POWER RELAY

1 POLE – 5A Slim Power Relay

FTR-MY Series

■ FEATURES

- Width 5mm, height 12mm (31% smaller than NY series) area 100 mm^2, super slim , low power, compact and light weight 2.5gr.
- Nominal power: 110mW (8% less than NY series), Operate power: 54mW
  High sensitive
- High reliable contacts, bifurcated gold overlay silver alloy (cadmium free)
- Conform to UL61010-1, UL61010-2-201, IEC/EN61010-1, IEC/EN61010-2-201 (max. 277VAC)
- Dielectric strength: 3,000VAC
- Surge strength: 5,080V
- Safety standards
  UL, CSA, VDE, CQC
- RoHS compliant
- Plastic sealed type, RTIII

■ APPLICATIONS

PLC, FA equipment etc.

■ PARTNUMBER INFORMATION

[Example] FTR-MY (a) A (b) A (c) 012 (d) D (e)

(a)	Relay type	FTR-MY	: FTR-MY Series
(b)	Contact configuration	A	: 1 form A
(c)	Coil type	A	: Standard type (110mW)
(d)	Coil rated voltage	012	: 4.5 ….24VDC See coil rating table
(e)	Contact material	D	: Gold overlay AgNi

Actual marking does not carry the type name : "FTR"
E.g.: Ordering code: FTR-MYAA012D Actual marking: MYAA012D

■ SPECIFICATIONS

Item			FTR-MY	Remarks/Conditions
Contact data	Configuration		1 form A	
	Construction		Bifurcated (cross bar)	
	Material		Gold overlay silver alloy	
	Resistance (initial)		Max. 30 mΩ at 6VDC, 1A	
	Contact rating		5A, 250VAC / 30VDC	
	Max. carrying current		5A	
	Max. switching current		5A	
	Max. switching voltage		277VAC / 125VDC	
	Max. switching power		1,250VA / 150W	
	Min. switching load *		1mA, 5VDC	
Coil data	Rated power (at 20℃)		110 mW	
	Operate power (at 20℃)		54 mW	
	Operating temperature range		-40℃ to +90℃ (no frost)	
Timing data	Operate (at nominal voltage)		Max. 10 ms (without bounce)	
	Release (at nominal voltage)		Max. 5 ms (without bounce)	
Life	Mechanical		Min. 20 x 10^6 operations	
	Electrical		Min. 100 x 10^3 operations (at 3A 250VAC, 30VDC resistive) Min. 50 x 10^3 operations (at 5A 250VAC, 30VDC resistive)	
Insula-tion	Resistance (Initial)		Min. 1,000MΩ at 500VDC	
	Dielectric strength	Open contacts	750VAC (50/60Hz) 1min	
		Contacts to coil	3,000VAC (50/60Hz) 1min	
	Surge strength	Coil to contacts	5,080V / 1.2 x 50μs standard wave	
	Clearance		Min. 5.15mm	
	Creepage		Min. 5.89mm	
Others	Vibration resistance	Misoperation	10 to 55 to 10 single amplitude 0.75mm	Coil ON/OFF, 3 axes, total 6 cycles
		Endurance	10 to 55 to 10 single amplitude 2.5mm	Coil OFF, 3 axes, total 6 hours
	Shock resistance	Misoperation	Min. 100m/s^2 (11 ± 1ms)	Coil ON/OFF, 3 axes, total 36 operations
		Endurance	Min. 1,000m/s^2 (6 ± 1ms)	
	Weight		Approximately 2.5 g	
	Sealing		Plastic sealed RTIII	

* Minimum switching loads mentioned above are reference values. Please perform the confirmation test with actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

■ COIL DATA

Coil Code	Rated Coil Voltage (VDC)	Coil Resistance ±10% (Ω)	Must Operate Voltage* (VDC)	Must Release Voltage* (VDC)	Rated Power (mW)
4.5	4.5	185	3.15	0.225	110
005	5	230	3.5	0.25	
006	6	330	4.2	0.3	
009	9	740	6.3	0.45	
012	12	1,310	8.4	0.6	
018	18	2,950	12.6	0.9	
024	24	5,240	16.8	1.2	

Note: All values in the table are valid for 20℃ and zero contact current.
* Specified operate values are valid for pulse wave voltage.

Please use at rated coil voltage. Please refer to characteristic data and set up adequate voltage in case of use at over voltage.

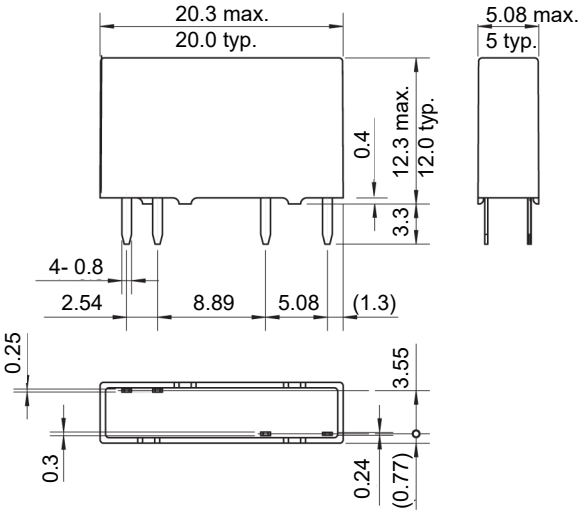
■ SAFETY STANDARDS

Certification Body/Type	File No./Certification No.	Contact Rating
UL/cUL	E63614, E225300	5A, 277 VAC (resistive) 5A, 30 VDC 1/10 HP, 277VAC /125VAC Pilot duty: D300, C300, R300
CSA	LR 40304	
VDE	IEC/EN61810-1 (Certificate No.40014781)	5A, 250VAC, cosφ1
CQC	17001164877	5A 250VAC

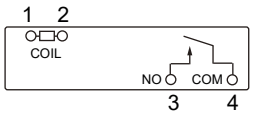
Also conform to UL61010-1, UL61010-2-201, IEC/EN61010-1, IEC/EN61010-2-201 (max. 277VAC)
WARNING: Exposure to some chemicals may degrade the sealing properties of materials used in the relay.

■ DIMENSIONS

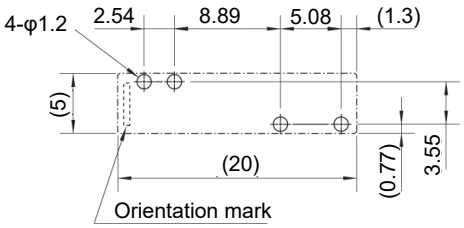
- Dimensions



- Schematics (BOTTOM VIEW)



- PC board mounting hole layout (BOTTOM VIEW)



* Dimensions of the terminals do not include thickness of pre-solder.

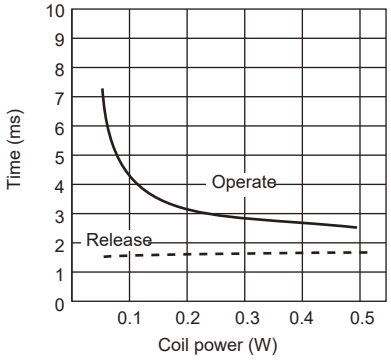
* Tolerance of PC boarrd mounting hole layout: ±0.1 unless otherwise specified.

( ) : Reference
Unit: mm

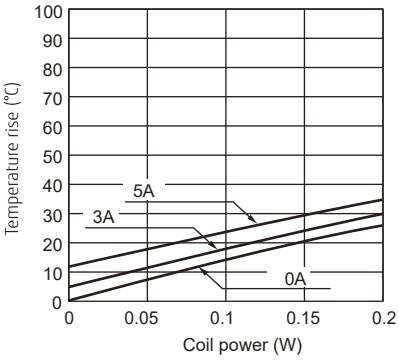
■ CHARACTERISTIC DATA

(Characteristic data is not guaranteed value but measured values of samples from production line)

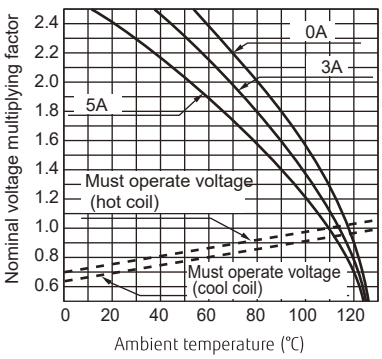
Timing



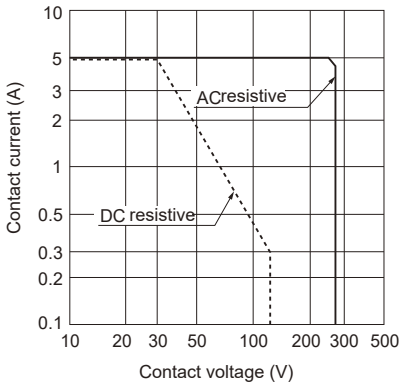
Coil temperature rise



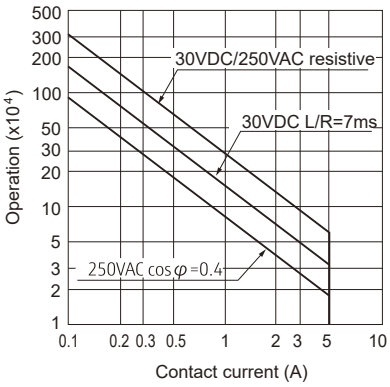
Operating range



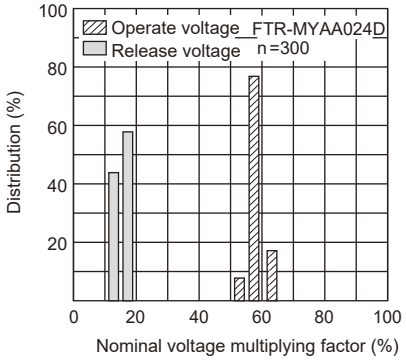
Maximum switching power



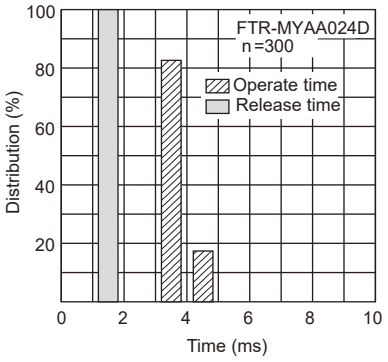
Life curve



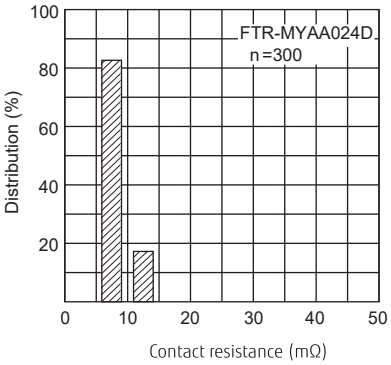
Distribution of operate/relase voltage



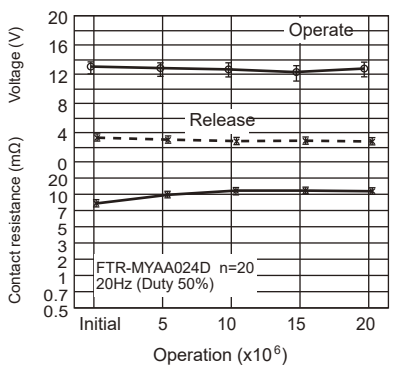
Distribution of operate/relase time



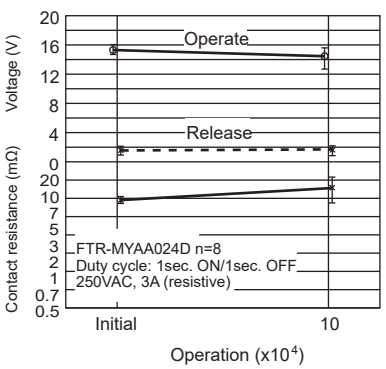
Distribution of contact resistance



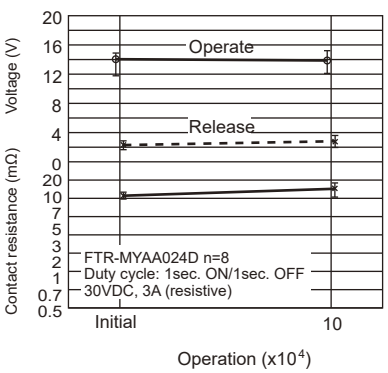
Mechanical life test



Electrical life test



Electrical life test



CAUTIONS

- All values mentioned in this datasheet are provided under ideal conditions. Please perform the confirmation test before actual use.
- Reflow soldering is prohibited.
- Do not use relays in the atmosphere with sulfide gas, chloride gas or nitric oxide. Contact resistance may increase.
- Do not use silicon or silicon-containing product or materials near relays. It may cause contact failure.

GENERAL INFORMATION

1. **ROHS Compliance**
   - All relays produced by FCL Components are compliant with RoHS directive 2011/65/EU, including commission delegated directive 2015/863.

2. **Recommended lead free solder condition**
   - 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.
   - Recommended solder for assembly: Sn-3.0Ag-0.5Cu.

Flow Solder Condition:

Pre-Heating:	Maximum 120˚C within 90 sec.
Soldering:	Dip within 5 sec. at 255°C±5°C solder bath

Relay must be cooled by air immediately after soldering

Solder by Soldering Iron:

Soldering Iron:	30-60W
Temperature:	Maximum 340-360˚C
Duration:	Maximum 3 sec.

We highly recommend that you confirm your actual solder conditions

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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