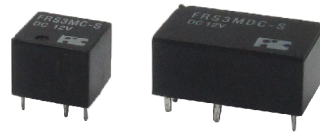


Features

Light weight & low-noise relay
 Switching capacity up to 30A
 Car automatic applications: real window and seat, heating, wiper and indicator control, lamp load, etc.
 FRS3MD (2 x FRS3M) is also available
 Wash tight type version



Ordering information

FRS3M C - S DC12V	
1	2 3 4
1 Relay model: FRS3M : Single relay (20A capacity); FRS3MB: Single relay (30A capacity); FRS3MD: Double relays (2 x FRS3M)	3 Construction: S: Wash tight type 4 Rated voltage Note: RoHS : RoHS compliant relay RoHS-I : AgNi contact RoHS-N: AgSnO ₂ contact
2 Contact arrangement: FOR FRS3M A: 1 Form A; C: 1 Form C FOR FRS3MD A: 2 x 1 Form A; C: 2 x 1 Form C	

Coil rating

Rated voltage (V)	Coil resistance Ω+/-10%	Rated current (mA)	Must operate voltage (V DC)	Must dropout voltage (V DC)	Maximum voltage		Power consumption (W) Approx.	Operate time (ms)	Release time (ms)
					At 23°C	At 105°C			
10	181	55	5.7 Max. 6.9 Max.	1.25 Min. 1.50 Min.	22.2	14.5	0.56	<3	<1.5
12	255	47			27.2	16.5			

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

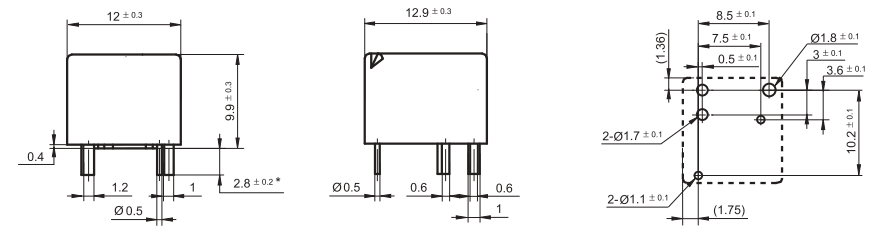
Contact arrangement	FRS3M : SPST (1 Form A); SPDT (1 Form C) FRS3MD: 2 x SPST (2 x 1 Form A); 2 x SPDT (2 x 1 Form C)
Contact material	Silver alloy
Contact resistance	50mΩ Max.
Contact rating (resistive)	At 23°C: *30A 14VDC (NO) 25A 14VDC (NC) At 85°C: *20A 14VDC (NO) 15A 14VDC (NC) (*Note: The values apply to a resistive or inductive load with suitable spark suppression)
Switching power	420W Max.
Switching voltage	DC 24V Max.
Voltage drop (initial) at 10A	30mV typical Min.
Insulation resistance	100MΩ Min. (500VDC)
Dielectric strength	500VAC (50Hz/min)
Shock resistance	300m/s ² 6ms
Vibration resistance	1.27mm Double amplitude 10-500Hz
Ambient temperature	-40°C to +105°C
Humidity	85% RH, 40°C
Operation life	10 ⁷ ops.
Mechanical	FRS3MB: 10 ⁵ ops. 30A/13.5VDC (Res. load - N.O.)
Electrical	FRS3M : 10 ⁵ ops. 20A/13.5VDC (Res. load - N.O.) Lamp load 5 x 10 ⁴ ops. at 10A/13.5VDC (Continuous) Wiper reverse 3 x 10 ⁵ ops. 28A (N.O.); 8A (N.C.) 13.5VDC (1.0mH inductive load) Motor reverse blocked: 4 x 10 ⁴ ops. 25A/13.5VDC
Weight	FRS3M: 4g Approx.; FRS3MD: 9g Approx.

(Specifications are subject to change without notices.)

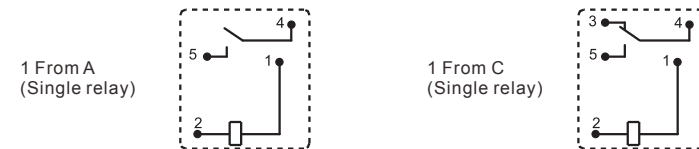
Dimensions

mm

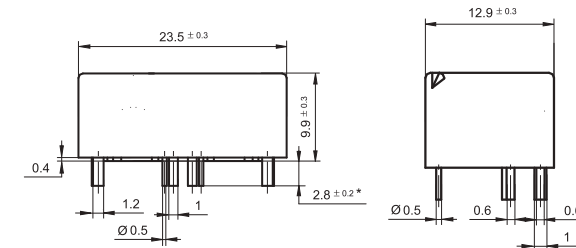
FRS3M



Wiring diagram (Bottom view)

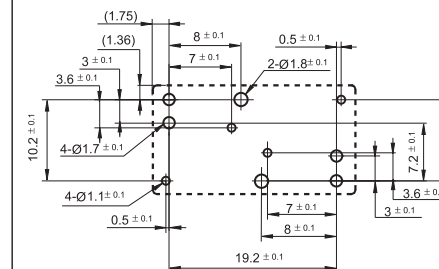


FRS3MD



Remark: * The additional tin top is max. 1mm.

Mounting holes



Wiring diagram (Bottom view)

