

# General Purpose Relay MJN

## 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			
Type	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 button	Plug-in	SPDT	MJN1CF-I*	---	---	MJN1C-I
		DPDT	MJN2CF-I*	---	---	MJN2C-I
		3PDT	MJN3CF-I*	---	---	MJN3C-I
Push-to-operate button & LED indicator	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

<b>Configuration</b>		SPDT, DPDT, 3PDT
<b>Initial contact resistance</b>		50 mΩ max.
<b>Materials</b>		3/16" diameter Ag-Alloy
<b>Contact UL ratings</b>	<b>10 A</b>	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
	<b>20 A</b>	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
	<b>30 A</b>	30 amp @ 28 VDC, 15 amp @ 480 / 600 VAC, 1hp @ 120 VAC, 1-1/2 hp @ 240 VAC
<b>UL recognized file number</b>		E41643

## ■ Coil Data

### Non-latching - AC

Nominal voltage	Resistance in Ohms ± 10%		Nominal coil power		Coil voltages	Insulation resistance	Pick up voltage at 25°C (77°F)
	1 & 2 PDT	3PDT	1 & 2 PDT	3PDT			
6 VAC	6.0	4.2	1.7 VA	2.0 VA	6 to 240 VAC 50/60 Hz	1,000 MΩ min. @ 500 VDC	85% of nominal
12 VAC	21	18					
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	1,000 MΩ min. @ 500 VDC	75% of nominal
6 VDC	32				
12 VDC	120				
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 50/60 Hz	1,000 MΩ min. @ 500 VDC	85% of nominal
12 VAC	22	445					
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 $\pm 10\%$	Unlatch coil resistance in Ohms $\pm 10\%$	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 M $\Omega$ min. @ 500 VDC	75% of nominal
6 VDC	20	64				
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

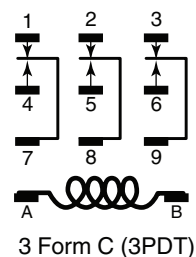
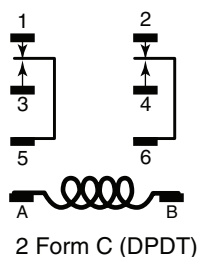
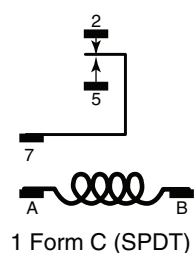
<b>Operate time</b>		15 ms nominal; 20 ms maximum	
<b>Release time</b>		6 ms nominal; 10 ms maximum	
<b>Latch time</b>		13 ms nominal with a one second pulse of nominal voltage (See note)	
<b>Unlatch time</b>		13 ms nominal with a one second pulse of nominal unlatch voltage after latching with a one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

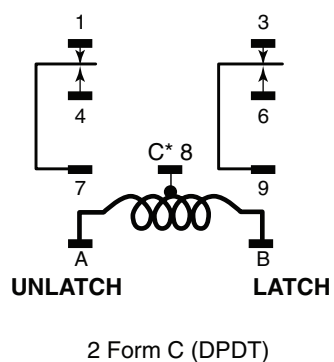
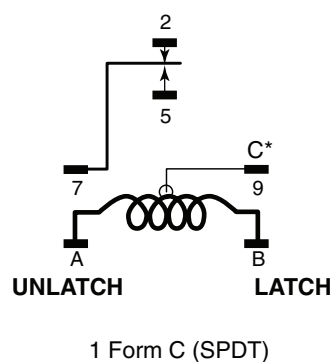
# Terminal Arrangement

## ■ Non-Latching

Reference only



## ■ Latching / Unlatching



\* 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.

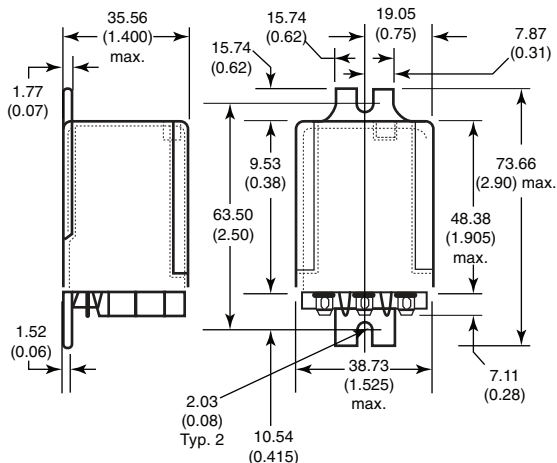
# Dimensions

Unit: mm (inch)

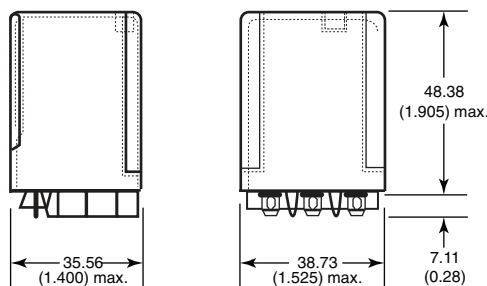
## Relays

MJN□CF/MJN2CE

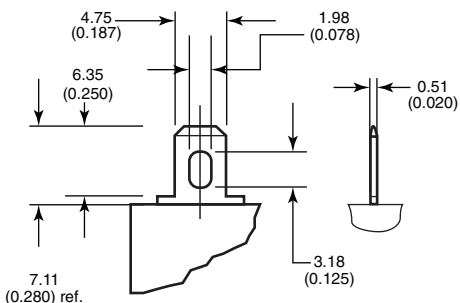
Dust cover with mounting flanges



Dust cover MJN

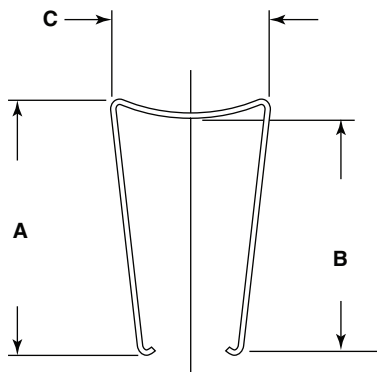


## Terminal-10 Amp Version

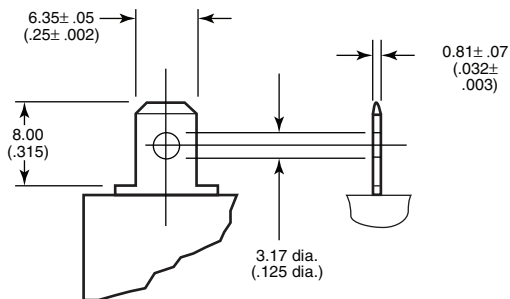


**Note:** Mates with .187" UL standard quick-connect terminals; also suitable for solder connection.

## Hold Down Springs



## Terminal-20 and 30 Amp Versions

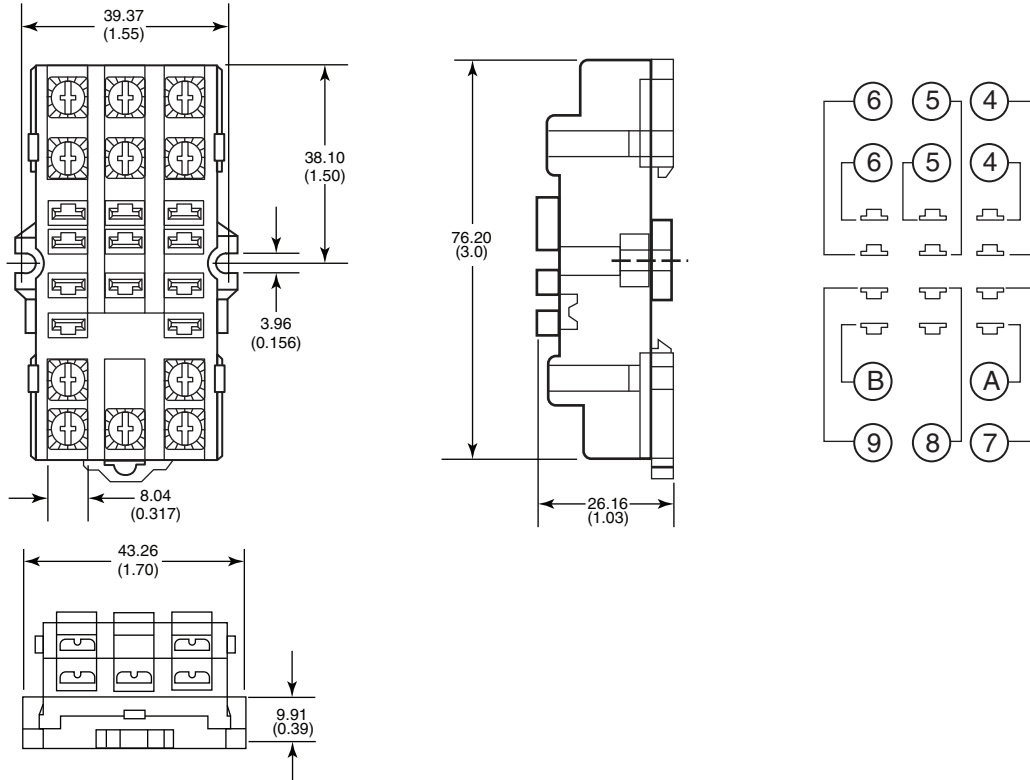


Hold Down Springs Dimensional Reference chart

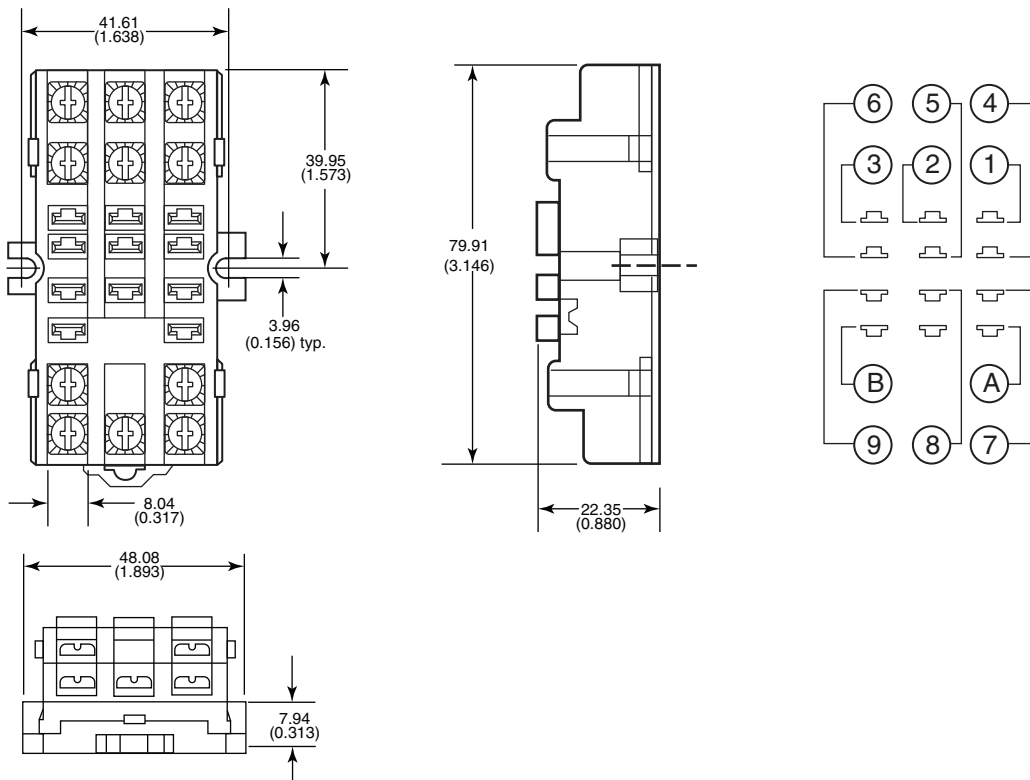
Part number	Reference dimension	Actual dimension
PYMJN-PCB	A	58.67 (2.31)
	B	53.82 (2.12)
	C	37.08 (1.46)
PYMJN-S	A	58.67 (2.31)
	B	53.59 (2.11)
	C	40.26 (1.59)

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

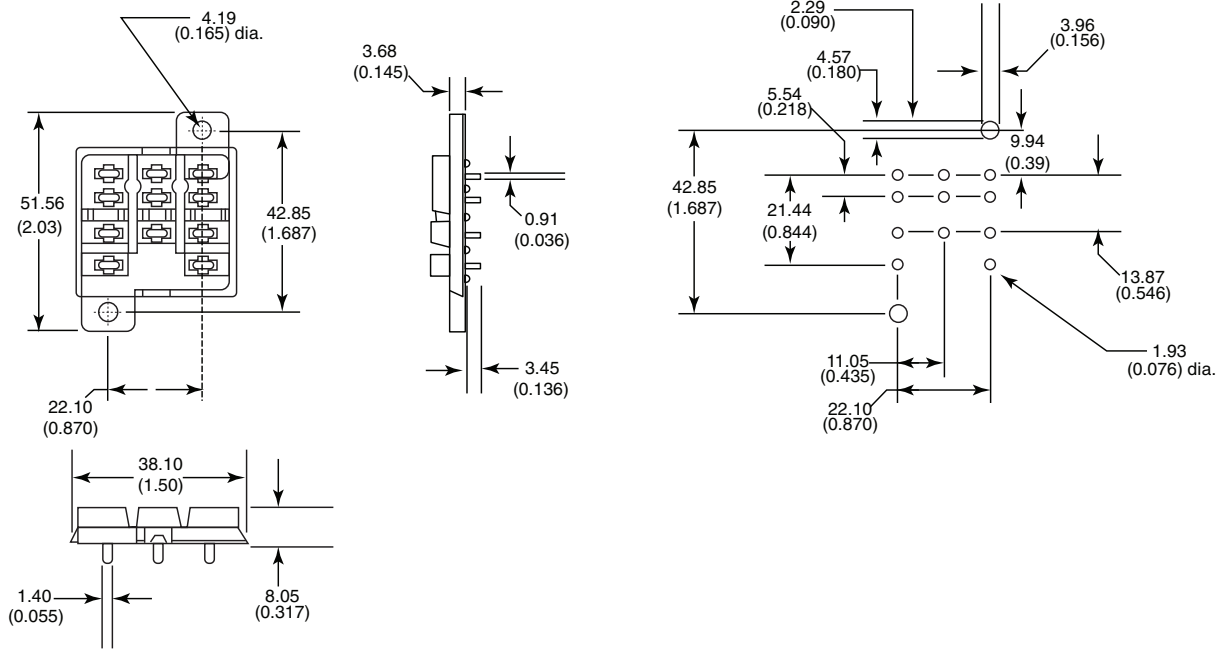
PTF11PC



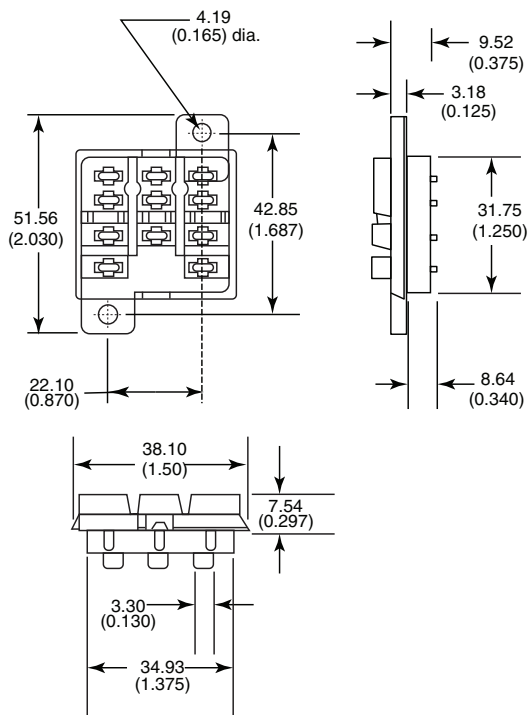
PTF21PC



PTFPCB



PTF11QDC



MEMO

A large grid of dashed lines for writing notes, consisting of 20 columns and 30 rows of small squares.



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  - Delivery and shipping dates are estimates only; and
  - Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
- Claims:** Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier or any claim related to pricing or other charges must be presented in detail in writing to Seller within 30 days of receipt of shipment.

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

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