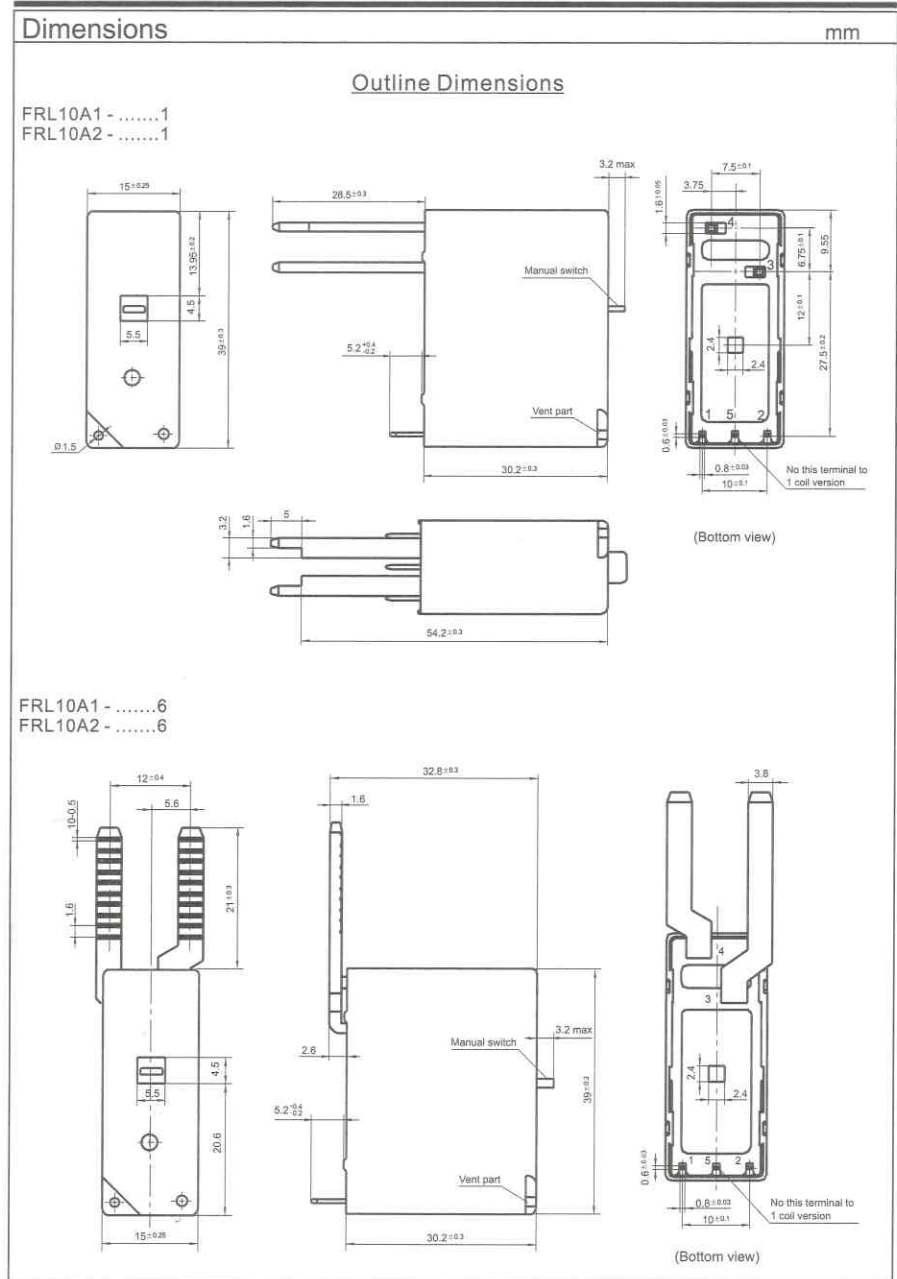
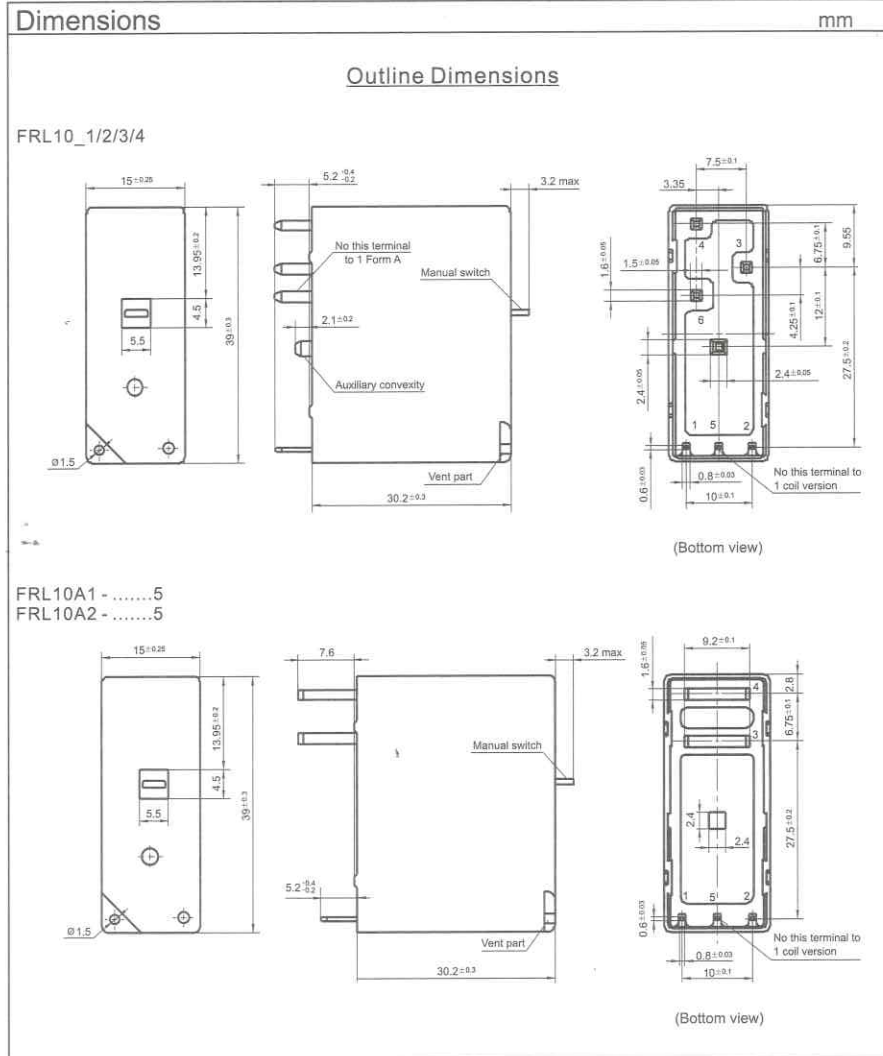


Operation life	Mechanical Electrical	1 x 10 <sup>6</sup> For 1A: 10 <sup>5</sup> (at 50A 250VAC) (Resistive) 3 x 10 <sup>4</sup> (at 5,000W / 220VAC) - incandescent & fluorescent lamp (at 5HP 250VAC) (Motor) For 1C: 3 x 10 <sup>7</sup> (at 40A 250VAC) (Resistive)
Weight	33g Approx.	

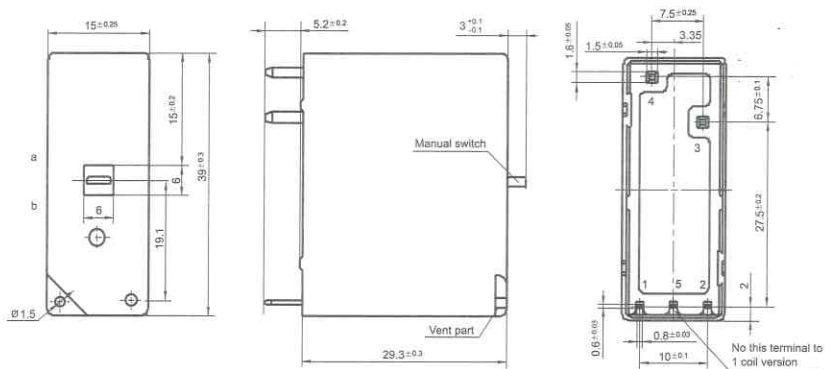
(Specifications are subject to change without notices.)



Dimensions mm

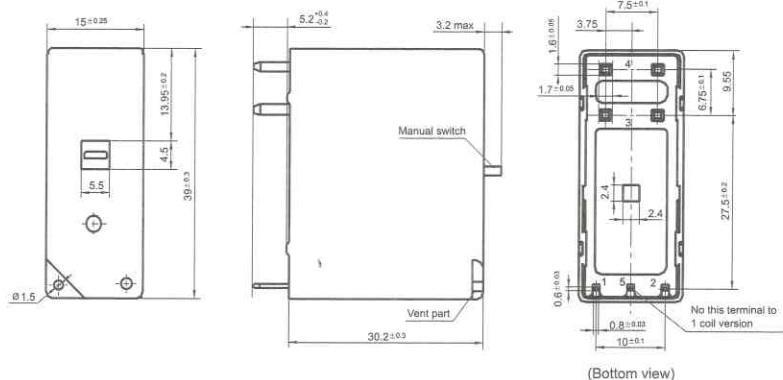
Outline Dimensions

FRL10A5



Remark: When the manual switch is pitched on point a, the contact is open; when the manual switch is pitched on point b, the contact is closed.

FRL10A1 - .....7  
FRL10A2 - .....7



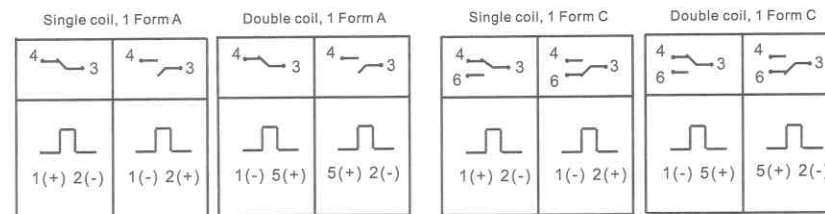
Remark: In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

Dimensions mm

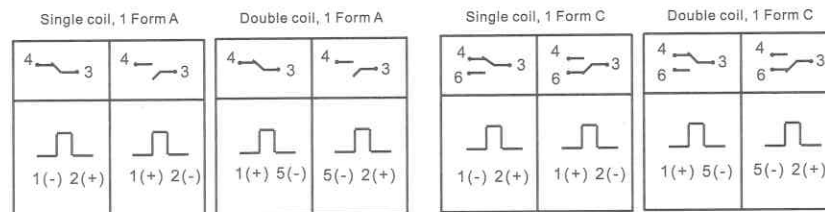
Wiring Diagram  
(Bottom view)

FRL10\_1/2/3/4

Standard polarity



Reverse polarity



## Dimensions

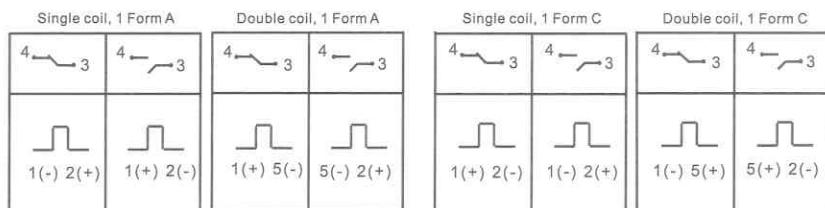
mm

### Wiring Diagram (Bottom view)

FRL10\_5

Standard polarity

Reverse polarity



#### Notice

- Relay is on the "set" status when being released from stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to "reset" status, therefore, when application (connecting the power supply), please reset the relay to "set" or "reset" status on request.
- In order to maintain "set" or "reset" status, energized voltage to coil should reach the rated voltage, impulse width should be 5 times more than "set" or "reset" time. Do not energize voltage to "set" coil and "reset" coil simultaneously. And also long energized time (more than 1 min) should be avoided.
- In order to avoid changing operate voltage, products should not be kept in strong magnetic field during transportation, storage and application.

## Features

- Miniature high power
- High switching capacity up to 16A
- Capacitor load up to 220 $\mu$ F (Min. inrush current at 500A/10 $\mu$ s)
- Min. inrush current capacitor 170A (1A, 1C)
- Flux proofed or wash tight type



## Ordering information

FRL20 - 1A S 1 L1 DC12V - N R XXX

1	2	3	4	5	6	7	8	9
1 Relay model	2 Contact arrangement: 1A: 1 Form A; 1B: 1 Form B; 1C: 1 Form C		3 Construction: S : Wash tight type; NIL: Flux proofed		4 Version: NIL: 2.5mm (only 1 Form A); 1: 3.5mm 2 : 5mm		5 Sort: L1: 1 coil latching; L2: 2 coils latching	
6 Rated voltage: DC3, 5, 6, 12, 24V						7 Contact material: NIL: AgNi; N: AgSnO <sub>2</sub> ; W : W+AgSnO <sub>2</sub> , (only FRL20-1AX2)		
8 Polarity: NIL: Positive polarity; R : Reverse polarity						9 Special code		

## Coil rating

Rated voltage (V)	Coil resistance $\Omega$ +/- -10%		Must operate voltage (V DC)	Power consumption (W)	Operate time (ms)	Reset time (ms)
	1 Coil	2 Coils				
3	22.5	15+15	2.4	1 coil: 0.4 2 coils: 0.6	$\leq 15$	$\leq 15$
5	62.5	42+42	4.0			
6	90	60+60	4.8			
12	360	240+240	9.6			
24	1440	886+886	19.2			

- 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	1 Form A; 1 Form B; 1 Form C
Contact material	Silver alloy
Contact resistance	$\leq 50m\Omega$ Max. (at 1A 24VDC)
Contact rating (resistive)	1A, 1B: 20A/250VAC (resistive) 1 $\frac{1}{2}$ HP 240V AC (motor) 8A 220V AV (inductive, Cos $\phi$ 0.4) 3,000W 220V AC (special contact) (Incandescent & fluorescent lamp) 1C : 16A 250V AC
Switching power	5,000VA Max.
Switching current	16A Max.
Switching voltage	277VAC Max.
Insulation resistance	1,000M $\Omega$ Min. (500VDC)
Dielectric strength	1,000VAC (50Hz/min) Between open contacts 4,000VAC (50Hz/min) Between coil and contact
Creepage distance	8mm
Shock resistance	Functional : 98m/s <sup>2</sup> Destructive: 980m/s <sup>2</sup>
Vibration resistance	1.5mm Double amplitude 10-55Hz
Ambient temperature	-40°C to +85°C
Humidity	5% - 85% RH, 40°C