# OMRON

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# Miniature Power Relays

# Best-selling, general-purpose relays that can be selected based on operating environment and application

- Wiring work can be shortened by as much as 60%\* compared to conventional screw terminal sockets by combining with push-in plus terminal sockets
   (PYF-□-PU) that feature light insertion force and strong pull-out strength to achieve less wiring work.
- In addition to our standard type (MY), an abundant lineup of models including latching relays that retain contact operation status (MYK) and sealed relays suitable for environments where dust and corrosive gases are present (MYQ/MYH) are also available.
- Selection is possible to suit the application, such as models with operation indicators and models with latching levers (MY plug-in terminals).
- \* When both push-in plus terminals and screw terminal sockets are combined with plug-in terminal types (according to actual OMRON measurements as of November 2015)

Refer to Safety Precautions on pages 54 to 55 and Safety Precautions for All Relays.







MY

MYK

**MYQ·MYH** 







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

# Miniature Power Relay Types

MY Miniature Power Relays	From page 3
MYK Miniature Power Latching Relays	From page 24
MYQ/MYH Miniature Power Sealed Relays	From page 29

# **Common Information**

Common Options (Order Separately)	From page 35
Common Safety Precautions	From page 54

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#### **Model List**

#### **Miniature Power Relays: MY**

				Plug-in terminals			PCB terminals	Case-surface
2			L <sub>TT</sub>	With operation indicator			mounting	
MΥ	Classification	Number of poles Contacts				With latching lever	Г	
			Single	MY2	MY2N	MY2IN(S)	MY2-02	MY2F
	Other dead me dela	2	Bifurcated	MY2Z	MY2ZN			
	Standard models (compliant with	3	Single	МҮЗ	MY3N		MY3-02	MY3F
	Electrical Appliances		Single	MY4	MY4N	MY4IN(S)	MY4-02	MY4F
	and Material Safety Act)		Bifurcated	MY4Z	MY4ZN	MY4ZIN(S)	MY4Z-02	MY4ZF
			Crossbar bifurcated	MY4Z-CBG	MY4ZN-CBG			
	Models with built-in	2	Single	MY2-D	MY2N-D2	MY2IN-D2(S)		
	diode for coil surge		Bifurcated	MY2Z-D	MY2ZN-D2			
	absorption (compliant with	3	Single	MY3-D	MY3N-D2			
ΝY	Electrical Appliances		Single	MY4-D	MY4N-D2	MY4IN-D2(S)		
≤	and Material Safety Act)	4	Bifurcated	MY4Z-D	MY4ZN-D2	MY4ZIN-D2(S)		
N	Models with built-in CR	•	Single	MY2-CR	MY2N-CR			
	circuit for coil surge absorption	2	Bifurcated	MY2Z-CR	MY2ZN-CR			
	(compliant with		Single	MY4-CR	MY4N-CR	MY4IN-CR(S)		
	Electrical Appliances and Material Safety Act)	4	Bifurcated	MY4Z-CR	MY4ZN-CR	MY4ZIN-CR(S)		

Note: 1. The models in this table are UL/CSA certified. This is indicated with a certification mark on the products. (Except crossbar bifurcated models MY4Z-CBG

and MY4ZN-CBG) The standard models with plug-in terminals, models with built-in diodes for coil surge absorption, and models with built-in CR circuits for coil surge absorption were used in combination with the  $PYF\squareA-E$ ,  $PYF\square-S$  and  $PYF-\square-PU$  for the EC Declaration of Conformity. These products display the CE Marking. 2.

#### Miniature Power Latching Relays (MYK)

					PCB terminals
	Number				
Classification		Contacts		With operation indicator	
Standard models	2	Single	MY2K		MY2K-02

#### Miniature Power Sealed Relays (MYQ/MYH)

			Plug-in terminals		PCB terminals
Classification	Number of poles	Contacts		With operation indicator	F
Plastic Sealed Relays		Single	MYQ4	MYQ4N	MYQ4-02
Plastic Sealed Relays	4	Bifurcated	MYQ4Z		MYQ4Z-02
Hermetically Sealed	ermetically Sealed	Single	MY4H		MY4H-0
Relays	4	Bifurcated	MY4ZH		MY4ZH-0

Refer to Front-connecting Sockets and Back-connecting Sockets in Common Options (Order Separately) on pages 35 and 37 for main unit and socket combinations.

**MYQ·MYH** 

# Best-selling, general-purpose relays

- AC/DC coil voltage specifications can now be more easily distinguished thanks to the use of color-coded coil tape and operation indicators (LED).
- Latching levers convenient for circuit checking and MY(S) models equipped with mechanical operation indicators and operation indicators for monitoring operation status are available.
- Contact materials and contact structures can be selected based on contact reliability and corrosion resistance. \*Voltage is printed on white tape in the case of the Standard 3-pole model (MY3).

Refer to Safety Precautions on pages 54 to 55 and Safety

# **93' 🚯 🖄 CELR**



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

# Features

# 1. More easily distinguished AC/DC coil voltage specifications

• Distinguished using color-coded coil tape\* \* Voltage is printed on white tape in the case of the Standard 3-pole model (MY3).



Pink = AC voltage

Precautions for All Relays.



Distinguished using color-coded operation indicators (LED)

# Example: MY4



Example: MY4

Operation indicator (LED) Red = AC voltage

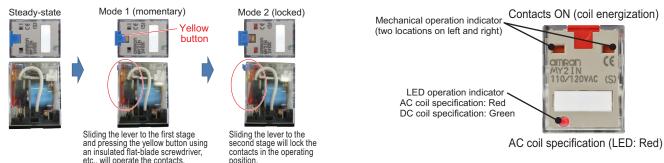
Operation indicator (LED) Green = DC voltage

MY

MYK

Common Options (Order Separately)

- 2. Latching levers convenient for circuit checking and MY(S) models equipped with mechanical operation indicators and operation indicators for monitoring operation status are available. Mechanical operation indicator/LED operation indicator
  - · Latching lever operating procedure



3. Contact materials and contact structures can be selected based on contact reliability and corrosion resistance.

Contact relia	bility	Corrosion re	sistance	
	Contact structure		Contact material	Typical model
High 🛧	Crossbar bifurcated contacts	High	Au cladding + AgPd	MY4Z-CBG
	Bifurcated contacts		Au cladding + Ag alloy Au plating + Ag alloy	MY4Z MY2Z
	Single contacts		Au cladding + Ag alloy	MY4
Low		Low	Ag alloy	MY2



# MY

# Model Number Structure

	Model Number Leg	end
	●Plug-in Terminals	
MY	Standard models	
~	M Y	(Example: MY4ZIN(S))
	(1)	
	(1) Number of poles	(2) Contacts (3) Options
	2: 2-pole 3: 3-pole	None:SingleNone:NoneZ:BifurcatedN:With operation indicator
	4: 4-pole	Z-CBG: Crossbar bifurcated IN(S): With operation indicator/latching lever
МҮК	Models with built-in diode M Y (1) (1) Number of poles/contact 2: 2-pole, single contacts	(Example: MY4ZIN-D2(S))
	2Z: 2-pole, bifurcated contain	cts N-D2: Built-in diode for coil surge absorption, with operation indicator
	<ul><li>3: 3-pole, single contacts</li><li>4: 4-pole, single contacts</li></ul>	IN-D2(S): Built-in diode for coil surge absorption, with operation indicator/latching lever
	4Z: 4-pole, bifurcated conta	cts
ϺϒϘ·ϺϒΗ	Models with built-in CR cir MY (1) (1) Number of poles/contacts 2: 2-pole, single contacts 2Z: 2-pole, bifurcated contacts	-CR: Models with built-in CR circuit for coil surge absorption
]	4: 4-pole, single contacts	IN-CR(S): Built-in CR circuit for coil surge absorption, with operation indicator/latching lever*
Common Options (Order Separately)	4Z: 4-pole, bifurcated conta	
ption	●PCB terminals/case s	surface mounted
ıs (Order	M Y	(Example: MY2-02)
Sepa	(1) Number of poles/contact	
Irate	2: 2-pole, single contacts	-02: PCB terminals
ly)	<ul><li>3: 3-pole, single contacts</li><li>4: 4-pole, single contacts</li><li>4Z: 4-pole, bifurcated contacts</li></ul>	F: Case-surface mounting

# Ordering Information When your order, specify the rated voltage.

#### ●Plug-in Terminals

Without operation indicator

( lassification	Number of poles	Contacts	Model	Rated voltage
		Single	MY2	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
	2	Single		12, 24, 48, 100/110 VDC
	2	Bifurcated	MY2Z	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
		Bilurcaleu		12, 24, 48, 100/110 VDC
Standard models	3	Single	MY3	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
(compliant with	3	Single	INI 1 S	12, 24, 48, 100/110 VDC
Electrical Appliances		Single	MY4	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
and Material Safety Act)		Single	IVI ¥ 4	12, 24, 48, 100/110 VDC
	4	Bifurcated	MY4Z	100/110, 110/120, 200/220, 220/240 VAC
	-			12, 24, 48, 100/110 VDC
		Crossbar	MY4Z-CBG	100/110, 110/120, 200/220 VAC
		bifurcated	MT42-CBG	12, 24, 48, 100/110 VDC
	2	Single	MY2-D	12, 24, 48, 100/110 VDC
Models with built-in	2	Bifurcated	MY2Z-D	12, 24, 100/110 VDC
diode for coil surge absorption	3	Single	MY3-D	12, 24, 100/110 VDC
(DC coil specification only)	4	Single	MY4-D	12, 24, 48, 100/110 VDC
	4	Bifurcated	MY4Z-D	12, 24, 48, 100/110 VDC
Models with built-in CR	2	Single	MY2-CR	100/110, 110/120, 200/220, 220/240 VAC
circuit for coil surge	2	Bifurcated	MY2Z-CR	100/110, 200/220 VAC,
absorption	4	Single	MY4-CR	100/110, 110/120, 200/220, 220/240 VAC
(AC coil specification only)	4	Bifurcated	MY4Z-CR	100/110, 110/120, 200/220, 220/240 VAC

MY

#### With operation indicator

-				
Classification	Number of poles	Contacts	Model	Rated voltage
		Cinala	MY2N	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
	2	Single		12, 24, 48, 100/110 VDC
	2	Bifurcated	MY2ZN	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
		Bilurcaled		12, 24, 48, 100/110 VDC
Standard models	3	Circula	MY3N	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
(compliant with	3	Single	IVI Y SIN	12, 24, 48, 100/110 VDC
Electrical Appliances		Circula		12, 24, 100/110, 110/120, 200/220, 220/240 VAC
and Material Safety Act)		Single	MY4N	12, 24, 48, 100/110 VDC
	4	Bifurcated Crossbar bifurcated	MY4ZN	24, 100/110, 110/120, 200/220, 220/240 VAC
	-			12, 24, 48, 100/110 VDC
			MY4ZN-CBG	100/110, 200/220 VAC
				24 VDC
	2	Single	MY2N-D2	12, 24, 48, 100/110 VDC
Models with built-in	2	Bifurcated	MY2ZN-D2	12, 24, 100/110 VDC
diode for coil surge absorption	3	Single	MY3N-D2	12, 24, 100/110 VDC
(DC coil specification only)	4	Single	MY4N-D2	12, 24, 48, 100/110 VDC
	-	Bifurcated	MY4ZN-D2	12, 24, 48, 100/110 VDC
Models with built-in CR	2	Single	MY2N-CR	100/110, 110/120, 200/220, 220/240 VAC
circuit for coil surge	2	Bifurcated	MY2ZN-CR	100/110, 200/220 VAC
absorption	4	Single	MY4N-CR	100/110, 110/120, 200/220, 220/240 VAC
(AC coil specification only)	4	Bifurcated	MY4ZN-CR	100/110, 110/120, 200/220, 220/240 VAC

#### With operation indicator/latching lever

	Classification	Number of poles	Contacts	Model	Rated voltage
		2	Single	MY2IN(S)	100/110, 200/220 VAC
	Standard models	2	Single	WITZIN(3)	12, 24, 48 VDC
-	(compliant with		Single MY4IN(S)	100/110, 200/220 VAC	
	Electrical Appliances and Material Safety Act)	4		IVI I 4114(S)	12, 24, 48 VDC
			Bifurcated	MY4ZIN(S)	100/110, 200/220 VAC
					12, 24, 48 VDC
2	Models with built-in	2	Single	MY2IN-D2(S)	12, 24, 48 VDC
8	diode for coil surge absorption		Single	MY4IN-D2(S)	12, 24, 48 VDC
Common	(DC coil specification only)	4	Bifurcated	MY4ZIN-D2(S)	12, 24, 48 VDC
1 Options (Or	Models with built-in CR circuit for coil surge	4	Single	MY4IN-CR(S)	100/110, 200/220 VAC
	absorption (AC coil specification only)	4	Bifurcated	MY4ZIN-CR(S)	100/110, 200/220 VAC

#### PCB terminals

Classification	Number of poles		Model	Rated voltage
Standard models (compliant with Electrical Appliances and Material Safety Act)	2	Single	MY2-02	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
				12, 24, 48, 100/110 VDC
	3	Single	MY3-02	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
				12, 24, 48, 100/110 VDC
		Single Bifurcated	MY4-02	12, 24, 100/110, 110/120, 200/220, 220/240 VAC
				12, 24, 48, 100/110 VDC
	4		MY4Z-02	100/110, 110/120, 200/220 VAC
				12, 24, 48, 100/110 VDC

#### •Case-surface mounting

Classification	Number of poles		Model	Rated voltage
	2	Single	MY2F	24, 100/110, 110/120, 200/220, 220/240 VAC
Standard models (compliant with Electrical Appliances and Material Safety Act)		Single		12, 24, 48, 100/110 VDC
	3	Single	MY3F	24, 100/110, 200/220 VAC
				24, 100/110 VDC
		Single	MY4F	24, 100/110, 110/120, 200/220 VAC
				12, 24, 48, 100/110 VDC
	4	Bifurcated	MY4ZF	200/220 VAC
				12, 24 VDC

MY

# **Ratings and Specifications**

#### Ratings **Operating Coils**

-<	

Terminal Type	Classification	Number of poles	Contacts	Without operation indicator	With operation indicator
		2	Single	MY2	MY2N
	Standard models	4	Single	MY4	MY4N
Models with built-in diade		4	Bifurcated	MY4Z	MY4ZN
	Models with built-in diode for	2	Single	MY2-D	MY2N-D2
Plug-in terminals	coil surge absorption	4	Single	MY4-D	MY4N-D2
	(DC coil specification only)	4	Bifurcated	MY4Z-D	MY4ZN-D2
	Models with built-in CR circuit	2	Single	MY2-CR	MY2N-CR
	for coil surge absorption		Single	MY4-CR	MY4N-CR
	(AC coil specification only)	4	Bifurcated	MY4Z-CR	MY4ZN-CR

_		ltem	Rated cur	rrent (mA)	Coil resistance	Coil induc	ctance (H)	Must	Must	Maximum	Power
M	Rated	voltage (V)	50 Hz	60 Hz	(Ω)	Armature OFF Armature ON voltage (V) voltage (V)		consumption (VA, W)			
$\mathbf{x}$		12	106.5	91	46	0.17	0.33				
		24	53.8	46	180	0.69	1.3				
	AC	100/110	11.7/12.9	10/11	3,750	14.54	24.6		30% min.*2		Approx. 0.9 to 1.3 (at 60 Hz)
	AC	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1				
		200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07	80% max.*1		110% of	
		220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	80% max. 1		rated voltage	
		12	72	2.7	165	0.73	1.37			Ŭ	
	DC	24	36	3.3	662	3.2	5.72		100/		Ammany 0.0
	DC	48	17	<b>7</b> .6	2,725	10.6	21.0		10% min.*2		Approx. 0.9
		100/110	8.7	/9.6	11,440	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 AC rated current and ±15% for DC coil resistance.

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

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

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

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

To ensure operation, apply at least 80% of the rated value (at a coil temperature of 23°C).

\*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.

Terminal Type	Classification	Number of poles	Contacts	Without operation indicator	With operation indicator
	Standard models	2	Bifurcated	MY2Z	MY2ZN
	Models with built-in diode for coil surge absorption	2	Bifurcated	MY2Z-D	MY2ZN-D2
Plug-in terminals	(DC coil specification only)	3	Single	MY3-D	MY3N-D2
	Models with built-in CR circuit for coil surge absorption (AC coil specification only)	2	Bifurcated	MY2Z-CR	MY2ZN-CR

	ltem	Rated cur	rrent (mA)	Coil resistance	Coil indu	ctance (H)	Must	Must	Maximum	Power
Rate	d voltage (V)	50 Hz	60 Hz	(Ω)	Armature OFF	Armature ON	operate voltage (V)	release voltage (V)	voltage (V)	consumption (VA, W)
	12	106.5	91	46	0.17	0.33				
	24	53.8	46	180	0.69	1.3				
AC	100/110	11.7/12.9	10/11	3,750	14.54	24.6		30% min.*2		Approx. 0.9 to 1.3 (at 60 Hz)
AC	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1		30% mm. 2	in. 2	
	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07	80% max.*1		110% of	
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	80% max. 1		rated voltage	
	12	7	5	160	0.73	1.37			Ŭ	
DC	24	36	6.9	650	3.2	5.72		400/		Approx. 0.9
DC	48	18	3.5	2,600	10.6	21.0		10% min.*2		
	100/110	9.1	/10	11,000	45.6	86.2	1			

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

The AC coil resistance and inductance values are reference values only (at 60 Hz). Operating characteristics were measured at a coil temperature of 23°C. The maximum voltage capacity was measured at an ambient temperature of 23°C. 2.

3. 4.

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

Common Options (Order Separately)

**MYQ·MYH** 

OMRON

Terminal Type	Classification	Number of poles	Contacts	With latching lever
		2	Single	MY2IN(S)
	Standard models	4	Single	MY4IN(S)
		4	Bifurcated	MY4ZIN(S)
	Models with built-in diode for coil surge absorption	2	Single	MY2IN-D2(S)
Plug-in terminals			Single	MY4IN-D2(S)
	(DC coil specification only)	4	Bifurcated	MY4ZIN-D2(S)
	Models with built-in CR circuit	2	Single	MY4IN-CR(S)
	for coil surge absorption (AC coil specification only)	4	Bifurcated	MY4ZIN-CR(S)

	Item	Rated cur	rent (mA)	Coil resistance	Coil induc	ctance (H)	Must	Must	Maximum	Power
Rated	voltage (V)	50 Hz	60 Hz	(Ω)	Armature OFF	Armature ON	operate voltage (V)	release voltage (V)	voltage (V)	consumption (VA, W)
	100/110	11.7/12.9	10/11	3,750	14.54	24.6				Approx.0.9
AC	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07		30% min.*2	110% of	to 1.3 (at 60 Hz)
	12	7	5	160	0.73	1.37	80% max.*1		rated	
DC	24	37	.7	636	3.2	5.72		10% min.*2 voltage	vollage	Approx. 0.9
	48	18	9.8	2,560	10.6	21				

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

Terminal Type	Classification	Number of poles	Contacts	Without operation indicator	With operation indicator
		3	Single	MY3	MY3N
Plug-in terminals	Standard models	4	Crossbar bifurcated	MY4Z-CBG	MY4ZN-CBG
	Standard models	2	Single	MY2-02	_
PCB terminals		3	Single	MY3-02	_
POD terminals	Stanuaru models	4	Single	MY4-02	_
		4	Bifurcated	MY4Z-02	_
		2	Single	MY2F	_
Case-surface mounting	Standard models	3	Single	MY3F	_
	Standard models	4	Single	MY4F	_
			Bifurcated	MY4ZF	—

	Item	Item Rated current (mA) Coll		Coil resistance	Coil indu	ctance (H)	Must	Must	Maximum	Power
Rated	voltage (V)	50 Hz	60 Hz	(Ω)	Armature OFF	Armature ON	operate voltage (V)	release voltage (V)	voltage (V)	consumption (VA, W)
	12	106.5	91	46	0.17	0.33				
	24	53.8	46	180	0.69	1.3				
•••	100/110	11.7/12.9	10/11	3,750	14.54	24.6		000/		Approx.0.9
AC	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1		30% min.*2	to 1.3 (at 60 Hz)	
	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07	000/		110% of	. ,
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	80% max.*1		rated voltage	
	12	7	5	160	0.73	1.37			Ŭ	
<b>D</b> O	24	36	.9	650	3.2	5.72		100/		A
DC	48	18	.5	2,600	10.6	21.0		10% min.*2		Approx. 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 AC rated current and ±15% for DC coil resistance. The AC coil resistance and inductance values are reference values only (at 60 Hz).

2.

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

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% maximum.

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.

MY

MYK

Common Options (Order Separately)

ontact	Ratings	

Single

**Resistive load** 

5 A at 220 VAC 5 A at 24 VDC

5 A (10 A\*2)

5 A

Ag

1,100 VA

120 W

250 VAC, 125 VDC

Inductive load

 $\begin{array}{l} (\cos \phi = 0.4, \\ \text{L/R} = 7 \text{ ms}) \end{array}$ 

2 A at 220 VAC 2 A at 24 VDC

440 VA

48 W

#### Co

<	
= <	

Number of poles
(contact configuration)
Contact structure

Rated load Rated carry

current\*1 Maximum

switching voltage

MY

Load

	Maximum switching current
Z	Maximum switching power
$\overline{}$	Contact material
X	

Number of poles (contact configuration)					4-pole	(4PDT)				
Contact structure	Single		With Istabi	With latching lever (S)		Bifurcated		ng lever (S)	Crossbar bifurcated (CBG)	
Load	Resistive Ioad	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)	Resistive load	Inductive load (cos $\varphi$ = 0.4, L/R = 7 ms)	Resistive load	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)	Resistive load	Inductive load (cos $\varphi$ = 0.4, L/R = 7 ms)	Resistive load	Inductive load (cos φ = 0.4, L/R = 7 ms)
Rated load	3 A at 220 VAC 3 A at 24 VDC	0.8 A at 220 VAC 1.5 A at 24 VDC	3 A at 250 VAC 3 A at 30 VDC	0.8 A at 250 VAC 1.5 A at 30 VDC	3 A at 220 VAC 3 A at 24 VDC	0.8 A at 220 VAC 1.5 A at 24 VDC	3 A at 250 VAC 3 A at 30 VDC	0.8 A at 250 VAC 1.5 A at 30 VDC	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	3 A (5 A*2)				3 A (5 A*2)				1 A	
Maximum switching voltage	250 VAC, 12	250 VAC, 125 VDC								
Maximum switching current	3 A								1 A	
Maximum switching power	660 VA 72 W	176 VA 36 W	1,250 VA 150 W	200 VA 45 W	660 VA 72 W	176 VA 36 W	1,250 VA 150 W	200 VA 45 W	220 VA 24 W	66 VA 12 W
Contact material	Au cladding -	+ Ag alloy							Au cladding -	- AgPd

2-pole (DPDT)

With latching lever (S)

**Resistive load** 

5 A at 250 VAC 5 A at 30 VDC

10 A

2,500 VA

300 W

Inductive load

(cos φ = 0.4, L/R = 7 ms)

2 A at 250 VAC 2 A at 30 VDC

500 VA

60 W

3-pole (3PDT)

Single

**Resistive load** 

5 A at 220 VAC 5 A at 24 VDC

250 VAC, 125 VDC

5 A

5 A

Ag

1,100 VA

120 W

Inductive load

(cos φ = 0.4, L/R = 7 ms)

2 A at 220 VAC 2 A at 24 VDC

440 VA

48 W

Bifurcated

**Resistive load** 

5 A at 220 VAC 5 A at 24 VDC

5 A

5 A

1,100 VA

Au plating + Ag

120 W

Inductive load

 $\begin{array}{l} (\cos \phi = 0.4, \\ \text{L/R} = 7 \text{ ms}) \end{array}$ 

2 A at 220 VAC 2 A at 24 VDC

440 VA

48 W

ct material Au cladding + Ag alloy

\*1. If you use a Socket, do not exceed the rated carry current of the Socket.
\*2. Values shown in parentheses are for the MY

(S) model with latching lever.

M V

MYK

#### **Characteristics**

Number of poles (contact configuration)		2-pole	(DPDT)	3-pole (3PDT)	4-pole (4PDT)				
	Contact tructure	Single	Bifurcated	Single	Single	Bifurcated	Crossbar bifurcated (CBG)		
Contact resistanc	e*1 *2	50 mΩ max.					100 mΩ max.		
Operate t	ime*3	20 ms max.							
Release t	ime*3	20 ms max.							
	Mechanical	18,000 operations/h							
witching requency	Rated load	1,800 operations/h							
nsulatior resistanc		100 M $\Omega$ min.							
c c	Between coil and contacts								
Dielectric	Between contacts of different polarity	2,000 VAC, 50/60 Hz fc	or 1 min						
c t	Between contacts of the same polarity	1,000 VAC at 50/60 Hz	for 1 min				700 VAC at 50/60 Hz for 1 min		
/ibration	Destruction	10 to 55 to 10 Hz, 0.5-r	nm single amplitude (1.0	)-mm double amplitude)					
esistance	Malfunction	10 to 55 to 10 Hz, 0.5-r	nm single amplitude (1.0	)-mm double amplitude)					
hock I	Destruction	1,000 m/s <sup>2</sup>							
esistance	Malfunction	200 m/s <sup>2</sup>							
Endurance	Mechanical	AC: 50,000,000 operations min. DC: 100,000,000 operations min. (switching frequency: 18,000 operations/h)	AC: 50,000,000 operations min. DC: 50,000,000 operations min. (switching frequency: 18,000 operations/h)	AC: 50,000,000 operations min. DC: 100,000,000 operations min. (switching frequency: 18,000 operations/h)	AC: 50,000,000 operations min. DC: 100,000,000 operations min. (switching frequency: 18,000 operations/h)	AC: 20,000,000 operations min. DC: 20,000,000 operations min. (switching frequency: 18,000 operations/h)	AC: 50,000,000 operations min. DC: 50,000,000 operations min. (switching frequency: 18,000 operations/h)		
	Electrical*5	500,000 operations min. (rated load, switching frequency: 1,800 operations/h)	200,000 operations min. (rated load, switching frequency: 1,800 operations/h)	500,000 operations min. (rated load, switching frequency: 1,800 operations/h)	200,000 operations min. (rated load, switching frequency: 1,800 operations/h)	100,000 operations min. (rated load, switching frequency: 1,800 operations/h)	50,000 operations min (rated load, switching frequency: 1,800 operations/h)		
ailure rate		1 mA at 5 VDC	100 ?A at 1 VDC	1 mA at 5 VDC	1 mA at 1 VDC	100 ?A at 1 VDC	100 ?A at 1 VDC		
Veight		Approx. 35 g	Approx. 35 g	Approx. 35 g	Approx. 35 g	Approx. 35 g	Approx. 35 g		

Note: The data shown above are initial values.

Note: The data shown above are find values.
\*1. Models with latching lever are 100 mΩ maximum.
\*2. Measurement conditions: 1 A at 5 VDC using the voltage drop method.
\*3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.
\*4. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.

Ambient temperature condition: 23°C This value was measured at a switching frequency of 120 operations per minute. \*5. \*6.

Classification		Standard models					in diode for coil sur CR circuit for coil su	
Contacts	Single/bifurcated			Crossbar/bifu	urcated (CBG)		Single/bifurcated	I
	Without			Without With operation	Without With operation indicator			
Features	operation indicator		With latching lever	operation indicator	indicator	operation indicator		With latching lever
Ambient operating temperature*1	–55 to 70°C	–55 to 60°C*2	–55 to 70°C	–25 to 70°C	-25 to 60°C	–55 to 60°C*2	–55 to 60°C*2	–55 to 70°C
Ambient operating humidity	5% to 85%					5% to 85%		

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

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#### **Certified Standards •**UL certification (File No. E41515)

		•		-				
MY	Model	Standard number	Category	Listed/ Recognized	Operating Coil ratings	No. of poles	Contact ratings	Certified number of operations
	MY2 MY2N MY2IN(S) MY2N-D2 MY2-D2 MY2IN-D2(S) MY2-CR MY2N-CR	UL508	NRNT2	Recognition	6 to 240 VAC 6 to 125 VDC	2	10 A, 250 VAC (General Use) 10 A, 30 VDC (General Use) 7 A, 240 VAC (General Use) 7 A, 24 VDC (Resistive) 5 A, 240 VAC (General Use) 5 A, 250 VAC (Resistive) 5 A, 30 VDC (Resistive) 3 A, 265 VAC (Resistive)	6,000
							1/6 HP, 250 VAC 1/8 HP, 265 VAC 1/10 HP, 120 VAC	1,000
							B300 Pilot Duty (Same polarity)	6,000
MYK	MY2Z MY2ZN MY2-02 MY2F MY2Z-D MY2Z-D2	UL508	NRNT2	Recognition	6 to 240 VAC 6 to 125 VDC	2	7 A, 240 VAC (General Use) 7 A, 24 VDC (Resistive) 5 A, 240 VAC (General Use) 5 A, 250 VAC (Resistive) 5 A, 30 VDC (Resistive) 3 A, 265 VAC (Resistive)	6,000
	MY2Z-CR MY2ZN-CR						1/6 HP, 250 VAC 1/8 HP, 265 VAC 1/10 HP, 120 VAC	1,000
							B300 Pilot Duty (Same polarity)	6,000
	MY3 MY3N MY3-D	UL508	NRNT2	Recognition	6 to 240 VAC 6 to 125 VDC	3	5 A, 28 VDC (Resistive) 5 A, 240 VAC (General Use)	6,000
	MY3N-D2 MY3-02 MY3F						1/6 HP, 250 VAC	1,000
MYQ·MYH	MY4 MY4N MY4IN(S) MY4-D MY4IN-D2 MY4IN-D2(S) MY4Z MY4ZN MY4ZIN(S) MY4Z-D MY4Z-D MY4Z-D2 MY4ZIN-D2 MY4ZIN-D2(S) MY4Z-CR MY4ZN-CR	UL508	NRNT2	Recognition	6 to 240 VAC 6 to 125 VDC	4	5 A, 28 VDC (General Use) (Same polarity) 5 A, 240 VAC (General Use) (Same polarity) 5 A, 30 VDC (Resistive) (Same polarity) 5 A, 250 VAC (Resistive) (Same polarity) 0.2 A, 120 VDC (Resistive) (Same polarity)	6,000
	MY4ZIN-CR(S)							
Commor	MY4-02 MY4F MY4Z-02						1/6 HP, 250 VAC (Same polarity) 1/10 HP, 120 VAC (Same polarity)	1,000
Ξ I	MY4ZF		1				B300 Pilot Duty (Same polarity)	6,000

non Options (Order Separately)

#### ●CSA certification (File No. LR31928)

Model	Standard number	Class number	Operating Coil ratings	No. of poles	Contact ratings	Certified number of operations	Z
MY2 MY2N MY2IN(S) MY2N-D2 MY2-D2 MY2IN-D2(S)	C22.2 NO.0, No.14		6 to 240 VAC 6 to 125 VDC	2	7 A, 240 VAC (Resistive) 7 A, 24 VDC (Resistive) 5 A, 240 VAC (General Use) 5 A, 250 VAC (Resistive) 5 A, 30 VDC (Resistive)	6,000	YM
MY2-CR MY2N-CR					1/6 HP, 250 VAC (Same polarity) 1/10 HP, 120 VAC (Same polarity)	1,000	
MY2Z MY2ZN MY2-02 MY2F MY2Z-D MY2Z-D2	C22.2 NO.0, No.14	_	6 to 240 VAC 6 to 125 VDC	2	7 A, 240 VAC (General Use) (Same polarity) 7 A, 24 VDC (Resistive) (Same polarity) 5 A, 240 VAC (General Use) (Same polarity) 5 A, 30 VDC (Resistive) 5 A, 250 VAC (Resistive) (Same polarity) 0.2 A, 120 VDC (Resistive)	6,000	
MY2Z-CR MY2ZN-CR					1/6 HP, 250 VAC 1/10 HP, 120 VAC	1,000	
MY3 MY3N MY3-D MY3N-D2 MY3-02	C22.2 NO.0, No.14	_	6 to 240 VAC 6 to 125 VDC	3	5 A, 28 VDC (Resistive) 5 A, 240 VAC (General Use) 7 A, 240 VAC (General Use) 7 A, 24 VDC (Resistive)	6,000	MYK
MY3F					1/6 HP, 250 VAC	1,000	_
MY4 MY4N(S) MY4-D MY4-D2 MY4N-D2(S) MY4-CR	C22.2 No.14	3211 07	6 to 240 VAC 6 to 125 VDC	4	5 A, 240 VAC (General Use) (Same polarity) 5 A, 28 VDC (General Use) (Same polarity) 5 A, 250 VAC (Resistive) (Same polarity) 5 A, 30 VDC (Resistive) (Same polarity) 0.2 A, 120 VDC (Resistive) (Same polarity)	6,000	
MY4N-CR MY4IN-CR(S) MY4Z MY4ZN MY4ZIN(S) MY4Z-D MY4ZN-D2 MY4ZN-D2							MYQ·MYH
MY4ZIN-D2(S) MY4Z-C MY4ZN-CR					1/6 HP, 250 VAC (Same polarity) 1/10 HP, 120 VAC (Same polarity)	1,000	<b>X</b>
MY4ZIN-CR(S)					B300 Pilot Duty (Same polarity)	6,000	
MY4-02 MY4F MY4Z-02 MY4ZF	C22.2 NO.0, No.14	3211 07	6 to 240 VAC 6 to 125 VDC	4	7 A, 240 VAC (General Use) (Same polarity) 7 A, 24 VDC (Resistive) (Same polarity) 5 A, 240 VAC (General Use) (Same polarity) 5 A, 30 VDC (Resistive) 5 A, 250 VAC (Resistive) (Same polarity) 0.2 A, 120 VDC (Resistive)	6,000	
					1/6 HP, 250 VAC 1/10 HP, 120 VAC	1,000	Comm

#### •TÜV Rheinland certification (Certification No. R50030059)

Model	Operating Coil ratings	Contact ratings	Certified number of operations
MY2Z MY2ZN MY2-02 MY2F MY2Z-D MY2Z-D2 MY2Z-CR MY2ZN-CR	6 to 125 VDC, 6 to 240 VAC	5 A, 250 VAC (cos φ = 1.0)	100,000
MY3 MY3N MY3-D MY3N-D2 MY3-02 MY3F	_	5 A, 250 VAC (cos $\varphi$ = 1.0) 0.8 A, 250 VAC (cos $\varphi$ = 0.4)	
MY4-02 MY4F MY4Z-02 MY4ZF		3 A, 120 VAC (cos $\phi$ = 1.0) 0.8 A, 250 VAC (cos $\phi$ = 0.4)	

Common Options (Order Separately)

	Model	EMC Directiv	e Low Voltage Direct	ive Machinery Directiv	/e Safety Category
MY MY MY MY MY MY MY MY	2N 2IN(S) 2Z 2D 2N-D2 2N-D2 2IN-D2(S) 2-CR 2N-CR 2Z-CR 2ZN-CR 2ZN-CR 2ZN-CR	Not applicable	Applicable	Not applicable	1
MY MY MY MY MY	3 3N 3-D 3N-D2	-			
MY MY MY MY MY	4 4N 4IN(S) 4Z 4ZN 4ZIN(S) 4-D 4N-D2 4IN-D2(S)				
MY MY MY MY MY MY MY	4Z-D 4ZN-D2 4ZIN-D2(S) 4-CR 4N-CR 4Z-CR 4Z-CR 4ZN-CR				
●L	.R certifi	cation (Lloyd	's Register)	I	I
	Model	File No.	Environmental Category	Operating Coil ratings	Contact ratings
	woder	File NO.	Environmental Category	Operating Contrainings	Contact ratings

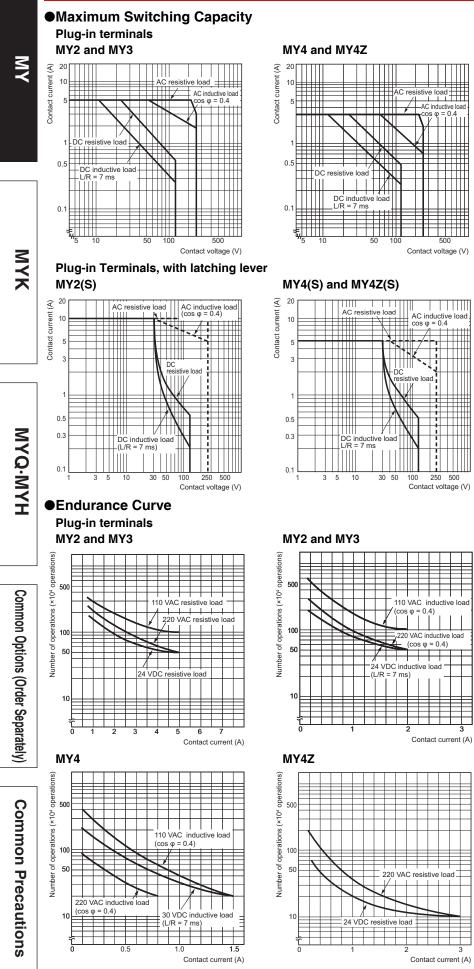
# ●LR certification (Lloyd's Register)

Model	File No.	Environmental Category	Operating Coil ratings	Contact ratings	Certified number of operations
MY2 MY2N MY2IN(S) MY2-D MY2N-D2 MY2IN-D2(S) MY2-CR MY2N-CR	File No.98/10014	ENV2,3	6 to 240 VAC 6 to 125 VDC	10 A, 250 VAC (Resistive) 2 A, 250 VAC (PF0.4) 10 A, 30 VDC (Resistive) 2 A, 30 VDC (L/R = 7 ms)	MY2: 50,000
MY2Z MY2ZN MY2Z-D MY2ZN-D2	File No.90/10270	ENV2,3	6 to 240 VAC 6 to 125 VDC	2 A, 30 VDC inductive load 2 A, 200 VAC inductive load	MY2: 50,000
MY4 MY4IN(S) MY4-D MY4IN-D2 MY4IN-D2 MY4IN-D2(S) MY4-CR MY4IN-CR MY4IN-CR MY4ZN MY4ZN MY4ZN MY4ZN-D2 MY4ZIN-D2 MY4ZIN-D2(S) MY4Z-CR MY4ZIN-CR(S)	File No.98/10014	ENV2,3	6 to 240 VAC 6 to 125 VDC	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)	MY4: 50,000

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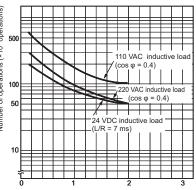
Model	Standard number	Certification No.	Operating Coil ratings	Contact ratings	Certified number of operations
MY2 MY2N MY2IN(S) MY2-D MY2N-D2 MY2IN-D2(S)	EN 61810-1	112467UG	6, 12, 24, 48/50, 100/110, 110/120, 200/220, 220/240 VAC	10A, 250 VAC (cos $\varphi$ = 1) 10A, 30 VDC (L/R = 0 ms)	MY2: 100,000 MY4: 100,000 MY4Z: 50,000 (AC)
MY2-CR MY2N-CR			6, 12, 24, 48, 100/110, 125 VDC		
MY4 MY4N MY4IN(S) MY4Z MY4ZN MY4ZIN(S)			6, 12, 24, 48/50, 100/110, 110/120, 200/220, 220/240 VAC	5 A, 250 VAC ( $\cos \varphi = 1$ ) 5 A, 30 VDC (L/R = 0 ms)	
MY4-D MY4ZN-D2 MY4IN-D2(S) MY4Z-D MY4Z-D2 MY4ZIN-D2(S) MY4-CR MY4N-CR			6, 12, 24, 48, 100/110, 125 VDC		
MY4IN-CR(S) MY4Z-CR MY4ZN-CR MY4ZIN-CR(S)					

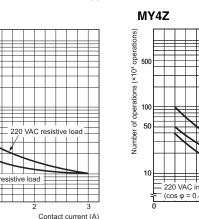
# **Engineering Data (Reference Value)**

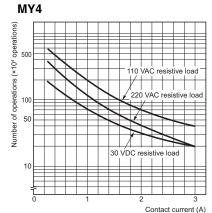


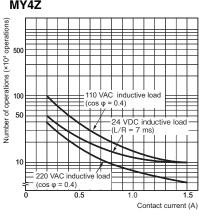
#### MY4Z-CBG € 20 Contact current 10 5 AC resistive load AC inductive load $\cos \varphi = 0.4$ N 0.5 DC resistive load 0.1 DC inductive loa 倝 5 10 50 100 500

Contact voltage (V)





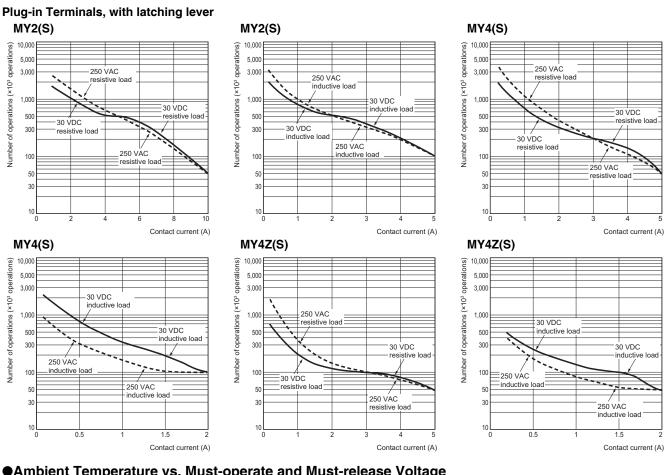




MY

MYK

**MYQ·MYH** 



#### •Ambient Temperature vs. Must-operate and Must-release Voltage

#### MY2 AC Models

MY2(S)

10,000

5,000

3,000

1,000

500

300

100

50

30

10

n

MY4(S)

10,000

5.000

3,000

1,000

500

300

100

50

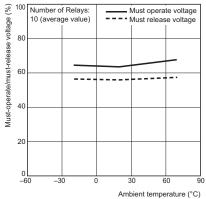
30

10

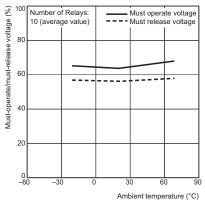
0

Number of operations (×10<sup>3</sup> operations)

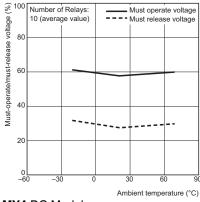
Number of operations (×10<sup>3</sup> operations)



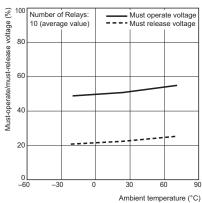
#### MY4 AC Models



#### MY2 DC Models



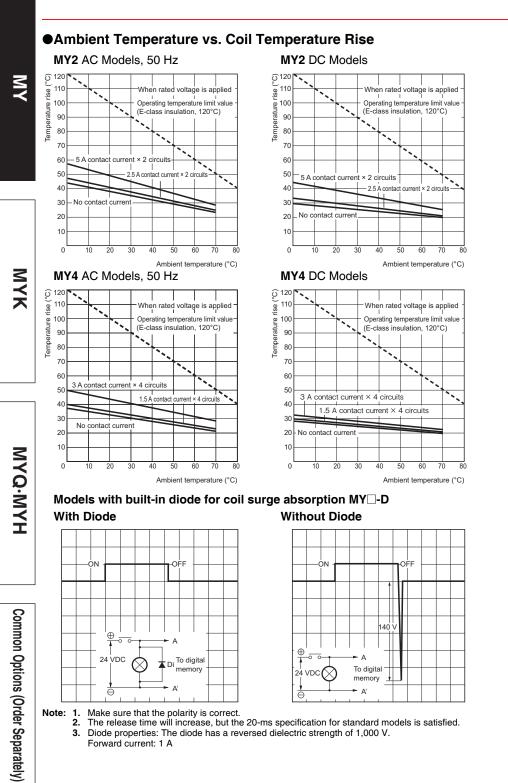
#### MY4 DC Models





# **Common Precautions**

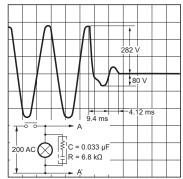
**Common Options (Order Separately)** 

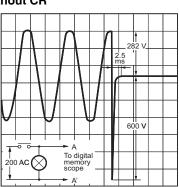


Note: 1.

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. Forward current: 1 A 2. 3.

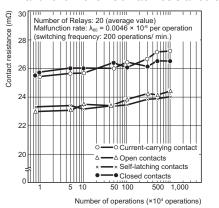
#### Models with built-in CR circuit for coil surge absorption MY -CR With CR Without CR



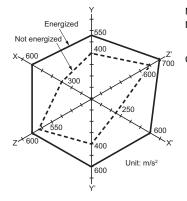


Contact Reliability Test MY4Z-CBG (Modified Allen Bradley Circuit) Contact load: 5 VDC, 1 mA resistive load

Malfunction level: Contact resistance of 100  $\Omega$ 



#### Common Specifications for MY2, MY3, MY4, MY4Z, MY-02, MY-F, and MY(S) Shock Malfunction



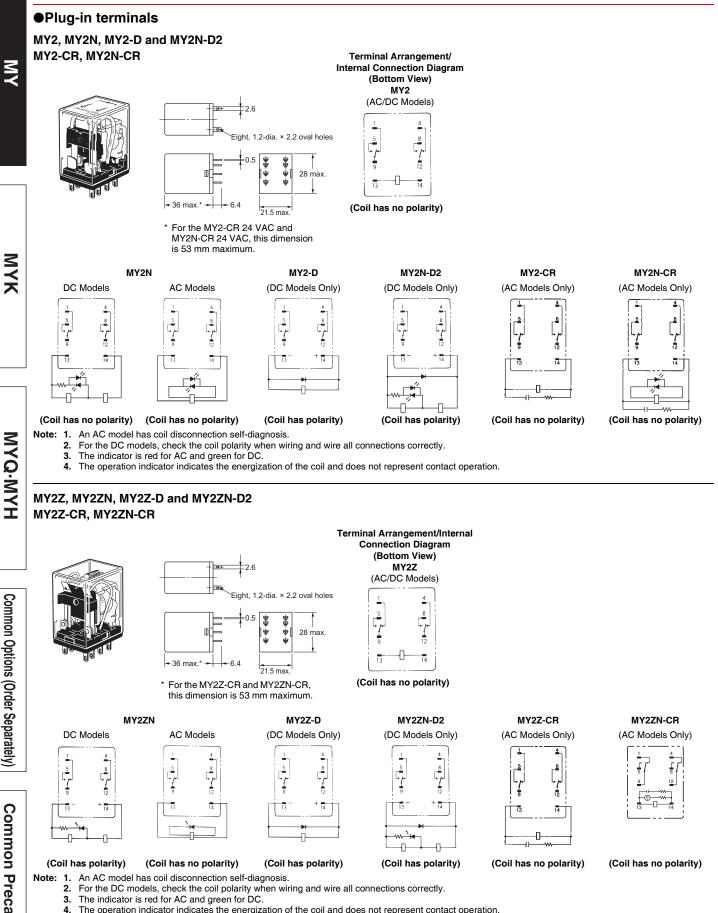
N = 20

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

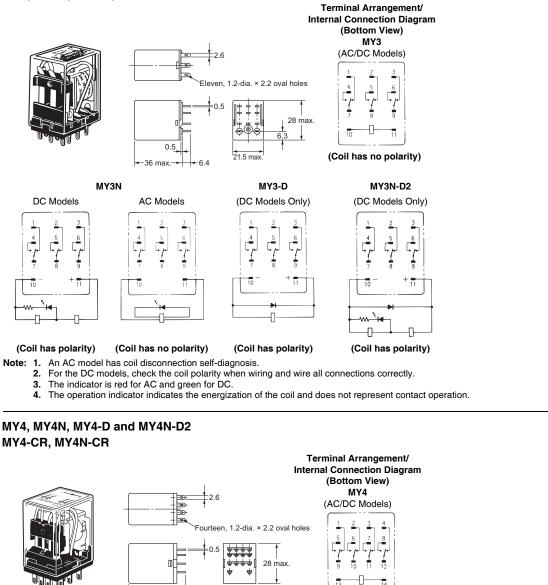


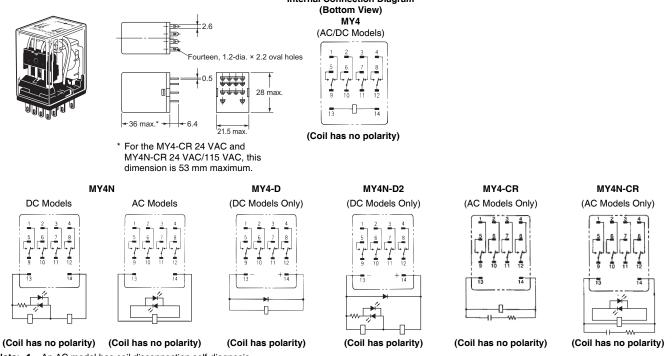
# **Dimensions**



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

#### MY3, MY3N, MY3-D, and MY3N-D2





MY

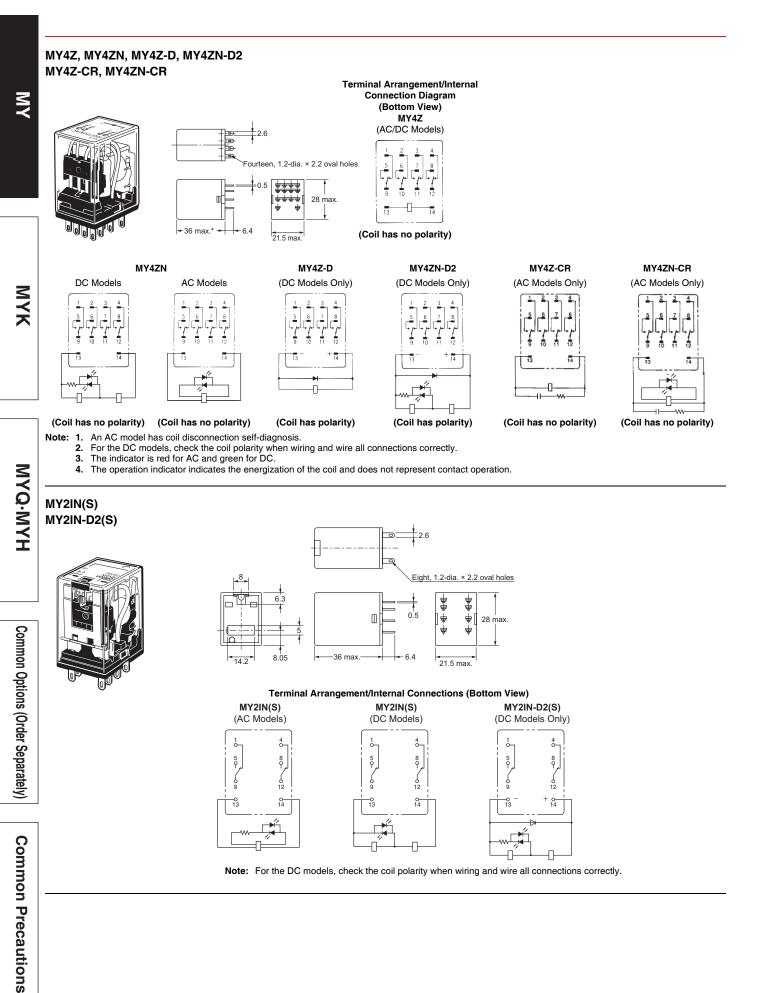
21

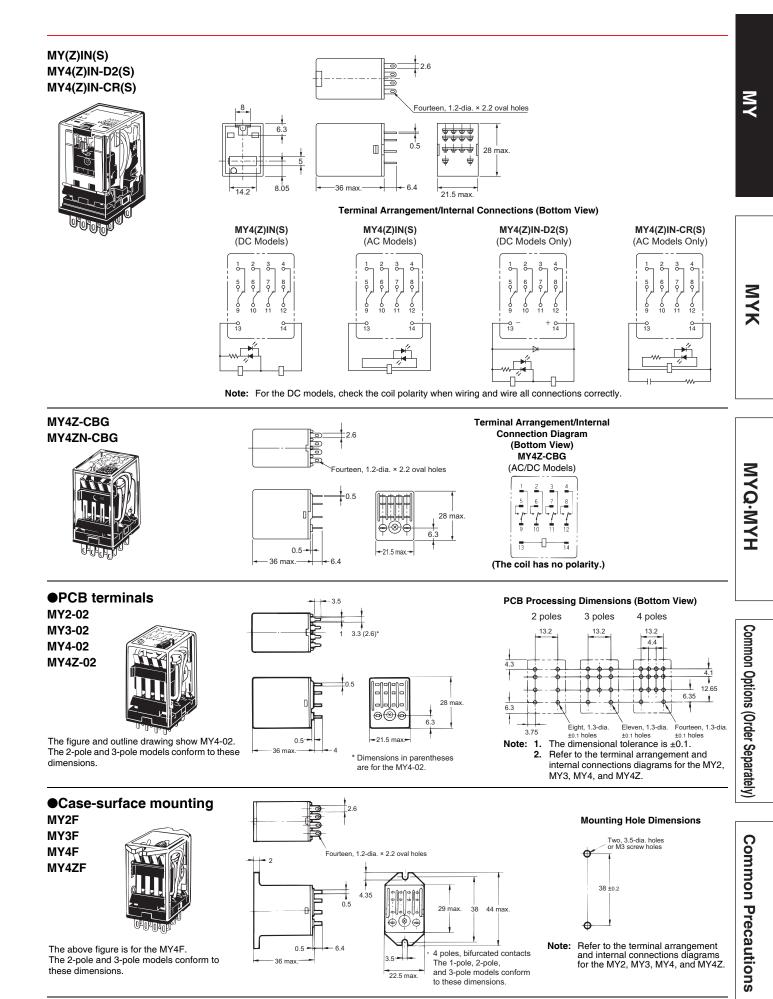
Note: 1. An AC model has coil disconnection self-diagnosis.

For the DC models, check the coil polarity when wiring and wire all connections correctly. 2.

The indicator is red for AC and green for DC. 3.

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





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# Miniature Power Latching Relays

MYK

# Latching miniature power relays that retain contact operation status

- A low power consumption type that retains contacts using a magnetic lock system.
- Equipped with mechanical operation indicators to make operation status easy-to-see.

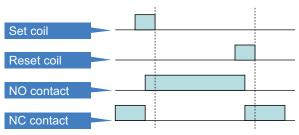
Refer to Safety Precautions on pages 54 to 55 and Safety Precautions for All Relays.

#### Features



#### Latching Relays MYK

Retains contact operation status.



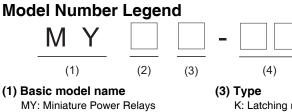
NO contact turns on when voltage is applied to the set coil and stays on even if voltage stops being applied to the set coil. NO contact turns off when voltage is applied to the reset coil, after which NC contact will turn on.\*

\*MYK features a magnetic lock system.

Contact operation status can be seen at a glance thanks to the mechanical operation indicator.



# **Model Number Structure**



(2) Number of poles/contacts 2: 2-pole, single

	(4)
(3) T ⊮	<b>'ype</b> K: Latching relay

(4) Options, terminal type None: Plug-in terminals 02: PCB terminals

# **Ordering Information**

When your order, specify the rated voltage.

# Main unit

Plug-in terminals

( laceitication	Number of poles	Contacts	Model	Rated voltage	
Standard models (compliant with Electrical	0	Single	МҮ2К	12, 24, 100, 100/110 VAC	
Appliances and Material Safety Act)	2	Siligie	WIZK	12, 24, 48 VDC	

#### PCB terminals

Classification	Number of poles	Contacte	Model	Rated voltage
Standard models (compliant with Electrical	2	Single		24, 100 VAC
Appliances and Material Safety Act)	2	Single	MY2K-02	12, 24 VDC

#### **MYK**

MΥ

#### **MYK**

MY

MYK

# **Ratings and Specifications**

#### Ratings

#### Operating coil

	Set coil Reset coil					Power consumption (VA, W)						
Rate	d voltage (V)	Rated current (mA)		Coil resistance	Rated current (mA)		Coil resistance	Must operate voltage (V)	Must release voltage (V)	Maximum voltage (V)	Set coil	Reset coil
		50 Hz	60 Hz	(Ω)	50 Hz	60 Hz	(Ω)	vonage (v)	voluge (V)			
	12	57	56	72	39	38.2	130				Approx. 0.6 Appr	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 rated voltage	(at 60 Hz)	(at 60 Hz)
	12	11	10	110	5	50	235	00 /0 IIIdX.			Approx. 1.3	Approx. 0.6
DC	24	5	2	470	2	25	940					
	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. 2. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for AC rated current and ±15% for DC coil

3.

resistance. The AC coil resistance is a reference value only. Operating characteristics were measured at a coil temperature of 23°C. 4.

5. The maximum voltage capacity was measured at an ambient temperature of 23°C.
 \*There is variation between products, but actual values are 80% maximum.

#### Contact Ratings

Number of poles (contact configuration)	2-pole (DPDT)					
Contact structure	Single					
Load	Resistive load         Inductive load (cos φ = 0.4, L/R = 7)					
Rated load	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	3 A					
Maximum switching voltage	250 VAC, 125 VDC					
Maximum switching current	3 A					
Maximum switching power	660 VA 72 W	176 VA 36 W				
Contact material	Au plating + Ag					

#### **Characteristics**

Contact resista	ance*1	50 mΩ max.				
Set	Operate time*2	AC: 30 ms max., DC: 15 ms max.				
Jei	Minimum pulse width	AC: 60 ms, DC: 30 ms				
Reset	Release time*2	AC: 30 ms max., DC: 15 ms max.				
nesei	Minimum pulse width	AC: 60 ms, DC: 30 ms				
Maximum	Mechanical	18,000 operations/h				
switching frequency	Rated load	1,800 operations/h				
Insulation resi	stance*3	100 MΩ min.				
Dielectric	Between coil and contacts Between contacts of different polarity	1,500 VAC at 50/60 Hz for 1 min				
strength	Between contacts of the same polarity	1,000 VAC at 50/60 Hz for 1 min				
	Between set/reset coils					
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)				
Endurance	Electrical*4	200,000 operations min. (at rated load, switching frequency: 1,800 operations/h)				
Failure rate P	value (reference value)*5	1 mA at 1 VDC				
Ambient opera	ting temperature*6	-55 to 60°C				
Ambient opera	ting humidity	5% to 85%				
Weight		Approx. 30 g				

Note: The data shown above are initial values. \*1. Measurement conditions: 1 A at 5 VI

Measurement conditions:

1 A at 5 VDC using the voltage drop method. With rated operating power applied, not including contact bounce. For 500 VDC applied to the same location as for dielectric strength measurement. Measurement conditions:

Ambient temperature condition: 23°C

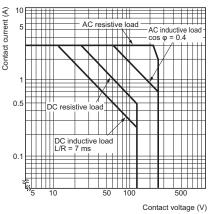
\*2. \*3. \*4. \*5. \*6. This value was measured at a switching frequency of 120 operations per minute.

With no icing or condensation.

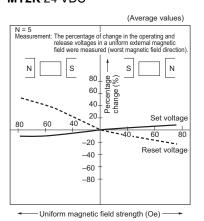
# MYK

# **Engineering Data (Reference Value)**

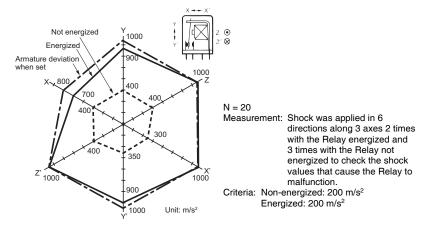
# Maximum Switching Capacity MY2K(-02)



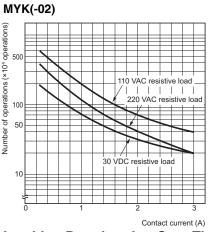
#### Magnetic Interference (External Magnetic Field) MY2K 24 VDC



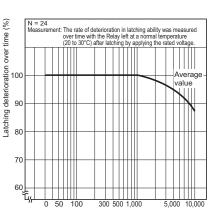
#### Shock Malfunction MY2K 100 VAC



#### Endurance Curve









MYK(-02)

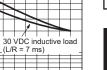
Number of operations (×10<sup>4</sup> operations)

500

100

50

10



110 VAC inductive load  $(\cos \varphi = 0.4)$ 

220 VAC inductive load

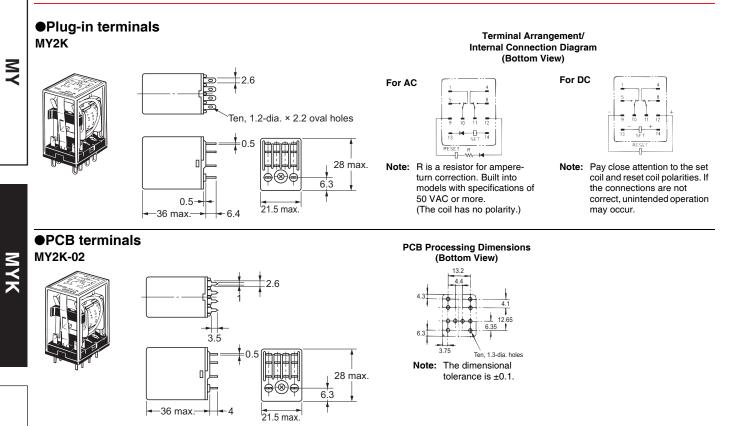
 $(\cos \varphi = 0.4)$ 

Contact current (A)

MY

# MYK

# Dimensions



# **Miniature Power Sealed Relays** ΜΥQ/ΜΥΗ

# Sealed relays that are tough in environments where dust or corrosive gases, etc., are present

- Plastic sealed relays (MYQ) and hermetically sealed relays (MYH) that are resistant to effects from the surrounding environment
- Highly airtight structures that are tough in environments where corrosive gases such as chloride gas, sulfuric gas, and silicone gas are generated. They are also resistant to environments where salt damage is occurred and where dust is generated.
- Prevent relay contact failures via a highly airtight structure.

Refer to Safety Precautions on pages 54 to 55 and Safety Precautions for All Relays.



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

# MYK

ϺϒႭ·ϺϒΗ

MY

**FL' (SP** 

# **Features**

#### Highly Airtight Relays (Plug-in Terminals)

Seal performance	Degree of protection	Typical relay	Features
High	Hermetically sealed	МҮН	Sealing with metals, the glass case and base, etc. with inert gases (N2) inside makes it airtight structure which provides the external casing with durability against harmful corrosion, and prevents corrosive gases from intruding inside relays.
	Plastic sealed	MYQ	Structure that seals relays with the resin case and cover, etc., to prevent effects from corrosive environments.
Low	Closed type (cased)	MY, MY4Z-CBG	Relays in the case realize the structure that protects them from contact with foreign materials.

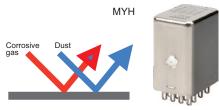
#### Plastic Sealed Relays: MYQ

These realize excellent reliability even in environments where salt damage occurs or where dust is generated.



#### Hermetically Sealed Relays: MYH

These realize excellent reliability even in environments where dust is generated or where corrosive gases (chloride gas, sulfuric gas, silicone gas, etc.) are present.



Common Options (Order Separately)

#### **MYQ·MYH**

# **Model Number Structure**

#### Model Number Legend



#### (1) Basic model name

MY: Miniature Power Sealed Relays

#### (2) Contacts/seals

- Q4: 4-pole, single contacts, plastic sealed relays
- Q4Z: 4-pole, bifurcated contacts, plastic sealed relays
- 4H: 4-pole, single contacts, hermetically sealed relays
- 4ZH: 4-pole, bifurcated contacts, hermetically sealed relays

#### (3) Type

- None: None
- N: With operation indicator\* \*Only MYQ (plastic sealed relay)
- (4) Options, terminal type
  - None: Plug-in terminals
  - 02: Plastic sealed relays, PCB terminals
  - 0: Hermetically sealed relays, PCB terminals

# Ordering Information

When your order, specify the rated voltage.

#### **Plastic Sealed Relays**

Plug-in terminals

	Classification	Number	Contacts			With operation indicator		
	Classification	of poles	SContacts	Model	Rated voltage	Model	Rated voltage	
	Standard models	4	Single	MYQ4	100/110, 110/120, 200/220, 220/240 VAC	MYQ4N	24, 100/110, 110/120, 200/220, 220/240 VAC	
	(compliant with				24 VDC		12, 24, 48, 100/110 VDC	
	Electrical Appliances and Material Safety Act)		Bifurcated	MYQ4Z	100/110, 110/120, 200/220 VAC			
					12, 24 VDC			

#### PCB terminals

Classification	Number of poles	Contacts	Model	Rated voltage
Standard models		Single	MYQ4-02	50, 200/220, 220/240 VAC
(compliant with		Single	WIT Q4-02	24 VDC
Electrical Appliances	4	Bifurcated	MYQ4Z-02	100/110 VAC
and Material Safety Act)			IVI T Q4Z-02	24, 48 VDC

#### Hermetically Sealed Relays ●Plug-in terminals

Classification	Number of poles	Contacts	Model	Rated voltage	
Standard models (compliant with		Single	MY4H	24, 100/110, 110/120 VAC 12, 24, 48, 100/110 VDC	
Electrical Appliances	4	Bifurcated	MY4ZH	24, 100/110, 110/120 VAC	
and Material Safety Act)			W14211	12, 24, 48, 100/110 VDC	

#### PCB terminals

Classification	Number of poles	Contacts	Model	Rated voltage
Standard models		Sinale	MY4H-0	110/120 VAC
(compliant with Electrical Appliances	4	Siligle	W1411-0	24 VDC
and Material Safety Act)		Bifurcated	MY4ZH-0	24, 100/110 VDC

MY

MYK

# **MYQ·MYH**

# **Ratings and Specifications**

#### Operating coil

		Rated cur	rrent (mA)	Coil	Coil indu	ctance (H)		Maria		Power		
Rated	voltage (V)	50 Hz	60 Hz	resistance (Ω)	Armature OFF	Armature ON	Must operate voltage (V)*1	Must release voltage (V)*2	Maximum voltage (V)	consumption (VA, W)	Z	
	24	53.8	46	180	0.69	1.3					<b>~</b>	
	100/110	11.7/12.9	10/11	3,750	14.54	24.6			110% max. of			
AC	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1		30% min.		Approx. 0.9 to 1.3 (at 60 Hz)	Approx. 0.9 to 1.3 (at 60 Hz)	
	200/220	6.2/6.8	5.3/5.8	12,950	54.75	91.07						
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	80% max.					
	12	7	5	165	0.734	1.37			Taled Vollage			
DC	24	36	6.9	650	3.2	5.72		10% min.		Approx 0.0		
DC	48	18	3.5	2,600	10.6	21.0	1	TU % MIN.		Approx. 0.9		
	100/110	9.1	/10	11,000	45.6	86.0						

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

2.

The AC coil resistance and coil inductance values are for reference only. Operating characteristics were measured at a coil temperature of 23°C. 3.

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

 There is variation between products, but actual values are 80% maximum. To ensure operation, apply at least 80% of the rated value.
 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.

#### Contact Ratings **Plastic Sealed Relays: MYQ**

Number of poles (contact configuration)	4-pole (4PDT)					
Contact structure	Single/b	ifurcated				
Load	Resistive load	Inductive load (cos $\varphi$ = 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 switching voltage	250 VAC 125 VDC					
Maximum switching current	1 A					
Maximum switching power	220 VA 110 VA 24 W 12 W					
Contact material	Au plating + Ag					

#### Hermetically Sealed Relays: MYH

Number of poles (contact configuration)	4-pole (4PDT)							
Contact structure	Si	ngle	Bifu	rcated				
Load	Resistive load	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)	Resistive load	Inductive load (cos $\phi$ = 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	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 switching voltage	125 VAC 125 VDC							
Maximum switching current	3 A							
Maximum switching power	330 VA 72 W	88 VA 36 W	330 VA 72 W	88 VA 36 W				
Contact material	Au plating +	Ag						

MYK

#### **Characteristics**

	Model		MYQ	МҮН				
ΥM	Contact resistance*1		50 mΩ max.					
	Operate time*2		20 ms max.					
	Release time*2		20 ms max.					
	Maximum	Mechanical	18,000 operations/h					
	switching frequency	Rated load	1,800 operations/h					
	Insulation resistance*3		100 MΩ min.					
МҮК	Dielectric strength	Between coil and contacts	2,000 VAC at 50/60 Hz for 1 min	1,000 VAC at 50/60 Hz for 1 min				
		Between contacts of different polarity	2,000 VAC at 50/60 Hz for 1 min	1,000 VAC at 50/60 Hz for 1 min				
		Between contacts of the same polarity	1,000 VAC at 50/60 Hz for 1 min	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 doub	le amplitude)				
	resistance	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	Mechanical	Single contacts: AC: 50,000,000 operations min., DC: 100,000,000 operations min. Bifurcated contacts: 5,000,000 operations min., DC: 5,000,000 operations min. (switching frequency: 18,000 operations/h)	Single contacts: 50,000,000 operations min. Bifurcated contacts: 5,000,000 operations min. (switching frequency: 18,000 operations/h)				
<b>ΜΥQ·Μ</b> Υ		Electrical*4	Single contacts: 200,000 operations min. Bifurcated contacts: 100,000 operations min. (at rated load, switching frequency: 1,800 operations/h)	Single contacts: 100,000 operations min. Bifurcated contacts: 50,000 operations min. (at rated load, switching frequency 1,800 operations/h)				
	Failure rate P Level (reference value)*5		Single contacts: 1 mA at 1 VDC Bifurcated contacts: 100 µA at 1 VDC	Single contacts: 100 µA at 1 VDC Bifurcated contacts: 100 µA at 100 mVDC				
	Ambient operating temperature*6		-55 to 60°C	-25 to 60°C				
	Ambient operating humidity		5% to 85%					
	Weight		Approx. 35 g	Approx. 50 g				

 Note:
 The data shown above 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.

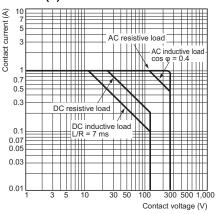
\*3. \*4. \*5. \*6.

IntersectionWith rated operating power applied, not including contact bounce.Ambient temperature condition:23°CMeasurement conditions:For 500 VDC applied to the same location as for dielectric strength measurement.Ambient temperature condition:23°CThis value was measured at a switching frequency of 120 operations per minute.With no icing or condensation.

#### **MYQ·MYH**

# **Engineering Data (Reference Value)**

# Maximum Switching Capacity MYQ4(Z)



**Endurance Curve** 

220 VAC

resistive load

24 VDC resistive load

220 VAC inductive load (cos  $\phi = 0.4$ )

Contact current (A)

24 VDC inductive load (L/R = 7 ms)

MYQ4

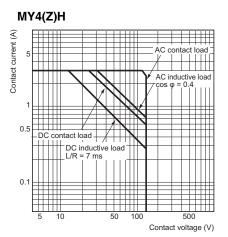
500

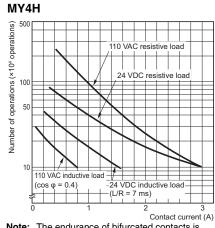
operations)

Number of operations (x10<sup>4</sup>

50

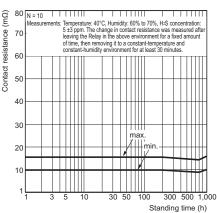
10



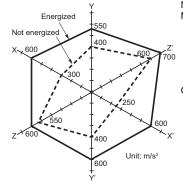


Note: The endurance of bifurcated contacts is one-half that of single contacts.

#### Note: The endurance of bifurcated contacts is one-half that of single contacts. H<sub>2</sub>S Gas Data MYQ4



#### **Shock Malfunction**



#### 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>

# Shock direction

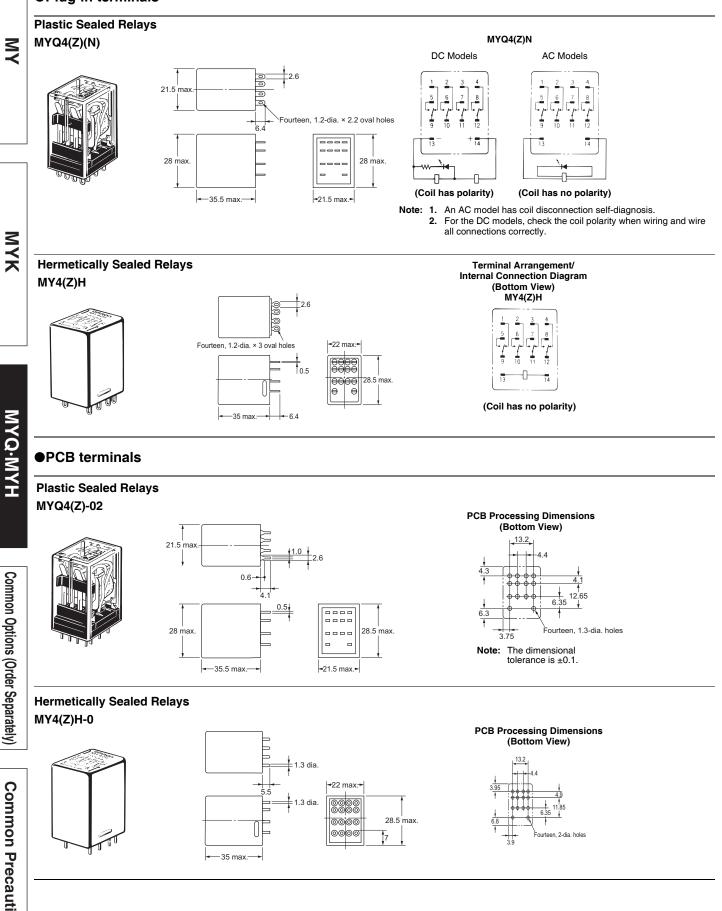




## **MYQ·MYH**

#### **Dimensions**

#### Plug-in terminals



#### OMRON

# MY/MYK/MYQ·MYH

#### **Common Options (Order Separately)**

# **Ordering Information**

#### **Front-mounting Sockets**

Front-mounting Sockets								ΥM
Applicable relay model*1	Mounting Method	Conductive part protection	Terminal Type	Applicable crimp terminal/ Electric wire	Appearance	Mode	Hold-down Clips/ Release Levers (Order Separately)	
		Available Option (Terminal cover sold separately) *3	Push-In Plus Terminal	Ferrules Solid wire Stranded wire	<u>NEW</u>	PYF-08-PU*2 * MY2Z□-CR, MY2□-CR 24 VAC cannot be used	With release lever * Hold by release lever	
	Mounted on a				NEW	PYF-08-PU-L*2		MYK
MY2⊟ MY2⊡(S) MY2Z□-CR	DIN track or with screws		Screw terminal (M3 screw size)	Forked terminals Solid wire Stranded wire	NEW	PYFZ-08-E*4	MY2⊡: PYC-A1 MY2IN(S): PYC-E1 MY2Z⊡-CR, MY2⊡-CR 24 VAC: Y92H-3	K
MY2ZU-CR				Round terminals Forked terminals Solid wire Stranded wire	NEW	PYFZ-08 * Terminal cover: PYCZ-C08		
	Mounted on a DIN track	Available	Screwless terminal (Clamp method)	Solid wire Stranded wire		PYF08S	PYCM-08S * MY2Z□-CR, MY2□-CR 24 VAC cannot be used * Hold by release lever	ϺϒϘ·ϺϒΗ
	Screw mounting only	None	Screw terminal (M3.5 screw size)	Round terminals Forked terminals Solid wire Stranded wire		PYF08M	PYC-P (MY2 Only) * MY2 - CR 24 VAC cannot be used	
MY3	Mounted on a DIN track or with screws	None	Screw terminal (M3 screw size)	Round terminals Forked terminals Solid wire Stranded wire		PYF11A	PYC-A1	Common C

 The applicable relay model is a plug-in terminal type.
 There are screw mounting holes in the DIN hooks on the PYF- PU and P2RF- PU. Pull out the DIN hook tabs to mount the Sockets with screws.
 Terminal cover type is PYCZ-C08. (Order Separately) For details, refer to the For Screw Terminal Sockets (PYFZ-08/PYFZ-14) Terminal covers on page 43. \*2. \*3.

\*4. The finger-protection type (PYFZ-D-E) is a type in which the terminal cover is integrated into the socket. Round terminals cannot be used. Use forked terminals or ferrules instead.

#### MY/MYK/MYQ·MYH

	Applicable relay model*1	Mounting Method	Conductive part protection	Terminal Type	Applicable crimp terminal/ Electric wire	Appearance	Mode	Hold-down Clips/ Release Levers (Order Separately)
ΥM	MY4 MY4 (S) MY4 H MYQ4 MY4Z CBG-CR MY2K	Mounted on a DIN track or with screws	Available Option (Terminal cover sold separately) *3	Push-In Plus Terminal	Ferrules Solid wire Stranded wire	<u>NEW</u>	PYF-14-PU*2 * MY4Z□-CBG-CR, MY4-CR 24 VAC, MY4N-CR 24 VAC/115 VAC cannot be used	With release lever * Hold by release lever
МҮК						NEW	PYF-14-PU-L*2	MY4Z□-CBG-CR, MY4-CR 24 VAC, MY4N-CR 24 VAC/115 VA: Y92H-3 Other than those above: PYC-A1
				– Screw terminal (M3 screw size)	Forked terminals Solid wire Stranded wire	NEW	PYFZ-14-E*4	
					Round terminals Forked terminals Solid wire Stranded wire	<u>NEW</u>	PYFZ-14 * Terminal cover: PYCZ-C14	
Z		Mounted on a DIN track	Available		Solid wire Stranded wire		PYF14S	PYCM-14S * MY4Z□-CBG-CR, MY4-CR 24 VAC, MY4N-CR 24 VAC/115 VAC cannot be used * Hold by release lever
MYQ-MYH		Mounted on a DIN track or with screws	None	Screw terminal (M3.5 screw size)	Round terminals Forked terminals Solid wire Stranded wire		PYF14T	MY4Z⊡-CBG-CR: Y92H-3 Other than those above: PYC-A1

The applicable relay model is a plug-in terminal type.
 There are screw mounting holes in the DIN hooks on the PYF---PU and P2RF---PU. Pull out the DIN hook tabs to mount the Sockets with screws.
 Terminal cover type is PYCZ-C14. (Order Separately) For details, refer to the *For Screw Terminal Sockets (PYFZ-08/PYFZ-14) Terminal covers* on page 43.
 The finger-protection type (PYFZ---E) is a type in which the terminal cover is integrated into the socket. Round terminals cannot be used. Use forked terminals or ferrules instead.

Back-mounting Sockets Applicable relay model*1	Terminal Type	Hold-down Clips	Appearance	Mode	
	Solder terminals			PY08	MY
MY2□ MY2□(S)	Wrapping terminals Terminal length: 25 mm	Accessories (Order Separately) - * MY2Z⊡-CR: PYC-1		PY08QN	_
MY2ZU-CR	Wrapping terminals Terminal length: 20 mm	Other than those above: PYC-P		PY08QN2	_
	PCB terminals			PY08-02	МҮК
	Solder terminals			PY08-Y1	
MY2□ MY2□(S)	Wrapping terminals Terminal length: 25 mm			PY08QN-Y1	MYQ·MYH
	Wrapping terminals Terminal length: 20 mm	With Hold-down Clips*2		PY08QN2-Y1	Common Option
	Solder terminals			РҮ08-Ү3	Common Options (Order Separately)
MY2ZCR	Wrapping terminals Terminal length: 25 mm			PY08QN-Y3	Common Preca

\*1. The applicable relay model is a plug-in terminal type.
\*2. The hold-down clips for connecting the relay and socket come as a set with the socket.

	Applicable relay model*1	Terminal Type	Hold-down Clips	Appearance	Mode
ΥM	MY2Z□-CR	Wrapping terminals Terminal length: 20 mm	With Hold-down Clips*2		PY08QN2-Y3
			Accessories (Order Separately) * PYC-P		PY11
МҮК		Solder terminals	With Hold-down Clips*2		РҮ11-Ү1
			Accessories (Order Separately) * PYC-P		PY11QN
МҮQ·МҮН	МҮЗ□	Wrapping terminals Terminal length: 25 mm	With Hold-down Clips*2		PY11QN-Y1
Cor			Accessories (Order Separately) * PYC-P		PY11QN2
Common Options (Order Separately)		Wrapping terminals Terminal length: 20 mm	With Hold-down Clips*2		PY11QN2-Y1
arately)		PCB terminals	Accessories (Order Separately) * PYC-P		PY11-02
Comm	MY4□ MY4□(S) MY4□H	Solder terminals	Accessories (Order Separatelv)		PY14
<b>Common Precautions</b>	MYQ4⊟ MY4Z⊟-CBG-CR MY2K	Wrapping terminals Terminal length: 25 mm	Accessories (Order Separately) * MY4Z□-CBG-CR: PYC-1 Other than those above: PYC-P		PY14QN
tions	<ul> <li>*1. The applicable relay model is a</li> <li>*2. The hold-down clips for connect</li> </ul>	a plug-in terminal type. ting the relay and socket come	e as a set with the socket.		

38

Applicable relay model*1	Terminal Type	Hold-down Clips	Appearance	Mode	
MY4□ MY4□(S) MY4□H MYQ4□ MY4Z□-CBG-CR	Wrapping terminals Terminal length: 20 mm	Accessories (Order Separately) * MY4Z□-CBG-CR: PYC-1 Other than those above: PYC-P		PY14QN2	MΥ
MY2K	PCB terminals			PY14-02	
	Solder terminals			PY14-Y1	МҮК
MY4□ MY4□(S) MY4□H MYQ4□ MY2K	Wrapping terminals Terminal length: 25 mm			PY14QN-Y1	K
	Wrapping terminals Terminal length: 20 mm			PY14QN2-Y1	MYQ-MYH
	Solder terminals	- With Hold-down Clips*2		PY14-Y3	Common Opti
MY4Z⊡-CBG-CR	Wrapping terminals Terminal length: 25 mm			PY14QN-Y3	Common Options (Order Separately)
*1 The applicable rolay model is	Wrapping terminals Terminal length: 20 mm			PY14QN2-Y3	<b>Common Precautions</b>
<ul><li>*1. The applicable relay model is</li><li>*2. The hold-down clips for connection</li></ul>	a plug-in terminal type. ecting the relay and socket come	e as a set with the socket.			ons

	Hold-down Clip							
	Appearance*1	Model*2	Weight*3	Application				
ΥM		РҮС-А1	Approx. 0.54 g	_				
		PYC-E1	Approx. 0.6 g	For connecting relays and sockets				
		РҮС-Р	Approx. 1.4 g					
MYK		PYC-S	Approx. 1.8 g	For connecting sockets, socket mounting plates, and relays				
YM		Y92H-3*4	Approx. 0.7 g	For connecting models with built-in CR circuit for coil surge absorption				
МҮQ-МҮН		PYC-1*5	Approx. 6 g	(MY2Z□-CR) and sockets				

\*1. The appearance shown is one in which the relay, socket, and hold-down clip are assembled.
\*2. Hold-down clips are used in sets of two. However, PYC-P and PYC-1.
\*3. The weight shown above is the weight for one hold-down clip.
\*4. MY2-CR 24 VAC, MY2N-CR 24 VAC, MY4-CR 24 VAC and MY4N-CR 24 VAC/115 VAC use in combination with hold-down clip Y92H-3.
\*5. MY2-CR 24 VAC, MY2N-CR 24 VAC, MY4-CR 24 VAC and MY4N-CR 24 VAC/115 VAC use in combination with hold-down clip PYC-1.

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### •Front-connecting Socket Accessories For Push-In Plus Terminal Sockets (PYF-08-PU(-L)/PYF-14-PU(-L)) Short Bars

Applicable sockets	Pitch	Application	Shape/external dimensions	Number of poles	L (Length)	Insulati on color	Model*1
			3.90	2	15.1		PYDN-7.75-020
		Bridging contact		3	22.85		PYDN-7.75-030
	7.75 mm	terminals (common)		4	30.6		PYDN-7.75-040
PYF-08-PU(-L)			2.25 1.57	20	154.6	Red (R) Blue (S) Yellow(Y)	PYDN-7.75-200
PYF-14PU(·L)	31.0 mm	For Coil terminals	3.90 3.90 18.5 2.25 224.35 	8	224.35		PYDN-31.0-080

\*1. Replace the box ( $\Box$ ) in the model number with the code for the covering color.  $\Box$ Color selection: R = Red, S = Blue, Y = Yellow

#### Labels

Applicable sockets	Model
PYF-08-PU(-L)	XW5Z-P4.0LB1
PYF-14PU(-L)	(1 sheet/60 pieces)

### For Screwless Terminal Sockets (PYF08S/PYF14S)

#### Short Bars

Applicable sockets	Pitch	Application	Shape/external dimensions	Number of poles	Insulati on color	Model*1
PYF08S	19.7 mm	For bridging		2	Red (R)	<b>PYDM-08S</b> □ (50 pcs./bag)
PYF14S	27.5 mm	coils between sockets	1.2-dia. ← Pitch →	2	Blue (B)	<b>PYDM-14S</b> □ (50 pcs./bag)

\*1. Replace the box ( $\Box$ ) in the model number with the code for the covering color.  $\Box$ Color selection: R = Red, B = Blue

#### Labels

Applicable sockets	Model
PYF08S	R99-11
PYF14S	(100 pcs./bag)

#### **Release Levers**

Applicable sockets	Shape/external dimensions	Model
PYF08S		PYCM-08S
PYF14S		PYCM-14S

### For Screw Terminal Sockets (PYFZ-08/PYFZ-14) Short Bars

ΥM	Applicable sockets	Pitch	Application		Number of poles	Insulation color	Model*1		
~					2		<b>PYD-025B⊡ (2P)</b> (10 pcs./bag)		
МУК	PYFZ-08	22 mm	For bridging		8	B (Black)	<b>PYD-085B⊡ (8P)</b> (10 pcs./bag)		
				adjacent sockets	adjacent		2	S (Blue) R (Red)	<b>PYD-026B□ (2P)</b> (10 pcs./bag)
MYQ-MYH	PYFZ-14	29 mm		$\begin{array}{c} & & & \\ & & & & \\ & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\$	8		<b>PYD-086B⊡ (8P)</b> (10 pcs./bag)		
Common Option			For bridging		2	B (Black)	<b>PYD-020B⊡ (2P)</b> (50 pcs./bag)		
Options (Order Separately)		7 mm	with the same socket		3	Y (Yellow)	<b>PYD-030B⊡ (3P)</b> (10 pcs./bag)		

\*1. Replace the box ( $\Box$ ) in the model number with the code for the covering color.

### For Screw Terminal Sockets (PYFZ-08/PYFZ-14) **Terminal covers**

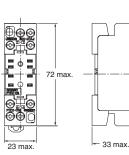
Applicable sockets	Appearance	Model
PYFZ-08		PYCZ-C08 (2 pcs/set)
PYFZ-14		PYCZ-C14 (1 pcs/set)

Note: These covers cannot be used for PYF08A and PYF14A.

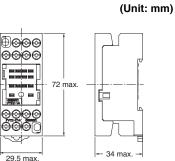
#### Dimensions with terminal cover

PYCZ-C08









### Socket Mounting Plates (For Back-connecting Socket PY://Solder Terminals, PY:::QN(2)/Wrapping Terminals)

	Applicable Sockets	\$	Socket Mounting Plates			
Model	Models with hold-down clips	Appearance	Number of sockets	Model		
PY08 PY08QN	PY08-Y1, PY08-Y3 PY08QN-Y1, PY08QN-Y3		1	PYP-1		
PY08QN2 PY11 PY11QN PY11QN2	PY08QN2-Y1, PY08QN2-Y3 PY11-Y1 PY11QN-Y1	PY08QN2-Y1, PY08QN2-Y3 PY11-Y1		18	PYP-18*	
PY14 PY14QN PY14QN2	PY14-Y1, PY14-Y3 PY14QN-Y1, PY14QN-Y3 PY14QN2-Y1, PY14QN2-Y3		36	PYP-36*		

\*You can cut the PYP-18 and PYP-36 to any required length.

#### Parts for Track Mounting

Туре		Appearance	Model
	1 m		PFP-100N
DIN Tracks	0.5 m		PFP-50N
End Plate*		Contraction of the second	PFP-M
Spacer			PFP-S

Note: The track conforms to DIN standards. \*When mounting DIN track, please use End Plate (Model PFP-M).

MYK

MY

## **Ratings and Specifications**

### **Characteristics**

### Sockets

$\leq$								Di	electric stren	gth													
ΥM	Model	Connection	Number of pins	Terminal Type	Ambient operating temperature	Ambient operating humidity	Continuous carry current	Between contact terminals of same polarity	Between contact terminals of different polarity	Between coil and contact terminals	Insulation resistance *1	Weight											
	PYF-08-PU			Push-In Plus Terminal	-40 to 70°C		10 A*2	2,000 VAC	2,000 VAC	2,000 VAC		Approx. 80 g											
	PYF08S			Screwless terminal			10 A 2	for 1 min	for 1 min	for 1 min		Approx. 46 g											
	PYFZ-08		8				10 A	2,250 VAC	2,250 VAC	2,250 VAC		Approx. 32 g											
	PYFZ-08-E		_	Screw terminal	FF to 7000			for 1 min	for 1 min	for 1 min		Approx. 32 g											
	PYF08M				–55 to 70°C		5 A	1,500 VAC for 1 min	1,500 VAC for 1 min	1,500 VAC for 1 min		Approx. 26 g											
	PYF11A	Front	11	Screw terminal			5 A	2,000 VAC for 1 min	2,000 VAC for 1 min	2,000 VAC for 1 min	1,000 MΩ min. (500 VAC)	Approx. 43 g											
	PYF-14-PU			Push-In Plus Terminal	-40 to 70°C		6 A	2,000 VAC	2,000 VAC	2,000 VAC	(000 170)	Approx. 87 g											
2	PYF14S			Screwless terminal			5 A	for 1 min	for 1 min	for 1 min		Approx. 62 g											
MYK	PYFZ-14		14				6 A	2,250 VAC	2,250 VAC	2,250 VAC		Approx. 50 g											
X	PYFZ-14-E			Screw terminal	–55 to 70°C		U.A.	for 1 min	for 1 min	for 1 min		Approx. 50 g											
	PYF14T						3 A	2,000 VAC for 1 min	2,000 VAC for 1 min	2,000 VAC for 1 min		Approx. 53 g											
	PY08			Solder terminals				д 1,500 VAC	1,500 VAC	1,500 VAC	100 ΜΩ	Approx. 8 g											
	PY08-Y1											Approx. 9 g											
	PY08-Y3											Approx. 9 g											
	PY08QN			Wrapping terminals (Terminal length: 25 mm) Wrapping terminals (Terminal length: 20 mm)								Approx. 12 g											
	PY08QN-Y1		8									Approx. 13 g											
	PY08QN-Y3					5% to 85%	for 1 min	for 1 min	for 1 min	min.	Approx. 13 g												
	PY08QN2											Approx. 11 g											
$\leq$	PY08QN2-Y1	_										Approx. 12 g											
$\leq$	PY08QN2-Y3	_		20 mm)								Approx. 12 g											
MYQ-MYH	PY08-02	_		PCB terminals							Approx. 7 g												
S	PY11	_		Solder terminals								Approx. 9 g											
$\leq$	PY11-Y1	-	< 11									Approx. 10 g											
T	PY11QN			11	11	11									Wrapping terminals				1,500 VAC	1,500 VAC	1,500 VAC	100 MΩ	Approx. 13 g
	PY11QN-Y1	Back					(Terminal length: 25 mm)	–55 to 70°C		5 A	for 1 min	for 1 min	for 1 min	min.	Approx. 14 g								
	PY11QN2	-		Wrapping terminals (Terminal length: 20 mm)								Approx. 12 g											
	PY11QN2-Y1	-		、 <b>、</b> ,								Approx. 13 g											
	PY11-02 PY14	-		PCB terminals	1							Approx. 8 g											
8	PY14 PY14-Y1	-		Solder terminals								Approx. 10 g											
mm	PY14-Y1 PY14-Y3	-		Soluer terminals								Approx. 11 g Approx. 11 g											
lon	PY14QN	-										Approx. 11 g											
မ္မ	PY14QN-Y1	1		Wrapping terminals (Terminal length:				1,500 VAC	1,500 VAC	1.500 VAC	100 MΩ	Approx. 14 g											
Common Options (Order Separ	PY14QN-Y3	1	14	25 mm)			3 A	for 1 min	for 1 min	for 1 min	min.	Approx. 15 g											
าร (	PY14QN2	1	,	-							Approx. 13 g												
Ord	PY14QN2-Y1			Wrapping terminals (Terminal length:								Approx. 10 g											
er (	PY14QN2-Y3	1		20 mm)								Approx. 14 g											
Sep	PY14-02	1		PCB terminals	1							Approx. 9 g											
ar			I	32 10 10 10	1	1	1	L	1	1	1												

\*1. \*2. \*3.

For 500 VDC applied to the same location as for dielectric strength measurement. The carrying current of 10 A is for an ambient temperature of 55°C or below. At an ambient temperature of 70°C, the value is 7 A. This model is a set including a socket and relay hold-down clips. This weight shown is the total including the socket and relay hold-down clips.

#### **Socket Accessories** •For Front-connecting Sockets Short Bars

Application	Applicable sockets	Model	Maximum carry current	Ambient operating temperature	Ambient operating humidity
		PYDN-7.75-020			
	PYF-08-PU(-L)	PYDN-7.75-030	20 A	40 to 70%	E% to 95%
	PYF-14-PU(-L)	PYDN-7.75-040	20 A	-40 to 70°C -40 to 70°C (with no icing or condensation)	5% to 85% 45% to 85% (with no icing or condensation)
		PYDN-7.75-200			
Bridging contact terminals (common)	PYFZ-08 PYFZ-14	PYD-025B			
		PYD-085B			
		PYD-026B□	20 A		
		PYD-086B	(However, 18 A when 70°C)		
		PYD-020B	, ,		
		PYD-030B			
	PYF-08-PU(-L) PYF-14-PU(-L)	PYDN-31.0-080	20 A	-40 to 70°C	5% to 85%
For Coil terminals	PYF08S	PYDM-08S	10 A	-40 to 70°C	5% to 85%
	PYF14S	PYDM-14S	10 A	-40 to 70°C	5% to 85%

### **Certified Standards** ●CSA certification (File No. LR031928)

Model	Ratings	Class number	Standard number	
PYF-08-PU	10 A, 250 V			
PYF-14-PU	6 A, 250 V*	3211 07 CSA C22.2 No		
PYF08S	10 A, 250 V			
PYF14S	5 A, 250 V		CSA C22.2 No14	
PYFZ-08(-E)	10 A, 250 V		007 022.2 1014	
PYFZ-14(-E)	6 A, 250 V			
PY□ PYF□A	7 A, 250 V			

\*When power is supplied to all four poles, use with a total power current that does not exceed 20 A.

### **•**UL certification (File No. E87929)

Model	Ratings	Standard number	Category	Listed/Recognized
PYF-08-PU	10 A, 250 V			
PYF-14-PU	6 A, 250 V*			
PYF08S PYF14S	10 A, 250 V			
PYFZ-08(-E)	10 A, 250 V	UL508	SWIV2	Recognition
PYFZ-14(-E)	6 A, 250 V	-		
PY□ PYF□A	7 A, 250 V			

\*When power is supplied to all four poles, use with a total power current that does not exceed 20 A.

### **•**TÜV Rheinland certification

Model	Ratings	Standard number	Certification No.	
PYF-08-PU	10 A, 250 V*		R50327595	
PYF-14-PU	6 A, 250 V	EN 61984	R50327595	
PYFZ-08(-E)	10 A, 250 V	EN 01984	B50405329	
PYFZ-14(-E)	6 A, 250 V		H30403329	

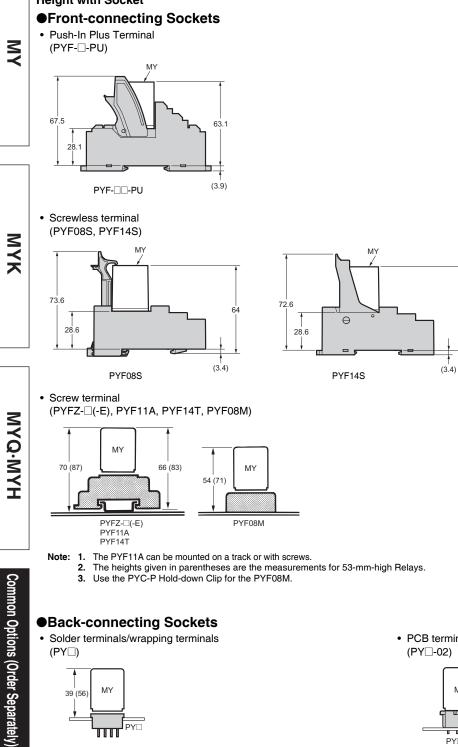
\*Ratings are for an ambient temperature of 55°C or below. At an ambient temperature of 70°C, the value is 7 A.

### VDE certification

Model	Standard number	Certification No.
PYF08S	VDE0627 (EN61984)	40015509
PYF14	VDE0027 (EN01904)	40015509

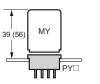
### Dimensions

### **Height with Socket**

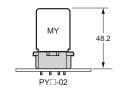


### Back-connecting Sockets

• Solder terminals/wrapping terminals (PY□)

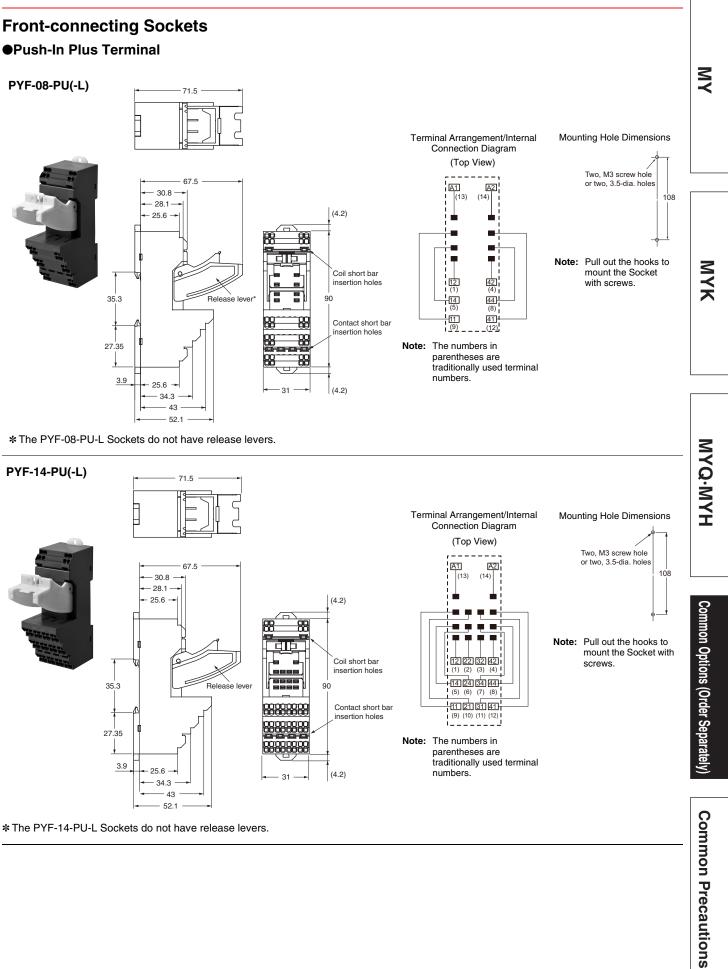




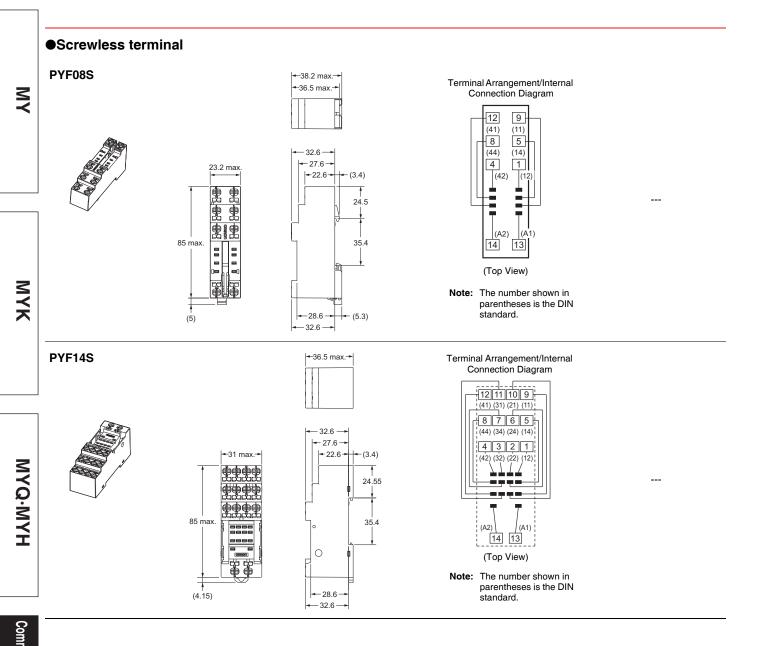


### OMRON



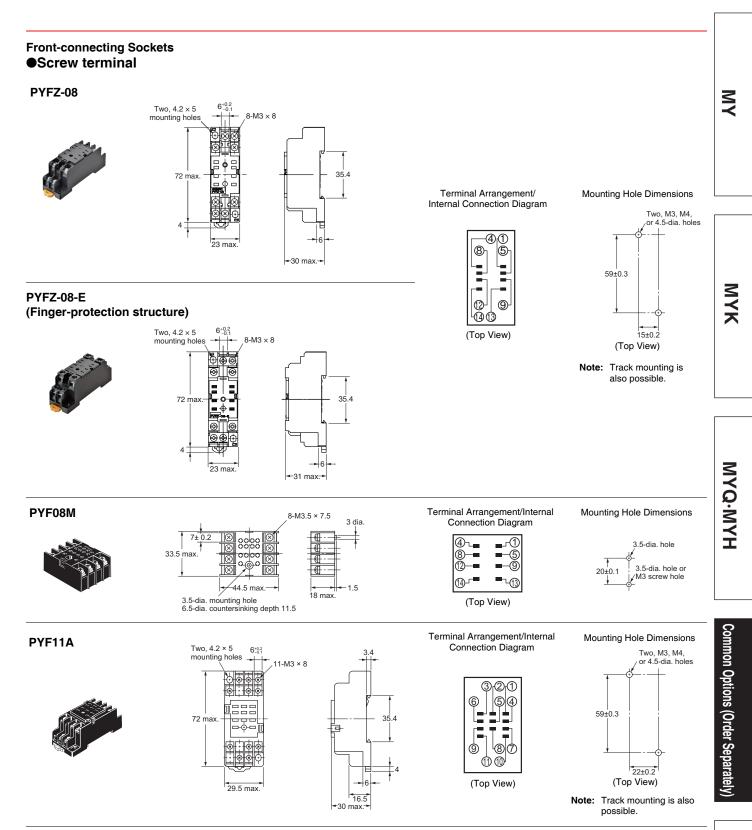


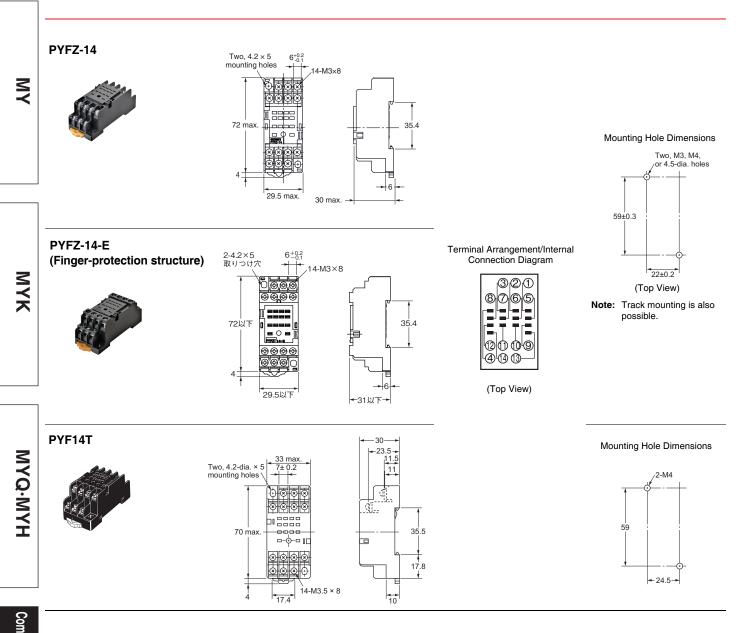
\* The PYF-14-PU-L Sockets do not have release levers.



Common Options (Order Separately)

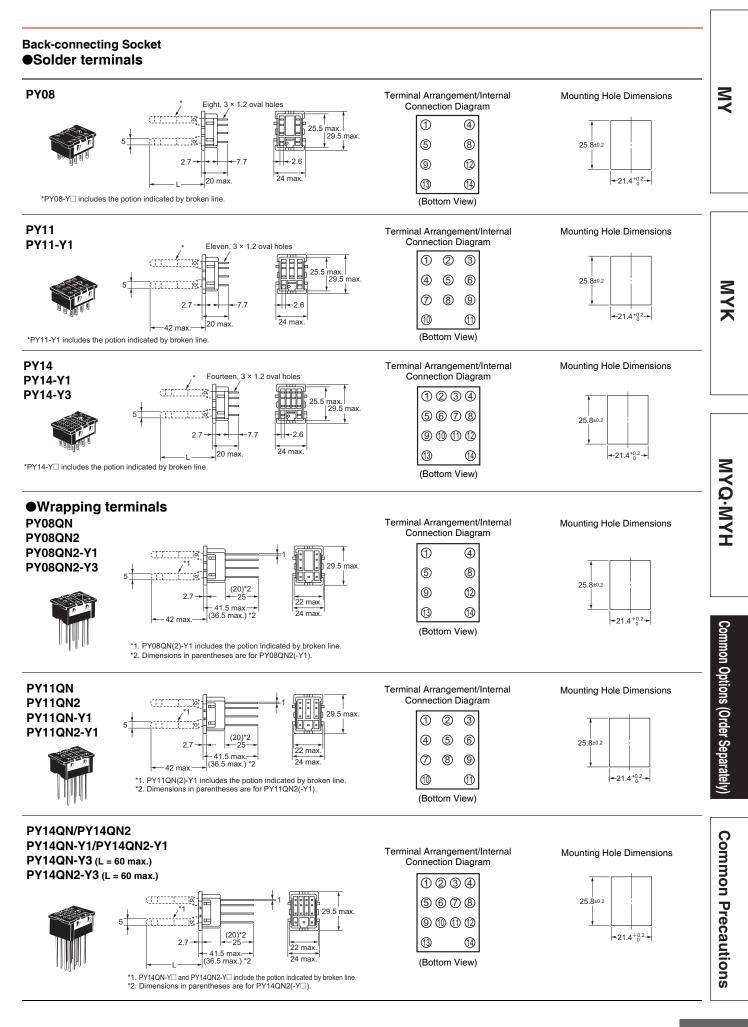
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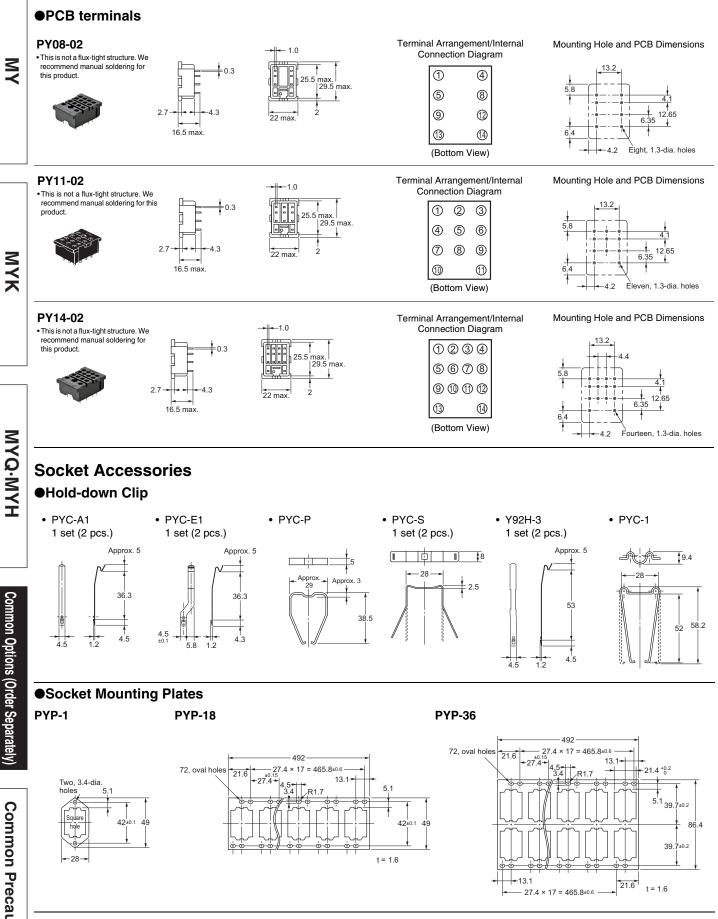




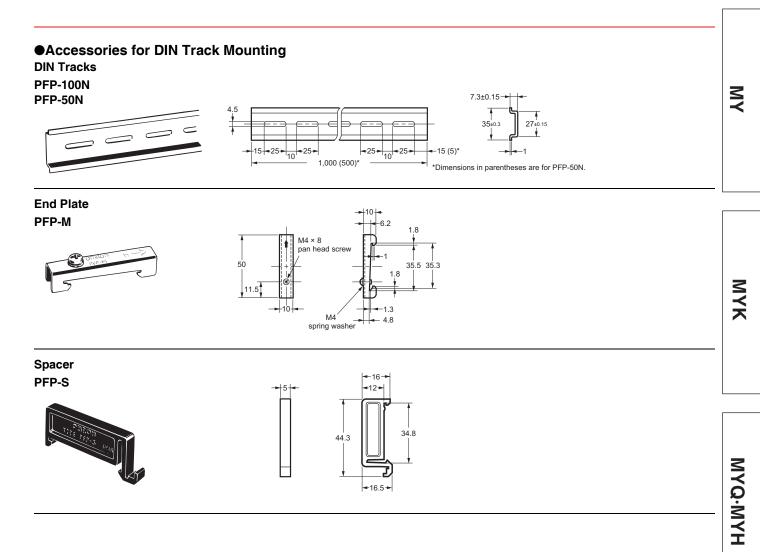
Common Options (Order Separately)

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### OMRON



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### **Safety Precautions**

### Relays

Be sure to read the *Safety Precautions for All Relays* in the website at the following URL: http://www.ia.omron.com/product/cautions/36/safety\_precautions.html

#### Warning Indications

WARNING	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or may result in serious injury or death. Additionally there may be significant property damage.
	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.
Precautions for Correct Use	Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction, or undesirable effects on product performance.

#### Meaning of Product Safety Symbols

$\triangle$	<ul> <li>General caution</li> <li>Indicates the possibility of non-specified general cautions, warnings, and danger.</li> </ul>			
	• Electric shock caution Used to warn of the risk of electric shock under specific conditions.			
	<ul> <li>High temperature caution Indicates the possibility of injuries by high temperature under specific conditions.</li> </ul>			
<u>∧</u> CAUTION				

Do not touch terminal sections (i.e., current-carrying parts) while power is being supplied.

Also, always mount the terminal cover.



Touching current-carrying parts may result in electric shock.

Do not touch the main unit while power is being supplied or immediately after the power supply has been turned OFF. The main unit will be extremely hot and may result in burns.



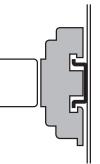
### Precautions for Correct Use

### 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 mount the case-surface mounting (MY□F) and tighten them securely. (Appropriate tightening torque: 0.98 N·m)

#### 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.

#### Attaching and Removing Relay Hold-down Clips

When you attach a Hold-down Clip to or remove it from a Socket, wear gloves or take other measures to prevent injuring your fingers on the Hold-down Clip.

### Compliance with Electrical Appliances and Material Safety Act

- MY standard models comply with the Electrical Appliances and Material Safety Act.
- Always protect any exposed terminals (including Socket terminals) after wiring with insulation tubes or resin coating on PCBs.

Model	Number of poles	Operating Coil ratings	Contact ratings
MY	1 2 3	6 to 220 VAC 6 to 120 VDC	5 A, 200 VAC
	4*	6 to 110 VAC 6 to 120 VDC	3 A, 115 VAC

\*Under the Electrical Appliances and Material Safety Act, do not use the Type 4 model with a voltage that exceeds 150 VAC. However, this restriction can be ignored if compliance with the Electrical Appliances and Material Safety Act is not required.

### Miniature Power Relays: MY

#### 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 minimum.

### 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.

#### **Using Microloads with Infrequent Operation**

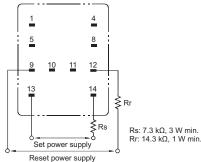
If any standard MY-series Relays (e.g., MY4) are used infrequently to switch microloads, the contacts may become unstable and eventually result in failure contact. In this case, we recommend using the MY4Z-CBG Series, which has high contact reliability for microloads.

Common Options (Order Separately)

MYQ·MYH

### •Latching Relays (MYK)

• 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. Satisfactory performance may be unattainable due to decreased holding strength caused by changes in circuit conditions and ambient operating temperature, or due to changes caused by product aging.

During actual use, apply a pulse width of the rated operating voltage suitable for the actual load to the coil and reset this at least once per year as a means of dealing with product aging.

### **Optional Sockets (Order Separately)**

Be sure to read the *Safety Precautions for All Relay*s in the website at the following URL: http://www.ia.omron.com/product/cautions/36/safety\_precautions.html

### **Front-connecting Sockets**

### Push-In Plus Terminal Sockets (PYF-08-PU(-L), PYF-14-PU(-L))

Refer to Safety Precautions on the Push-In Plus Terminal Block Socket PYF-D-PU/P2RF-D-PU Data Sheet (Catalog No. SGFR-218).

### Screwless Terminal Sockets (PYF08S, PYF14S)

Refer to Safety Precautions on the Screwless Terminal Socket PYF S/P2RF-S Data Sheet (Catalog No. CDRR-011).

### •Screw Terminal Sockets (PYFZ-08(-E), PYF08M, PYF11A, PYFZ-14(-E), PYF-14T)

Be sure to read the Safety Precautions for All Relays, 4-2-1 Panel-mounting Sockets and 4-2-2 Relay Removal Direction of the website at the following URL: http://www.ia.omron.com/product/cautions/36/safety\_precautions.html

- Use the following tightening torque for screws during wiring.
- Use the following wire diameters as a guide for wiring. (Select the appropriate wire diameter for the current used.)

				,
Model	Tightening torque	Model	Recommen	ded wire diameter (mm <sup>2</sup> )
PYFZ-08 PYFZ-14	0.78 to 1.18 N·m	PYFZ-08 PYFZ-14	Stranded wire	0.75 to 2.5 mm <sup>2</sup> AWG 18 to 14
PYF08A PYF14A		PYF08A PYF14A	Solid wire	0.75 to 1.5 mm <sup>2</sup> AWG 18 to 16
PYFZ-08-E PYFZ-14-E	0.59 to 0.88 N·m * Use a No. 1 screwdriver.	PYFZ-08-E PYFZ-14-E	Stranded wire	0.75 to 2.5 mm <sup>2</sup> AWG 18 to 14
PYF08A-E PYF14A-E		PYF08A-E PYF14A-E	Solid wire	0.75 to 1.5 mm <sup>2</sup> AWG 18 to 16

### **Back-connecting Socket**

•Solder Terminal Sockets (PY08(-Y1/-Y3), PY11(-Y1/-Y3))

# Wrapping Terminals Sockets (PY08QN(-Y1/-Y3), PY08QN2(-Y1/-Y3), PY11QN(-Y1), PY11QN2(-Y1)) PCB Terminal Sockets (PY08-02, PY11-02)

Be sure to read the *Safety Precautions for All Relays*, 4-2-3 *Back-connecting Sockets* and 4-2-5 *Terminal Soldering* of the website at the following URL: http://www.ia.omron.com/product/cautions/36/safety\_precautions.html

## NΝ

Refer to the external dimensions of the Relay and design the PCB pattern with enough space to prevent this problem.

When a Relay with PCB Terminals is mounted, a short-circuit can occur depending on the design of the PCB pattern because the Relay

Hermetically Sealed Relays (MYH/MYQ)

#### **Application Environments**

**Relays with PCB Terminals** 

itself is made out of metal.

Solution

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 terminal insulating beads and cause short-circuiting or unintended operation due to insulation problem.

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## **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.

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