

# Automotive Relays

# El.italia serie FW-FRA11

## Features

Miniature & light weight Single and Double Relays  
 Quiet version is available for Double Relay (operation noise <50dB)  
 Use for car control applications  
 PCB terminal in grid 1.25 - 1.27mm  
 Wash tight type is available



## Ordering information

**FRA11 C - S 1 DC12V**

1 2 3 4 5

1 Relay model: FRA11 : Single relay; FRA11D : Double relay; FRA11DQ: Quiet type (for FRA11D only)	4 Power consumption: 1: 0.56W; 2: 0.8W 5 Rated voltage
2 Contact arrangement: A: 1 Form A; C: 1 Form C	Note: RoHS : RoHS compliant relay RoHS-I : AgNi contact RoHS-N: AgSnO <sub>2</sub> contact
3 Construction: NIL: Dust cover; S: Wash tight type	

## Coil rating

Rated voltage (V)	Coil resistance $\Omega$ +/-10%	Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (W) Approx.	Operate time (ms)	Release time (ms)
		VDC (at +20°C)					
12	255 178	6.9 Max. 5.8 Min.	1 Min. 0.8 Min.	18 Max.	-1: 0.56 -2: 0.80	<5	<5

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

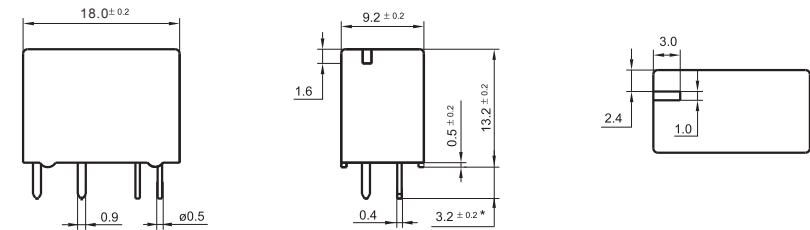
Contact arrangement	SPST (1 Form A); SPDT (1 Form C); 2 x SPST (2 x 1 Form A); 2 x SPDT (2 x 1 Form C)	
Contact material	Silver alloy	
Contact resistance	30m $\Omega$ Max. (or 30mV at 10A Max.)	
Contact rating (resistive)	20A 14VDC	
Switching power	280W Max.	
Switching voltage	DC 40V Max.	
Switching current	25A Max.	
Insulation resistance	100M $\Omega$ Min. (at 500VDC)	
Dielectric strength	500VAC (50Hz/min)	
Shock resistance	6ms up to 30g	
Vibration resistance	1.5mm Double amplitude 10-55Hz	
Ambient temperature	-40°C to +85°C	
Humidity	85% RH, 40°C	
Operation life	Mechanical	10 <sup>7</sup>
	Electrical	2 x 10 <sup>5</sup> (at rated load)
Weight	FRA11: 5.5g Approx.; FRA11D: 11g Approx.; FRA11DQ: 16g Approx.	

(Specifications are subject to change without notices.)

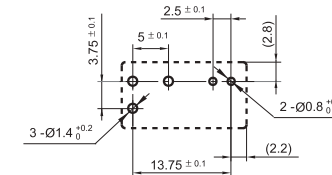
## Dimensions

mm

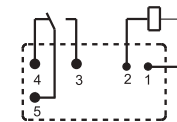
### FRA11



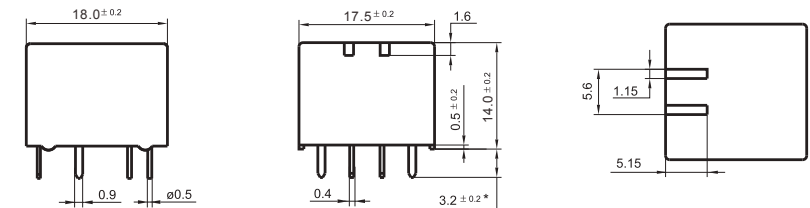
### Mounting holes



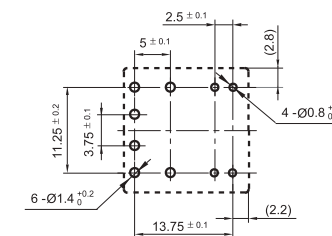
### Wiring diagram (Bottom view)



### FRA11D



### Mounting holes



### Wiring diagram (Bottom view)

