

- Sub miniature - only 20.2 x 10.2 x 10.6mm
- High switching capacity 60W, 125VA
- DIL Pitch PCB mounting
- High sensitivity polarised & latching coils
- Bifurcated (crossbar) contacts

RoHS
Compliant ✓

Single side stable

Contacts

Contact arrangement	DPDT (2 Changeover); 2 Form C
Contact material	Ag + Au plated (2um)
Max. switching voltage	AC/DC 250VAC, 220VDC
Min. switching current / voltage	1mA/1VDC
Rated load (resistive - cos φ=1)	AC1 0.5A / 120VAC
	DC1 2A, 30VDC
Max. switching power	125VA / 60W
Initial resistance	≤ 50mΩ, max. at 0.1A/6VDC

Coil

Rated voltage	DC 3...48V
Must release voltage	≥0.05U _n
Operating range	See table 1
Rated power consumption	DC See table 1

Insulation

Insulation resistance	≥1000MΩ at 500VDC, 50%RH
Dielectric strength	coil to contact 1000Vrms, 1min
	contact to contact 1000Vrms, 1min

General Data

Operating time	typ. ≤ 4.5ms
Release time	typ. ≤ 1.5ms
Electrical life (resistive)	ops. 1 x 10 ⁵ (2A/30VDC), 5 x 10 ⁵ (1A/24VDC)
Mechanical life	ops. 1 x 10 ⁸

Environmental

Ambient temperature	operating	-40 to 90°C (80°C for 48VDC coil)
	storage	-40 to 90°C
Shock resistance	functional	98m/s ² 11ms (10g)
	destructive	980m/s ² 6ms (100g)
Vibration resistance	functional	10-55Hz DA, 1.5mm
	destructive	10-55Hz DA, 5mm
Dimensions	L x W x H	20.2 x 10.2 x 10.6mm
Weight	approx.	≤ 4.8g

Ordering Code - single side stable type

D T C 3 - 8 2 1 2 - 8 5 - S 0 0 5

Series

Coil code:

See table 1

Contact material

82: Ag + Au plate (2um)

Contact arrangement

12: DPDT (2 C/O)

Environmental protection

8: In cover, sealed IP64

Mounting & terminations

5: For PCB

Notes:

Single side stable relays have a black case (as photo)

For AC loads this relay is designed for 50-60Hz standard industrial power and was tested according to AC1 category as defined by the IEC 60947-1 standard, covering low-frequency switchgear (typically 50-60 Hz). Operating at higher frequencies, places the component outside its certified utilisation category, invalidating all safety certifications (CE, UL, etc.) and manufacturer performance guarantees.

Single & double coil latching

Contacts

Contact arrangement	DPDT; 2 Form C (bifurcated crossbar)	
Contact material	AgPd/AgPd+Au (2um), AgNi+ Au plated (2um),	
Rated load (resistive - cos φ=1)	AC1	1A, 125VAC
	DC1	2A, 30VDC
Max. switching voltage	AC/DC	250VAC / 220VDC
Max. switching current	3A	
Max. switching power	125VA / 90W	
Min. switching current / voltage	10mV, 10uA	
Initial resistance	≤ 100mΩ, max. at 10mA/30mVDC	

Coil

Rated voltage	DC	3...24V
Set time	max.	4.5ms
Reset time	max.	4.5ms

Insulation

Insulation resistance	≥1000MΩ at 500VDC, 50%RH	
Dielectric strength	coil to contact	1 coil: 1500Vrms, 1min / 2 coils: 1000Vrms, 1 min
	contact to contact	1000Vrms, 1min

Operating Life Data

Electrical life (DC1) 1s on/9s off	ops.	5 x 10 ⁴ (2A/30VDC, Ag contact)
Mechanical life	ops.	1 x 10 ⁸

Environmental

Ambient temperature	operating	-40 to 85°C
	storage	-40 to 85°C
Humidity	5% to 85% RH	
Shock resistance	functional	490m/s ² (50g)
	destructive	980m/s ² (100g)
Vibration resistance	1.5mm DA10-55Hz (20g)	
Dimensions	L x W x H	20.2 x 10.2 x 10.6mm
Weight	approx.	≤ 4.5g

Ordering Code - single & double coil latching

D T C 3 - 6 1 1 2 - 8 5 - T L 0 5

Series

Contact material*

61: AgPd/AgPd +Au (2um)

82: AgNi + Au (2um)

*only static contact is Au plated

Contact arrangement

12: DPDT (2 C/O)

Environmental protection

8: In cover, sealed IP64

Mounting & terminations

5: For PCB

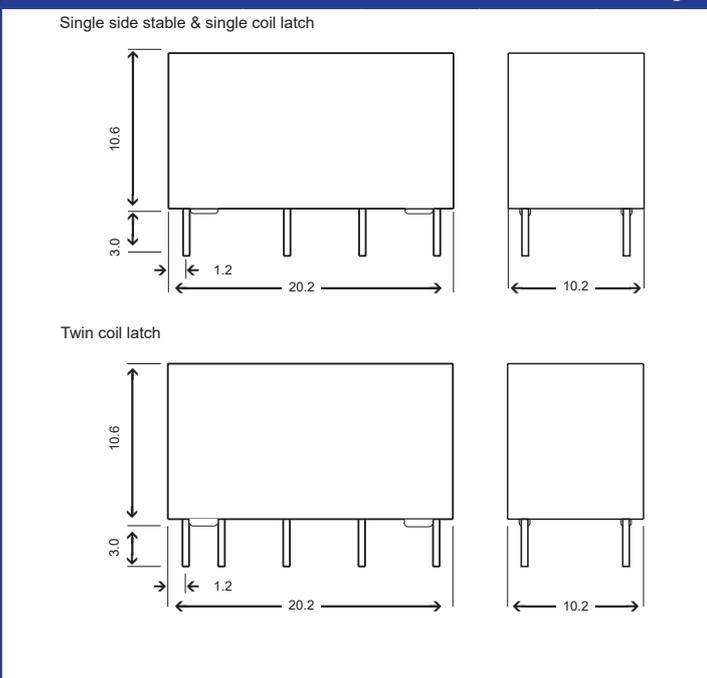
Coil code:

See tables 2 & 3

NB: Latching relays have a white case

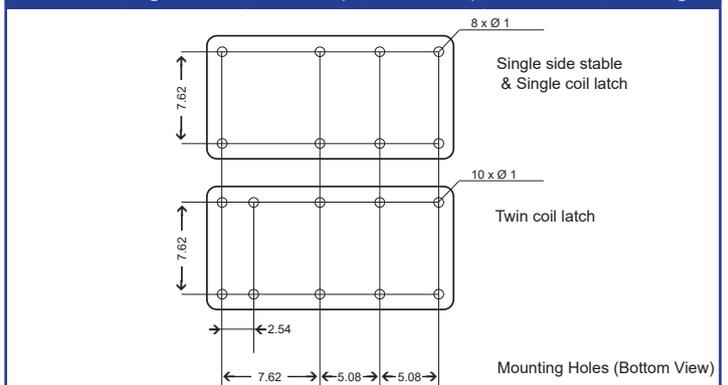
Overall Dimensions in mm

Fig. 1



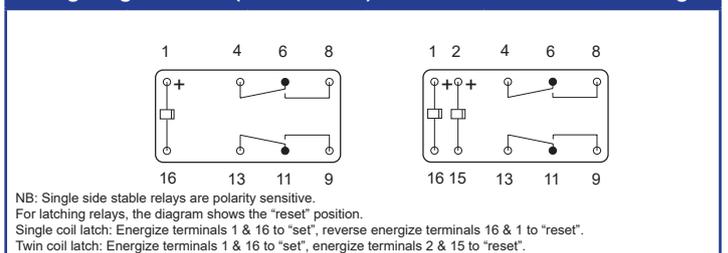
PCB Mounting Dimensions mm (bottom view)

Fig. 2



Wiring Diagrams mm (bottom view)

Fig. 3



Coil Data - Single Side Stable

Table 1

Coil code	Nominal voltage (VDC)	Coil Resistance (Ω) ±10%	Power consumption (mW)	Must operate voltage max. (VDC)	Must release voltage min. (VDC)	Max. allowable Voltage (VDC)
S003	3	60	150	2.1	0.15	7.5
S005	5	167	15	3.5	0.25	12.5
S009	9	540	150	6.3	0.45	22.5
S012	12	960	150	8.4	0.6	30.0
S024	24	2880	150	16.8	1.2	52.9
S048	48	7680	300	33.6	2.4	84.9

Coil Data - Single Coil Latch (sensitive)

Table 2

Coil code	Nominal voltage (VDC)	Coil Resistance (Ω) ±10%	Set / Reset Voltage. (VDC)	Max. allowable Voltage (VDC)
SL03	3	60	2.4	6.9
SL05	5	330	4.00	16.0
SL09	9	1080	7.20	29.0
SL12	12	1920	9.60	34.0
SL15	15	3000	12.0	43.0
SL24	24	7680	19.2	78.0

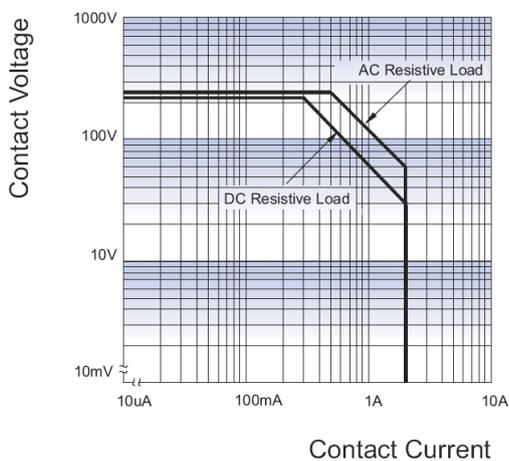
Coil Data - Twin Coil Latch (sensitive)

Table 3

Coil code	Nominal voltage (VDC)	Coil Resistance (Ω) ±10%	Set / Reset Voltage (VDC)	Max. allowable Voltage (VDC)
TL03	3	60	2.4	6.9
TL05	5	167	4.0	11.5
TL09	9	540	7.2	20.8
TL12	12	960	9.6	27.7
TL15	15	1500	12.0	34.6
TL24	24	3840	19.2	55.4

Maximum Switching Power

Fig. 4



Test conditions:
Resistive load, at 70°C, 1s on 9s off.

Coil Temperature Rise

Fig. 5

