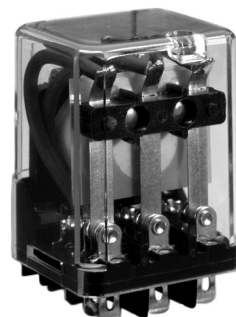


# General Purpose Relay

# 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	Contact form	Plug-in		Flange		
		10 A version	LED indicator			
				10 A version	20 A version	30 A version
Standard	SPDT	MJN1C	MJN1C-N	MJN1CF	—	—
	DPST (NO/NC)	—	—	—	—	MJN1Z-E-RP
	DPDT	MJN2C	MJN2C-N	MJN2CF	MJN2CE	—
	3PDT	MJN3C	MJN3C-N	MJN3CF	—	—
Push-to-operate button	SPDT	MJN1C-I	MJN1C-IN	—	—	—
	DPDT	MJN2C-I	MJN2C-IN	—	—	—
	3PDT	MJN3C-I	MJN3C-IN	—	—	—
Latching	DPDT	MJN2CK	—	—	—	—

# 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>		E196745

## ■ Coil Data

### Non-latching - AC

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

### Non-latching - DC

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

### Latching - AC

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)
24 VAC	88	1,740	1.7 VA	2.0 VA	6 to 240 VAC 50/60 Hz	1,000 MΩ min. @ 500 VDC	85% of nominal
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)
12 VDC	80	275	1.2 W	5 to 110 VDC	1,000 M $\Omega$ min. @ 500 VDC	75% of nominal
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).

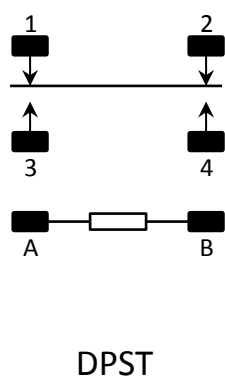
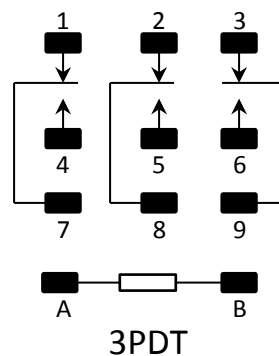
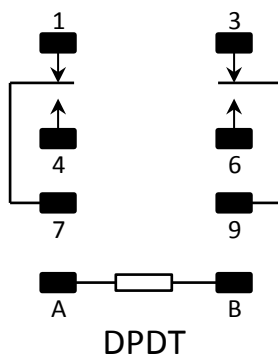
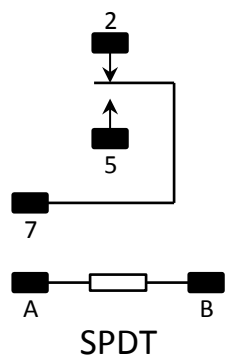
## ■ Characteristics

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±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

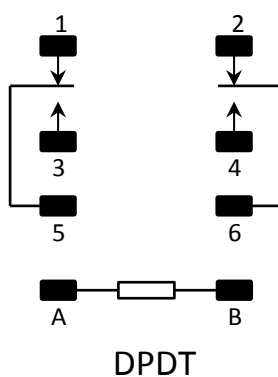
**Note:** A latch pulse of 50 ms minimum at nominal voltage is recommended to insure positive latching.

# Terminal Arrangement

## ■ Non-Latching

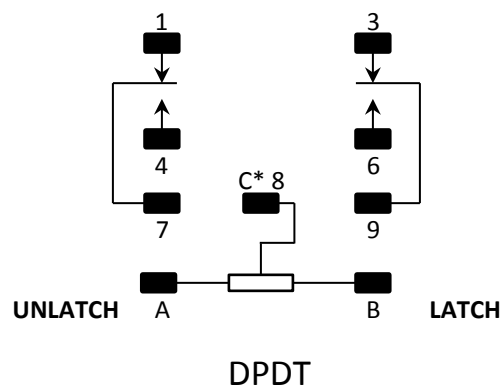


\*MJN1Z-E-RP only



\*MJN2CE only

## ■ Latching / Unlatching



\* C denoted COMMON connection.

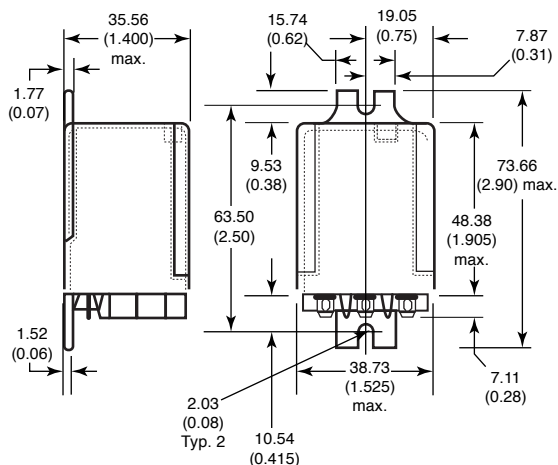
## Dimensions

Unit: mm (inch)

## ■ Relays

### Flanges type

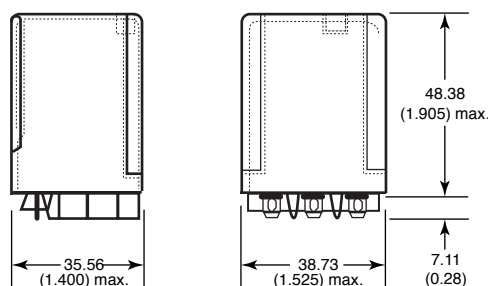
MJN ☐ CF / MJN1Z-E-RP / MJN2CE



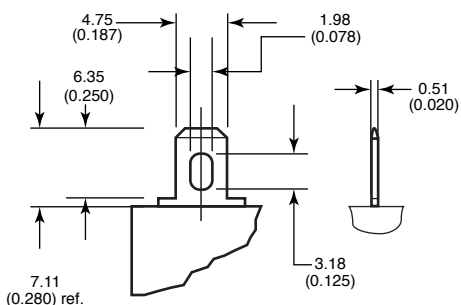
\*Regarding terminal arrangement, please see the previous page

### Plug-in type

**MJN□C(-\*\*) / MJN2CK**

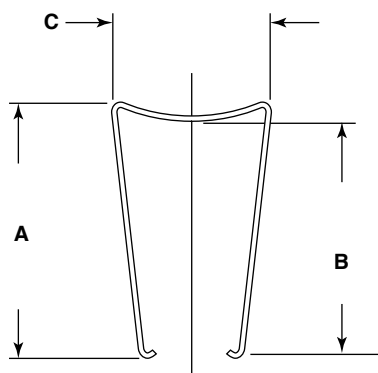


## ■ Terminal-10 Amp Version

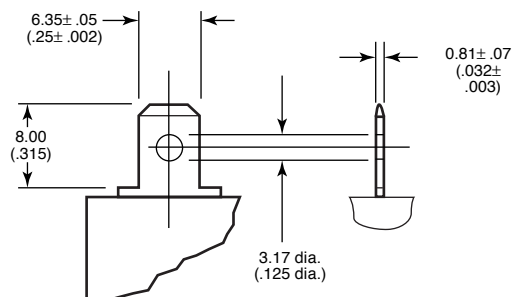


**Note:** Mates with .187" UL standard quick-connect terminals; also suitable for solder connection.

## ■ Hold Down Springs



## ■ Terminal-20 and 30 Amp Versions

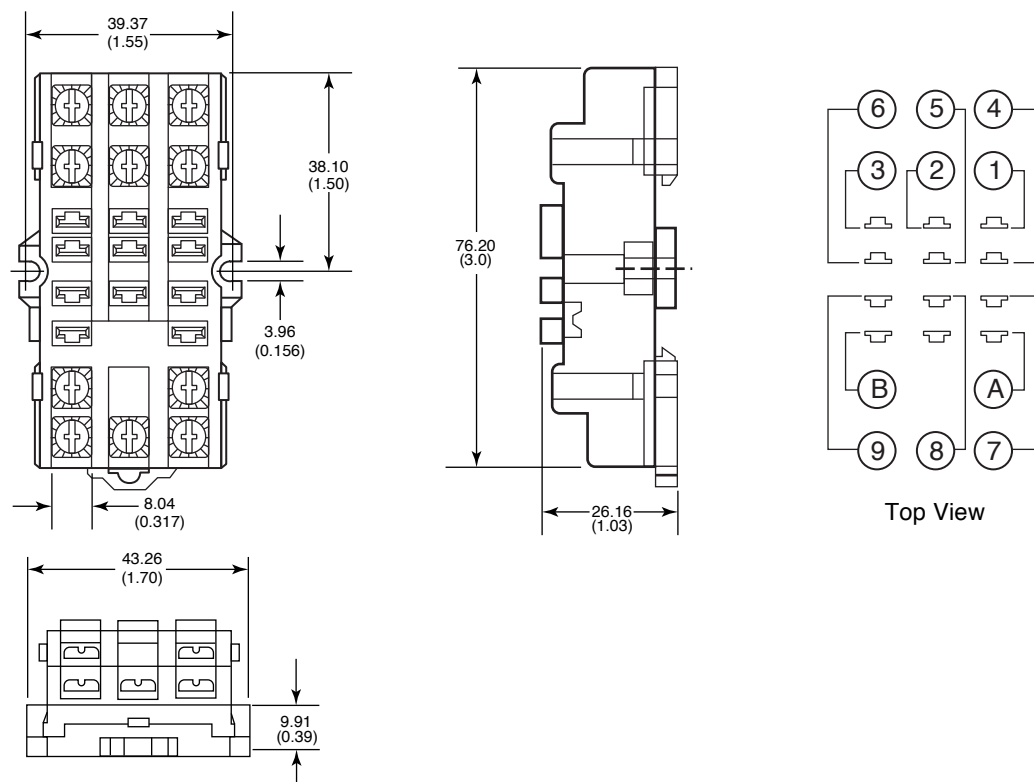


### Hold Down Springs Dimensional Reference chart

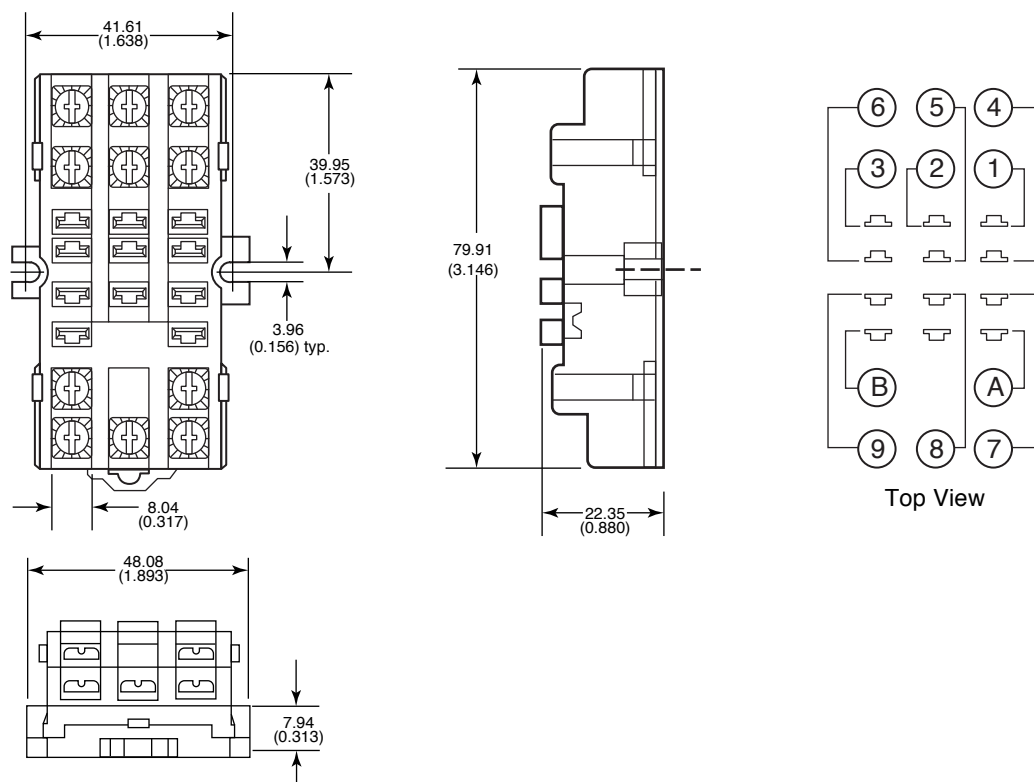
Part number	Reference dimension	Actual dimension
PYMJN-PCB	A	58.67 (2.31)
	B	53.82 (2.12)
	C	37.08 (1.46)
PYMJN-S	A	58.67 (2.31)
	B	53.59 (2.11)
	C	40.26 (1.59)

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

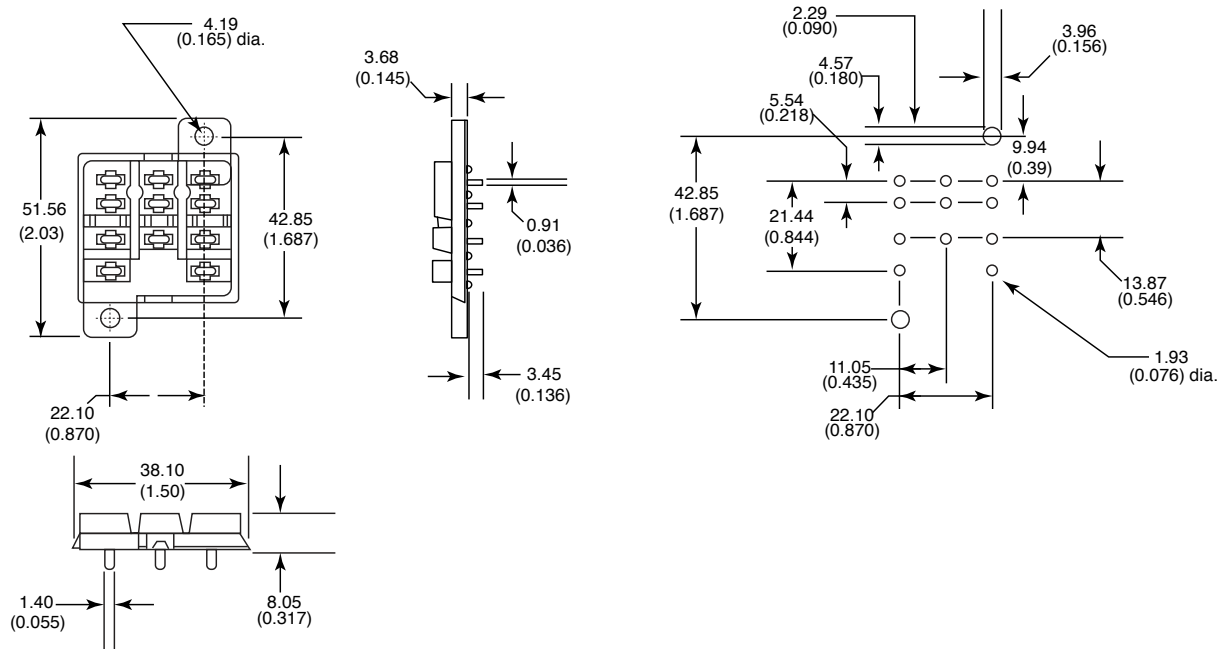
PTF11PC



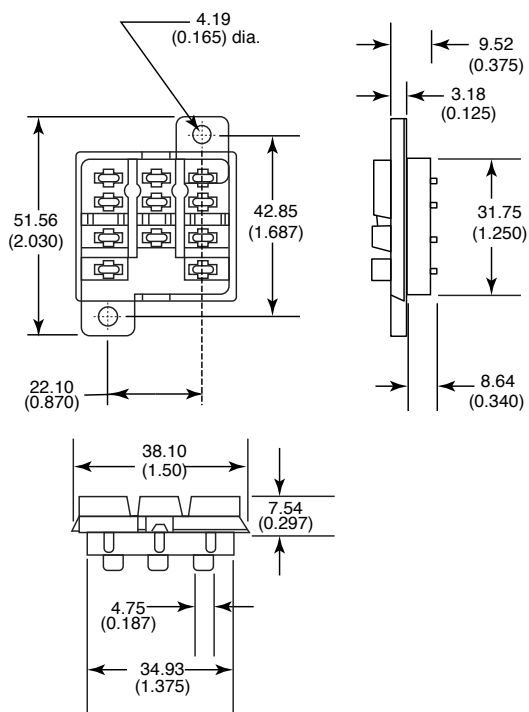
PTF21PC



# 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



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