

# Latching Relays

# El.italia serie FW-FRL20

## Features

- Miniature high power
- Small size and light weight
- High switching capacity up to 16A
- Low coil consumption
- 1 coil and 2 coils magnet latching relay available
- Flux proofed or wash tight type



## Ordering information

**FRL20 A - S L1 DC12V - N E R XXX**

1 2 3 4 5 6 7 8 9

1 Relay model	7 Insulation standard: NIL: Standard (85°C) F : F class (155°C)
2 Contact arrangement: A: 1 Form A; C: 1 Form C	8 Polarity: NIL: Positive polarity; R : Reverse polarity
3 Construction: NIL: Dust cover; S : Wash tight type;	9 Special code
4 Sort: L1: 1 coil latching; L2: 2 coils latching	
5 Rated voltage	
6 Contact material: NIL: AgCdO; N: AgSnO <sub>2</sub> G : Gold plated	

## Coil rating

Rated voltage (V)	Coil resistance Ω +/- 10%		Pulse magnitude (ms)	Must operate voltage (V DC)	Power consumption (W)	Operate time (ms)	Release time (ms)
	1 Coil	2 Coils					
3	22.5	15+15	≥50	2.1	1 coil : 0.4	≤10	≤10
5	62.5	42+42		3.5			
6	90	60+60		4.2			
9	202.5	135+135		6.3	2 coils: 0.6		
12	360	240+240		8.4			
24	1440	886+886		16.8			

CAUTION: 1. When latching relays are installed in equipment, the latch and reset coil should not be powered simultaneously. Coil should not be pulsed with less than the nominal coil voltage and pulse width should be a minimum of three times the specified operate time of the relay. If these conditions are not followed, it is possible for the relay to be in the magnetically neutral position.  
2. Switching voltage is for test purpose only and is not to be used as design criteria.

## Characteristics

Contact arrangement	SPST (1 Form A); SPDT (1 Form C)
Contact material	Silver alloy
Contact resistance	≤50mΩ Max.
Contact rating (resistive)	16A 250VAC (resistive) 1HP 240VAC (motor) 1 Form A: 360W 125VAC; TV-5 120VAC (inductive: incandescent lamp)
Switching power	4,000VA Max.
Switching voltage	440VAC Max.
Switching current	16A Max.
Insulation resistance	1,000MΩ Min. (500VDC)
Dielectric strength	1,000VAC (50Hz/min) Between open contacts 5,000VAC (50Hz/min) Between coil and contact
Creepage distance	8.4mm
Shock resistance	98m/s <sup>2</sup> 11ms
Vibration resistance	1.5mm Double amplitude 10-55Hz
Terminals strength	10N
Solderability	235°C ±2°C 3s ±0.5s
Ambient temperature	-40°C to +85°C
Humidity	85% RH, 40°C

Operation life	Mechanical	5 x 10 <sup>6</sup>
	Electrical	5 x 10 <sup>5</sup>
Weight	13g Approx.	

(Specifications are subject to change without notices.)



