

# POWER RELAY

## 120A Latching Relay

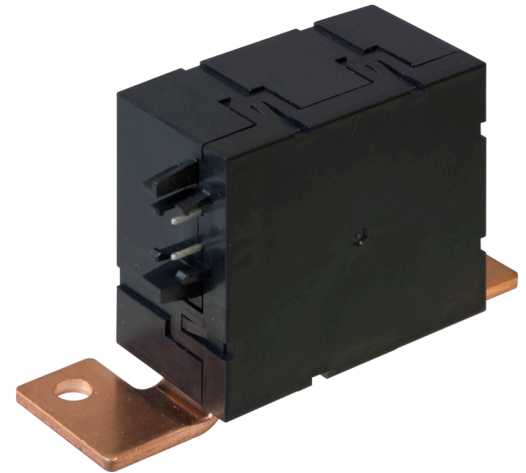
### FTR-K4 Series

■ **FEATURES**

- Switching current : 120 A (1 form A)
- Contact resistance : Max. 0.5 mΩ (Initial)
- Compact size : 43.0 x 37.0 x 22.0 mm
- Plastic materials conform to UL94 flame class V-0

■ **Applications**

- Static payment meters
- Power conditioner
- Water heater



■ **PARTNUMBER INFORMATION**

[Example]    FTR-K4    P    B    012    W    -ST  
                   (a)    (b)    (c)    (d)    (e)    (f)

(a)	Relay type	FTR-K4	: FTR-K4 Series
(b)	Contact configuration	P	: 1 form A
(c)	Coil type	B	: Single winding latching type
(d)	Coil voltage	012 024 048	: 12VDC : 24VDC : 48VDC
(e)	Contact material	W	: Silver alloy
(f)	Special type	ST	: Standard

Note: The designation name is stamped on the top of the relay case as follows:  
 Example: Ordering part number: FTR-K4PB012W-ST  
 Stamped on part number: K4PB012W-ST

## ■ SPECIFICATION

Item	FTR-K4 type		
Contact Data	Configuration	1 form A	
	Material	Silver alloy	
	Resistance (initial)	Max. 0.5 mW (at 1 A)	
	Contact gap	0.68mm	
	Max. switching current	120A	
	Max. switching power	33,240VA (Resistive load 120 A – 277VAC)	
	Max. switching voltage	440VAC	
	Fault current making capacity	3.000A (IEC62055-31, UC3)	
	Short-circuit current carrying capacity	6.000A (IEC62055-31, UC3)	
Life	Mechanical	1 x 10 <sup>6</sup> operations	
	Electrical	120A, 277VAC, 10 x 10 <sup>3</sup> operations. (cosφ=1.0 : 5x10 <sup>3</sup> operations, cosφ=0.5 : 5x10 <sup>3</sup> operations)	
Coil Data	Rated power	2.4W	
	Operating temperature	-40°C to +85°C (no frost)	
Timing Data	Set	Max. 20ms (at nominal voltage, without bounce)	
	Reset	Max. 20ms (at nominal voltage, without bounce)	
Insulation	Contact gap (initial)	8mm	
	Resistance (at 500VDC)	Min. 1,000MΩ	
	Dielectric strength	Open contacts	2,000VAC, 1min
		Contacts to coil	4,000VAC, 1min
Surge strength	12.000V / 1.2 x 50 ms		
Other	Vibration resistance	Misoperation	10 to 55 to 10Hz single amplitude 0.75mm
		Endurance	10 to 55 to 10Hz single amplitude 0.75mm
	Shock	Misoperation	Min. 500m/s <sup>2</sup> (11 ± 1ms)
		Endurance	Min. 1,000m/s <sup>2</sup> (6 ± 1ms)
	Weight	Approximately 70g	

**Note:**

Relays are shipped in a 'set' state. During shipping and handling, however, shocks may change the state to 'reset'. Consequently, at time of use (at power on) it is recommended to ensure that circuits are returned to desired state ('set' or 'reset').

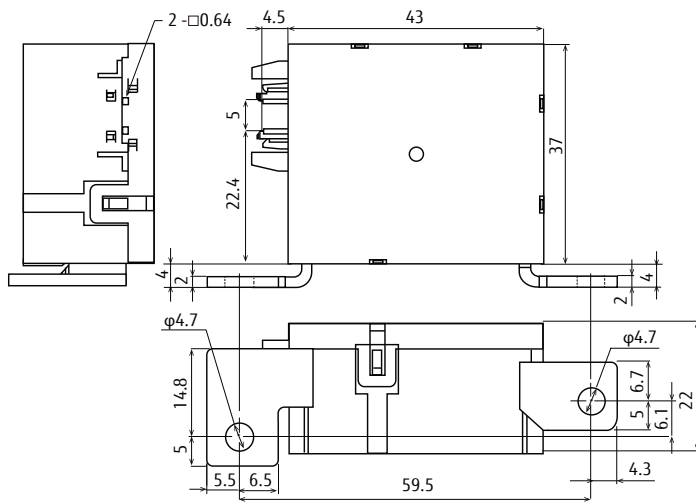
## ■ COIL RATING

Model	Rated Coil Voltage (VDC)	Coil Resistance +/- 10% (Ohm)	Must Operate Voltage * (VDC)	Must Release Voltage * (VDC)
FTR-K4PB012W	12	60	9.0	9.0
FTR-K4PB024W	24	240	18.0	18.0
FTR-K4PB048W	48	960	36.0	36.0

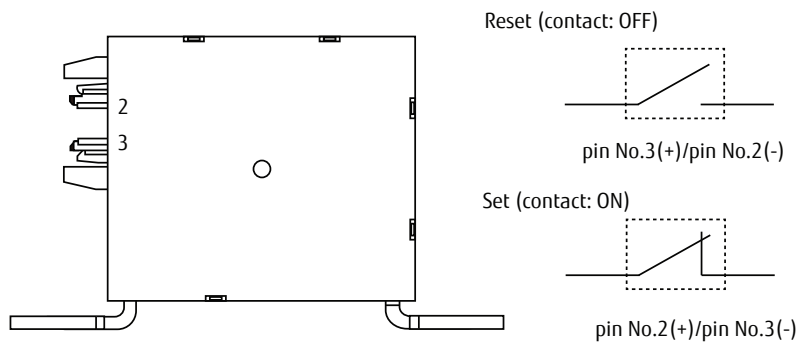
Note: All values in the table are valid for 20°C and zero contact current.

## ■ DIMENSIONS

### ● Dimensions



### ● Schematics



## RoHS Compliance and Lead Free Information

### 1. General Information

- All relays produced by Fujitsu Components are compliant with RoHS directive 2011/65/EU including amendments.
- Cadmium as used in electrical contacts is exempted from the RoHS directives.  
As per Annex III of directive 2011/65/EU.
- All relays are lead-free. Please refer to Lead-Free Status Info for older date codes at:  
<http://www.fujitsu.com/downloads/MICRO/fcai/relays/lead-free-letter.pdf>
- Lead free solder plating on relay terminals is Sn-3.0Ag-0.5Cu, unless otherwise specified.  
This material has been verified to be compatible with PbSn assembly process.

### 3. Moisture Sensitivity

- Moisture Sensitivity Level standard is not applicable to electromechanical relays, unless otherwise indicated.

### 4. Tin Whiskers

- Dipped SnAgCu solder is known as presenting a low risk to tin whisker development. No considerable length whisker was found by our in house test.

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