# **General Purpose Relay**

#### Relay with Plug-in Termination, available in SPDT, DPDT or 3PDT models

- Rugged power driver offers superior 3/16" through-air and 3/8 over-surface spacing
- Interlocked frame and contact block prevent contact misalignment during plug-in
- · Available with dust covers, indicator lamps and push-to-operate buttons
- UL and CSA recognition as motor controllers up to 600 VAC
- Recognized for 1/2 hp motor control applications at 240/ 480/600 VAC (1/3 hp at 120 VAC)





## **Ordering Information**

To Order: Select part number and add the desired coil voltage rating (e.g. MJN1C-AC24).

Item			Model			
Туре	Terminal	Contact form	10A Version, flange mounting	20 A Version, flange mounting	30A Version, flange mounting	10 A Relay only
Standard	Plug-in	SPDT	MJN1CF		MJN1Z-E-RP	MJN1C
		DPDT	MJN2CF	MJN2CE		MJN2C
		3PDT	MJN3CF			MJN3C
LED indicator	Plug-in	SPDT	MJN1CF-N*			MJN1C-N
		DPDT	MJN2CF-N*			MJN2C-N
		3PDT	MJN3CF-N*			MJN3C-N
Push-to-operate	Plug-in	SPDT	MJN1CF-I*			MJN1C-I
button		DPDT	MJN2CF-I*			MJN2C-I
		3PDT	MJN3CF-I*			MJN3C-I
Push-to-operate button & LED indi- cator	Plug-in	SPDT	MJN1CF-IN*			MJN1C-IN
		DPDT	MJN2CF-IN*			MJN2C-IN
		3PDT	MJN3CF-IN*			MJN3C-IN
Latching	Plug-in	DPDT				MJN2CK

Note: All part numbers marked with an "\*" are non-standard parts. Contact an Omron representative for additional information.

## **Specifications**

### **■** Contact Data

Configuration		SPDT, DPDT, 3PDT	
Initial contact resistance		50 m $Ω$ max.	
Materials		3/16" diameter Ag-Alloy	
Contact UL ratings	10 A	10 amp @ 28 VDC and 120/240 VAC at 80% pf, 1/3 hp @ 120 VAC, 1/2 hp @ 277/240/480/600 VAC 8.5 FLA - 36 LRA at 18 VDC, 3 amp @ 480/600 VAC at 80% pf, 10 amp @ 277 VAC resistive	
20 A 30 A		20 amp @28 VDC and 120/240/277 VAC, 10 amp @ 480/600 VAC, 3.4 hp @ 120 VAC, 1-1/2 hp @ 240 VAC, 17 FLA - 65 LRA at 300VAC	
		30 amp @ 28 VDC, 15 amp @ 480 / 600 VAC, 1hp @ 120 VAC, 1-1/2 hp @ 240 VAC	
UL recognized file number		E41643	

#### **■** Coil Data

#### Non-latching - AC

	Resistance in	Resistance in Ohms ± 10%		Nominal coil power		Insulation	Pick up voltage at
voltage	1 & 2 PDT	3PDT	1 & 2 PDT	3PDT	voltages	resistance	25°C (77°F)
6 VAC	6.0	4.2	1.7 VA	2.0 VA	6 to 240 VAC	1,000 MΩ	85% of nominal
12 VAC	21	18			50/60 Hz	min. @ 500 VDC	
24 VAC	75	72					
120 VAC	2,250	1,700					
240 VAC	9,100	7,200					

#### Non-latching - DC

Nominal voltage	Resistance in Ohms ± 10%	Nominal coil power	Coil voltages	Insulation resistance	Pick up voltage at 25°C (77°F)
5 VDC	20	1.2 W	5 to 110 VDC	,	75% of nominal
6 VDC	32			min. @ 500 VDC	
12 VDC	120			VDC	
24 VDC	470				
48 VDC	1,800				
110 VDC	10,000				

#### **Latching - AC**

Nominal voltage	Latch coil resistance in Ohms ± 10%	Unlatch coil resistance in Ohms ± 10%	Nominal coil power		Coil voltages	Insulation resistance	Operate voltage (latch/unlatch) at 25°C (77°F) (see note)
6 VAC	5.5	105	1.7 VA	2.0 VA	6 to 240 VAC	1,000 MΩ	85% of nominal
12 VAC	22	445			50/60 Hz	min. @ 500 VDC	
24 VAC	88	1,740					
120 VAC	2,090	17,430					

**Note:** 120% of nominal or greater (one second duration single pulse) unlatch voltage - - above this the relay latches again. Maximum continuous voltage: 120% of nominal (one coil only).

### Latching - DC

Nominal voltage	Latch coil resistance in Ohms ± 10%	Unlatch coil resistance in Ohms ± 10%	Nominal coil power	Coil voltages	Insulation resistance	Operate voltage (latch/unlatch) at 25°C (77°F) (see note)
5 VDC	14	45	1.2 W	5 to 110 VDC	1,000 ΜΩ	75% of nominal
6 VDC	20	64			min. @ 500 VDC	
12 VDC	80	275				
24 VDC	330	1,070				
48 VDC	1,290	2,850				
110 VDC	5,125	10,750				

Note: 120% of nominal or greater (one second duration single pulse) unlatch voltage - - above this the relay latches again. Maximum continuous voltage: 120% of nominal (one coil only).

### **■** Characteristics

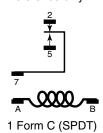
Operate time		·	15 ms nominal; 20 ms maximum			
Release time			6 ms nominal; 10 ms maximum			
Latch time			13 ms nominal with a one second pulse of nominal voltage (See note)			
Unlatch time			13 ms nominal with a one second pulse of nominal unlatch voltage after latching with a one second pulse of nominal latching voltage (See note)			
Operating AC: 1 & 2 pole		Operating	-45° to 60°C (-49° to 140°F)			
ambient temperature		Storage	-65° to 100°C (-85° to 212°F)			
temperature	AC: 3 pole	Operating	-45° to 45°C (-49° to 113°F)			
		Storage	-65° to 100°C (-85° to 212°F)			
	DC: 1, 2 & 3	Operating	-45° to 70°C (-49° to 158°F)			
	pole	Storage	-65° to 100°C (-85° to 212°F)			
Insulation mate	erial	•	High quality phenolic			
Duty cycle			Rated for continuous duty operation at 25% overvoltage			
Shock			15 g's 11±1 ms (non-operating test, no mechanical damage)			
Vibration			0.1" DA or 10 g's, 10 to 55 Hz (operating test, no contact chatter)			
Life expectancy	1	Electrical at rated load	100,000 operations			
		Mechanical	10,000,000 operations			
Dielectric strength			Greater than 750 VAC, RMS 60 Hz across open contacts Greater than 2,500 VAC, RMS 60 Hz all other mutually insulated elements			
Terminals	Terminals		Quick Connect			
Weight			64 g (2.3 oz) open relay 54 g (3.0 oz) enclosed relay			

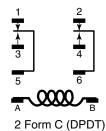
Note: A latch pulse of 50 ms minimum at nominal voltage is recommended to insure positive latching.

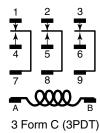
## **Terminal Arrangement**

## ■ Non-Latching

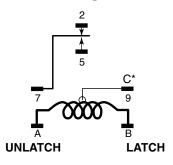
Reference only

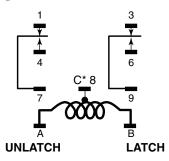






## ■ Latching / Unlatching





1 Form C (SPDT)

2 Form C (DPDT)

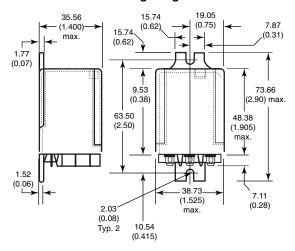
<sup>\*</sup> C denoted common connection. On 3-pole relays the common connection is a wire lead coming off of the coil. It is not terminated to the relay header. Consult your Omron representative for single coil or isolated double coil models.

## **Dimensions**

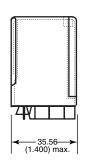
Unit: mm (inch)

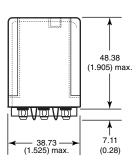
## ■ Relays

#### MJN CF/MJN2CE **Dust cover with mounting flanges**

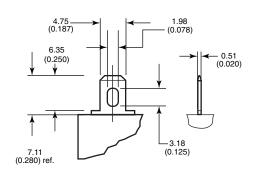


#### **Dust cover MJN**



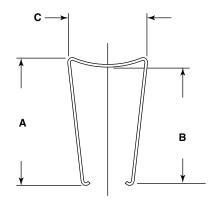


## **■** Terminal-10 Amp Version

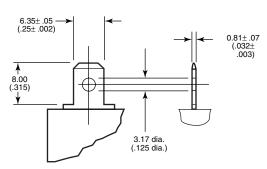


Note: Mates with .187" UL standard quick-connect terminals; also suitable for solder connection.

## **■** Hold Down Springs



## ■ Terminal-20 and 30 Amp Versions

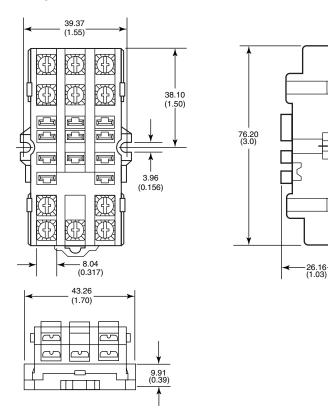


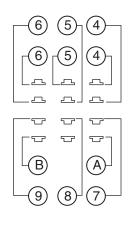
Hold Down Springs Dimensional Reference chart

Part number	Reference dimension	Actual dimension					
	Α	58.67 (2.31)					
PYMJN-PCB	В	53.82 (2.12)					
	С	37.08 (1.46)					
	Α	58.67 (2.31)					
PYMJN-S	В	53.59 (2.11)					
	С	40.26 (1.59)					

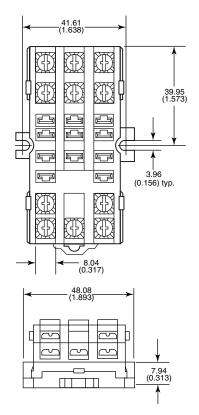
## ■ Sockets (for use with 10 Amp, non-flange mount versions)

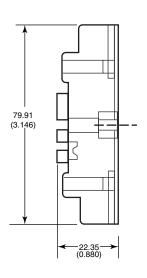
#### PTF11PC

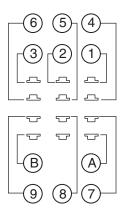




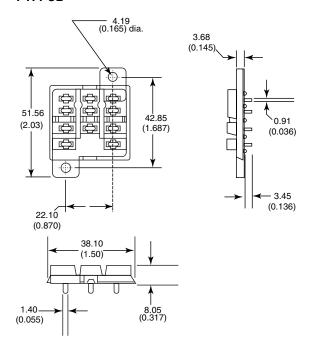
#### PTF21PC

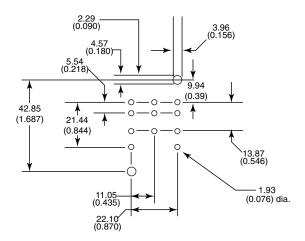




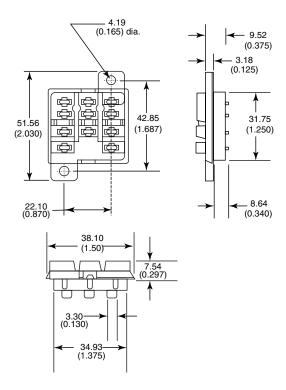


#### **PTFPCB**





#### PTF11QDC



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.