

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

Configuration		SPDT, DPDT, 3PDT
Initial contact resistance		50 mΩ 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	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 A	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

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 Ω 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

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 ambient temperature	AC: 1 & 2 pole	Operating	-45° to 60°C (-49° to 140°F)
		Storage	-65° to 100°C (-85° to 212°F)
	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 pole	Operating	-45° to 70°C (-49° to 158°F)
		Storage	-65° to 100°C (-85° to 212°F)
Insulation material		High quality phenolic	
Duty cycle		Rated for continuous duty operation at 25% overvoltage	
Shock		15 g's 11 \pm 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		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		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

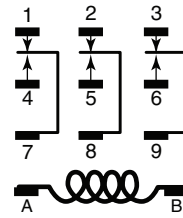
Reference only



1 Form C (SPDT)



2 Form C (DPDT)

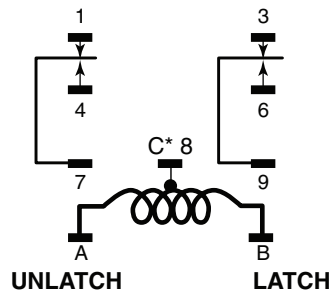


3 Form C (3PDT)

■ Latching / Unlatching



1 Form C (SPDT)



2 Form C (DPDT)

* 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

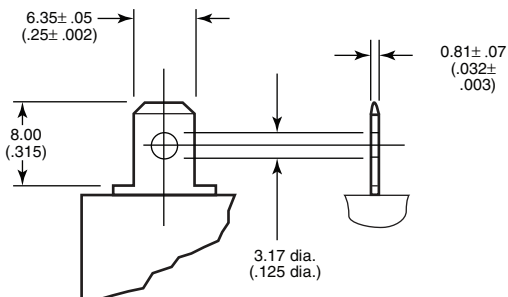


Note: Mates with .187" UL standard quick-connect terminals; also suitable for solder connection.

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)

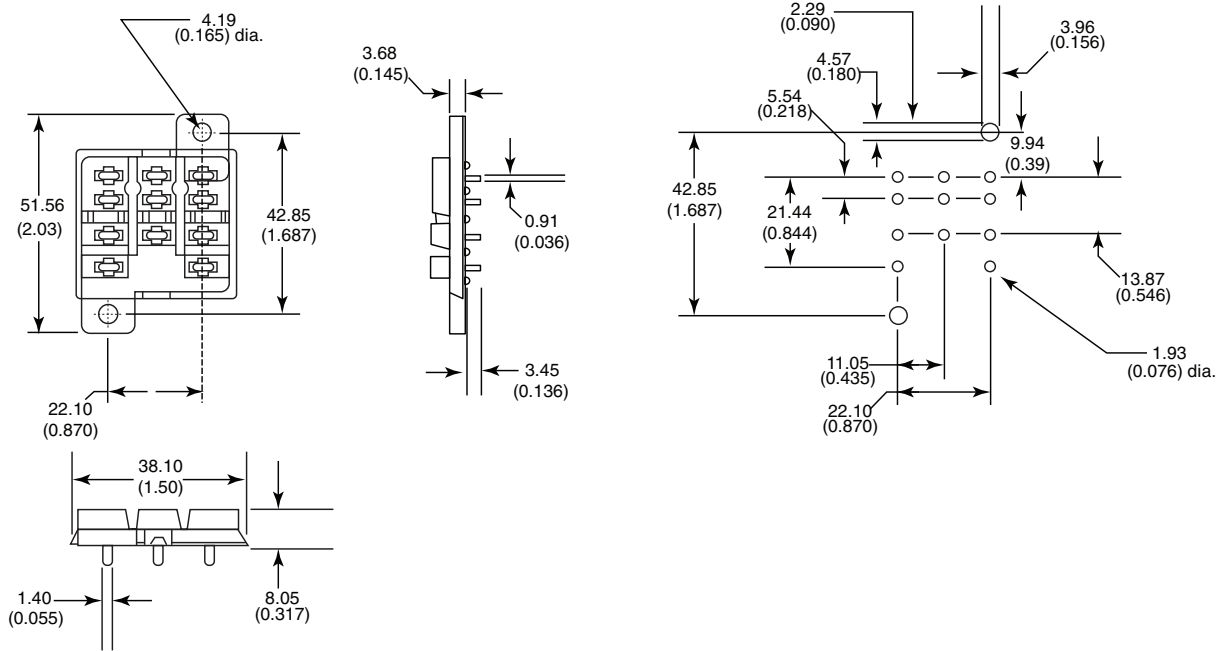
PTF11PC



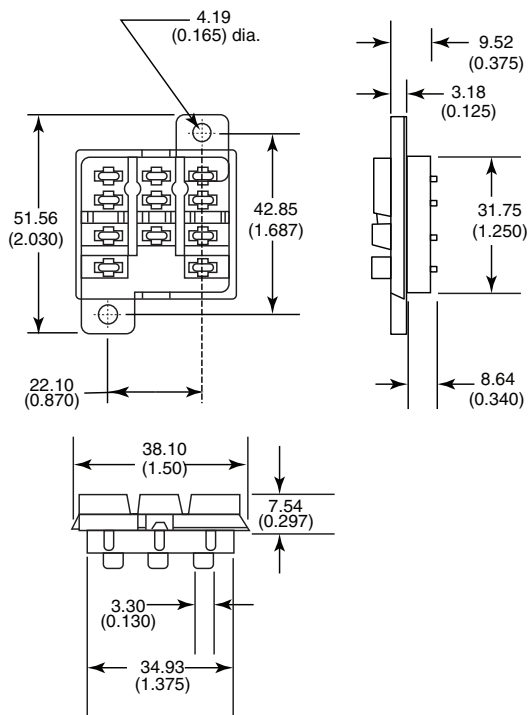
PTF21PC



PTFPCB



PTF11QDC



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
 To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

MEMO

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

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