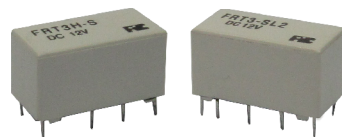


Signal Relays

El.italia serie FW-FRT3

Features

- Subminiature & latching dip relay
- 2 Form C contact
- High switching capacity 125VA/90W
- High sensitivity - 150mW (single side stable) & 75mW (latching)
- Wash tight type construction



RoHS: E141516

Ordering information

FRT3 H - S L1 DC12V
1 2 3 4 5

1 Relay model	3 Construction: S: Wash tight type
2 Power consumption: NIL: 0.20W - single side stable 0.10W - 1 coil latching (for L1) 0.20W - 2 coils latching (for L2) H : 0.15W - single side stable 0.075W - 1 coil latching (for L1) 0.15W - 2 coils latching (for L2)	4 Sort: NIL: Single side stable; L1: 1 coil latching; L2 : 2 coils latching 5 Rated voltage Note: RoHS : RoHS compliant relay RoHS-1 : AgNi contact

Coil rating

Single side stable: FRT3-S (Standard 200mW) / FRT3H-S (Sensitive 150mW)

Rated voltage (V DC)	Coil resistance $\Omega \pm 10\%$		Must operate voltage (V DC) Max.		Must dropout voltage (V DC) Min.		Maximum allow voltage (V DC)		Operate time (ms)	Release time (ms)
	FRT3-S	FRT3H-S	FRT3-S	FRT3H-S	FRT3-S	FRT3H-S	FRT3-S	FRT3H-S		
3	45	60	2.3	2.4	0.3	0.3	6	7	<4	<3
5	125	167	3.75	4	0.5	0.5	10	11.5		
6	180	240	4.5	4.8	0.6	0.6	12	13.8		
9	405	540	6.75	7.2	0.9	0.9	18	20.8		
12	720	960	9	9.6	1.2	1.2	24	27.7		
15	1125	1500	11.25	12	1.5	1.5	30	34.6		
24	2880	3840	18	19.2	2.4	2.4	48	55.4		
48	11520	-	36	-	4.8	4.8	96	-		

1 coil latching: FRT3-SL1 (Standard 100mW) / FRT3H-SL1 (Sensitive 75mW)

Rated voltage (V DC)	Coil resistance $\Omega \pm 10\%$		Set, reset voltage (V DC) Max.		Maximum allow voltage (V DC)		Set time (ms)	Reset time (ms)
	FRT3-SL1	FRT3H-SL1	FRT3-SL1	FRT3H-SL1	FRT3-SL1	FRT3H-SL1		
3	90	120	2.25	2.4	8.4	6.9	<3	<3
5	250	330	3.75	4	14	16		
6	360	480	4.5	4.8	17	19		
9	810	1080	6.75	7.2	25	29		
12	1440	1920	9	9.6	34	39		
15	2220	3000	11.25	12	42	43		
24	4000	7680	18	19.2	56	78		

2 coils latching: FRT3-SL2 (Standard 200mW) / FRT3H-SL2 (Sensitive 150mW)

Rated voltage (V DC)	Coil resistance $\Omega \pm 10\%$		Set, reset voltage (V DC) Max.		Maximum allow voltage (V DC)		Set time (ms)	Reset time (ms)
	FRT3-SL2	FRT3H-SL2	FRT3-SL2	FRT3H-SL2	FRT3-SL2	FRT3H-SL2		
3	45	60	2.25	2.4	6	6.9	<3	<3
5	125	167	3.75	4	10	11.5		
6	180	240	4.5	4.8	12	13.8		
9	405	540	6.75	7.2	18	20.8		
12	720	960	9	9.6	24	27.7		
15	1125	1500	11.25	12	30	34.6		
24	2040	3840	18	19.2	48	55.4		

CAUTION: 1. The use of any coil voltage less than the rated coil voltage will compromise the operation of the relay.
2. Pickup and release voltage are for test purposes only and are not to be used as design criteria.

Characteristics

Contact arrangement	DPDT (2 Form C)
Contact material	Silver alloy (gold clad)
Contact resistance	50m Ω Max. (at 0.1A 6VDC)
Contact rating (resistive)	1A 125VAC / 3A 30VDC
Switching current	3A Max.
Switching power	125VA / 90W Max.
Switching voltage	AC 250V / DC 220V Max.
Coil nominal power	Single side stable : 200mw Standard : 100mw Sensitive : 75mw 1 coil latching : 100mw 2 coils latching : 200mw 150mw
Bounce time	1.5ms
Capacitance	Contact to contact : 2.0pF Contact set to contact: 1.5pF Contact to coil : 5.0pF
Insulation resistance	1,000M Ω Min. (500VDC)
Dielectric strength	1,000VAC (50Hz/min) Between contacts 1 coil : 1,500VAC (50Hz/min) Between coil and contact 2 coils: 1,000VAC (50Hz/min) Between coil and contact
Shock resistance	Functional : 490m/s ² (50g) Destructive: 980m/s ² (100g)
Vibration resistance	1.5mm Double amplitude 10-55Hz
Ambient temperature	-40°C to +85°C
Humidity	98% RH, +40°C
Operation life	Mechanical : 10 ⁸ Electrical : 5 x 10 ⁵ (1A 30VDC); 10 ⁵ (2A 30VDC); 5 x 10 ⁴ (3A 30VDC)
Weight	4.5g Approx.

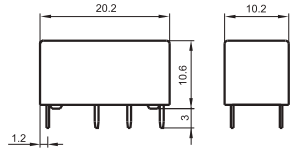
(Specifications are subject to change without notices.)



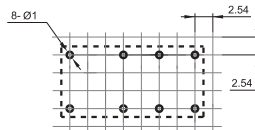
Dimensions

mm

Single side stable or
1 coil latching

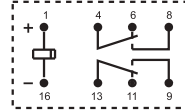


Mounting holes



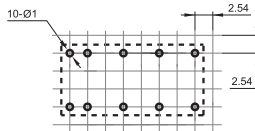
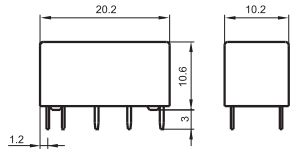
Matching 16pin IC socket

Wiring diagram
(Bottom view)



For latching, diagram shows the "Reset" position
Energize terminals 1 and 16 to "Set"
Reverse energize terminals 1 and 16 to "Reset"

2 coils latching



Matching 16pin IC socket

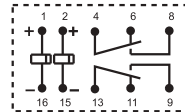
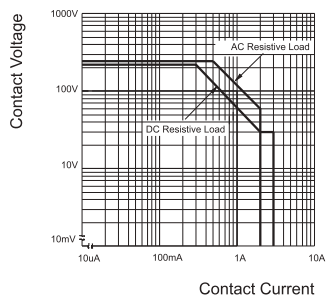


Diagram shows the "Reset" position
Energize terminals 1 and 16 to "Set"
Energize terminals 2 and 15 to "Reset"

Reference data

MAXIMUM SWITCHING POWER



COIL TEMPERATURE RISE

