

General Purpose Relay

MJN

- 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
- Open or dust covered available with indicator lamps and push-to-operate buttons
- UL and CSA recognition as motor controllers through 600 VAC
- Recognized for 1/2 hp motor controller applications at 240/480/600 VAC (1/3 hp at 120 VAC)
- UL and CSA approved



Ordering Information

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

Item			Part number			
Type	Terminal	Contact form	10 A version, flange mounting	20 A version, flange mounting	30 A version, flange mounting	10 A Relay only
Standard	Plug-in	SPDT	MJN1CF	—	MJN1Z-E-RP	MJN1C
		DPDT	MJN2CF	MJN2C-E	—	MJN2C
		3PDT	MJN3CF	—	—	MJN3C
LED	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 Silver Cadmium Oxide
Contact UL Ratings	10 amp @ 28 VDC and 120/240 VAC at 80% pf, 1/3 hp @ 120 VAC, 1/2 hp @ 277/240/480/600 VAC 36 LRA-8.5FLA at 18 VDC, 3 amp @ 480/600 VAC at 80% pf, 10 amp @ 277 VAC resistive 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, 65LRA, 300 VAC 30 amp @ 28 VDC, 15 amp @ 480/600 VAC, 1 hp @ 120 VAC, 1-1/2 hp @ 240 VAC
UL Recognized file number	E 41643

■ 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	1000 MΩ min. @ 500 VDC	85% of nominal
12 VAC	21	18					
24 VAC	75	72					
120 VAC	2250	1700					
240 VAC	9100	7200					

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	1000 MΩ min. @ 500 VDC	75% of nominal
6 VDC	32				
12 VDC	120				
24 VDC	470				
48 VDC	1800				
110 VDC	10000				

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	1000 MΩ min. @ 500 VDC	85% of nominal
12 VAC	22	445					
24 VAC	88	1740					
120 VAC	2090	17430					

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	1000 M Ω min. @ 500 VDC	75% of nominal
6 VDC	20	64				
12 VDC	80	275				
24 VDC	330	1070				
48 VDC	1290	2850				
110 VDC	5125	10750				

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

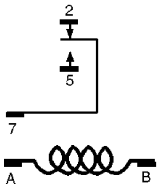
Operate time		15 mS nominal; 20 mS maximum	
Release time		6 mS nominal; 10 mS maximum	
Latch time		13 mS nominal with a one second pulse of nominal voltage (See note)	
Unlatch time		13 mS nominal with a one second pulse of nominal unlatch voltage after latching with a one second pulse of nominal latching 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 1mS (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 2500 VAC, RMS 60 Hz all other mutually insulated elements	
Terminals		Quick connect	
Weight		64 g (2.3 oz) open relay 84 g (3.0 oz) enclosed relay	

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

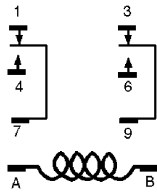
Terminal Arrangement

■ NON-LATCHING

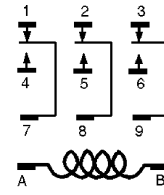
Reference only



1 Form C (SPDT)

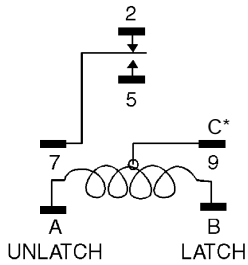


2 Form C (DPDT)

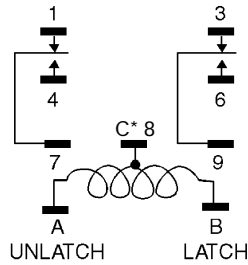


3 Form C (3PDT)

■ LATCHING/UNLATCHING



1 Form C (SPDT)



2 Form C (DPDT)

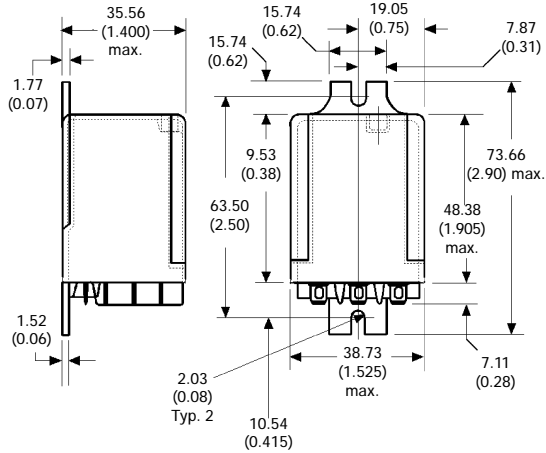
* C denoted common connection. On 3-pole relays the common connection is a wire lead coming off of the coil. It is not terminated to the relay header. Consult your Omron representative for single coil or isolated double coil models.

Dimensions

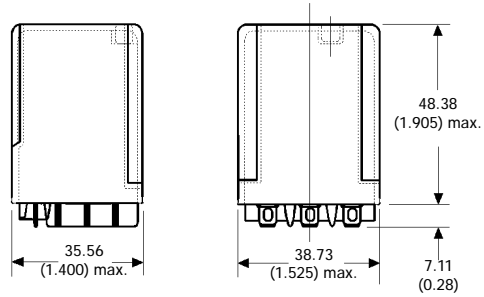
Unit: mm (inch)

RELAYS

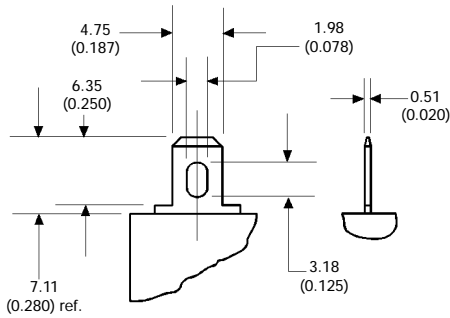
MJN□CF Dust cover with mounting flanges



Dust cover MJN□

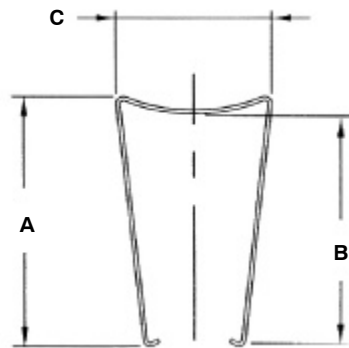


TERMINAL



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

HOLD DOWN SPRINGS

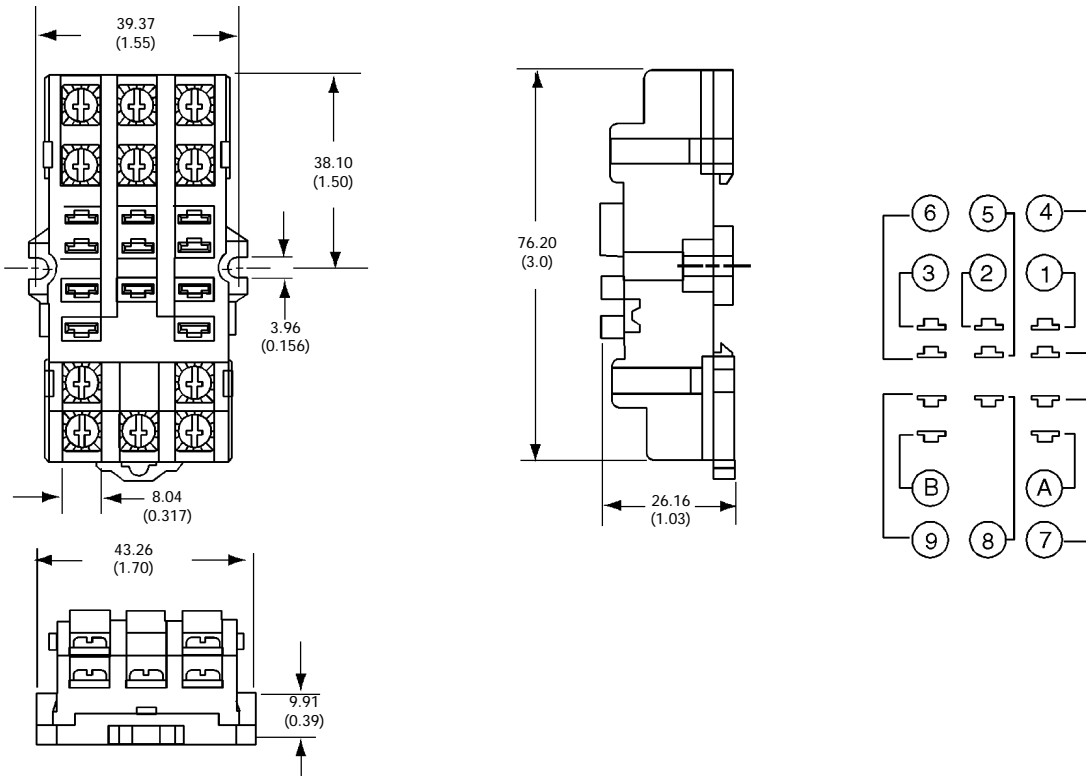


Hold Down Springs Dimensional Reference chart

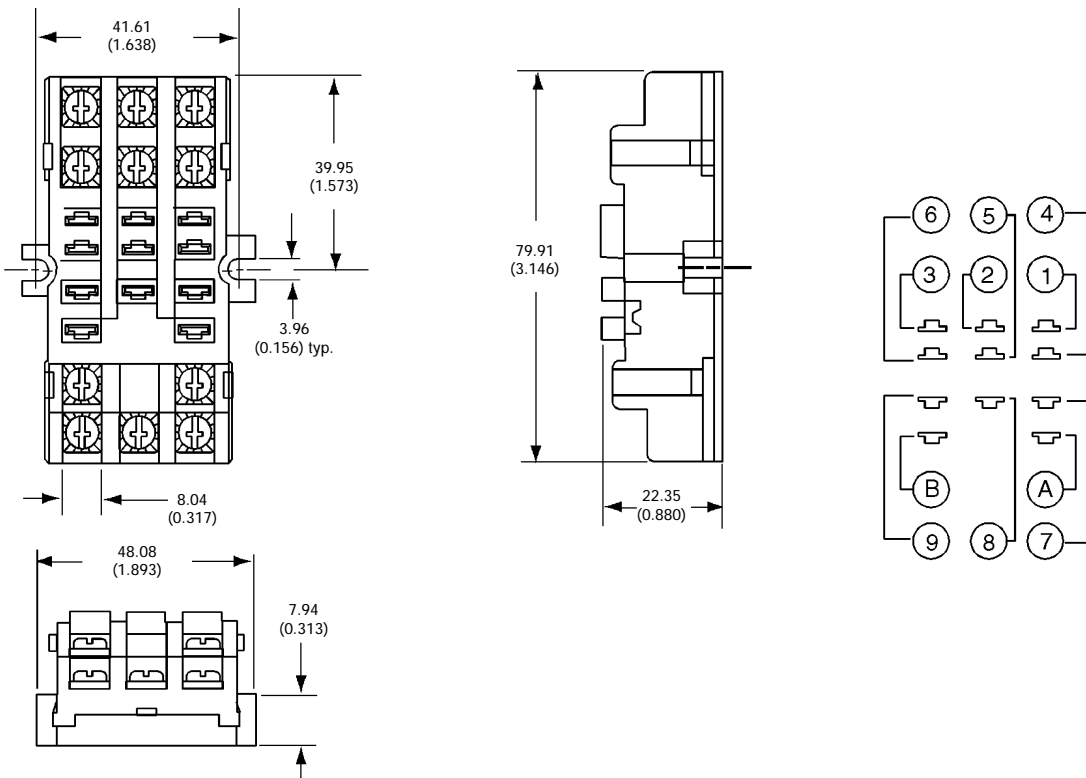
Part number	Reference dimension	Actual dimension
PYMJN-PCB	A	58.67 (2.31)
	B	53.82 (2.12)
	C	37.08 (1.46)
PYMJN-S	A	58.67 (2.31)
	B	53.59 (2.11)
	C	40.26 (1.59)

SOCKETS

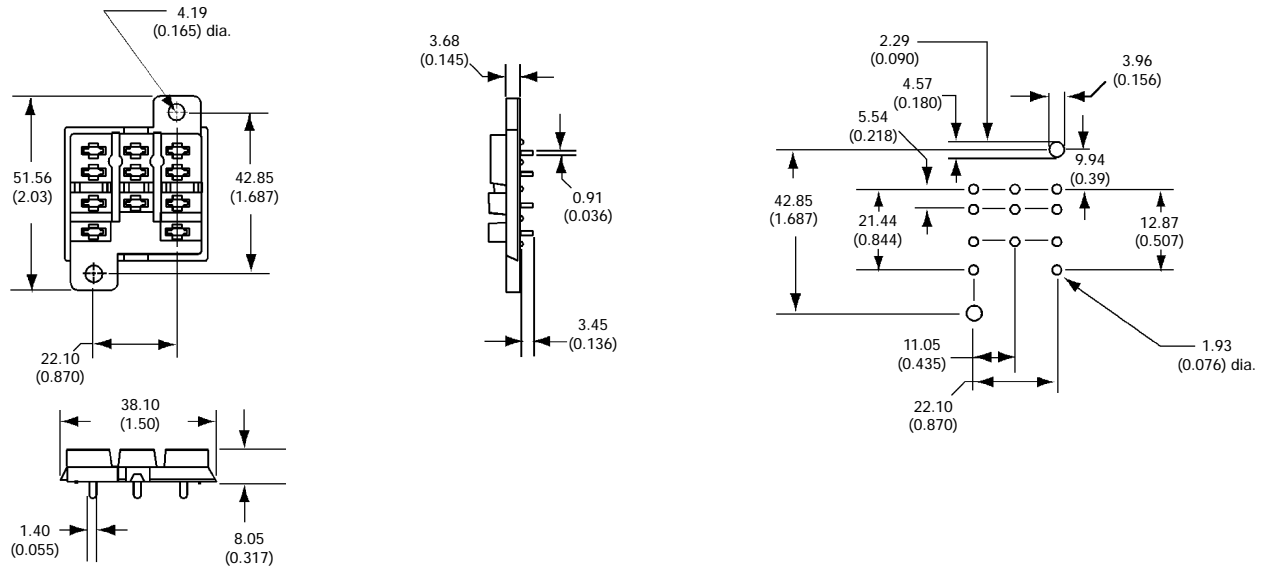
PTF11PC



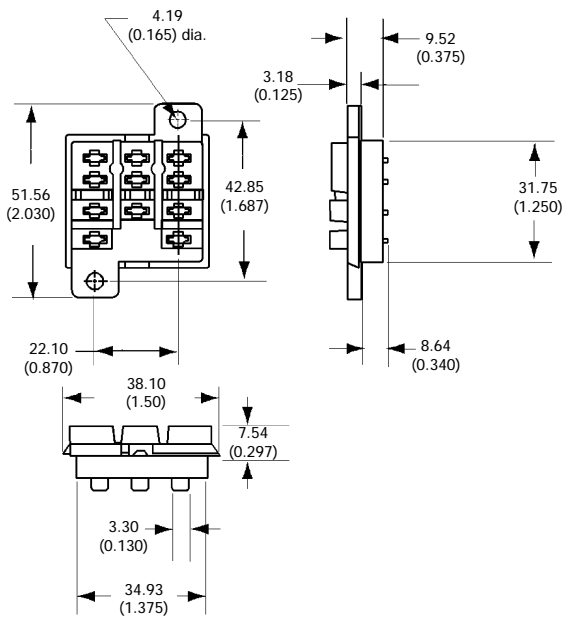
PTF21PC



PTFPCB



PTF11QDC



NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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