

# Automotive Relays

# El.italia serie FW-FRC1E

## Features

FRC1 shrouded base type  
Quick connect terminals  
High contact rating (40A)  
High temperature design



## Ordering information

**FRC1E A - N DC12V**  
1 2 3 4

1 Relay model	4 Rated voltage
2 Contact arrangement: A: 1 Form A	Note: RoHS : RoHS compliant relay
3 Coil suppression: NIL: Standard type; N: With diode	RoHS-I : AgNi contact
R : Resistor; T: transil (DB-03)	RoHS-N: AgSnO <sub>2</sub> contact

## Coil rating

Rated voltage (V)	Coil resistance Ω+/-10%	Rated current (mA)	Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (W) Approx.	Operate time (ms)	Release time (ms)
			% of rated voltage (at 20°C)					
6	20	300	65 Max.	10 Min.	130 Max.	1.8	<7	<5
12	80	150						
24	320	75						

\*If use resistor:  
DC 6V with 180Ω resistor  
DC 12V with 680Ω resistor  
DC 24V with 2,702Ω resistor

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.

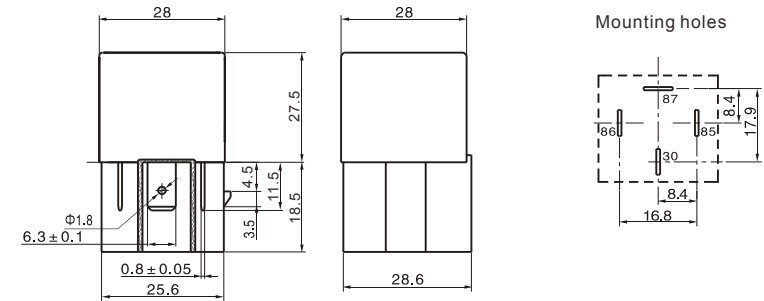
## Characteristics

Contact arrangement	SPST (1 Form A)	
Contact material	Silver alloy	
Contact resistance	50mΩ Max.	
Contact rating (resistive)	40A 14VDC	
Switching power	630W Max.	
Switching voltage	DC 75V Max.	
Insulation resistance	100MΩ Min. (at 500VDC)	
Dielectric strength	500VAC (50Hz/min)	
Shock resistance	20g Approx.	
Vibration resistance	1.5mm Double amplitude 10-40Hz	
Ambient temperature	-40°C to +85°C (Special request: -40°C to +125°C)	
Humidity	85% RH, 40°C	
Operation life	Mechanical	10 <sup>7</sup>
	Electrical	10 <sup>5</sup>
Weight	36g Approx.	

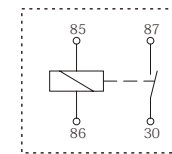
(Specifications are subject to change without notices.)

## Dimensions

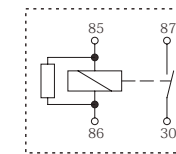
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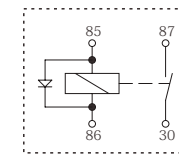
## Wiring diagram



1 Form A



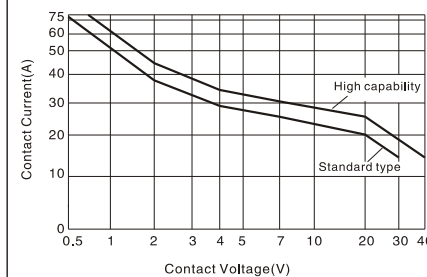
With resistor



With diode

## Reference data

### Max. Switching Power



### Ambient Temperature vs coil volt.

