

# Miniature Power Relays MY(S)

# MY(S) Versatile plug-in Relay

- Reduces wiring work by 60% when combined with the PYF-PU Push-In Plus Socket (according to actual OMRON measurements).
- 10 A (DPDT) and 5 A (4PDT)
- Gold-clad contacts (MY4(S))
- Test button (lockable)
- Wide portfolio includes hermetically sealed and latching types
- 2.6 mm wide pins offer higher conductivity and less temperature increase



Refer to the Common Relay Precautions and Safety Precautions on page 34.

# 



The compliant standards depend on the model. For details, refer to information provided for individual models.

#### **Model Number Structure**

Coil Polarity (DC case) *	Туре	Contact form	Plug-in	Plug-In socket/solder terminals		
			With LED indicator	With LED Indicator and Lockable test button	Without LED Indicator	
Type 1	Standard model	DPDT	MY2N(S)	MY2IN(S)	MY2(S)	MY2F
		DPDT (Bifurcated)	MY2ZN			
13 14 A2		4PDT	MY4N(S)	MY4IN(S)	MY4(S)	MY4F
A1 A2		4PDT (Bifurcated)	MY4ZN(S)	MY4ZIN(S)	MY4Z(S)	MY4ZF
	With Built-in diode	DPDT	MY2N-D2(S)	MY2IN-D2(S)		
	(DC only)	DPDT (Bifurcated)	MY2ZN-D2			
	<b>—</b>	4PDT	MY4N-D2(S)	MY4IN-D2(S)		
		4PDT (Bifurcated)	MY4ZN-D2(S)	MY4ZIN-D2(S)		
	With Built-in CR	DPDT	MY2N-CR(S)	MY2IN-CR(S)		
	(AC only)	4PDT	MY4N-CR(S)	MY4IN-CR(S)		
	<b>⊢</b> ₩-	4PDT (Bifurcated)	MY4ZN-CR(S)	MY4ZIN-CR(S)		
	High reliability contacts	4PDT (Crossbar Bifurcated)			MY4Z-CBG	
	Plastic Sealed	4PDT	MYQ4N			
		4PDT (Bifurcated)			MYQ4Z	
	Lactching (coil latching)	DPDT			MY2K-US	
	Hermetic	4PDT			MY4H	
		4PDT (Bifurcated)			MY4ZH	
Type 2	Standard model	DPDT	MY2N1(S)	MY2IN1(S)		
		4PDT	MY4N1(S)	MY4IN1(S)		
13 14 A2		4PDT (Bifurcated)	MY4ZN1(S)	MY4ZIN1(S)		
A1 L A2	With Built-in diode	DPDT	MY2N1-D2(S)	MY2IN1-D2(S)		
	(DC only)	4PDT	MY4N1-D2(S)	MY4IN1-D2(S)		
		4PDT (Bifurcated)	MY4ZN1-D2(S)	MY4ZIN1-D2(S)		

\*In case of AC coil type relay, please select them from "Type 1" of Coil Polality.

Refer to *Connection Socket and Mounting Bracket Selection Table on page 25* in *Options* for information on the possible combinations of Models with Plug-in Terminals and Sockets.

#### **Contents**

Model Number Structure	1
Specifications	
Coil Ratings	2
MY2(S)/MY4(S)/MY4Z(S)	3
Engineering Data	6
Detailed Information on Models Certified for Safety Standards, MY2(S)/MY4(S)/MY4Z(S)  Models Other Than MY(S) Models	8
MY2ZN	9
MY_F	11
Detailed Information on Models Certified for Safety Standards, MY2ZN and MY□F	14
MY4Z-CBG	15
MYQ4	17
MY2K	19
MY4(Z)H	21
Socket for MY	
Options	
Safety Precautions	34

# **Specifications**

#### **Coil Ratings**

#### MY(S)

R	ated voltage	Rated current		Rated current		ductance ice value)	Must operate voltage	Must release voltage	Max. voltage	Power consumption (approx.)
	50 Hz 60 Hz		60 Hz		Arm. OFF	Arm. ON	%	of rated volta	age	(арргох.)
	6 V	214.1 mA	183 mA	12.2 Ω	0.04 H	0.08 H				
	12 V	106.5 mA	91 mA	46 Ω	0.17 H	0.33 H			110%	Approx. 0.9 to 1.3 VA (60 Hz)
AC	24 V	53.8 mA	46 mA	180 Ω	0.69 H	1.30 H		30% min.		
AC	48/50 V	24.7/25.7 mA	21.1/22.0 mA	788 Ω	3.22 H	5.66 H		30 /6 111111.		
	110/120 V	9.9/10.8 mA	8.4/9.2 mA	4,430 Ω	19.20 H	32.1 H				
	220/240 V	4.8/5.3 mA	4.2/4.6 mA	18,790 Ω	83.50 H	136.4 H	80% max.			
	6 V	151 mA		39.8 Ω	0.17 H	0.33 H				
	12 V	75 mA		160 Ω	0.73 H	1.37 H				
DC	24 V	37.7 mA		636 Ω	3.20 H	5.72 H		10% min.		0.9 W
	48 V	18.8 mA		2,560 Ω	10.60 H	21.0 H				
	100/110 V	9.0/9.9 mA		11,100 Ω	45.60 H	86.2 H				

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for rated currents and ±15% for DC coil

- resistance.

  2. Performance characteristic data are measured at a coil temperature of 23°C.

  3. AC coil resistance and impedance are provided as reference values (at 60 Hz).

  4. Power consumption drop was measured for the above data. When driving transistors, check leakage current and connect a bleeder resistor if required.

#### MY2ZN, MY□F, MY4(Z)H

	Item	Rated curr	ent (mA)	Coil resistance	Coil indu	ctance (H)	Must-	Must- release voltage (V)	Maximum voltage (V)	Power consumption	
Rate volta	ed age (V)	50 Hz	60 Hz	(Ω)	Armature OFF	Armature ON	operate voltage (V)			(VA, W)	
	12	106.5	91	46	0.17	0.33					
	24	53.8	46	180	0.69	1.3			110% of rated voltage	Approx. 0.9 to 1.3 VA (60 Hz)	
AC	100/110	11.7/12.9	10/11	3,750	14.54	24.6		30% min.*2			
AC	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1		30 /8 111111.			
	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07	80% max.*1			110% of rated	
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	60% IIIax.				
	12	75		160	0.73	1.37					
DC	24	36.	9	650	3.2	5.72		10% min.*2	min.*²	Approx. 0.9	
ЪС	48	18.	5	2,600	10.6	21.0		10 /6 111111		Αρρίολ. 0.9	
	100/110	9.1/	10	11,000	45.6	86.2					

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for the AC rated current and ±15% for the DC coil resistance.

2. The AC coil resistance and inductance values are reference values only (at 60 Hz).

3. Operating characteristics were measured at a coil temperature of 23°C.

4. The maximum voltage capacity was measured at an ambient temperature of 23°C.

\*1. There is variation between products, but actual values are 80% max.

To ensure operation, apply at least 80% of the rated value

\*2. There is variation between products, but actual values are 30% minimum for AC and 10% minimum for DC. To ensure release, use a value that is lower than the specified value specified value.

Note: Refer to page 19 for the coil specifications of the MY2K.

# Miniature Power Relays: MY2(S)/MY4(S)/MY4Z(S)



Refer to the standards certifications and compliance section of your OMRON website for the latest information on certified models.

# **Specifications**

# **Contact Ratings**

		DPDT		4PDT	4PDT (bifurcated)			
Item	Resistive load (cos φ = 1)	Inductive load (cos φ = 0.4, L/R = 7 ms)	Resistive load (cos φ = 1)	Inductive load (cos φ = 0.4, L/R = 7 ms)	Resistive load (cos φ = 1)	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)		
Rated load	5A, 250 VAC 5A, 30 VDC	2A, 250 VAC 2 A, 30 VDC	3 A, 250 VAC 3 A, 30 VDC	0.8 A, 250 VAC 1.5 A, 30 VDC	3 A, 250 VAC 3 A, 30 VDC	0.8 A, 250 VAC 1.5 A, 30 VDC		
Carry current	10 A (see note)	•	5 A (see note)	5 A (see note)				
Max. switching voltage	250 VAC 125 VDC							
Max. switching current	10 A		5 A					
Contact materials	Ag		Au cladding + Ag alloy					
Failure rate (reference value)	5 VDC, 1 mA		1 VDC, 1 mA		1 VDC, 100 μA			

Note: Don't exceed the carry current of a Socket in use. Please see page 23.

#### **Characteristics**

ltem	All Relays
Contact resistance	100 mΩ max. (50 mΩ: 4PDT bifurcated)
Operate time	20 ms max.
Release time	20 ms max.
Max. operating frequency	Mechanical:18,000 operations/hr Electrical:1,800 operations/hr (under rated load)
Insulation resistance	100 MΩ min. (at 500 VDC)
Dielectric strength	2,000 VAC, 50/60 Hz for 1.0 min (1,000 VAC between contacts of same polarity)
Vibration resistance	Destruction:10 to 55 to 10 Hz, 0.5 mm single amplitude (1.0 mm double amplitude) Malfunction:10 to 55 to 10 Hz, 0.5 mm single amplitude (1.0 mm double amplitude)
Shock resistance	Destruction:1,000 m/s <sup>2</sup> Malfunction:200 m/s <sup>2</sup>
Endurance	See the following table.
Ambient temperature	Operating: -55 to 70°C (with no icing)
Ambient humidity	Operating: 5 to 85% RH
Weight	Approx. 35 g

Note: The values given above are initial values.

#### **Endurance Characteristics**

Contact form	Mechanical life (at 18,000 operations/hr)	Electrical life (at 1,800 operations/hr under rated load)	
DPDT	AC:50,000,000 operations min.	500,000 operations min.	
4PDT	DC:100,000,000 operations min.	200,000 operations min.	
4PDT (bifurcated)	20,000,000 operations min.	100,000 operations min.	

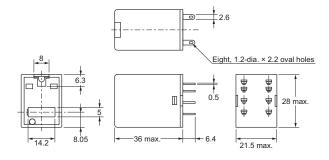
Dimensions (Unit: mm)

#### **List of Models**

#### MY2□□(S) Series



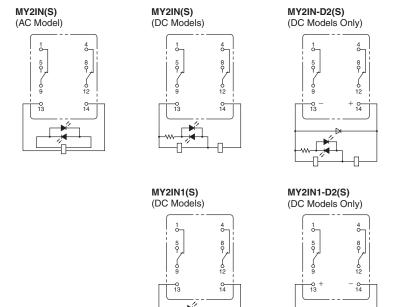
**Note:** The picture is lockable test button type.



#### Terminal Arrangement/Internal Connections (Bottom View)

MY2IN-CR

(AC Models Only)

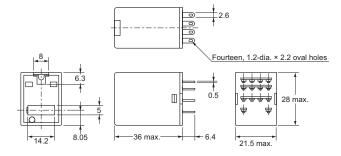


Note: For the DC models, check the coil polarity when wiring and wire all connections correctly.

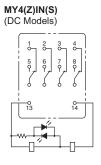
#### MY4□□(S) series

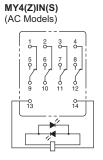


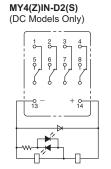
**Note:** The picture is lockable test button type.

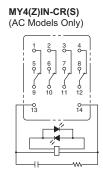


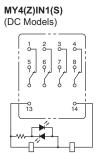
#### Terminal Arrangement/Internal Connections (Bottom View)

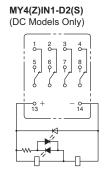






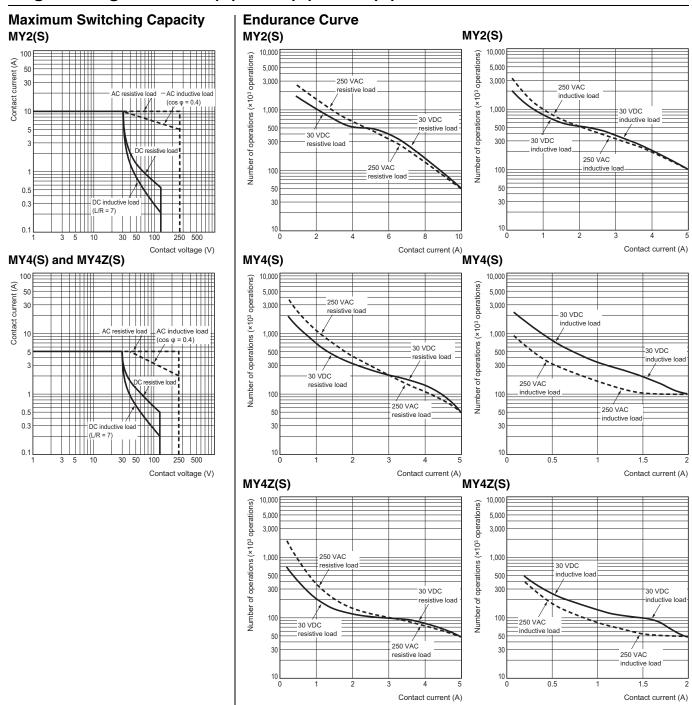




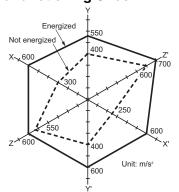


 $\textbf{Note:} \ \ \text{For the DC models, check the coil polarity when wiring and wire all connections correctly.}$ 

# Engineering Data MY2(S)/ MY4(S)/MY4Z(S)



#### Common Specifications for MY2(S)/MY4(S)/MY4Z(S) **Malfunctioning Shock**



Measurement: Shock was applied 3 times each in 6 directions along 3 axes with the Relay energized and not energized to check the shock values that cause the Relay to malfunction.

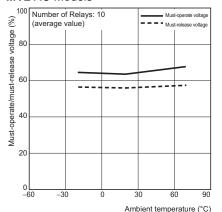
Criteria: Non-energized: 200 m/s², Energized: 200 m/s²

#### Shock direction

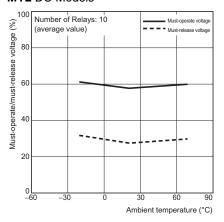


# Engineering Data MY(S) (MY2ZN, MY□F)

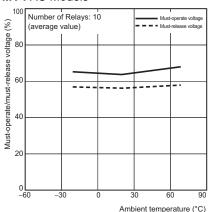
#### Ambient Temperature vs. Must-operate and Must-release Voltage MY2 AC Models



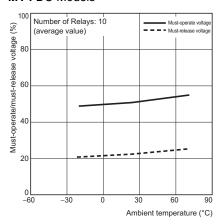
#### MY2 DC Models



#### MY4 AC Models

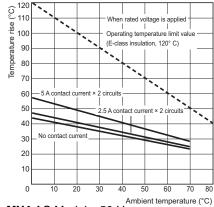


#### MY4 DC Models

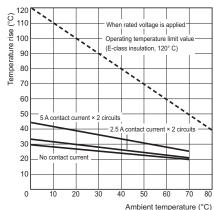


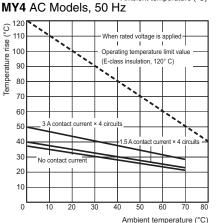
#### **Ambient Temperature vs. Coil Temperature Rise**

#### MY2 AC Models, 50 Hz

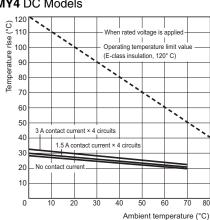


#### MY2 DC Models



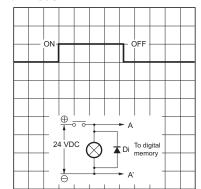


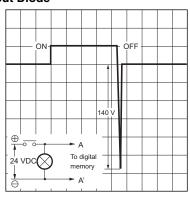
#### MY4 DC Models



#### Models with built-in diodes

The diode absorbs surge from the coil. This type is best suited for applications with semiconductor circuits. **With Diode** With Diode

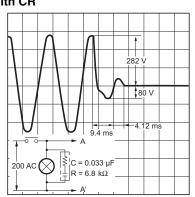




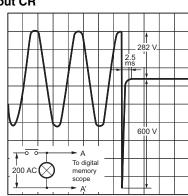
Make sure that the polarity is correct.

- The release time will increase, but the 20-ms specification for standard models is satisfied. Diode properties: The diode has a reversed dielectric strength of 1,000 V.

#### **Models with Built-in CR Circuits** With CR



#### Without CR



# Detailed Information on Models Certified for Safety Standards, MY2(S)/MY4(S)/MY4Z(S)

#### VDE-certified Models (No. 112467UG, EN61810-1)

Model	Coil ratings	Contact form	Contact ratings	File No.	Certified number of operations
MY□	6, 12, 24, 48/50, 100/ 110, 110/120, 200/ 220, and 220/240 VAC	DPDT	10 A, 250 VAC (cos φ = 1) 10 A, 30 VDC (L/R = 0 ms)		MY2: 10,000 operations MY4: 100,000 operations
IVI I U	6, 12, 24, 48, 100/ 110, and 125 VDC		5 A, 250 VAC (cos φ = 1) 5 A, 30 VDC (L/R = 0 ms)	0092 (VDE0433)	MY4Z: 50,000 operations (AC)

#### UL508-certified Models (File No. 41515)

Model	Coil ratings	Contact form	Contact ratings	File No.	Certified number of operations	
			10A, 250 VAC (General Use)			
			10A, 30 VDC (General Use)			
			7A, 240 VAC (General Use)			
			7A, 24 VDC (Resistive)		6,000	
			5A, 240 VAC (General Use)		0,000	
		DPDT	5A, 250 VAC (Resistive)			
		DPD1	5A, 30 VDC (Resistive)			
			3A, 265 VAC (Resistive)			
	6 to 240 VAC		1/6HP, 250 VAC		1,000	
MY□			1/8HP, 265 VAC	E41515 (UL508)		
IVI T	6 to 125 VDC		1/10HP, 120 VAC	E41515 (UL506)		
			B300 Pilot Duty (Same polarity)		6,000	
			5A, 28 VDC (General Use) (Same polarity)			
			5A, 240 VAC (General Use) (Same polarity)			
			5A, 30 VDC (Resistive) (Same polarity)		6,000	
		4PDT	5A, 250 VAC (Resistive) (Same polarity)			
		4PDT	0.2A, 120 VDC (Resistive) (Same polarity)			
			1/6HP, 250 VAC (Same polarity)		1,000	
			1/10HP, 120 VAC (Same polarity)		1,000	
			B300 Pilot Duty (Same polarity)		6,000	

#### CSA 22.2 No. 14-certified Models (File No. LR31928)

Model	Coil ratings	Contact form	Contact ratings	File No.	Certified number of operations
			7A, 240 VAC (General Use)		
			7A, 24 VDC (Resistive)		
			5A, 240 VAC (General Use)		6 000
			5A, 250 VAC (Resistive)		6,000
		DPDT	5A, 30 VDC (Resistive)		
		DPD1	3A, 265 VAC (Resistive)		
			1/6HP, 250 VAC		1,000
	6 to 240 VAC		1/8HP, 265 VAC		
MY□			1/10HP, 120 VAC	LR31928 (CSA C22.2)	
IVI T 🗆	6 to 125 VDC		B300 Pilot Duty (Same polarity)	(No. 14)	6,000
			5A, 240 VAC (General Use) (Same polarity)		
			5A, 28 VDC (General Use) (Same polarity)		
			5A, 250 VAC (Resistive) (Same polarity)		6,000
		4PDT	5A, 30 VDC (Resistive) (Same polarity)		
		4PDT	0.2A, 120 VDC (Resistive) (Same polarity)		
			1/6HP, 250 VAC (Same polarity)		1,000
			1/10HP, 120 VAC (Same polarity)		1,000
			B300 Pilot Duty (Same polarity)		6,000

#### LR-certified Models (File No. 98/10014)

Model	Coil ratings	Contact form	Contact ratings	File No.	Certified number of operations
MY□	6 to 240 VAC	DPDT	10 A, 250 VAC (resistive) 2 A, 250 VAC (PF0.4) 10 A, 30 VDC (resistive) 2 A, 30 VDC (L/R = 7 ms)	98/10014	MY2: 50,000 operations
IM Y	6 to 240 VAC 6 to 125 VDC	4PDT	5 A, 250 VAC (resistive) 0.8 A, 250 VAC (PF0.4) 5 A, 30 VDC (resistive) 1.5 A, 30 VDC (L/R = 7 ms)	98/10014	MY4: 50,000 operations

# **Miniature Power Relays: MY2ZN**



Refer to the standards certifications and compliance section of your OMRON website for the latest information on certified models.

# **Specifications**

#### **Contact Ratings**

Load Item	Resistive load	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)			
Rated load	5 A at 220 VAC 5 A at 24 VDC	2 A at 220 VAC 2 A at 24 VDC			
Rated carry current	5 A				
Maximum contact voltage	250 VAC, 125 VDC				
Maximum contact current	5 A				
Contact form	DPDT (Bifurcated)				
Contact materials	Au plating + Ag				

Type Item	Standard models	Model with built-in operation indicator, diode, or CR circuit
Ambient operating temperature*1	–55 to 70° C	-55 to 60° C*2
Ambient operating humidity	5% to 85%	

#### **Characteristics**

Item		MY2ZN series	
Contact resistance*1		50 mΩ max.	
Operation ti	me*2	20 ms max.	
Release tim	e*2	20 ms max.	
Maximum	Mechanical	18,000 operations/h	
operating frequency	Rated load	1,800 operations/h	
Insulation re	esistance*3	100 M $\Omega$ min.	
	Between coil and contacts		
Dielectric strength	Between contacts of different polarity	2,000 VAC at 50/60 Hz for 1 min.	
<b>g</b>	Between contacts of the same polarity	1,000 VAC at 50/60 Hz for 1 min.	
Vibration	Destruction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)	
resistance	Malfunction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)	
Shock	Destruction	1,000 m/s <sup>2</sup>	
resistance	Malfunction	200 m/s <sup>2</sup>	
Endurance	Mechanical	50,000,000 operations min. (operating frequency: 18,000 operations/h)	
Lituurance	Electrical*4	200,000 operations min. (rated load, switching frequency: 1,800 operations/h)	

Item	MY2ZN
Failure rate P value (reference value)*5	100 μA at 1 VDC
Weight	Approx. 35 g

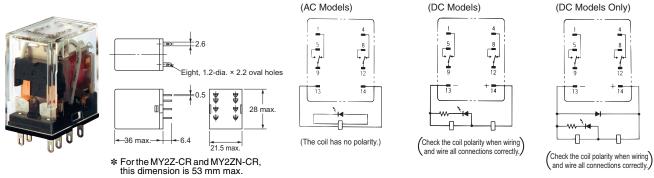
Note: These are initial values.

<sup>\*1.</sup> With no icing or condensation.\*2. This limitation is due to the diode junction temperature and elements used.

**Dimensions** (Unit: mm)

MY2ZN

#### MY2ZN, MY2ZN-D2



- Note: 1. An AC model has coil disconnection self-diagnosis.
  2. For the DC models, check the coil polarity when wiring and wire all connections

MY2ZN

MY2ZN-D2

The indicator is red for AC and green for DC.

The operation indicator indicates the energization of the coil and does not represent contact operation.

# Flange-mounting Relays: MY□F



Refer to the standards certifications and compliance section of your OMRON website for the latest information on certified models.

# **Specifications**

#### **Contact Ratings**

Contact form	DPDT		4PDT, 4PDT (Bifurcated)	
Load Item	Resistive load	Inductive load (cos φ = 0.4, L/R = 7 ms)	Resistive load	Inductive load (cos φ = 0.4, L/R = 7 ms)
Rated load	5 A at 220 VAC 5 A at 24 VDC	2 A at 220 VAC 2 A at 24 VDC	3 A at 220 VAC 3 A at 24 VDC	0.8 A at 220 VAC 1.5 A at 24 VDC
Rated carry current	5 A		3 A	
Maximum contact voltage	250 VAC, 125 VDC			
Maximum contact current	5 A		3 A	
Contact form	DPDT		4PDT, 4PDT (Bifurcated)	
Contact materials	Ag		Au plating + Ag	

Type Item	MY□F
Ambient operating temperature*	–55 to 70° C
Ambient operating humidity	5% to 85%

<sup>\*</sup> With no icing or condensation.

#### **Characteristics**

Item Contact form		DPDT	4PDT, 4PDT (Bifurcated)	
Contact resistance*1		50 mΩ max.		
Operation time*2		20 ms max.		
Release time*2		20 ms max.		
Maximum	Mechanical	18,000 operations/h		
operating frequency	Rated load	1,800 operations/h		
Insulation res	sistance*3	100 MΩ min.		
	Between coil and contacts			
Dielectric strength	Between contacts of different polarity	2,000 VAC at 50/60 Hz for 1 min.		
oog	Between contacts of the same polarity	1,000 VAC at 50/60 Hz for 1 min.		
Vibration	Destruction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)		
resistance	Malfunction	10 to 55 to 10 Hz, 0.5-mm single (1.0-mm double amplitude)	amplitude	
Shock	Destruction	1,000 m/s <sup>2</sup>		
resistance	Malfunction	200 m/s <sup>2</sup>	s <sup>2</sup>	
Endurance	Mechanical	AC: 50,000,000 operations min. DC: 100,000,000 operations min. (switching frequency: 18,000 operations/h)		
Electrical*4		500,000 operations min. (rated load, switching frequency: 1,800 operations/h)	200,000 operations min. (rated load, switching frequency: 1,800 operations/h)	

Item Contact form	DPDT	4PDT, 4PDT (Bifurcated)
Failure rate P value (reference value)	1 mA at 5 VDC	1 mA at 1 VDC
Weight	Approx. 35 g	

Note: These are initial values.

\*1. Measurement conditions: 1 A at 5 VDC using the voltage drop method

\*2. Measurement conditions: With rated operating power applied. Ambient temperature condition: 23° C

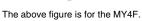
\*3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.

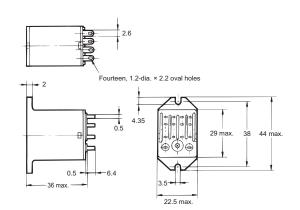
\*4. Ambient temperature condition: 23° C
\*5. This value was measured at a switching frequency of 120 operations per minute.

Dimensions (Unit: mm)

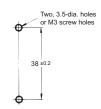
# Flange mounting MY□F







#### **Mounting Hole Dimensions**

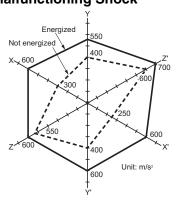


Note: Refer to the terminal arrangement and internal connections diagrams for the MY2(S), MY4(S) and MY4Z(S).

# **Engineering Data MY**□**F**

# **Maximum Switching Capacity Endurance Curve** MY2F MY2F MY2F Number of operations (×104 110 VAC resistive load 110 VAC induct tions (×104 Number of oper Contact voltage (V) Contact current (A) Contact current (A) MY4F and MY4ZF MY4F MY4F operations) Number of operations (×104 operations) 500 Number of operations (×104 100 50 30 VDC resistive load 10 Contact voltage (V) Contact current (A) Contact current (A) **MY4ZF MY4ZF** operations) operations (×104 (×10<sup>4</sup> Number of operations 24 VDC resistive load

# **Common Specifications for MY**□**F** Malfunctioning Shock



N = 20

Measurement: Shock was applied 3 times each in 6 directions along 3 axes with the Relay energized and not energized to check the shock values that cause the Relay to malfunction.

Criteria: Non-energized: 200 m/s<sup>2</sup>,

Energized: 200 m/s<sup>2</sup>

#### Shock direction



Contact current (A)

# MY(S)

# Detailed Information on Models Certified for Safety Standards, MY2ZN and MY T

- The standard models are certified for UL and CSA standards.
  The rated values for safety standard certification are not the same as individually defined performance values. Always check the specifications before use.

#### TÜV-certified Models (File No. R50030059)

Model	Coil ratings	Contact form	Contact ratings	Certified number of operations
	6 to 125	DPDT	5 A, 250 VAC ( $\cos \varphi = 1.0$ )	
MY□	VDC 6 to 240 VDC	4PDT	3 A, 120 VAC ( $\cos \phi = 1.0$ ) 0.8 A, 120 VAC ( $\cos \phi = 0.4$ )	100,000 operations

#### UL-certified Models (File No. E41515)

Model	Coil ratings	Contact form	Contact ratings	Certified number of operations
			7A, 240 VAC (General Use)	
			7A, 24 VDC (Resistive)	
			5A, 240 VAC (General Use)	
			5A, 250 VAC (Resistive)	6,000
		DPDT	5A, 30 VDC (Resistive)	
		DEDI	3A, 265 VAC (Resistive)	
			1/6HP, 250 VAC	
			1/8HP, 265 VAC	1,000
		1/10HP, 120 VAC  B300 Pilot Duty  6 to 240 VAC  5A, 28 VDC (General Use) (Same polarity)	1/10HP, 120 VAC	
			6,000	
MY□	6 to 240 VAC			
	6 to 125 VDC		5A, 240 VAC (General Use) (Same polarity)	6,000
		4PDT	5A, 30 VDC (Resistive) (Same polarity)	
			5A, 250 VAC (Resistive) (Same polarity)	
		4701	0.2A, 120 VDC (Resistive) (Same polarity)	
			1/6HP, 250 VAC (Same polarity)	1,000
			1/10HP, 120 VAC (Same polarity)	1,000
			B300 Pilot Duty (Same polarity)	6,000

#### CSA-certified Models (File No. LR31928)



Model	Coil ratings	Contact form	Contact ratings	Certified number of operations
			7A, 240 VAC (Resistive)	
			7A, 24 VDC (Resistive)	
			5A, 240 VAC (General Use)	6,000
		DPDT	5A, 250 VAC (Resistive)	
		•	5A, 30 VDC (Resistive)	
		•	1/6HP, 250 VAC	1 000
		•	1/10HP, 120 VAC	1,000
	6 to 240 VAC 6 to 125 VDC	VAC 6 to 125	7A, 240 VAC (General Use) (Same polarity)	6,000
MY□			7A, 24 VDC (Resistive) (Same polarity)	
			5A, 240 VAC (General Use) (Same polarity)	
		4PDT	5A, 30 VDC (Resistive)	
			5A, 250 VAC (Resistive) (Same polarity)	
		•	0.2A, 120 VDC (Resistive)	
		•	1/6HP, 250 VAC	1,000
			1/10HP, 120 VAC	1,000

When ordering models that are certified for Lloyd's Register (LR) Standards, be sure to specify "LR-certified Model" with your order.

#### LR-certified Models (File No. 90/10270)

Model	Coil ratings	Contact form	Contact ratings		
	6 to 240 VAC 6 to 125 VDC	DPDT	2 A, 30 VDC inductive load 2 A, 200 VAC inductive load		
MY□		4PDT	1.5 A, 30 VDC inductive load 0.8 A, 200 VAC inductive load 1.5 A, 115 VAC inductive load		

# **Miniature Power Relays: MY4Z-CBG**

# **Specifications**

#### **Contact Ratings**

Load	Resistive load	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)	
Rated load	1 A at 220 VAC 1 A at 24 VDC	0.3 A at 220 VAC 0.5 A at 24 VDC	
Rated carry current	1 A		
Maximum contact voltage	250 VAC, 125 VDC		
Maximum contact current	1 A		
Contact form	4PDT (Crossbar bifurcated)		
Contact materials	Au cladding + AgPd		

#### **Characteristics**

Contact resis	stance*1	100 mΩ max.		
Operation time	ne <b>*</b> ²	20 ms max.		
Release time	<b>\$</b> 2	20 ms max.		
Maximum	Mechanical	18,000 operations/h		
operating frequency	Electrical	1,800 operations/h		
Insulation res	sistance*3	100 ΜΩ		
	Between coil and contacts	2,000 VAC at 50/60 Hz for 1 min.		
Dielectric strength	Between contacts of different polarity	2,000 7710 41 00/00 112 101 1 111111.		
	Between contacts of the same polarity	700 VAC at 50/60 Hz for 1 min.		
Vibration	Destruction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)		
resistance	Malfunction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)		
Shock	Destruction	1,000 m/s <sup>2</sup>		
resistance	Malfunction	200 m/s <sup>2</sup>		
Endurance	Mechanical	5,000,000 operations min. (operating frequency: 18,000 operations/hr)		
Liluurance	Electrical*4	50,000 operations min. (switching frequency: 1,800 operations/h) at rated load		
Failure rate P valu	ue (reference value)*5	100 μA at 1 VDC		
Ambient operating temperature		-25 to 70°C (with no icing or condensation)		
Ambient oper	rating humidity	5% to 85%		
Weight		Approx. 35 g		

- Note: The above values are initial values.

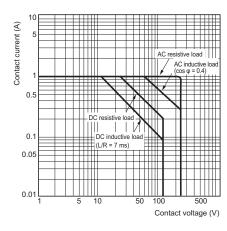
  \*1. Measurement conditions: 1 A at 5 VDC using the voltage drop method

  \*2. Measurement conditions: With rated operating power applied, not including contact bounce. Ambient temperature condition: 23° C
- \*3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.
  \*4. Ambient temperature condition: 23° C
  \*5. This value was measured at a switching frequency of 120 operations per

# **Engineering Data**

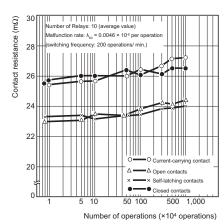
#### **Maximum Switching Capacity**

#### **MY4Z-CBG**



#### **Contact Reliability Test** (Modified Allen Bradley Circuit)

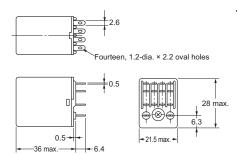
Contact load: 5 VDC, 1 mA resistive load Malfunction criteria level: Contact resistance of 100  $\boldsymbol{\Omega}$ 



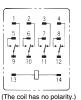
Dimensions (Unit: mm)

#### MY4Z-CBG





#### Terminal Arrangement/Internal Connections (Bottom View) Standard Models



# **Safety Precautions**

Refer to the *Common Relay Precautions*. Applicable Sockets

Use only combinations of OMRON Relays and Sockets.

# Plastic Sealed Relays: MYQ4

# **Specifications**

#### **Contact Ratings**

Type Item	Resistive load	Inductive load (cos φ = 0.4, L/R = 7 ms)			
Rated load	1 A at 220 VAC, 1 A at 24 VDC	0.5 A at 220 VAC, 0.5 A at 24 VDC			
Rated carry current	1 A				
Maximum contact voltage	250 VAC, 125 VDC				
Maximum contact current	1 A				
Maximum switching capacity (reference value)	220 VAC, 24 W 110 VAC, 12 W				
Failure rate P value (reference value)	Single contacts: 1 mA at 1 VDC, Bifurcated contacts: 100 μA at 1 VDC				
Contact form	4PDT, 4PDT (Bifurcated)				
Contact materials	Au plating + Ag				

<sup>\*</sup> This value was measured at a switching frequency of 120 operations per minute.

Ambient operating temperature	−55 to 60° C*
Ambient operating humidity	5% to 85%

<sup>\*</sup> With no icing or condensation.

#### **Characteristics**

Contact res	istance*1	50 m $Ω$ max.	Ī	
Operation time*2		20 ms max.	1	
Release tim	e*2	20 ms max.	1	
Maximum Mechanical		18,000 operations/h	1	
operating frequency Rated load		1,800 operations/h		
	Between coil and contacts	1,500 VAC at 50/60 Hz for 1 min.	1	
Dielectric strength  Between contacts of different polarity  Between contacts of the same polarity		1,500 VAC at 50/60 Hz for 1 min.	1	
		1,000 VAC at 50/60 Hz for 1 min.		
Insulation re	sistance*3	100 MΩ min.		
Vibration	Destruction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)		
resistance	Malfunction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)		
Shock	Destruction	1,000 m/s <sup>2</sup>	1	
resistance	Malfunction	200 m/s <sup>2</sup>		
Mechanical		AC: 50,000,000 operations (5,000,000*4) min., DC: 100,000,000 operations (5,000,000*4) min. (switching frequency: 18,000 operations/h)		
Endurance Electrical*5		200,000 operations min. (100,000 operations*4) (rated load, switching frequency: 1,800 operations/h)		
Weight		Approx. 35 g	1	

**Note:** The values at the left are initial values.

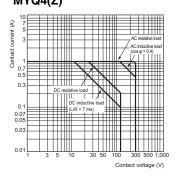
- \*1. Measurement conditions: 1 A at 5 VDC using the voltage drop method
- \*2. Measurement conditions: With rated operating power applied, not including contact bounce. Ambient temperature condition:
- 23° C

  \*3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength
- \*4. This value is for bifurcated
- contacts.

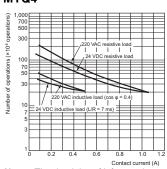
  \*5. Ambient temperature condition:

# **Engineering Data**

#### **Maximum Switching Capacity** MYQ4(Z)

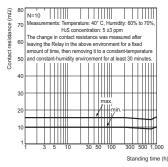


#### **Endurance Curve** MYQ4

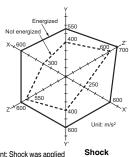


Note: The durability of bifurcated contacts is one-half that of single contacts.

#### H<sub>2</sub>S Gas Data MYQ4



#### **Malfunctioning Shock** MYQ4



Measurement: Shock was applied 3 times each in 6 directions along 3 axes with the Relay energized and not energized to check the shock values that cause the Relay

to malfunction.

Criteria: Non-energized: 200 m/s<sup>2</sup>

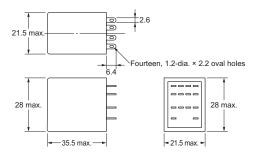
Energized: 200 m/s<sup>2</sup>

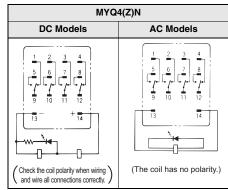
direction

**Dimensions** (Unit: mm)

#### Relays with Plug-in Terminals or Soldered Terminals MYQ4(Z)(N)







Note: 1. An AC model has coil disconnection self-

diagnosis.
For the DC models, check the coil polarity when wiring and wire all connections correctly.

# **Safety Precautions**

- For models with built-in operation indicators, check the coil polarity when wiring and wire all connections correctly (DC operation).

  • Use only combinations of OMRON Relays and Sockets.

#### **Relay Replacement**

To replace the Relay, turn OFF the power supply to the load and Relay coil sides to prevent unintended operation and possible electrical shock.

# Latching Relays: MY2K

# **Specifications**

#### **Coil Rating**

	Item		Set coil		Reset coil			_		Power consumption (VA, W)		
	пеш	Rated cur	rent (mA)	Coil	Rated cur	rent (mA)	Coil	Set voltage (V)	Reset	Reset Maximum /oltage (V) voltage (V)	Set coil	Reset coil
Rated v	oltage (V)	50 Hz	60 Hz	resistance (Ω)	50 Hz	60 Hz	resistance ( $\Omega$ )	(•)	vollage (v)		Set con	neset coll
	12	57	56	72	39	38.2	130				Approx. 0.6	Approx. 0.2
AC	24	27.4	26.4	320	18.6	18.1	550				to 0.9	to 0.5
	100	7.1	6.9	5,400	3.5	3.4	3,000	80% max.	80% max.	110% max. of	(at 60 Hz)	(at 60 Hz)
	12	11	10	110	5	0	235	00% IIIax.	80% max.	rated voltage		
DC	24	5	2	470	2	5	940				Approx. 1.3	Approx. 0.6
	48	2	7	1,800	1	6	3,000					

Note: 1. The rated current for AC is the value measured with a DC ammeter in half-wave rectification.
 The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for the AC rated current and ±15% for the DC coil resistance.
 The AC coil resistance is a reference value only.
 Operating characteristics were measured at a coil temperature of 23°C.
 The maximum voltage capacity was measured at an ambient temperature of 23°C.

#### **Contact Ratings**

Load	B t. P L I	Inductive load	
Item	Resistive load	$(\cos \phi = 0.4, L/R = 7 ms)$	
Rated load	3 A at 220 VAC 0.8 A at 220 VAC 3 A at 24 VDC 1.5 A at 24 VDC		
Rated carry current	3 A		
Maximum contact voltage	250 VAC, 125 VDC		
Maximum contact current	3 A		
Contact form	DPDT		
Contact materials	Au plating + Ag		

Ambient operating temperature	–55 to 60° C*
Ambient operating humidity	5% to 85%

<sup>\*</sup> With no icing or condensation.

#### **Characteristics**

Contact resis	stance*1	50 mΩ max.			
Jonath Tesis	Time*2	AC: 30 ms max DC: 15 ms max.			
Set		,			
	Minimum pulse width	AC: 60 ms, DC: 30 ms			
Reset	Time*2	AC: 30 ms max., DC: 15 ms max.			
	Minimum pulse width	AC: 60 ms, DC: 30 ms			
Maximum	Mechanical	18,000 operations/h			
operating frequency	Rated load	1,800 operations/h			
Insulation re	sistance*3	100 ΜΩ			
	Between coil and contacts	1,500 VAC at 50/60 Hz for 1 min.			
Dielectric	Between contacts of different polarity	.,,555 6 4. 55,55 12 101			
strength	Between contacts of the same polarity	1,000 VAC at 50/60 Hz for 1 min.			
	Between set/ reset coils	1,000 VAC at 30/00 Hz for 1 min.			
Vibration	Destruction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)			
resistance	Malfunction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)			
Shock	Destruction	1,000 m/s <sup>2</sup>			
resistance	Malfunction	200 m/s <sup>2</sup>			
Endurance	Mechanical	100,000,000 operations min. (switching frequency: 18,000 operations/h)			
Lituuralice	Electrical*4	200,000 operations min. (at 1,800 operations/hr, rated load)			
Failure rate P va	lue (reference value)*5	1 mA at 1 VDC			
Weight		Approx. 30 g			
Meter The s	hove values are in	.(a) = 1 = 1 = -			

- Note: The above values are initial values.

  \*1. Measurement conditions: 1 A at 5 VDC using the voltage drop method

  \*2. Measurement conditions: With rated operating power applied, not including
- contact bounce.

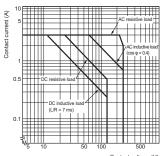
  \*3. Measurement conditions: For 500 VDC applied to the same location as for
- dielectric strength measurement.

  \*4. Ambient temperature condition: 23° C

  \*5. This value was measured at a switching frequency of 120 operations per

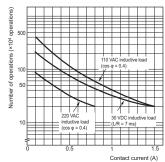
#### **Engineering Data**

#### MY2K **Maximum Switching Capacity**

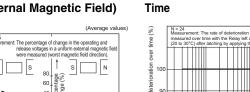


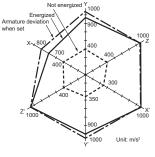
**MY2K 100 VAC Malfunctioning Shock** 

# **Endurance Curve**



**MY2K 24 VDC Magnetic Interference** (External Magnetic Field)

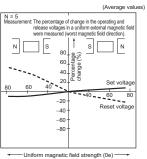


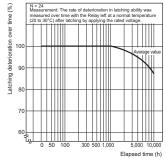




Measurement: Shock was applied 2 times each in 6 directions along 3 axes with the Relay energized and not energized to check the shock values that cause the Relay to malfunction.

Criteria: Non-energized: 200 m/s<sup>2</sup> Energized: 200 m/s<sup>2</sup>



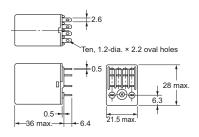


**Latching Deterioration Over** 

**Dimensions** (Unit: mm)

#### Relays with Plug-in Terminals or Soldered Terminals MY2K





Terminal Arrangement/Internal Connections (Bottom View)

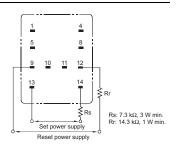
For AC



**Note:** R is a resistor for ampere-turn correction. This resistor is built-in to 50-VAC and higher models. (The coil has no polarity.)

# **Safety Precautions**

- For applications that use a 200 VAC power supply, connect external resistors Rs and Rr to a 100 VAC Relay.
- Do not apply a voltage to the set and reset coils at the same time. If you apply the rated voltage to both coils simultaneously, the Relay will be set.
- The minimum pulse width in the performance column is the value for the following measurement conditions: an ambient temperature of 23° C with the rated operating voltage applied to the coil. The performance values given here may not be satisfied due to use over time and a reduction in latching performance due to changes in the ambient temperature or in the conditions of the application circuit.
- For actual use, apply the rated operating voltage with a pulse width based on the actual load and reset the Relay at least once per year to prevent degradation over time.
- If the Relay is used in an environment with strong magnetic fields, the surrounding magnetic field can demagnetize the magnetic body and cause unintended operation. Therefore, do not use these Relays in environments with strong



#### **Relay Replacement**

To replace the Relay, turn OFF the power supply to the load and Relay coil sides to prevent unintended operation and possible electrical shock.

#### **Applicable Sockets**

Use only combinations of OMRON Relays and Sockets.

# Hermetically Sealed Relays: MY4(Z)H

# **Specifications**

#### **Contact Ratings**

Load	MY	′4H	MY4ZH				
Item	Resistive load	Inductive load cos φ = 0.4 L/R = 7 ms	Resistive load	Inductive load cos φ = 0.4 L/R = 7 ms			
Rated load	3 A at 110 VAC 3 A at 24 VDC	0.8 A at 110 VAC 1.5 A at 24 VDC					
Rated carry current	3 A						
Maximum contact voltage	125 VAC 125 VDC						
Maximum contact current	3 A						
Contact form	4DPDT		4DPDT (Bifui	rcated)			
Contact materials	Au plating + Ag						
Ambient operating temperature	–25 to 60° C*						
Ambient operating	5% to 85%						

<sup>\*</sup> With no icing or condensation.

humidity

5% to 85%

#### **Characteristics**

Contact re	eietance#1	50 mΩ max.			
		***************************************			
Operation		20 ms max.			
Release tii	me <sup>*2</sup>	20 ms max.			
Maximum	Mechanical	18,000 operations/h			
operating frequency	Rated load	1,800 operations/h			
Insulation	resistance*4	100 M $\Omega$ min.			
Dielectric	Between coil and contacts	1,000 VAC at 50/60 Hz for 1 min.			
strength	Between contacts of different polarity	(700 VAC between contacts of the same polarity.)			
Vibration	Destruction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)			
resistance	Malfunction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)			
Shock	Destruction	1,000 m/s <sup>2</sup>			
resistance	Malfunction	200 m/s <sup>2</sup>			
Endurance	Mechanical	50,000,000 operations (5,000,000 operations*4) min. (operating frequency: 18,000 operations/h)			
Lituarance	Electrical*5	100,000 operations (50,000 operations*4) min. rated load, switching frequency: 1,800 operations/h)			
Failure rate P value (reference value)*6		Single contacts: 100 μA at 1 VDC Bifurcated contacts: 100 μA at 100 mVDC			
Weight		Approx. 50 g			

- Note: The above values are initial values.

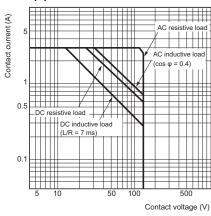
  \*1. Measurement conditions: 1 A at 5 VDC using the voltage drop method

  \*2. Measurement conditions: With rated operating power applied, not including \*\*2. Measurement conditions: With rated operating power applied, not including contact bounce.
  Ambient temperature condition: 23° C
  \*3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.
  \*4. This value is for bifurcated contacts.
  \*5. Ambient temperature condition: 23° C
  \*5. Explain was measured at a writishing frequency of 130 expertings per second contacts.

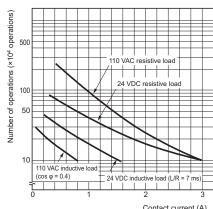
- \*6. This value was measured at a switching frequency of 120 operations per minute.

# **Engineering Data**

#### **Maximum Switching Capacity** MY4(Z)H



#### **Endurance Curve** MY4H

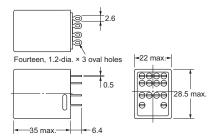


Note: The durability of bifurcated contacts is one-half that of single contacts.

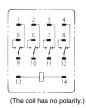
Dimensions (Unit: mm)

# Relays with Plug-in Terminals or Soldered Terminals MY4(Z)H





#### Terminal Arrangement/ Internal Connections (Bottom View)



# **Safety Precautions**

#### **Applicable Sockets**

Use only combinations of OMRON Relays and Sockets.

# Application Environment for Hermetically Sealed Relays

Humid environments can cause insulation problems, which may result in short-circuiting or unintended operation.

#### Solution

Do not use these Relays in any environment where the Relay will come into contact with water vapor, condensation, or water droplets. This can reduce the surface tension of the insulating beads and cause short-circuiting or unintended operation due to poor insulation.

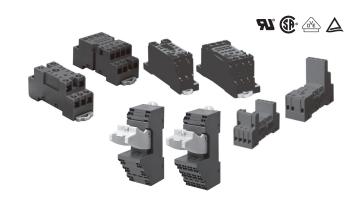
#### **Relay Replacement**

To replace the Relay, turn OFF the power supply to the load and Relay coil sides to prevent unintended operation and possible electrical shock.

# **Sockets for MY**

### DIN-rail-mounted (DIN-rail) Socket Conforms to VDE 0106, Part 100

- Snap into position along continuous sections of any mounting DIN-rail.
- Facilitates sheet metal design by standardized mounting dimensions.
- Design with sufficient dielectric separation between terminals eliminates the need of any insulating sheet.



#### **Specifications**

Mounting	Terminal type	No. of poles	Appearance	Model	Carry current	Dielectric withstand voltage	Insulation resistance (see note 2)
	Push-In Plus	2		PYF-08-PU	10 A	– 2,000 VAC, 1 min	1,000 MΩ min
	terminals	4		PYF-14-PU	6 A		
DIN-rail-mounted	Screw terminals	2		PYFZ-08-E/ PYFZ-08	10 A	2,250 VAC, 1 min	-1,000 MΩ min
				PYF08A-N (see note 3)	7 A (see note 4)	2,000 VAC, 1 min	
Socket		4		PYFZ-14-E/ PYFZ-14	6 A	2,250 VAC, 1 min	1,000 MΩ min
				PYF14A-N (see note 3)	5 A (see note 4)	2,000 VAC, 1 min	1,000 Wisz Hilli
	Rise-Up terminals	2 and 4 Common		PYF14-ESS-B	. 12 A	> 3 KV	> 5 MΩ
				PYF14-ESN-B			

# MY(S)

Mounting	Terminal type	No. of poles	Appearance	Model	Carry current	Dielectric withstand voltage	Insulation resistance (see note 2)
	Solder terminals	2		PY08/ PY08-Y1	7 A		1000 MΩ min.
		4		PY14/ PY14-Y1	3 A		100 MΩ min.
Back-connecting	Wrapping terminals	2		PY08QN/ PY08QN-Y1	7 A	1,500 VAC, 1 min	
		4		PY14QN/ PY14QN-Y1	3 A		
	Relays with	2		PY08-02	7 A		
	PCB terminals	4		PY14-02	3 A		

Note: 1. The values given above are initial values.
2. The values for insulation resistance were measured at 500 VDC at the same place as the dielectric strength.
3. The maximum operating ambient temperature for the PYF08A-N and PYF14A-N is 55°C.
4. When using the PYF08A-N or PYF14A-N at an operating ambient temperature exceeding 40°C, reduce the current to 60%.
5. The MY2(S) can be used at 70°C with a carry current of 7 A.

#### Options (Order Separately)

#### **Connection Socket and Mounting Bracket Selection Table**

(The possible combinations of models with plug-in terminals and sockets)

Conr	necting method	Fro	nt-mountin	g Sockets (PY	FD)			Pook	ounting Co.	okata (BVD	,																	
Мс	unting method	Track or screw mounting				Back-mounting Sockets (PY□)																						
	Terminal Type		rminal Type  Screw terminals  (finger protection structure)		Push-In Plus			Wrapping terminals				Relays																
					Rise-Up Plus terminals Block *2		Solder terminals		Terminal length: 25 mm		Terminal length: 20 mm																	
No. of poles	Model	(Order sep Hold-down		Without Release Lever	With Release Lever	Without Mounting Brackets *1	With Mounting Brackets	Without Mounting Brackets *1	With Mounting Brackets	Without Mounting Brackets *1	With Mounting Brackets	(Order separately : Hold-down Clips) *1																
	MY2(S), MY2ZN (except for MY2K□, MY2Z□-CR)	PYFZ-08 (PYC-A1)	PYFZ-08-E (PYC-A1) PYF08A-N (PYC-A1)		PYF-08-PU FSN-B	PY08	PY08-Y1	PY08QN (PYC-P)	PY08QN-Y1	PY08QN2 (PYC-P)	PY08QN2-Y1	PY08-02																
8	MY2I(S) *4	PYFZ-08 (PYC-E1)	PYFZ-08-E (PYC-E1) PYF08A-N (PYC-E1)	PYF14-ESN-B		PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	PYF-08-PU	(PYC-P)		(* 13 1 )		(110-1)	
	MY2Z-□-CR *5	PYFZ-08 (Y92H-3)	PYFZ-08-E (Y92H-3) PFY08A-N (Y92H-3)	(PYC-35-B) PYF14-ESS-B (PYC-35-B)		PY08 (PYC-1)	PY08-Y3	PY08QN (PYC-1)		PY08QN2 (PYC-1)		PY08-02 (PYC-1)																
14	MY4(S), MY4I(S), MY4-CBG, MY4Q, MY4(Z)H, MY2K	PYFZ-14 (PYC-A1)	PYFZ-14-E (PYC-A1) PYF14A-N (PYC-A1)		PYF-14-PU	PY14 (PYC-P)	PY14-Y1	PY14QN (PYC-P)	PY14QN-Y1	PY14QN2 (PYC-P)	PY14QN2-Y1	PY14-02 (PYC-P)																

Note: Refer to Common Socket and DIN Track Products for the external dimensions of the Socket Relays and details on Hold-down Clips.

- \*1. The information in parentheses is the model number of the applicable Mounting Bracket. Mounting Brackets are sold in sets of two. However, the PYC-P is just one Mounting Bracket.
- \*2. A Push-In Plus Terminal Block Socket functions as a release lever to hold or remove a Relay. Refer to PYF-PU/P2RF-PU for details.
  \*3. If an MYI
  (S) Relay with a Latching Lever is used in combination with a PY
  -02 Socket for Relays with PCB Terminal Socket and PYC-P Mounting Brackets, the lever will not operate.
- \*4. We recommends using the PYC-E1 Mounting Bracket for a MY2I(S) Relay with Latching Lever. (If the PYC-A1 is used with the MY2I(S), the latching lever will be blocked by the Mounting Bracket and the lever will not operate.)
- \*5. The Mounting Brackets are applicable for Relays with a height of 36 mm or less. If the Relay height is greater than 53 mm, use Y92H-3 for the Front-mounting Socket and PYC-1 for the Back-mounting Socket. (The Y92H-3 is a set of two Brackets and the PYC-1 is just one Bracket.)

#### **Terminal Covers for PYFZ-08/PYFZ-14 Sockets**

Applicable model	Model
PYFZ-08	PYCZ-C08 (2 pcs/set)
PYFZ-14	PYCZ-C14 (1 pcs/set)

Note: Use these covers in a combination with PYFZ-08 and PYFZ-14.

#### **Mounting Plates for Sockets**

Socket model	For 1 Socket	For 18 Sockets	For 36 Sockets
PY08, PY08QN(2), PY14, PY14QN(2)	PYP-1	PYP-18	PYP-36

Note: PYP-18 and PYP-36 can be cut into any desired length in accordance with the number of Sockets.

#### **DIN-rail and Accessories**

Supporting DIN-rail (length = 500 mm)	PFP-50N
Supporting DIN-rail (length = 1,000 mm) PFP	PFP-100N, PFP-100N2
End Plate	PFP-M
Spacer	PFP-S

#### **Safety Standards for Sockets**

#### Front-mounted Sockets (PYF□)

Model	Standards	File No.
	TÜV (EN 61984)	
PYF-08-PU PYF-14-PU	UL508	E87929
	CSA C22.2 No.14	
PYF14A-E, PYF14A-N	VDE0627 (EN61984)	Nr.B387 (License No.)
	TÜV(EN 61984)	R50405329
PYFZ-08-E, PYFZ-08 PYFZ-14-E, PYFZ-14	UL508	E87929
,	CSA22.2	LR31928
	TÜV(EN 61984)	J50224549
PYF08A-N PYF14A-N	UL508	E87929
	CSA22.2	LR31928
PYF14-ESN-B	UL508	E244189
PYF14-ESS-B	CSA22.2	LR225761

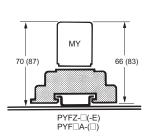
#### **Back-connecting Sockets (PY□)**

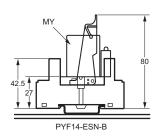
Model	Standards	File No.
PY08(-02)	UL508	E87929
PY14(-02)	CSA C22.2	LR31928

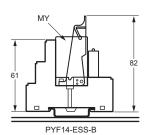


#### Mounting Heights with Sockets (Unit: mm)

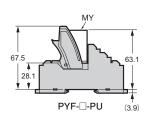
#### Front-mounting Sockets Screw terminal (PYFZ-□ (-E), PYF□A-N, PYF14-ES□-B)







# Push-In Plus Terminal Block Sockets (PYF---PU)

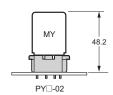


**Note: 1.** The heights given in parentheses are the measurements for 53-mm-high Relays.

# Back-mounting Sockets Solder terminals/Wrapping terminals (PY□)

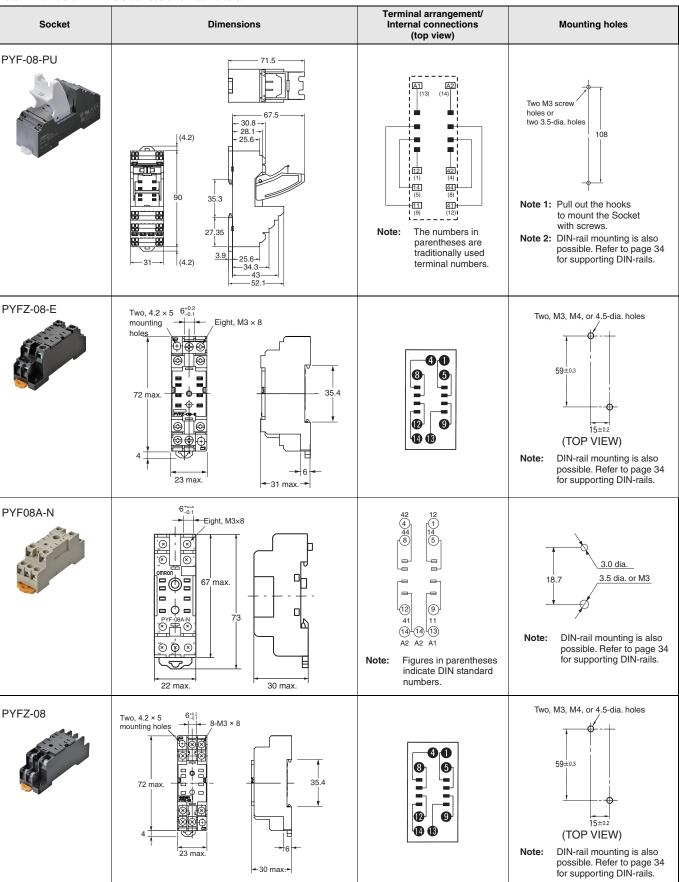


# Relays with PCB Terminals (PY□-02)

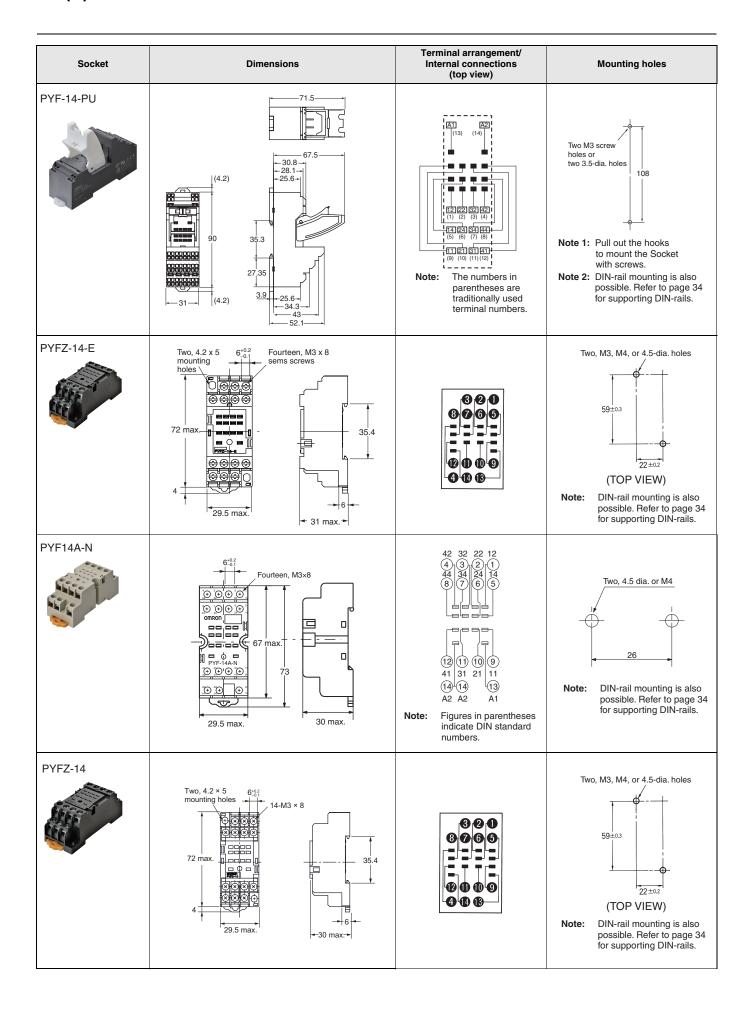


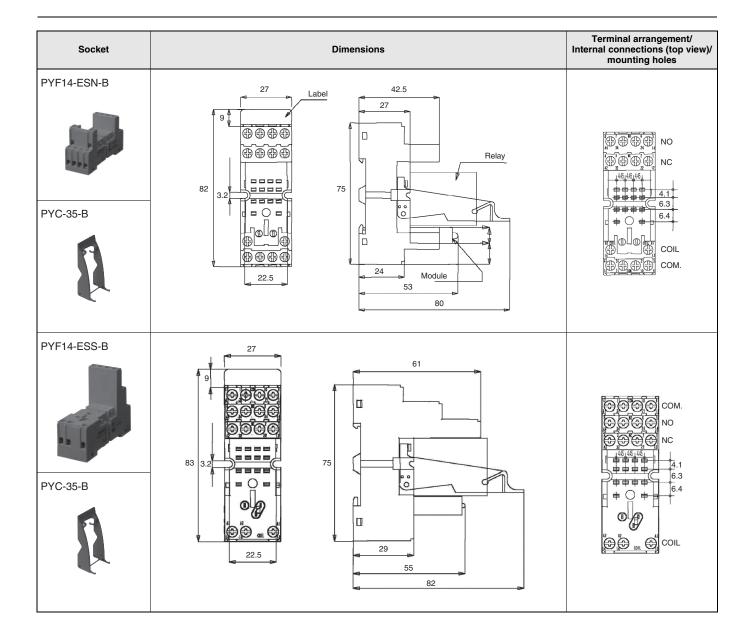
Dimensions (Unit: mm)

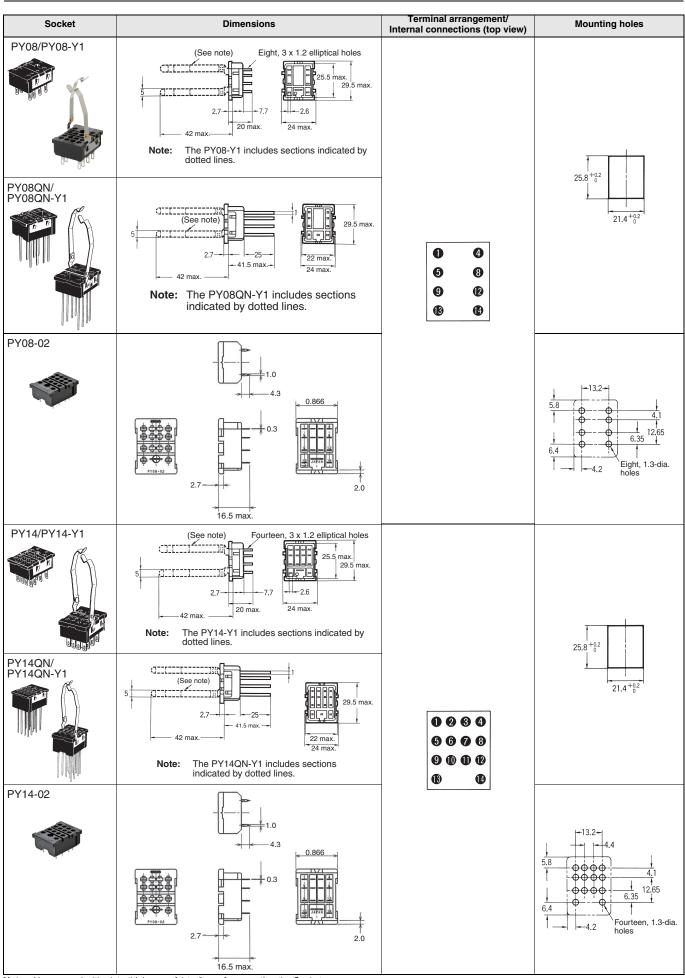
Note: All units are in millimeters unless otherwise indicated.



# MY(S)







Note: Use a panel with plate thickness of 1 to 2 mm for mounting the Sockets.

#### Short Bars for Relay Sockets and PYFZ/PYF Sockets

Short Bars for crossover wiring within one Socket or between Sockets

Application	Pitch	Applicable model	Appearance and dimensions (mm)	L (Length)	No. of poles	Model *	Specifications
			3.90	15.1	2	PYDN-7.75-020□	
For Contact terminals	1 7 75 1	22.85	3	PYDN-7.75-030□			
(common)	mm		18.5	30.6	4	PYDN-7.75-040□	
		PYF-□-PU	2.25	154.6	20		Max. carry current: 20 A
For Coil terminals	31.0 mm		3.90 18.5 1.57	224.35	8	PYDN-31.0-080□	Minimum order: 10

<sup>\*</sup>Replace the box ( $\square$ ) in the model number with the specification code for the covering color. B: Black, S: Blue, R: Red **Note:** When using short bar to coil terminals of PYF- $\square$ -PU, make sure to use PYDN-31.0-080 $\square$  (31mm).

#### Labels

Applicable sockets	Model	Manufacturer	Minimum order (Box) (quantity per box)
PYF-08-PU(-L) PYF-14PU(-L)	MG-CPM-04 41390N	Cembre	1,680 (35 sheet / 48 pieces)

Note: PRINTER: MARKINGENIUS MG3 (Ask to your Omron contact for more details on printers)

#### **Short Bars for within the Same Socket**

Pitch	Applicable model	Appearance	Dimensions (mm)	No. of poles	Model *	Specifications
7	PYFZ-14		3.2	2	PYD-020B□	Max. carry current: 20 A (18 A at 70°C)  Ambient operating temp.: -40 to 70°C (with no icing or condensation)  Ambient operating humidity: 45% to 85% (with
mm	F 11 2-14	MA	3.2	3	PYD-030B□	no icing or condensation) Conductor material: Brass Conductor surface treatment: Nickel plating Qty per package: 50/bag

<sup>\*</sup>Replace the box (
) in the model number with the specification code for the covering color. B: Black, Y: Yellow

#### **Short Bars for Adjacent Sockets**

Pitch	Applicable model	Appearance	Dimensions (mm)	No. of poles	Model *	Specifications
22 mm	DVET 00	A A	-22 - 35° -35° -33 - 5.6	2	PYD-025B□	Max. carry current: 20 A (18 A at 70°C)  Ambient operating temp.: -40 to 70°C (with no icing or condensation)  Ambient operating humidity: 45% to 85% (with
	PYFZ-08		154 -22 	8	PYD-085B□	no icing or condensation) Conductor material: Brass Conductor surface treatment: Nickel plating Qty per package: 10/bag
29	DVEZ 14		29 - 35° - 3.3 - 5.6	2	PYD-026B□	Max. carry current: 20 A (18 A at 70°C)  Ambient operating temp.: -40 to 70°C (with no icing or condensation)  Ambient operating humidity: 45% to 85% (with
mm	PYFZ-14		203 35°	8	PYD-086B□	no icing or condensation) Conductor material: Brass Conductor surface treatment: Nickel plating Qty per package: 10/bag

<sup>\*</sup>Replace the box (
) in the model number with the specification code for the covering color. B: Black, S: Blue, R: Red

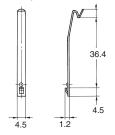
# **Safety Precautions**

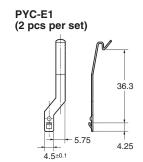
#### **Maximum Carry Current**

- Do not allow the total current for all shorted contact form to exceed the maximum carry current of the Short Bar.
- Do not exceed the maximum carry current of the relay contacts for individual contact form.
  If you use more than one Socket, use End Plates (PFP-M).

#### **Hold-down Clips**

PYC-A1 (2 pcs per set)



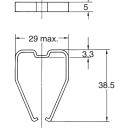


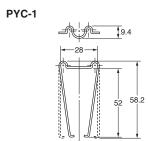
#### For sockets PYF14-ESN/-ESS

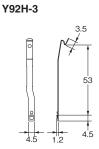
Model	Description
PYC-0	Metal spring clip (Used with Relay only)
PYC 35	Plastic holding clip (Used with Relay only)
PYC TR1	Thermoplastic writable label

Note: For total dimensions with plastic clip please refer to drawings of the sockets.

PYC-P



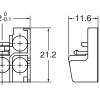




#### **Terminal Covers for PYFZ-08/PYFZ-14 Sockets**

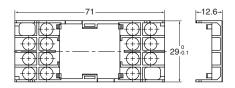
PYCZ-C08 (for PYFZ-08)





PYCZ-C14 (for PYFZ-14)

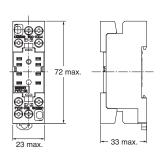




#### **Dimensions with terminal cover**

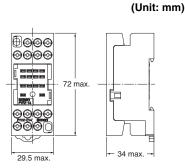
PYCZ-C08





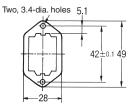
PYCZ-C14





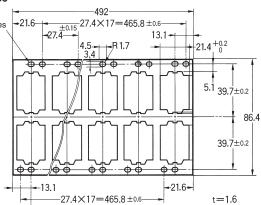
#### **Mounting Plates for Back-connecting Sockets**

PYP-1

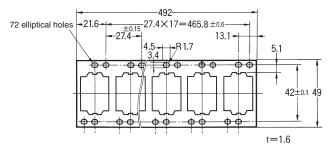


t=1.6

PYP-36
72 elliptical holes



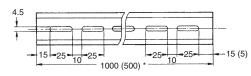
PYP-18



# **DIN-rails and Accessories** Supporting DIN-rails

#### PFP-50N/PFP-100N



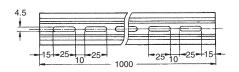


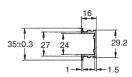
35±0.3 27±0.15

Note: The figure in the parentheses is for PFP-50N.

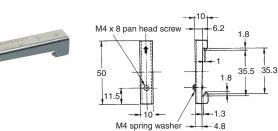
PFP-100N2





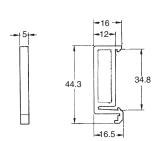


End Plate PFP-M









### **Safety Precautions**

Refer to the Common Relay Precautions.

Refer to *Products Related to Common Sockets and DIN Tracks* for precautions on the applicable Sockets. Refer to *PYF-□□-PU/P2RF-□□-PU* for precautions on Push-In Plus Terminal Block Sockets.

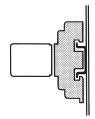
#### **Precautions for Correct Use**

#### Handling

For models with a built-in operation indicator, models with a built-in diode, or high-sensitivity models, check the coil polarity when wiring and wire all connections correctly (DC operation).

#### Installation

 There is no specifically required installation orientation, but make sure that the Relays are installed so that the contacts are not subjected to vibration or shock in their movement direction.



 Use two M3 screws to attach Flange-mounted models (MY□F) and tighten the screws securely (tightening torque: 0.98 N•m).

# Using MY-series Relays with Microloads with Infrequent Operation

If any standard MY-series Relays (e.g., MY4) are used infrequently to switch microloads, the contacts may become unstable and eventually result in poor contact. In this case, we recommend using the MY4Z-CBG Series, which has high contact reliability for microloads (Refer to page 15.)

#### About the Built-in Diode and CR Elements

The diode or CR element that are built into the Relay are designed to absorb the reverse voltage from the Relay coil. If a large surge in voltage is applied to the diode or CR element from an external source, the element will be destroyed. If there is the possibility of large voltage surges that could be applied to the elements from an external source, take any necessary surge absorption measures.

#### **Latching Levers**

- Turn OFF the power supply when operating the latching lever. After you use the latching lever always return it to its original state.
- Do not use the latching lever as a switch.
- The latching lever can be used for 100 operations min.

#### Relay Replacement

To replace the Relay, turn OFF the power supply to the load and Relay coil sides to prevent unintended operation and possible electrical shock.

# **Terms and Conditions Agreement**

#### Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

#### Warranties.

- (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
- (b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

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OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

#### Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

#### **Programmable Products.**

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

#### Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

#### Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

#### **Errors and Omissions.**

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Note: Do not use this document to operate the Unit.

**OMRON Corporation Industrial Automation Company** 

Kyoto, JAPAN

Contact: www.ia.omron.com

Regional Headquarters
OMRON EUROPE B.V.

Wegalaan 67-69, 2132 JD Hoofddorp The Netherlands Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ASIA PACIFIC PTE. LTD.

438B Alexandra Road, #08-01/02 Alexandra Technopark, Singapore 119968 Tel: (65) 6835-3011/Fax: (65) 6835-2711

**OMRON ELECTRONICS LLC** 

2895 Greenspoint Parkway, Suite 200 Hoffman Estates, IL 60169 U.S.A. Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON (CHINA) CO., LTD.
Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

**Authorized Distributor:** 

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Cat. No. J224-E1-07

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