72.0	2880	4350	6205W
110 [3)]	93.5 ... 132.0	10100	9216	6206W
[3)] only impulse operation				

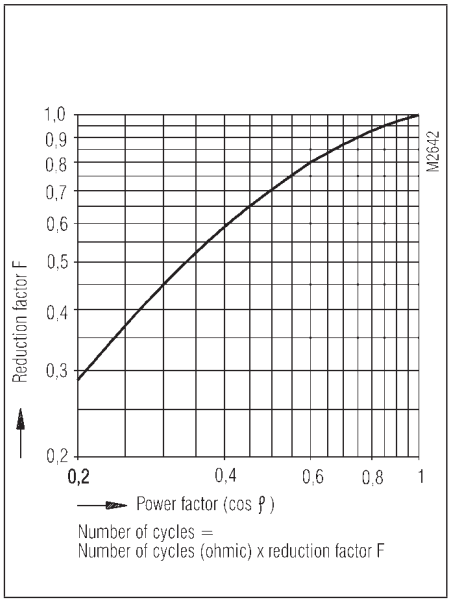
Characteristics



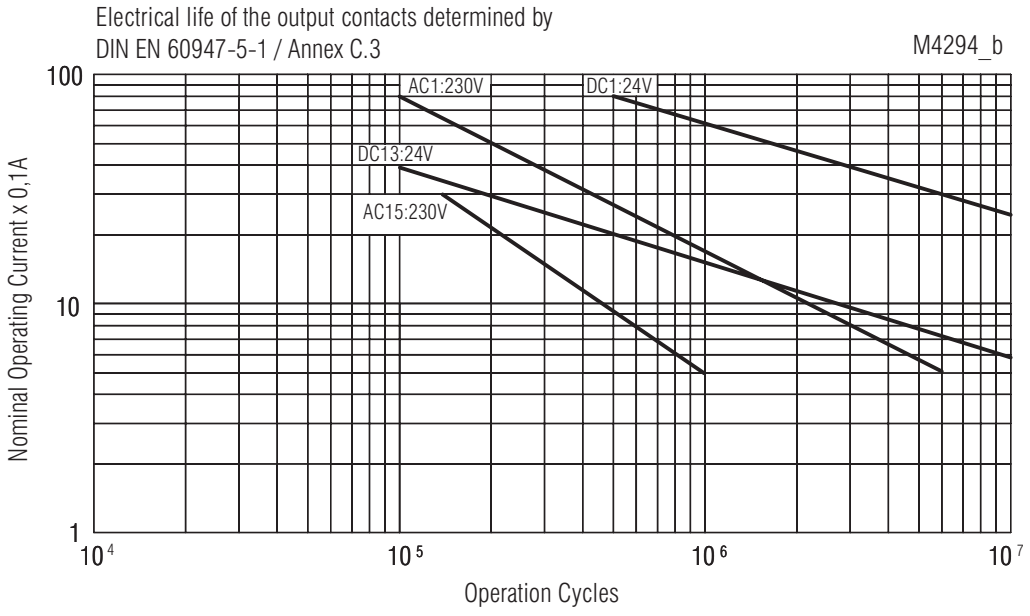
Operating voltage limit curve
without influence through self-heating of
surrounding components



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

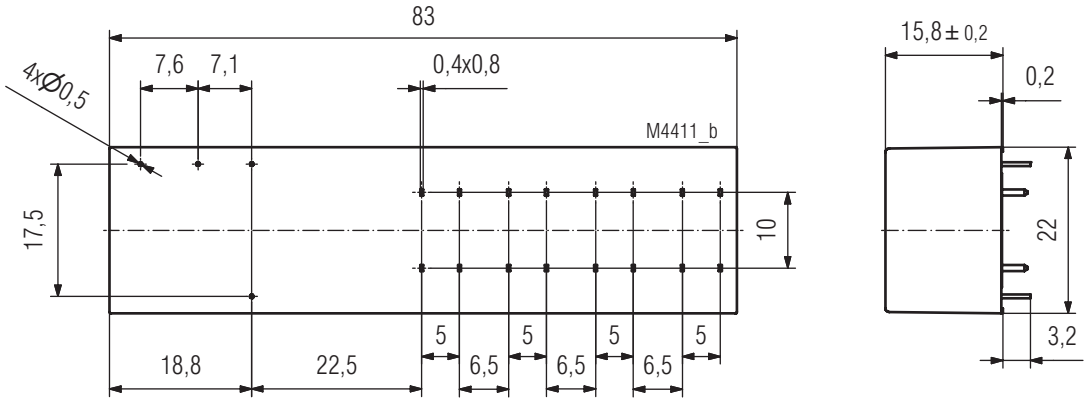


Reduction factor for inductive loads

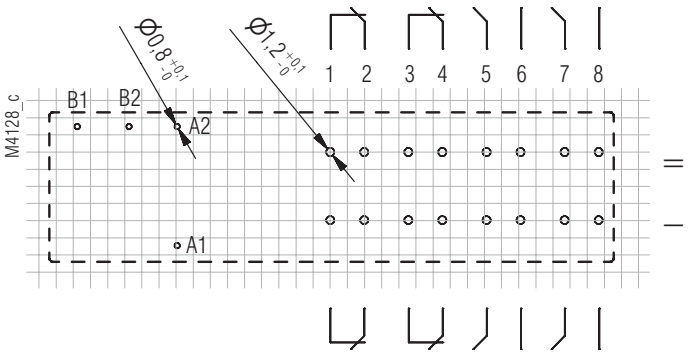


Electrical life

Pin configuration L1 / W1



Pin configuration L1 / W1
Drilling plan (solder side)

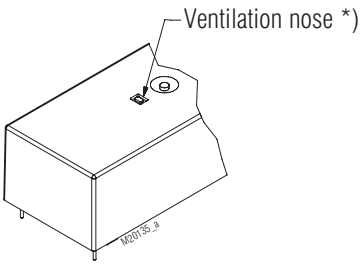


A: interlocking; B: unlocking

OB5623.57/_ _ _ _L1 4S/4Ö
OB5623.57/_ _ _ _W1 4S/4Ö

Connection for basic grid divensions 2.50 mm as well as 2.54 mm according to IEC/EN 60 097, IEC 60 326 averrage

Notes



*) When using the maximum switching capacity it is recommended to open the relay without manual operation at the indicated position.