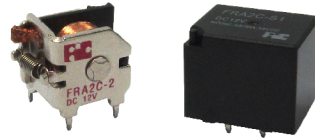


Automotive Relays

El.italia serie FW-FRA2

Features

Miniature high power design for PC board
 Automobile relay with high switching power
 Switching current up to 45A
 Low cost and high performance
 European(11mm) or USA(8mm) terminal distance
 Open type, dust cover or wash tight type



Ordering information

FRA2 B C - C 1 DC12V R
 1 2 3 4 5 6 7

1 Relay model	5 Version: 1: USA(8mm); 2: European(11mm)
2 Contact rating: NIL: 40A 14VDC; B: 45A 14VDC	6 Rated voltage
3 Contact arrangement: A: 1 Form A; B: 1 Form B; C: 1 Form C	7 Termination: R: Without one COM PIN
4 Construction: NIL: Open type; C: Dust cover; S : Wash tight type	Note: RoHS : RoHS compliant relay RoHS-I : AgNi contact RoHS-N: AgSnO ₂ 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	Maximum voltage	Power consumption (W) Approx.	Operate time (ms)	Release time (ms)
12	90	133						
24	360	66						

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

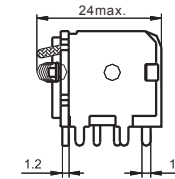
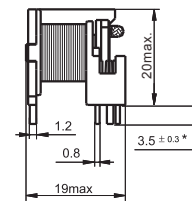
Contact arrangement	SPST (1 Form A or 1 Form B) SPDT (1 Form C)
Contact material	Silver alloy
Contact resistance	30mΩ Max.
Contact rating (resistive)	NO: 40A/14VDC NC: 30A/14VDC (Special request NO: 45A/14VDC)
Switching power	630W Max.
Switching voltage	DC 75V Max.
Insulation resistance	100MΩ Min. (500VDC)
Dielectric strength	500VAC (50Hz/min) Between open contacts 750VAC (50Hz/min) Between coil and contact
Shock resistance	20g Approx.
Vibration resistance	1.27mm Double amplitude 10-40Hz
Ambient temperature	Operation: -40°C to +105°C
Humidity	85% RH, 40°C
Operation life	Mechanical 10 ⁷ Electrical 10 ⁵ (at rated load)
Weight	Open type: 17g Approx. Wash tight type: 21g Approx.

(Specifications are subject to change without notices.)

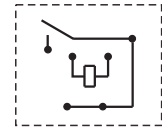
Dimensions

mm

Open type

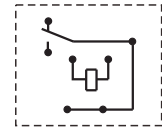
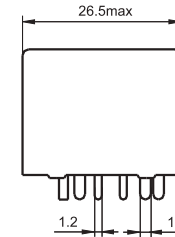
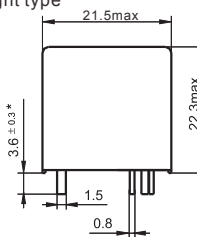


Wiring diagram (Bottom view)



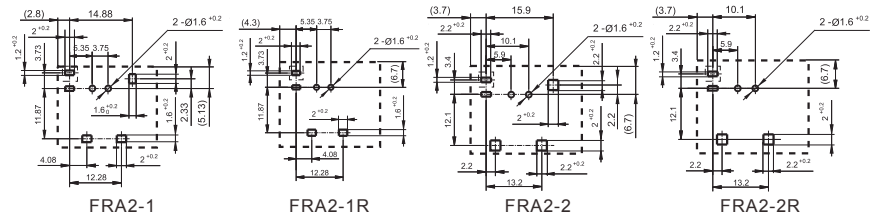
1 Form A

Dust cover / Wash tight type



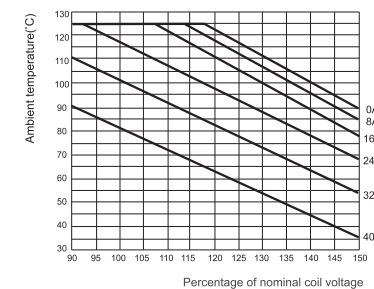
1 Form C

Mounting holes



Reference data

1. Coil operating voltage range



2. Load limit curve (at 23°C)

