

Power Relays

El.italia serie FW-FRM1

Features

Miniature high power relay with big performance in small package
 High contact capacity up to 10A
 Designed for the use of heavy duty
 Slim type and low cost
 Dust cover or wash tight type



RoHS: E141516, TV5

Ordering information

FRM1 - 2C S 2 - DC12V
 1 2 3 4 5

1 Relay model
 2 Contact arrangement: 1A: 1 Form A; 1C: 1 Form C;
 2A: 2 Form A; 2C: 2 Form C
 3 Construction: NIL: Dust cover; S: Wash tight type
 4 Termination: 1: Terminal space 3.5mm (for one pole only)
 2: Terminal space 5.0mm

5 Rated voltage
 Note: RoHS : RoHS compliant relay
 RoHS-I : AgNi contact
 RoHS-N: AgSnO₂ contact

Coil rating

Rated voltage (V)	Coil resistance Ω±/-10%	Rated current (mA)	Must operate voltage % of rated voltage (at 20°C)	Must dropout voltage % of rated voltage (at 20°C)	Maximum voltage	Power consumption (W) Approx.	Operate time (ms)	Release time (ms)						
5	47	106	75 Max.	10 Min.	140 Max.	0.56	<15	<5						
6	68	88												
9	160	56												
12	275	44												
24	1100	22												
48	4170	11.5												
60	7000	8.6												
110	16200	6.8												
									0.75					

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	SPST (1 Form A or 1 Form B); SPDT (1 Form C); DPST (2 Form A); DPDT (2 Form C)	
Contact material	Silver alloy	
Contact resistance	50mΩ Max. (at 1A 24VDC)	
Contact rating (resistive)	1 Form C: 10A 277VAC/30VDC; 1/3HP 250VAC; 1/4HP 125VAC; TV5 2 Form C: 10A 250VAC/30VDC (Contact gap 2 x 1.5mm) (1/4HP 240VAC; 1/8HP 120VAC)	
Switching power	2,770VA / 300W Max.	
Switching voltage	AC 277V / DC 30V Max.	
Insulation resistance	1,000MΩ Min. (500VDC)	
Dielectric strength	1,000VAC (50Hz/min) Between open contacts 5,000VAC (50Hz/min) Between coil and contact 3,000VAC (50Hz/min) Between contact sets (for 2 poles)	
Shock resistance	Functional : 98m/s ² Destructive: 980m/s ²	
Vibration resistance	1.5mm Double amplitude 10-55Hz	
Ambient temperature	-40°C to +85°C	
Humidity	98% RH, 40°C	
Operation life	Mechanical	10 ⁷
	Electrical	10 ⁵ (at rated load)
Weight	18g Approx.	

(Specifications are subject to change without notices.)

Dimensions

mm

1 pole

2 poles

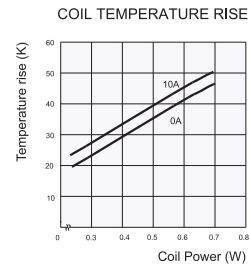
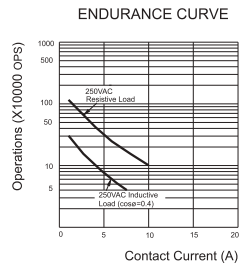
Wiring diagram (Bottom view)

Mounting holes



Reference data

1 pole



2 poles

