# **Miniature Power Relays**



CSM\_MY\_DS\_J\_7\_3

# **New Latching Levers for Circuit Checking** Added to Our Best-selling **MY General-purpose Relays**

- Now lead-free to protect the environment.
- VDE certification (Germany).
- · Different colors of coil tape for AC and DC models to more easily distinguish them.
- MY(S) models with latching levers added for easier circuit checking.









Refer to the Common Relay Precautions.

#### **Model Number Structure**

	Relays with Plug-in Terminals			PCB terminals	Case-surface mounting	
Classification	Number of poles	With operation indicator	Without operation indicator	With latching lever		ļ.,,,
	2	MY2N*	MY2*	MY2IN(S)*	MY2-02	MY2F
Cton dovd modele (compliant with	Bifurcated	MY2ZN	MY2Z			
Standard models (compliant with Electrical Appliances and	3	MY3N	MY3		MY3-02	MY3F
Material Safety Act)	4	MY4N*	MY4*	MY4IN(S)*	MY4-02	MY4F
	Bifurcated	MY4ZN*	MY4Z*	MY4ZIN(S)*	MY4Z-02	MY4ZF
	2	MY2N-D2*	MY2-D*	MY2IN-D2(S)*		
Models with diode for coil surge	Bifurcated	MY2ZN-D2	MY2Z-D		-	
absorption (DC coil specification only)	3	MY3N-D2	MY3-D			
<b>→</b>	4	MY4N-D2*	MY4-D*	MY4IN-D2(S)*		
	Bifurcated	MY4ZN-D2*	MY4Z-D*	MY4ZIN-D2(S)*		
Models with CR circuit for coil	2	MY2N-CR*	MY2-CR*			
surge absorption (AC coil specification only)	4	MY4N-CR*	MY4-CR*	MY4IN-CR(S)*		
-I-W-	Bifurcated	MY4ZN-CR*	MY4Z-CR*	MY4ZIN-CR(S)*	1	
Models with high contact reliability	4 Bifurcated		MY4Z-CBG			
Disatis as also mandals	4	MYQ4N	MYQ4		MYQ4-02	
Plastic sealed models	Bifurcated		MYQ4Z		MYQ4Z-02	
Latching models (coil latching)	2		MY2K		MY2K-02	
11	4		MY4H		MY4H-0	
Hermetic models	Bifurcated		MY4ZH		MY4ZH-0	

Note: 1. The models in this table are UL/CSA certified. This is indicated with a certification mark on the products. (This does not include models with high contact reliability or plastic sealed, latching, or hermetically sealed models.)

Models with an asterisk (\*) next to them are new versions.

The standard models with plug-in terminals, models with coil surge absorption diodes, and models with coil surge absorption CR circuits were used in combination with the PYF-E and PYFS (2-pole and 4-pole) for the EC Declaration of Conformity. These products display the CE Marking.

Products cannot be manufactured for the cells with a diagonal line. Ask your OMRON representative for details on manufacturing products for cells containing "---" in the above table.

Refer to Connection Socket and Mounting Bracket Selection Table on page 33 in Options for information on the possible combinations of Models with Plug-in Terminals and Sockets.

#### **Miniature Power Relays: MY2**







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

#### Ordering Information

When your order, specify the rated voltage.

Classification	Model	Rated voltage (V)				
Classification	Wodei	Standard products	Made-to-order items			
Standard models	MY2	12, 24, 100/110, or 200/220 VAC	110/120 or 220/240 VAC			
Standard models	IVI T Z	12, 24, 48, or 100/110 VDC				
Models with built in operation indicators	MY2N	12, 24, 100/110, 110/120, 200/220, or 220/240 VAC				
Models with built-in operation indicators	IVI T Z IV	12, 24, 48, or 100/110 VDC				
Models with built-in diodes	MY2-D	12, 24, or 100/110 VDC	48 VDC			
Models with built-in diodes and operation indicators	MY2N-D2	12, 24, 48, or 100/110 VDC				
Models with built-in CR circuits	MY2-CR	100/110 or 200/220 VAC	110/120 or 220/240 VAC			
Models with built-in CR circuits and operation indicators	MY2N-CR	100/110 or 200/220 VAC	110/120 or 220/240 VAC			

Note: 1. Ask your OMRON representative for details on the time required to deliver made-to-order products.

- 2. Ask your OMRON representative for details on product specifications and the ability to manufacture products with voltages other than the above coil specifications.
- 3. The above models and specifications are new versions in the MY Series.
- 4. Except for MY2(N)-CR Relays with the above voltage specifications, all Relays have a height of 53 mm or less. If Mounting Brackets are required, refer to page 33 for selection information.

#### **Ratings and Specifications**

#### **Ratings**

#### **Operating Coils (Standard Models)**

	Item Rated current (mA)		rent (mA)	Coil resistance	Coil induc	ctance (H)	Must-	Must-	Maximum	Power consumption
Rate volta	ed age (V)	50 Hz	60 Hz	(Ω)	Armature OFF	Armature ON	operate voltage (V)	release voltage (V)	voltage (V)	Power consumption (VA, W)
	12	106.5	91	46	0.17	0.33				Approx. 1.0 to 1.2
	24	53.8	46	180	0.69	1.3			110% of rated voltage	(at 60 Hz)
AC	100/110	11.7/12.9	10/11	3,750	14.54	24.6				
AC	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1				Approx. 0.9 to 1.1 (at 60 Hz)
	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07	80% max. *1			
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4				
	12	72	2.7	165	0.73	1.37		10% min. *2		
DC	24	36	5.3	662	3.2	5.72				Approx. 0.9
DC	48	17	<b>'</b> .6	2,725	10.6	21.0				Арргох. 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 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 (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.

#### Contact Patings

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 configuration	DPDT				
Contact structure	Single				
Contact materials	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%	

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

(Unit: mm)

#### **Characteristics**

Item	Туре	Standard models	Models with built- in operation indicators	Models with built-in CR circuits	Models with built-in diodes	Model with built-in operation indicator and diode	Model with built-in operation indicator and CR circuit		
Contact res	istance*1	50 mΩ max.	1	11		1	1		
Operation ti	me*2	20 ms max.							
Release tim	e*2	20 ms max.							
Maximum	Mechanical	18,000 operation	ons/h						
operating frequency	Rated load	1,800 operation	ns/h						
Insulation re	esistance*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 l	Hz, 0.5-mm single amp	olitude (1.0-mm c	louble amplitude	)			
resistance	Malfunction	10 to 55 to 10 l	Hz, 0.5-mm single amp	olitude (1.0-mm c	louble amplitude	)			
Shock	Destruction	1,000 m/s <sup>2</sup>							
resistance	Malfunction	200 m/s <sup>2</sup>							
Endurance	Mechanical	DC: 100,000,00	AC: 50,000,000 operations min. DC: 100,000,000 operations min. (switching frequency: 18,000 operations/h)						
	Electrical*4	500,000 operat (rated load, sw	ions min. itching frequency: 1,80	00 operations/h)					

Item Number of poles	2 poles	
Failure rate P value (reference value)*5	1 mA at 5 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

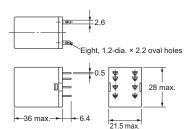
- \*4. Ambient temperature condition: 23°C \*5. This value was measured at a switching frequency of 120 operations per minute.

# MY2, MY2N, MY2-D, MY2N-D2, MY2-CR,



**Dimensions** 

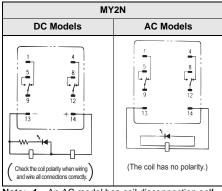
and MY2N-CR



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

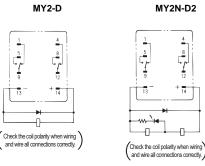


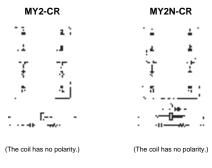
(The coil has no polarity.)



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

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





# Miniature Power Relays: MY2Z



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

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

Classification	Model	Rat	Rated voltage (V)				
Classification	wodei	Standard products	Made-to-order items				
Standard models	MY2Z	100/110 or 200/220 VAC	12, 24, 100/120, or 200/240 VAC				
Standard models	IVI 1 ZZ	12 or 24 VDC	48 or 100/110 VDC				
NA - de la contala la colla for a consentir de discasa de	MY2ZN	100/110 or 200/220 VAC	12, 24, 100/120, or 200/240 VAC				
Models with built-in operation indicators	WIYZZN	24 VDC	12, 48, or 100/110 VDC				
Models with built-in diodes	MY2Z-D	24 VDC	12 or 100/110 VDC				
Models with built-in diodes and operation indicators	MY2ZN-D2	24 or 100/110 VDC	12 VDC				
Models with built-in CR circuits	MY2Z-CR		100/110 or 200/220 VAC				
Models with built-in CR circuits and operation indicators	MY2ZN-CR	100/110 VAC	200/220 VAC				

Note: 1. Ask your OMRON representative for details on the time required to deliver made-to-order products.

2. Ask your OMRON representative for details on product specifications and the ability to manufacture products with voltages other than the above coil specifications.

#### **Ratings and Specifications**

#### **Ratings**

#### **Operating Coil (Standard Models)**

	Item	em Rated current (mA)		Cail registeres	Coil induc	ctance (H)	Must-	Must-	Massimosm	Dawer can aumorian
Rate volta	d ige (V)	50 Hz	60 Hz	Coil resistance (Ω)	Armature OFF	Armature ON	operate voltage (V)	release voltage (V)	Maximum voltage (V)	Power consumption (VA, W)
	12	106.5	91	46	0.17	0.33				Approx. 1.0 to 1.2
	24	53.8	46	180	0.69	1.3			110% of rated voltage	(at 60 Hz)
AC	100/110	11.7/12.9	10/11	3,750	14.54	24.6		30% min.* <sup>2</sup>		
AC	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1				Approx. 0.9 to 1.1 (at 60 Hz)
	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07	80% max.*1			
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4				
	12	75	,	160	0.73	1.37				
DC	24	36.	9	650	3.2	5.72		10% min.*2		Approx 0.0
DC	48	18.	5	2,600	10.6	21.0		10% Min.*-		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 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.

#### Contact Ratings

Contact Natings					
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 configuration	DPDT				
Contact structure	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%	

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

Item	Туре	Standard models	Models with built- in operation indicators	Models with built-in diodes	Model with built-in operation indicator and diode	Models with built-in CR circuits	Models with built-in CR circuits and operation indicators			
Contact res	istance*1	50 mΩ max.								
Operation ti	me <sup>#2</sup>	20 ms max.								
Release tim	e*2	20 ms max.								
Maximum	Mechanical	18,000 opera	tions/h							
operating frequency	Rated load	1,800 operation	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.								
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 ar	nplitude (1.0-mm	double amplitude)					
resistance	Malfunction	10 to 55 to 10	Hz, 0.5-mm single ar	nplitude (1.0-mm	double amplitude)					
Shock	Destruction									
resistance Malfunction 200 m/s <sup>2</sup>										
Endurance	Mechanical	50,000,000 o	50,000,000 operations min. (operating frequency: 18,000 operations/h)							
Lituurance	Electrical*4	200,000 oper	ations min. (rated load	l, switching frequ	ency: 1,800 operations/h)	)				

Item Number of poles	2 poles
Failure rate P value (reference value)*5	100 μA at 1 VDC
Weight	Approx. 35 g

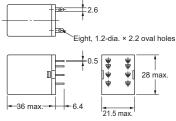
Note: These are initial values.

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

**Dimensions** (Unit: mm)

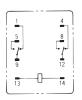
#### MY2Z, MY2ZN, MY2Z-D, MY2ZN-D2, MY2Z-CR, and MY2ZN-CR



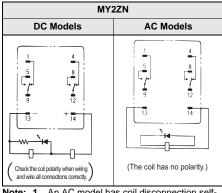


\* For the MY2Z-CR and MY2ZN-CR, this dimension is 53 mm max.

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



(The coil has no polarity.)

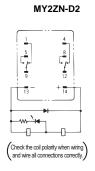


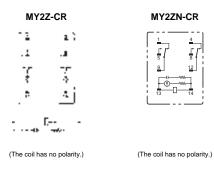
- Note: 1. An AC model has coil disconnection self
  - diagnosis.
    For the DC models, check the coil polarity when

  - wiring and wire all connections correctly. 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.

# Check the coil polarity when wiring

MY2Z-D





# **Miniature Power Relays: MY3**



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

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

Classification	Model	Rated voltage (V)			
Classification	Wodei	Standard products	Made-to-order items		
Standard models	MY3	24, 100/110, 200/220, or 220/240 VAC	12, or 110/120 VAC		
Standard models	IVITS	12, 24, or 100/110 VDC	48 VDC		
Madela with built in an arction indicators	мүзм	24, 100/110, 200/220, or 220/240 VAC	12, or 110/120 VAC		
Models with built-in operation indicators		24 VDC	12, 48, or 100/110 VDC		
Models with built-in diodes	MY3-D	24 VDC	12 or 100/110 VDC		
Models with built-in diodes and operation indicators	MY3N-D2	24 VDC	12 or 100/110 VDC		

Note: 1. Ask your OMRON representative for details on the time required to deliver made-to-order products.
2. Ask your OMRON representative for details on product specifications and the ability to manufacture products with voltages other than the above coil

#### **Ratings and Specifications**

#### Ratings

#### **Operating Coil (Standard Models)**

	Item	Rated current (mA)		Cail register as	Coil induc	ctance (H)	Must-	Must-	Massimosom	Down consumption
Rate volta	ed age (V)	50 Hz	60 Hz	Coil resistance (Ω)	Armature OFF	Armature ON	operate voltage (V)	release voltage (V)	Maximum voltage (V)	Power consumption (VA, W)
	12	106.5	91	46	0.17	0.33			110% of rated voltage	Approx. 1.0 to 1.2
	24	53.8	46	180	0.69	1.3		30% min.* <sup>2</sup>		(at 60 Hz)
AC	100/110	11.7/12.9	10/11	3,750	14.54	24.6				Approx. 0.9 to 1.1 (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			
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4				
	12	75		160	0.73	1.37				
DC	24	36.	9	650	3.2	5.72		10% min.*2		Approx. 0.9
ЪС	48	18.	5	2,600	10.6	21.0		10% 111111.**		Арргох. 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.

#### **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 configuration	3PDT			
Contact structure	Single			
Contact materials	Ag			

Type Item	Standard models	Operation indicator and diode
Ambient operating temperature*1	–55 to 70° C	-55 to 60° C*2
Ambient operating humidity	5% to 85%	

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

Item Type		Standard models Models with built-in operation indicators Models with built-in diodes Model with built-in operation indicator and diode							
Contact res	istance*1	50 mΩ max.							
Operation ti	me <sup>‡2</sup>	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	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 frequence	y: 1,800 operations/h)					

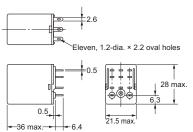
Item Number of poles	3 poles		
Failure rate P value (reference value)*5	1 mA at 5 VDC		
Weight	Approx. 35 g		

Note: These are initial values.

**Dimensions** (Unit: mm)

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

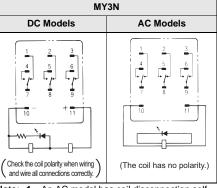




# Terminal Arrangement/ Internal Connections (Bottom View) Standard Models



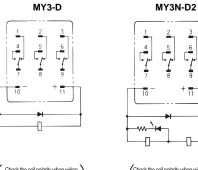
Check the coil polarity when wiring



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

  - An AC moder has coil disconnection self-diagnosis.

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



Check the coil polarity when wiring and wire all connections correctly.

Check the coil polarity when wiring and wire all connections correctly.

#### **Miniature Power Relays: MY4**







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

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

Classification	Model	Rated voltage (V)			
Classification	Wodei	Standard products	Made-to-order items		
Standard models	MY4	24, 100/110, or 200/220 VAC	12, 110/120, or 220/240 VAC		
Standard models	IVI T 4	12, 24, 48, or 100/110 VDC			
Models with built-in operation indicators	MY4N	12, 24, 100/110, 110/120, 200/220, or 220/240 VAC			
models with built-in operation indicators	IVI I 4IN	12, 24, 48, or 100/110 VDC			
Models with built-in diodes	MY4-D	12, 24, 48, or 100/110 VDC			
Models with built-in diodes and operation indicators	MY4N-D2	12, 24, or 100/110 VDC	48 VDC		
Models with built-in CR circuits	MY4-CR	100/110 or 200/220 VAC	110/120 or 220/240 VAC		
Models with built-in CR circuits and operation indicators	MY4N-CR	100/110, 110/120, or 200/220 VAC	220/240 VAC		

Note: 1. Ask your OMRON representative for details on the time required to deliver made-to-order products.
2. Ask your OMRON representative for details on product specifications and the ability to manufacture products with voltages other than the above coil

as your own of representative for details of product specifications and the definition of the product specifications.
The above models and specifications are new versions in the MY Series.
Except for MY4(N)-CR Relays with the above voltage specifications, all Relays have a height of 53 mm or less. If Mounting Brackets are required, refer to page 33 for selection information.

#### **Ratings and Specifications**

#### Ratings

#### **Operating Coil (Standard Models)**

	Item Rated current (mA)		Coil resistance	Coil induc	tance (H)	Must-	Must-	Maximum	Power consumption	
Rate volta	ed age (V)	50 Hz	60 Hz	(Ω)	Armature OFF	Armature ON	operate voltage (V)	release voltage (V)	voltage (V)	(VA, W)
	12	106.5	91	46	0.17	0.33				Approx. 1.0 to 1.2
	24	53.8	46	180	0.69	1.3				(at 60 Hz)
AC	100/110	11.7/12.9	10/11	3,750	14.54	24.6		30% min.*2		Approx. 0.9 to 1.1 (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 rated	
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	60% Illax.**		voltage	
	12	72.	7	165	0.73	1.37				
DC	24	36.	3	662	3.2	5.72		10% min.*2		
ЪС	48	17.	6	2,725	10.6	21.0		10% 111111.**		Approx. 0.9
	100/110	8.7/9	9.6	11,440	45.6	86.2				

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 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.

#### **Contact Ratings**

Contact Ratings									
Load Item	Resistive load	Inductive load (cos $\phi$ = 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							
Rated carry current	3 A								
Maximum contact voltage	250 VAC, 125 VDC								
Maximum contact current	3 A								
Contact configuration	4PDT								
Contact structure	Single								
Contact materials	Au cladding + Ag a	lloy							

T <sub>3</sub>	/pe	Standard models	Model with built-in operation indicator, diode, or CR circuit
Ambient operating temperature	HI .	–55 to 70° C	-55 to 60° C*2
Ambient operating humidity		5% to 85%	

\*1. With no icing or condensation.

\*2. This limitation is due to the diode junction temperature and elements used.

Item	Туре	Standard models	Models with built- in operation indicators	Models with built-in CR circuits	Models with built-in diodes	Model with built-in operation indicator and diode	Model with built-in operation indicator and CR circuit			
Contact res	istance*1	50 m $Ω$ max.	50 mΩ max.							
Operation ti	me <sup>#2</sup>	20 ms max.	20 ms max.							
Release tim	e*2	20 ms max.								
Maximum	Mechanical	18,000 opera	ations/h							
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.								
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 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	DC: 100,000	AC: 50,000,000 operations min. DC: 100,000,000 operations min. (switching frequency:: 18,000 operations/h)							
	Electrical*4		200,000 operations min. rated load, switching frequency: 1,800 operations/h)							

ItemNumber of poles	4 poles	l
Failure rate P value (reference value)*5	1 mA at 1 VDC	
Weight	Approx. 35 g	:

Note: These are initial values.

#### **Engineering Data**

List of Actual Load Endurance (Refer to Engineering Data on page 20.)

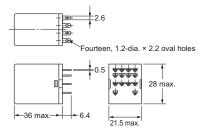
Model	Load type	Conditions	Switching frequency	Electrical durability (operations min.)
	AC magnetic switch  35 VA at 100 VAC Making current: 4 A, Steady-state current: 0.35 A		ON: 1s OFF: 3s	500,000
MY4 DC24V	DC calonaid	40 W at 24 VDC Steady-state current: 1.6 A, L/R = 10 ms Surge-absorbing diode connected	ON: 0.5s OFF: 1.5s	500,000
	DC solenoid	20 W at 24 VDC Steady-state current: 0.8 A, L/R = 10 ms Surge-absorbing diode connected	ON: 0.5s OFF: 1.5s	1,000,000

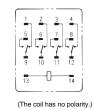
**Dimensions** (Unit: mm)

#### MY4, MY4N, MY4-D, MY4N-D2, MY4-CR, and MY4N-CR

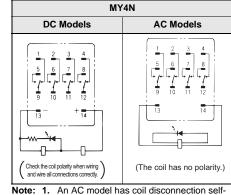
#### Terminal Arrangement/ **Internal Connections** (Bottom View) Standard Models





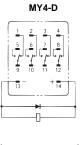




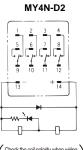


An AC model has coil disconnection self-

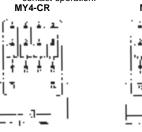
- diagnosis.
  For the DC models, check the coil polarity when wiring and wire all connections correctly.
  The indicator is red for AC and green for DC.
  The operation indicator indicates the energization of the coil and does not represent contact operation. contact operation.







Check the coil polarity when wiring and wire all connections correctly.



(The coil has no polarity.)

(The coil has no polarity.)

# Miniature Power Relays: MY4Z







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

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

Classification	Model	Rated voltage (V)			
Classification	Wodei	Standard products	Made-to-order items		
Standard models	MY4Z	100/110 or 200/220 VAC	110/120 or 220/240 VAC		
Standard models	IVI T 4Z	12, 24, 48, or 100/110 VDC			
Madele with huilt in exerction indicators	MV47N	100/110 or 200/220 VAC	24, 110/120, or 220/240 VAC		
Models with built-in operation indicators	MY4ZN	24 or 100/110 VDC	12 or 48 VDC		
Models with built-in diodes	MY4Z-D	24 or 100/110 VDC	12 or 48 VDC		
Models with built-in diodes and operation indicators	MY4ZN-D2	12, 24, 48, or 100/110 VDC			
Models with built-in CR circuits	MY4Z-CR	100/110 or 200/220 VAC	110/120 or 220/240 VAC		
Models with built-in CR circuits and operation indicators	MY4ZN-CR	100/110 or 200/220 VAC	110/120 or 220/240 VAC		

Note: 1. Ask your OMRON representative for details on the time required to deliver made-to-order products.
2. Ask your OMRON representative for details on product specifications and the ability to manufacture products with voltages other than the above coil

specifications.

3. The above models and specifications are new versions in the MY Series.

#### **Ratings and Specifications**

#### Ratings

#### **Operating Coil (Standard Models)**

	Item	Rated curr	ent (mA)	Coil resistance	Coil induc	tance (H)	Must-	Release	Maximum	Power consumption
Rate volta	ed age (V)	50 Hz	60 Hz	(Ω)	Armature OFF	Armature ON	operate voltage (V)	voltage (V)	voltage (V)	(VA, W)
	12	106.5	91	46	0.17	0.33				Approx. 1.0 to 1.2
	24	53.8	46	180	0.69	1.3			110% of rated voltage	(at 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				Approx. 0.9 to 1.1
	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07	80% max.*1			(at 60 Hz)
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	- 00% IIIax. · ·			
	12	72.	7	165	0.73	1.37				
DC	24	36.	3	662	3.2	5.72		10% min.*2		Approx 0.0
DC	48	17.	6	2,725	10.6	21.0		10 /6 111111.**		Approx. 0.9
	100/110	8.7/9	9.6	11,440	45.6	86.2				

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 and inductance values are reference values only (at 60 Hz). Operating characteristics were measured at a coil temperature of 23°C

3. Operating characteristics were measured at a coli 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.

#### **Contact Ratings**

oomaat mamiga					
Load Item	Resistive load	Inductive load (cos $\phi$ = 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			
Rated carry current	3 A				
Maximum contact voltage	250 VAC, 125 VDC				
Maximum contact current	3 A				
Contact configuration	4PDT				
Contact structure	Bifurcated				
Contact materials	Au cladding + Ag a	lloy			

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
Ambient operating humidity	5% to 85%	

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

Item	Туре	Standard models	Models with built- in operation indicators	Models with built-in CR circuits	Models with built-in diodes	Model with built-in operation indicator and diode	Model with built-in operation indicator and CR circuit		
Contact res	istance*1	50 m $Ω$ max.							
Operation ti	me*2	20 ms max.							
Release tim	e*2	20 ms max.							
Maximum	Mechanical	18,000 opera	tions/h						
operating frequency	Rated load	1,800 operation	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.							
Retween contacts of the				00 VAC at 50/60 Hz for 1 min.					
Vibration	Destruction	10 to 55 to 10	Hz, 0.5-mm single ar	nplitude (1.0-mm d	ouble amplitude	e)			
resistance	Malfunction	10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)							
Shock	Shock Destruction		1,000 m/s <sup>2</sup>						
resistance	Malfunction	200 m/s <sup>2</sup>							
Endurance	Mechanical		20,000,000 operations min. (switching frequency: 18,000 operations/h)						
Endurance	Electrical*4	100,000 operations min. (rated load, switching frequency: 1,800 operations/h)							

Item Number of poles	4 poles	
Failure rate P value (reference value)*5	100 μA at 1 VDC	
Weight	Approx. 35 g	

Note: These are initial values.

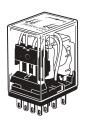
- measurement.

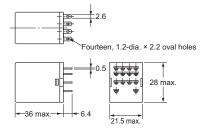
  \*4. Ambient temperature condition: 23° C

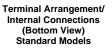
  \*5. This value was measured at a switching frequency of 120 operations per minute.

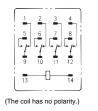
**Dimensions** 

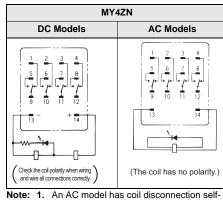
MY4Z, MY4ZN, MY4Z-D, MY4ZN-D2, MY4Z-CR, and MY4ZN-CR









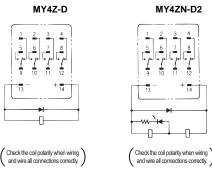


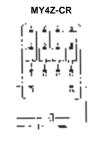
- - diagnosis.
    For the DC models, check the coil polarity when

  - wiring and wire all connections correctly.

    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.









(Unit: mm)

(The coil has no polarity.)

# Miniature Power Relays with Latching Levers: MY(S) → ⊕ ← ← LR







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

#### **Ordering Information**

Be sure to clearly indicate the rated voltage and add "(S)" when you place your order. Example: MY2IN 110/110 VAC (S)

Classification	Contact configuration	Model	Rated voltage (V)			
Classification	Contact configuration	Wodei	Standard products	Made-to-order items		
	2	MVOIN (C)	_	100/110 or 200/220 VAC		
	2	MY2IN (S)	12, 24, or 48 VDC			
Models with built-in operation	4	MVAIN (C)	_	100/110 or 200/220 VAC		
indicators	4	MY4IN (S)	12, 24, or 48 VDC			
	4 bifurcated MY4ZIN (S)		_	100/110 or 200/220 VAC		
			_	12, 24, or 48 VDC		
	2	MY2IN-D2 (S)	12 or 24 VDC	48 VDC		
Models with built-in diode for coil surge absorption	4	MY4IN-D2 (S)	24 VDC	12 or 48 VDC		
	4 bifurcated	MY4ZIN-D2 (S)	24 VDC	12 or 48 VDC		
Models with built-in CR circuit	4	MY4IN-CR (S)	-	100/110 or 200/220 VAC		
for coil surge absorption	4 bifurcated	MY4ZIN-CR (S)	_	100/110 or 200/220 VAC		

Ask your OMRON representative for details on the time required to deliver made-to-order products.

Ask your OMRON representative for details on product specifications and the ability to manufacture products with voltages other than the above coil specifications.

### **Ratings and Specifications**

#### **Ratings**

#### **Operating Coil**

	Item	Rated cur	ted current (mA) Coil resistance Coil inductance (H)		tance (H)	Must-operate Must-relea		Maximum	Power consumption	
Rated	voltage (V)	50 Hz	60 Hz	(Ω)	Armature OFF	Armature ON	voltage (V)	voltage (V)	voltage (V)	(VA, W)
AC	100/110	11.7/12.9	10/11	3,750	14.54	24.6		80% max.*1 rate	110% of rated voltage	Approx. 0.9 to
AC	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07				1.1 (at 60 Hz)
	12	7	5	160	0.73	1.37	80% max.*1			
DC	24	37	7.7	636	3.2	5.72				Approx. 0.9
	48	18	3.8	2,560	10.6	21				

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 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.

#### **Contact Ratings**

Number of poles	2 poles		4 p	oles	4 poles (bifurcated)		
Load Item	Resistive load (cos φ = 1)	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)	Resistive load (cos φ = 1)	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)	Resistive load (cos φ = 1)	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)	
Rated load	5 A at 250 VAC 5 A at 30 VDC	2 A at 250 VAC 2 A at 30 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 250 VAC 3 A at 30 VDC	0.8 A at 250 VAC 1.5 A at 30 VDC	
Rated carry current	10 A*		5 A*				
Maximum contact voltage	250 VAC, 125 VDC						
Maximum contact current	10 A		5 A				
Contact configuration	Single		Single		Bifurcated		
Contact materials	Ag		Au cladding + Ag allo	у	Au cladding + Ag alloy		

\* If you use a Socket, do not exceed the rated carry current of the Socket.

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

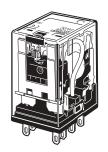
\*1. With no icing or condensation.
\*2. This limitation is due to the diode junction temperature and elements used.

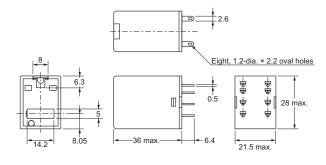
Item	Туре	2 poles	4 poles	4 poles (bifurcated)			
Contact resi	stance*1	100 mΩ max.					
Operation time*2		20 ms max.					
Release time	<b>*</b> 2	20 ms max.					
Maximum	Mechanical	nical 18,000 operations/h					
operating frequency	Rated load	1,800 operations/h					
Insulation re	sistance*3	1,000 MΩ min.					
	Between coil and contacts						
Dielectric strength	Between contacts of different polarity	2,000 VAC at 50/60 Hz for 1 min.					
	Between contacts of the same polarity	1,000 VAC at 50/60 Hz for 1 min.					
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	e (1.0-mm double amplitude)				
Shock	Destruction	1,000 m/s <sup>2</sup>					
resistance	Malfunction	200 m/s <sup>2</sup>					
	Mechanical	AC: 50,000,000 operations min., DC: 100,000,000 operations min. (switching frequency: 18,000 operations/h)  20,000,000 operations min. (switching frequency: 18,000 operations/h)					
Endurance	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)	100,000 operations min. (rated load, switching frequency: 1,800 operations/h)			
Failure rate P value (reference value)*5		1 mA at 5 VDC	1 mA at 1 VDC	100 μA at 1 VDC			
Weight		Approx. 35 g					
k1. Measuren k2. Measuren k3. Measuren k4. Ambient to	nent conditions: Whent conditions: Fo emperature conditions	A at 5 VDC using the voltage drop method hen rated operating power is applied and an or 500 VDC applied to the same location as fon: 23° C a switching frequency of 120 operations per	or dielectric strength measurement.				

Dimensions (Unit: mm)

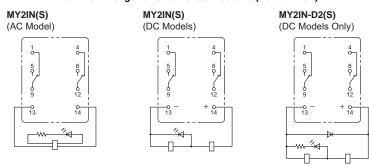
#### **List of Models**

MY2IN (S) MY2IN-D2 (S)





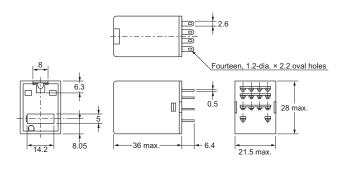
#### Terminal Arrangement/Internal Connections (Bottom View)



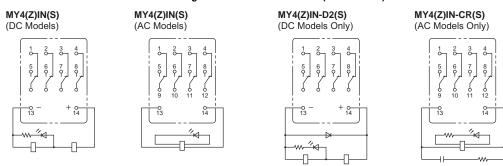
Note: For the DC models, check the coil polarity when wiring and wire all connections correctly.

MY4 (Z) IN (S) MY4 (Z) IN-D2 (S) MY4 (Z) IN-CR (S)





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



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

# Relays with PCB Terminals: MY□-02



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

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

Number	Classification	Model	Rated voltage (V)	
of poles Classification		Wodei	Standard products	Made-to-order items
2 poles	Models with single	MY2-02	100/110, 200/220, or 200/240 VAC	12, 24, 100, or 110/120 VAC
z poies	contacts	IVI 1 2-02	12, 24 or 48 VDC	100/110 VDC
3 poles	Models with single	M/0 00	100/110 or 200/220 VAC	12, 24, 110/120, or 220/240 VAC
3 poies	contacts	MY3-02	24 VDC	12, 48, or 100/110 VDC
	Models with single	MV4 02	100/110 or 200/220 VAC	12, 24, 110/120, or 220/240 VAC
4 nolos	contacts MY4-02		12, 24 or 100/110 VDC	48 VDC
4 poles Bifurcated contacts	Diferented	urcated contacts MY4Z-02		100/110, 110/120, or 200/220 VAC
	Birurcated contacts		100/110 VDC	12, 24, or 48 VDC

Note: 1. Ask your OMRON representative for details on the time required to deliver made-to-order products.

2. Ask your OMRON representative for details on product specifications and the ability to manufacture products with voltages other than the above coil specifications.

#### **Ratings and Specifications**

#### **Ratings**

#### **Operating Coil (Standard Models)**

Item Rated curre		Rated current (mA)		d current (mA) Coil Coil inductance (H)		tance (H)	Must-operate	Must-release	Maximum	Power consumption
Rated	voltage (V)	50 Hz	60 Hz	resistance ( $\Omega$ )	Armature OFF	Armature ON	voltage (V)	voltage (V)	voltage (V)	(VA, W)
	12	106.5	91	46	0.17	0.33				Approx. 1.0 to 1.2
	24	53.8	46	180	0.69	1.3			110% of rated voltage	(at 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 % IIIII. · -		Approx. 0.9 to 1.1
	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07	80% max.*1			(at 60 Hz)
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	80% max.**			
	12	75	,	160	0.73	1.37				
DC	24	36.	9	650	3.2	5.72		10% min.*2		Approx 0.0
DC	48	18.	5	2,600	10.6	21.0				Approx. 0.9
	100/110	9.1/	10	11,000	45.6	86.2				

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 and inductance values are reference values only (at 60 Hz). Note:

The AC con 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.
 There is variation between products, but actual values are 80% max.
 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**

Number of poles	2 or 3 poles			4 poles	4 poles, bifurcated contacts	
Load Item	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 $\phi$ = 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	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 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		3 A	
Maximum contact voltage	250 VAC, 125 VI	C	250 VAC, 125 VDC		250 VAC, 125 VDC	
Maximum contact current	5 A		3 A		3 A	
Contact configuration	DPDT, 3PDT	DPDT, 3PDT		4PDT		
Contact structure	Single		Single		Bifurcated	
Contact materials	Ag		Au plating + Ag		Au plating + Ag	

Type Item	Standard models
Ambient operating temperature*	–55 to 70° C
Ambient operating humidity	5% to 85%

\* With no icing or condensation.

Item	Number of poles	2 or 3 poles	4 poles	4 poles, bifurcated contacts			
Contact resistance	<b>)*</b> 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 resistan	ce*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 amplitude (1.0-mm double amplitude)					
Shock resistance	Destruction	1,000 m/s <sup>2</sup>					
SHOCK resistance	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: 20,000,000 operations min. (switching frequency: 18,000 operations/h)			
Endurance	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)	100,000 operations min. (rated load, switching frequency: 1,800 operations/h)			

Item Numbe	r of poles	2 or 3 poles	4 poles	4 poles, bifurcated contacts
Failure rate P value (reference value)	<b>\$</b> 5	1 mA at 5 VDC	1 mA at 1 VDC	100 μA at 1 VDC
Weight		Approx. 35 g		

Note: These are initial values.

- 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

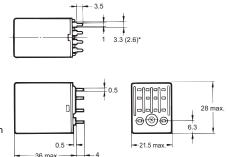
  \*5. This value was measured at a switching frequency of 120 operations per minute.

**Dimensions** (Unit: mm)

#### **Relays with PCB Terminals** MY□-02

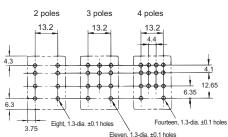


The figures and dimensions given here are for the MY4-02. The 2-pole and 3-pole models conform to these dimensions.



\*Dimensions in parentheses are for the MY4-02.

#### PCB Processing Dimensions (Bottom View)



The dimensional tolerance is  $\pm 0.1$ . Refer to the terminal arrangement and internal connections diagrams for the MY2, MY3, MY4, and MY4Z.

# Case-surface-mounting Relays: MY□F



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

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

Number of poles	Classification	Model	Rated voltage (V)			
Number of poles	Classification	Wodei	Standard products	Made-to-order items		
2 poles	Models with single	MY2F	24, 110/110, 100/120 or 200/220 VAC	220/240 VAC		
2 poles	contacts	IVIT ZF	12 or 24 VDC	48 or 100/110 VDC		
3 poles Model	Models with single	MY3F	100/110 VAC	24 or 200/220 VAC		
3 poles	contacts	WITSE		24 or 100/110 VDC		
	Models with single	MY4F	100/110 or 200/220 VAC	24 or 110/120 VAC		
4 poles	contacts	WITAF	12 or 24 VDC	48 or 100/110 VDC		
4 poles	Bifurcated contacts	MY4ZF	200/220 VAC			
	Billicated contacts	IVIT 42F		12 or 24 VDC		

Note: 1. Ask your OMRON representative for details on the time required to deliver made-to-order products.

2. Ask your OMRON representative for details on product specifications and the ability to manufacture products with voltages other than the above coil specifications.

#### **Ratings and Specifications**

#### **Ratings**

#### **Operating Coil (Standard Models)**

	Item Rate		Item Rated current (mA)		Coil induc	tance (H)	Must-operate	Release	Maximum	Power consumption
Rated	voltage (V)	50 Hz 60 Hz		resistance ( $\Omega$ )	Armature OFF	Armature ON	voltage (V)	voltage (V)	voltage (V)	(VA, W)
	24	53.8	46	180	0.69	1.3			110% of rated voltage	Approx. 1.0 to 1.2 (at 60 Hz)
	100/110	11.7/12.9	10/11	3,750	14.54	24.6				Approx. 0.9 to 1.1 (at 60 Hz)
AC	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1		30% min.*2		
•	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07				
•	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	80% max.*1			
	12	75	,	160	0.73	1.37				
DC	24	36.	9	650	3.2	5.72		10% min.*2		Approx. 0.9
50	48	18.	5	2,600	10.6	21.0		10% mm.*-		дриох. 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.

#### **Contact Ratings**

Number of poles	2 or 3 poles		4 poles		
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		250 VAC, 125 VDC		
Maximum contact current	5 A		3 A		
Contact configuration	DPDT, 3PDT		4PDT		
Contact structure	Single		Single		
Contact materials	Ag		Au plating + Ag		

Type Item	Standard models
Ambient operating temperature*	–55 to 70° C
Ambient operating humidity	5% to 85%

\* With no icing or condensation.

Item Number of poles		2 or 3 poles 4 poles		
Contact resis	stance*1	50 mΩ max.		
Operation tin	ne*2	20 ms max.		
Release time	<b>\$</b> 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.		
	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>		
Mechanical		AC: 50,000,000 operations min. DC: 100,000,000 operations min. (switching frequency: 18,000 operations/h)		
Endurance	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 Number of poles	2 or 3 poles	4 poles
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.

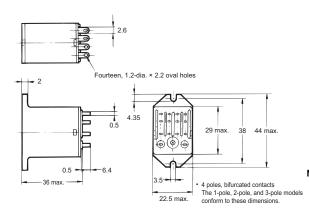
  Ambient temperature condition: 23° C
- \*3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.
- **\*4.** Ambient temperature condition: 23° C
- **\*5.** This value was measured at a switching frequency of 120 operations per minute.

**Dimensions** (Unit: mm)

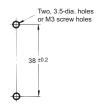
#### **Case-surface mounting** MY□F



The above figure is for the MY4F.



#### **Mounting Hole Dimensions**

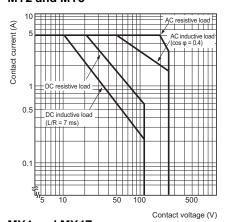


Note: Refer to the terminal arrangement and internal connections diagrams for the MY2, MY3, MY4, and MY4Z.

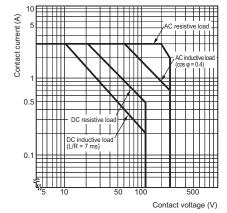
# Engineering Data MY2, MY3, MY4, MY4Z, MY□-02, and MY□F

#### **Engineering Data**

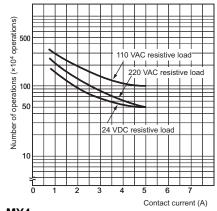
#### **Maximum Switching Capacity** MY2 and MY3



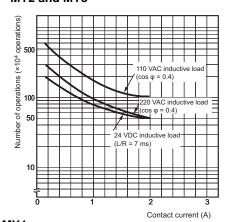
#### MY4 and MY4Z



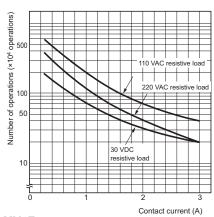
#### **Endurance Curve** MY2 and MY3



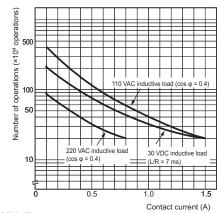
#### MY2 and MY3



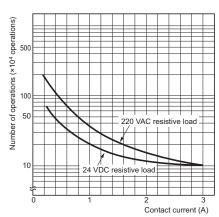
MY4



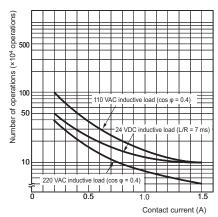
MY4



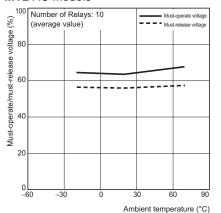
MY4Z



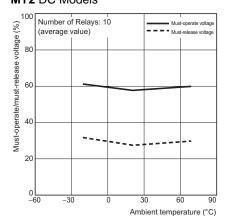
MY4Z



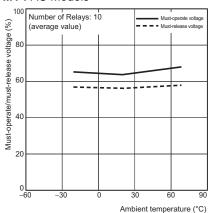
#### **Ambient Temperature vs.** Must-operate and Must-release Voltage MY2 AC Models



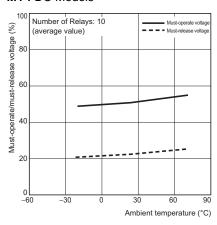
#### MY2 DC Models



#### MY4 AC Models



#### MY4 DC Models



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

#### MY2 AC Models, 50 Hz

110

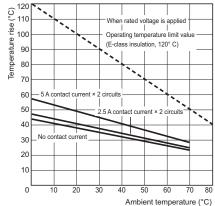
100

90

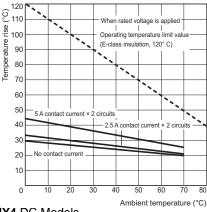
80

70

20

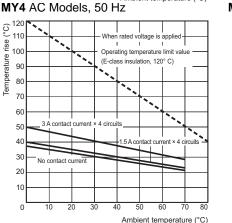






MY4 DC Models

MY2 DC Models



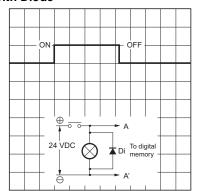
110 When rated voltage is applied 100 Operating temperature limit value (E-class insulation, 120° C) 90 1.5 A contact current × 4 circuit 20 Ambient temperature (°C)

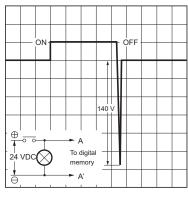
#### Models with built-in diodes

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

With Diode

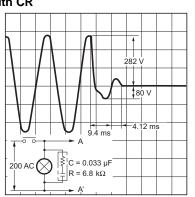
Without Diode With Diode



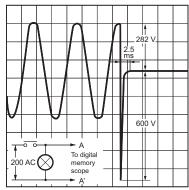


- Make sure that the polarity is correct. Note: 1.
  - The release time will increase, but the 20-ms specification for standard models is satisfied. Diode properties: The diode has a reversed dielectric strength of 1,000 V. Forward current: 1 A

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



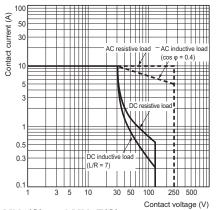
#### Without CR



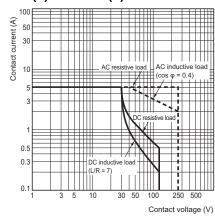
#### **Engineering Data MY(S)**

#### **Engineering Data**

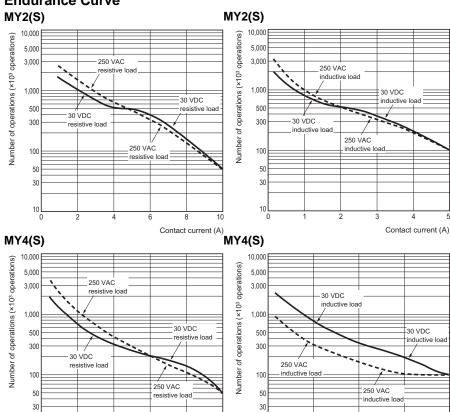
#### **Maximum Switching Capacity** MY2(S)



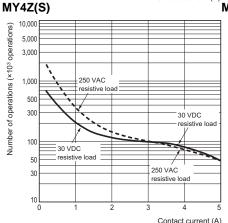
#### MY4(S) and MY4Z(S)

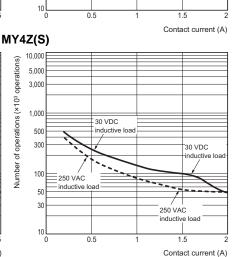


# **Endurance Curve**

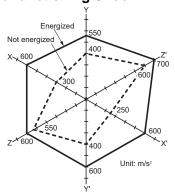


Contact current (A)





#### Common Specifications for MY2, MY3, MY4, MY4Z, MY□-02, MY□F, and MY(S) **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/s2,

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

#### Shock direction



# Detailed Information on Models Certified for Safety Standards, MY2Z, MY3, MY□-02, and MY□F

- Refer to Model Number Structure on page 1 for a list of applicable models.
- 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.

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

Λ	

Model	Coil ratings	Number of poles	Contact ratings	Certified number of operations
		2	5 A, 250 VAC ( $\cos \varphi = 1.0$ )	
MY□	6 to 125 VDC 6 to 240	3	5 A, 250 VAC ( $\cos \phi$ = 1.0) 0.8 A, 250 VAC ( $\cos \phi$ = 0.4)	10,000 operations
	VDC	4	3 A, 120 VAC ( $\cos \phi = 1.0$ ) 0.8 A, 120 VAC ( $\cos \phi = 0.4$ )	

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

Model	Coil ratings	Number of poles	Contact ratings	Certified number of operations
			7A, 240 VAC (General Use)	
			7A, 24 VDC (Resistive)	
			5A, 240 VAC (General Use)	6,000
			5A, 250 VAC (Resistive)	0,000
		2	5A, 30 VDC (Resistive)	
		2	3A, 265 VAC (Resistive)	
			1/6HP, 250 VAC	
			1/8HP, 265 VAC	1,000
			1/10HP, 120 VAC	
			B300 Pilot Duty	6,000
		3 5 to 240 VAC 6 to 125 VDC	5A, 28 VDC (Resistive)	6,000
	0.4.040		5A, 240 VAC (General Use)	
MY			1/6 HP, 250 VAC	1,000
IVIY	6 to 125		5A, 28 VDC (General Use) (Same polarity)	
			5A, 240 VAC (General Use) (Same polarity)	6,000
			5A, 30 VDC (Resistive) (Same polarity)	
	4	5A, 250 VAC (Resistive) (Same polarity)		
		4	0.2A, 120 VDC (Resistive) (Same polarity)	
			1/6HP, 250 VAC (Same polarity)	4.000
			1/10HP, 120 VAC (Same polarity)	1,000
			B300 Pilot Duty (Same polarity)	6,000

#### CSA-certified Models (File No. LR3192

			-	_	-
28)	(	$\overline{\mathbb{I}}$	•		

Model	Coil ratings	Number of poles	Contact ratings	Certified number of operations
			7A, 240 VAC (Resistive)	
			7A, 24 VDC (Resistive)	
			5A, 240 VAC (General Use)	6,000
		2	5A, 250 VAC (Resistive)	
			5A, 30 VDC (Resistive)	
			1/6HP, 250 VAC	1,000
			1/10HP, 120 VAC	1,000
			5A, 28 VDC (Resistive)	
		VAC to 125	7A, 240 VAC (General Use)	6,000
			7A, 24 VDC (Resistive)	
	6 to 240		5A, 240 VAC (General Use)	
MY	6 to 125		1/6HP, 250 VAC	1,000
	VDC		7A, 240 VAC (General Use) (Same polarity)	
			7A, 24 VDC (Resistive) (Same polarity)	6,000
			5A, 240 VAC (General Use) (Same polarity)	
		4	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

<sup>•</sup> 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	Number of poles	Contact ratings
	6 to 240 VAC	2	2 A, 30 VDC inductive load 2 A, 200 VAC inductive load
MY□	6 to 125 VDC	4	1.5 A, 30 VDC inductive load 0.8 A, 200 VAC inductive load 1.5 A, 115 VAC inductive load

# Detailed Information on Models Certified for Safety Standards, MY2, MY4, MY4Z, and MY(S) Newly Released Models

Refer to Model Number Structure on page 1 for a list of applicable models.

VDE-certified Models (Certificate No. 112467UG, EN 61810-1)

Model	Coil ratings	Number of poles	Contact ratings	Certified number of operations
MY□	6, 12, 24, 48/50, 100/ 110, 110/120, 200/	2	,	MY2: 10,000 operations
(New model)	220, and 220/240 VAC 6, 12, 24, 48, 100/ 110, and 125 VDC	4	E A OEO \/AO / 4\	MY4: 100,000 operations MY4Z: 50,000 operations (AC)

#### **UL508-certified Models (File E41515)**

Model	Coil ratings	Number of poles	Contact ratings	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)	6,000
		2	5A, 250 VAC (Resistive)	
		2	5A, 30 VDC (Resistive)	
			3A, 265 VAC (Resistive)	
			1/6HP, 250 VAC	1,000
$MY\square$	6 to 240 VAC		1/8HP, 265 VAC	
(New model)	6 to 125 VDC		1/10HP, 120 VAC	
			B300 Pilot Duty (Same polarity)	6,000
				5A, 28 VDC (General Use) (Same polarity)
		4	5A, 240 VAC (General Use) (Same polarity)	
			5A, 30 VDC (Resistive) (Same polarity)	6,000
			5A, 250 VAC (Resistive) (Same polarity)	
			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	Number of poles	Contact ratings	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
		2	5A, 30 VDC (Resistive)	
		2	3A, 265 VAC (Resistive)	
		- 10 = 10 1110	1/6HP, 250 VAC	1,000
	6 to 240 VAC		1/8HP, 265 VAC	
MY□			1/10HP, 120 VAC	
(New model)	6 to 125 VDC		B300 Pilot Duty (Same polarity)	6,000
			5A, 240 VAC (General Use) (Same polarity)	6,000
			5A, 28 VDC (General Use) (Same polarity)	
			5A, 250 VAC (Resistive) (Same polarity)	
		4	5A, 30 VDC (Resistive) (Same polarity)	
		4	0.2A, 120 VDC (Resistive) (Same polarity)	
			1/6HP, 250 VAC (Same polarity)	4.000
			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	Number of poles	Contact ratings	Certified number of operations
MY□ 6 to 240 VAC	2	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 operations	
(New model)	6 to 125 VDC	4	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 operations

# Miniature Power Relays: MY4Z-CBG

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

Classification	Model	Rated voltage (V)		
Classification	Wodei	Standard products	Made-to-order items	
Standard models	ard models MY4Z-CBG	100/110 or 200/220 VAC	110/120 VAC	
Standard models		24 or 100/110 VDC	12 or 48 VDC	
Models with built-in	MY4ZN-CBG	-	100/110 or 200/220 VAC	
operation indicators		_	24 VDC	

Note: Ask your OMRON representative for details on the time required to deliver made-to-order products.

#### **Ratings and Specifications**

#### Ratings

#### **Operating Coil**

	Item	Item Rated current (mA)		Coil	Coil Coil inductance (H)		Must-operate	Must-release	Maximum	Power consumption
Rated voltage (V)		e (V) 50 Hz 60 Hz		resistance (Ω)	Armature OFF Armature ON		voltage (V)	voltage (V)	voltage (V)	(VA, W)
	100/110	11.7/12.9	10/11	3,750	14.54	24.6			110% of rated	Approx. 0.9 to 1.1 (at 60 Hz)
AC	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1		30% min.*2		
	200/220	6.2/6.8	5.3/5.8	12,950	54.75	94.07	80% max.*1			
	12	75		160	0.73	1.37	00 /6 IIIax.		voltage	
DC	24	36.	9	650	3.2	5.72		10% min.*2		Approx. 0.9
	100/110	9.1/10		11,000	45.60	86.20				

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

Note: 1. The rated current and coll resistance are measured at a contemporation of DC coil resistance.

2. The AC coil resistance and inductance values are reference values only
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.

#### **Contact Ratings**

Load Item	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	1 A
Contact structure	Crossbar bifurcated	
Contact materials	Au cladding + AgPd	

#### **Characteristics**

Contact resis	stance*1	100 mΩ max.		
Operation time*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 resistance*3		100 ΜΩ		
Dielectric	Between coil and contacts Between contacts	2,000 VAC at 50/60 Hz for 1 min.		
strength	of different polarity			
	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)		
Endurance	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 opera	ting temperature	-25 to 70°C (with no icing or condensation)		
Ambient ope	rating humidity	5% to 85%		
Weight		Approx. 35 g		
Mate. The sheet	o values are initial valu			

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

\*4. Ambient temperature condition: 23° C

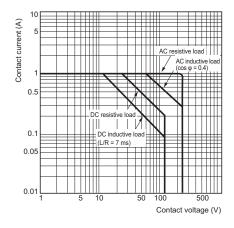
\*5. This value was measured at a switching frequency of 120 operations per minute.

#### **Engineering Data**

#### **Engineering Data**

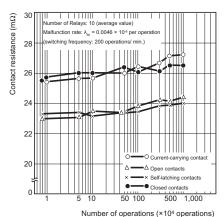
#### **Maximum Switching Capacity**

#### MY4Z-CBG



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

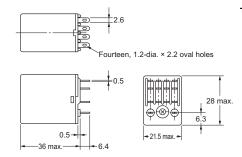
Contact load: 5 VDC, 1 mA resistive load Malfunction criteria level: Contact resistance of 100  $\Omega$ 



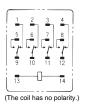
Dimensions (Unit: mm)

#### 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: MYQ

#### **Ordering Information**

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

When your order, specify the rated voltage.

	Туре	4 poles		
Classification	n	Model	Rated voltage (V)	
	Standard models	MYQ4	100/110, 110/ 120, 200/220, or 220/240 VAC	
Models			24 VDC	
with single contacts	Models with built- in operation indicators	MYQ4N	24, 100/110, 110/120, 200/220, or 220/240 VAC	
			12, 24, 48, or 100/110 VDC	
Bifurcated contacts	Standard models	MYQ4Z	100/110, 110/120, or 200/220 VAC	
			12 or 24 VDC	

#### **Relays with PCB Terminals**

Туре	4 poles			
Classification	Model	Rated voltage (V)		
Models with	MYQ4-02	50, 200/220, or 220/240 VAC		
single contacts		24 VDC		
Bifurcated	MYQ4Z-02	100/110 VAC		
contacts	W1 Q42-02	24 or 48 VDC		

#### **Ratings and Specifications**

#### Ratings

#### **Operating Coil**

	Item	Rated current (mA) 50 Hz 60 Hz		Coil resis-	Coil indu	ctance (H)	Must-	Must- release voltage (V)	Maximum voltage (V)	Power
Rated	voltage (V)			tance ( $\Omega$ )	Armature OFF	Armature ON	operate voltage (V)			on (VA, W)
	24	53.8	46	180	0.69	1.3			110% of rated	
	100/110	11.7/12.9	10/11	3,750	14.54	24.6		30% min.*2		Approx. 1.0 to 1.2 (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	91.07	000/			
	220/240	4.8/5.3	4.2/4.6	18,790	83.5	136.4	80% max.*1			
	12	75 36.9 18.5		160	0.734	1.37		10% min.*2	voltage	
DC	24			650	3.2	5.72				Approx. 0.9
DC	48			2,600	10.6	21.0				
	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

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 coil inductance values are reference values 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.
 There is variation between products, but actual values are 80% max.

 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

Type Item	Resistive load	Inductive load (cos $\phi$ = 0.4, L/R = 7 ms)			
Rated load	1 A at 220 VAC, 1 A at 24 VDC	0.5 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, Bif	furcated contacts: 100 μA at 1 VDC			
Contact structure	Single/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 resis	tance*1	50 m $Ω$ max.				
Operation tim	ne <sup>#2</sup>	20 ms max.				
Release time*2		20 ms max.				
Maximum	Mechanical	18,000 operations/h				
operating frequency	Rated load	1,800 operations/h				
	Between coil and contacts	1,500 VAC at 50/60 Hz for 1 min.				
Dielectric strength	Between contacts of different polarity	1,500 VAC at 50/60 Hz for 1 min.				
J	Between contacts of the same polarity	1,000 VAC at 50/60 Hz for 1 min.				
Insulation resistance*3		100 M $\Omega$ 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	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)				
Lituurance	Electrical*5	200,000 operations min. (100,000 operations <sup>*4</sup> ) (rated load, switching frequency: 1,800 operations/h)				
Weight		Approx. 35 g				

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

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.

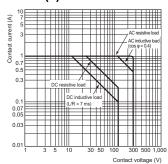
\*4. This value is for bifurcated contacts.

**\*5.** Ambient temperature condition: 23° C

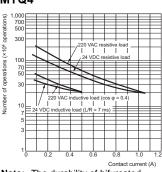
#### **Engineering Data**

#### **Engineering Data**

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

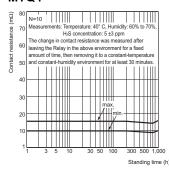


**Endurance Curve** MYQ4

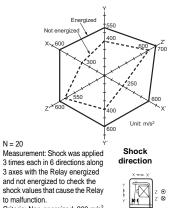


The durability of bifurcated contacts is one-half that of single contacts.

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



#### **Malfunctioning Shock**



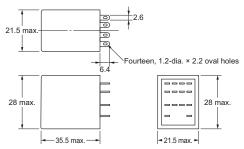
N = 20

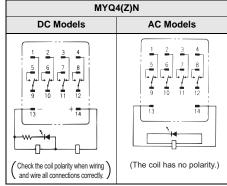
Criteria: Non-energized: 200 m/s² Energized: 200 m/s²

(Unit: mm)

#### **Dimensions**

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

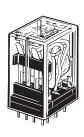


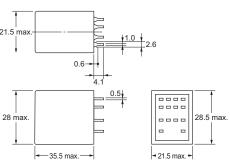


Note: 1. An AC model has coil disconnection self-

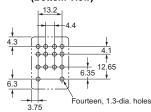
For the DC models, check the coil polarity when wiring and wire all connections

#### **Relays with PCB Terminals** MYQ4(Z)-02



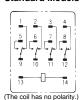


# PCB Processing Dimensions (Bottom View)



Note: The dimensional tolerance is  $\pm 0.1$ .

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



#### **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.
- The UL and CSA certifications for this model are the same as for the MY4-

#### 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 MYK

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

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

Number of poles	2 poles				
Classification	Model	Rated voltage (V)			
		12 VAC			
		24 VAC			
		100 VAC			
Standard models	MY2K	100/110 VAC			
		12 VDC			
		24 VDC			
		48 VDC			

#### **Relays with PCB Terminals**

Number of poles	2 poles			
Classification	Model	Rated voltage (V)		
		24 VAC		
Standard models	MY2K-02	100 VAC		
	WI 1 2 13-02	12 VDC		
		24 VDC		

# Ratings and Specifications

#### **Ratings**

#### **Operating Coil**

	Item		Set coil			Reset coil		<b>.</b>			Power consumption (VA, W)		
			rent (mA)	Coil	Rated current (mA)		Coil	Set voltage (V)	Reset voltage (V)	Maximum voltage (V)	Set coil	Reset coil	
Rated voltage (V)		50 Hz	60 Hz	resistance (Ω)	50 Hz	60 Hz	resistance ( $\Omega$ )	(-)	, , , , , , , , , , , , , , , , , , ,		Set Con	Neset COII	
	12	57	56	72	39	38.2	130	80% max.		80% max. 110% max. of	Approx. 0.6	Approx. 0.2	
AC	24	27.4	26.4	320	18.6	18.1	550		may 909/ may		to 0.9 (at 60 Hz)	to 0.5 (at 60 Hz)	
	100	7.1	6.9	5,400	3.5	3.4	3,000						
	12	110		110	5	50 235		00 /6 IIIax.	00 /6 IIIax.	rated voltage			
DC	24	5	2	470	2	5	940		ļ			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 Item	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		
Rated carry current	3 A			
Maximum contact voltage	250 VAC, 125 VDC			
Maximum contact current	3 A 3 A			
Contact structure	Single			
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 resistance*1		50 m $Ω$ max.		
Set	Time*2	AC: 30 ms max., DC: 15 ms max.		
001	Minimum pulse width	AC: 60 ms, DC: 30 ms		
Reset Time*2		AC: 30 ms max., DC: 15 ms max.		
Keset	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 strength	Between contacts of different polarity	1,000 770 000,00 112 101 1 111111.		
	Between contacts of the same polarity	1.000 VAC at 50/60 Hz for 1 min.		
	Between set/ reset coils	1,000 VAC at 30/00 112 101 1 111111.		
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)		
Lituuranoe	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		
Note: The above values are initial values				

- Note: The above values are initial values.

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

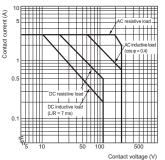
  2. Measurement conditions: With rated operating power applied, not including contact bounce.

  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 minute.

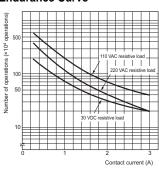
#### **Engineering Data**

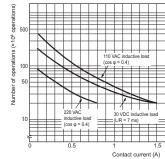
#### **Engineering Data**

# MY2K(-02) Maximum Switching Capacity

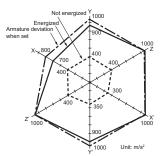


**Endurance Curve** 





MY2K 100 VAC
Malfunctioning Shock

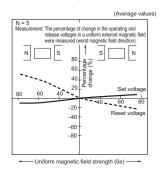




N = 20 Measurement: Shock was applied 2 times each in 6 directions along 3 axes with the Relay energized and not energized to check the shock values that cause the Relay to malfunction.

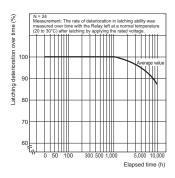
Criteria: Non-energized: 200 m/s<sup>2</sup> Energized: 200 m/s<sup>2</sup>

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



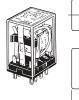
(Unit: mm)

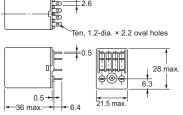
# Latching Deterioration Over Time



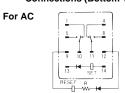
#### **Dimensions**

# Relays with Plug-in Terminals or Soldered Terminals





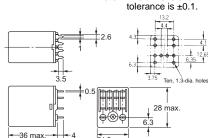
# Terminal Arrangement/Internal Connections (Bottom View)



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

# Relays with PCB Terminals MY2K-02





Note:

**PCB Processing Dimensions** 

(Bottom View)

The dimensional

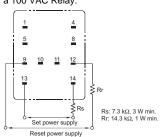
#### For DC



Pay close attention to the set coil and reset coil polarities. If the connections are not correct, unintended operation may occur.

#### **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
- 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 magnetic fields.

#### **Relay Replacement**

over time.

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: MYH

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

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

Туре	4 poles			
Classification	Model Rated voltage (V)			
Models with single	MY4H	24, 100/110, or 110/120 VAC		
contacts	1411	12, 24, 48, or 100/110 VDC		
Bifurcated contacts	MY4ZH	24, 100/110, or 110/120 VAC		
Bilurcated contacts	IVI I 42 M	12, 24, 48, or 100/110 VDC		

#### **Relays with PCB Terminals**

Туре	4 poles			
Classification	Model Rated voltage (V)			
Models with single	MY4H-0	110/120 VAC		
contacts	W11411-0	24 VDC		
Bifurcated contacts	MY4ZH-0	24 or 100/110 VDC		

#### **Ratings and Specifications**

#### Ratings

#### **Operating Coil**

	Item	Rated curr	ent (mA)	Coil	Coil induc	Coil inductance (H)		Must-release	Maximum	Power consumption
Rated	voltage (V)	50 Hz	60 Hz	resistance (Ω)	Armature OFF	Armature ON	voltage (V)	voltage (V)	voltage (V)	(VA, W)
	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. 1.0 to 1.2 (at 60 Hz)
	110/120	9.9/10.8	8.4/9.2	4,430	19.2	32.1			110% of rated voltage min.*2	(3.1.2.1.1.2)
	12	75		160	0.73	1.37	80% max.*1	10% min.*2		
DC	24	36.	9	650	3.2	5.72				Approx. 0.9
DC .	48	18.	5	2,600	10.6	21.0		10% 11111.		Арргох. 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.
    The AC coil resistance and inductance values are reference values 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.
   There is variation between products, but actual values are 80% max.
   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**

Load		ith single acts	Bifurcated contacts		
Item	Resistive load cos φ = 0.4 L/R = 7 ms		Resistive load	Inductive load $\cos \phi = 0.4$ L/R = 7 ms	
Rated load					
Rated carry current	3 A		3 A		
Maximum contact voltage	125 VAC 125 VDC		125 VAC 125 VDC		
Maximum contact current	3 A		3 A		
Contact structure	Single		Bifurcated		
Contact materials	Au plating + A	Ag			
	<u>-</u>				
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	sistance*1	50 m $Ω$ max.		
Operation time*2		20 ms max.		
Release time*2		20 ms max.		
Maximum Mechanical operating frequency Rated load		18,000 operations/h		
		1,800 operations/h		
Insulation	resistance*4	100 MΩ min.		
Dielectric strength Between coil and contacts  Between contacts of different polarity		1,000 VAC at 50/60 Hz for 1 min.		
		(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>		
Mechanical Endurance		50,000,000 operations (5,000,000 operations*4) min. (operating frequency: 18,000 operations/h)		
Electrical*5		100,000 operations (50,000 operations*4) min. rated load, switching frequency: 1,800 operations/h)		
Failure rat (reference		Single contacts: 100 µA at 1 VDC Bifurcated contacts: 100 µA at 100 mVDC		
Weight		Approx. 50 g		
I. I. TI		90 T T		

Note: The above values are initial values.

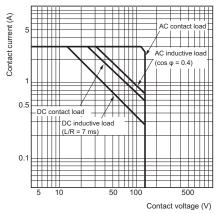
- \*1. Measurement conditions: 1 A at 5 VDC using the voltage drop method

  \*2. Measurement conditions: With rated operating power applied, not including contact
- 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
  \*6. This value was measured at a switching frequency of 120 operations per minute.

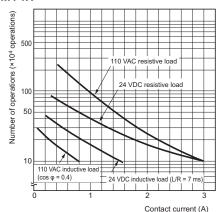
#### **Engineering Data**

#### **Engineering Data**

# Maximum Switching Capacity MY4(Z)H



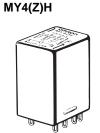
# Endurance Curve MY4H

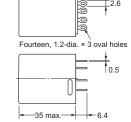


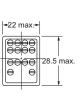
**Note:** The durability of bifurcated contacts is one-half that of single contacts.

Dimensions (Unit: mm)

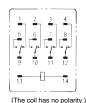
# Relays with Plug-in Terminals or Soldered Terminals



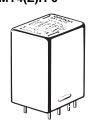


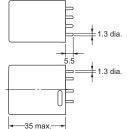


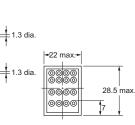
#### Terminal Arrangement/ Internal Connections (Bottom View)



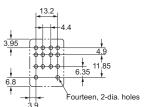
Relays with PCB Terminals MY4(Z)H-0







PCB Processing Dimensions (Bottom View)



# **Safety Precautions**

#### **PCB Design for Hermetically Sealed Relays**

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

#### Solution

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

#### **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.

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

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

Туре	Front-mounting Sockets						Back	-mounting So	ckets			
	Track or screv	w mounting	Screw mounting only	Solder terminals		Wrapping terminals						
		Terminal cover structure		Screwless Socket	Without With		Socket Without With Brackets With Mounting Br		Without With Brackets		ing Brackets	Relays with PCB Terminals
Model	Screw termin	al size: M3	Screw terminal size: M3.5		Mounting Mounting Brackets Brackets	Terminal length: 25 mm	Terminal length: 20 mm	Terminal length: 25 mm	Terminal length: 20 mm	Terminais		
MY2□ MY2(S)	PYF08A (PYC-A1)	PYF08A-E (PYC-A1)	PYF08M (PYC-P)	DVEGGG	PY08 (PYC-P)	PY08-Y1	PY08QN (PYC-P)	PY08QN2 (PYC-P)	PY08QN-Y1	PY08QN2-Y1	PY08-02 (PYC-P)	
MY2Z□-CR	PYF08A (Y92H-3)	PYF08A-E (Y92H-3)		PYF08S	PY08 (PYC-1)	PY08-Y3	PY08QN (PYC-1)	PY08QN2 (PYC-1)			PY08-02 (PYC-1)	
МҮ3□	PYF11A (PYC-A1)				PY11 (PYC-P)	PY11-Y1	PY11QN (PYC-P)	PY11QN2 (PYC-P)	PY11QN-Y1	PY11QN2-Y1	PY11-02 (PYC-P)	
MY4□	Screw termin	al size: M3	/									
MY4(S) MY4Z□	PYF14A (PYC-A1)											
MY4Z-CBG MYQ4□ MY4H	Screwterminal size: M3.5	PYF14A-E (PYC-A1)		PYF14S	PYF14S PY14 (PYC-P)	DV1/1-V1	PY14-Y1	PY14QN (PYC-P)	DV1/()N-V1	PY14QN-Y1	PY14QN2-Y1	PY14-02 (PYC-P)
MY4ZH MY2K□	PYF14T (PYC-A1)	,										

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

The Mounting Bracket. Some Mounting Brackets are sold in sets of two. However, the PTC-P is just one Mounting Bracket.

The PYF□A-E has a terminal cover with finger protection. Round terminals cannot be used. Use forked terminals or ferrules instead. Refer to Common Socket and DIN Track Products for the external dimensions of the Socket Relays.

The Mounting Brackets are applicable for Relays with a height of 36 mm reless. 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.)

Refer to PYF□□S/P2RF-□S for details on Screwless Sockets.

The terminal enter is interreted into the Socket.

The terminal cover is integrated into the Socket.

If an MY (S) Relay with a Latching Lever is used in combination with a PY -2 Socket for Relays with PCB Terminals and a PYC-P Mounting Brackets,

the lever will not operate.

We recommends using the PYC-E1 Mounting Bracket for a MY2(S) Relay with Latching Lever. (If the PYC-A1 is used with the MY2(S), the latching lever will be blocked by the Mounting Bracket and the lever will not operate.)

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

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

MY

PYF□A or PYF14T

70 (87)

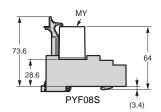
# MY

PYF08M

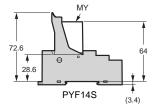
MY 39 (56)

**Back-mounting** 

**Sockets** 



**Screwless Sockets** 



The PYF□A can be mounted on a track or with screws. Note: 1. 2.

66 (83)

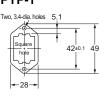
The heights given in parentheses are the measurements for 53-mm-high Relays.
Use the PYC-P Mounting Bracket for the PYF08M.

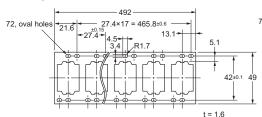
#### **Socket Mounting Plate (t = 1.6) (Unit: mm)**

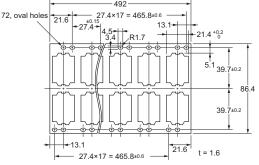
Use a Socket Mounting Plate to mount multiple connection Sockets in a row.

Item	Type Applicable Sockets	For mounting 1 Socket	For mounting 8 Sockets	For mounting 36 Sockets	
Without protective brack	et PY08, PY08QN(2), PY11, PY11QN(2), PY14, and PY14QN(2)				Note:
With protective bracket	PY08-Y1, PY08QN(2)-Y1, PY11-Y1, PY11QN(2)-Y1, PY14-Y1, and PY14QN(2)-Y1	PYP-1	PYP-18	PYP-36	Note:
PYP-1	PYP-18	1	PYP-36		•'
Tue 24 dia balan E 1	402	_1	4	492 —	

e: You can cut the PYP-18 and PYP-36 to any required length.







The minimum order for the PYP-1 is 10 pieces.

#### Compliance with Electrical Appliances and Material Safety Act

- All 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	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

<sup>\*</sup> Under the Electrical Appliances and Material Safety Act, do not use any 4-pole models 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.

#### **Safety Precautions**

#### Refer to the Common Relay Precautions.

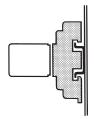
#### **Precautions for Correct Use**

#### 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 case-surface-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 25.)

#### 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.

#### 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.

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