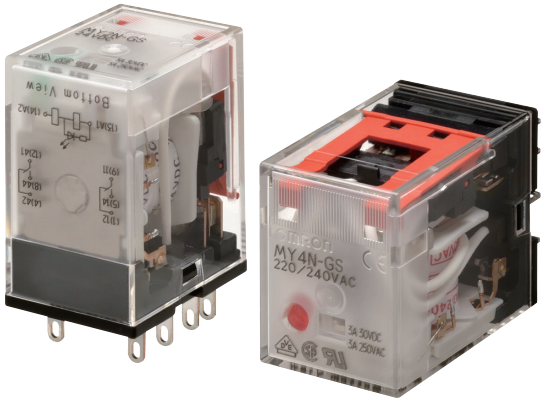
Miniature Power Relays

MY-GS

CSM_MY-GS_DS_E_2_1

Mechanical Indicators Added as a Standard Feature to Our Best-selling MY General-purpose Relays



- Reduces wiring work by 60% when combined with the PYF-PU Push-In Plus Socket (according to actual OMRON measurements).
- Relays with AC and DC coils have different colors of operating indicators (LEDs).
- Printing on the coil tape indicates the operating coil specification.
- Mechanical operation indicators are a standard feature on all models.
- RoHS complaint.
- UL, CSA, and IEC (VDE certification).

⚠ **Refer to the *Common Relay Precautions*.**

Features

- Mechanical indicators are a standard feature on all models so that you can easily check the contact status.
- The color of the LED shows whether the coil voltage is AC or DC.

Model Number Structure

Model Number Legend

MY □ □ - □ □ -GS DC24

(1) (2) (3) (4)

1. Number of Poles
   2: 2 poles
   4: 4 poles
2. LED Operation Indicator
   Blank: Built-in mechanical indicators
   N: LED operation indicator and built-in mechanical indicators
3. Coil Surge Absorption
   Blank: Standard models
   D2: Models with built-in diodes
   CR: Models with built-in CR circuits
4. Operating Coil Voltage
   Display Example: DC24

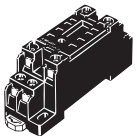
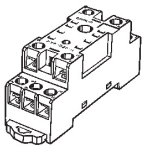
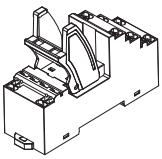
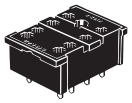
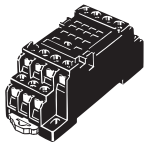
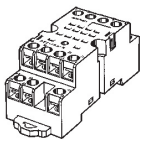
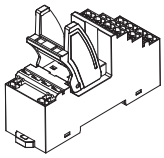
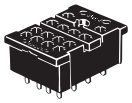
Ordering Information

List of Models

Category	Contact configuration	Model	Rated voltage (V)
Standard models	DPDT	MY2-GS	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, 220/240 VAC
			6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC
	4PDT	MY4-GS	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, 220/240 VAC
			6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC
Models with built-in operation indicators	DPDT	MY2N-GS	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, 220/240 VAC
			6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC, 220 VDC
	4PDT	MY4N-GS	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, 220/240 VAC
			6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC, 220 VDC
Models with built-in diodes and operation indicators	DPDT	MY2N-D2-GS	12 VDC, 24 VDC, 48 VDC, 100/110 VDC, 220 VDC
	4PDT	MY4N-D2-GS	
Models with built-in CR circuits and operation indicators	DPDT	MY2N-CR-GS	100/110 VAC, 110/120 VAC, 200/220 VAC, 220/240 VAC
	4PDT	MY4N-CR-GS	

Accessories (Order Separately)

Connection Sockets and Hold-down Clips

	Front-mounting Sockets			Back-mounting Sockets
Mounting	DIN Track or screw mounting			PCB mounting
Wiring	Screw connections		Push-In Plus terminal blocks	Soldered connections
MY2-GS MY2N-GS	PYF08A-E 	PYF08A-N 	PYF-08-PU 	PY08-02 
MY4-GS MY4N-GS	PYF14A-E 	PYF14A-N 	PYF-14-PU 	PY14-02 
Hold-down Clips	PYC-A1		Socket combination	PYC-P

Ratings and Specifications

Ratings

Operating Coil

Item		Rated current (mA)		Coil resistance (Ω)	Coil inductance (H)		Must-operate voltage	Must-release voltage	Maximum voltage	Power consumption (VA, W)
Rated voltage		50 Hz	60 Hz		Armature OFF	Armature ON	Percentage of rated voltage			
AC	12	106.5	91	46	0.17	0.33	80% max. *1	30% min. *2	110%	Approx. 0.9 to 1.3 (at 60 Hz)
	24	53.8	46	180	0.69	1.3				
	48	25.7	21.1	788	3.22	5.66				
	100/110	11.7/12.9	10.0/11.0	3,750	14.54	24.6				
	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				
	220/240	5.2/6.2	4.3/5.0	15,920	83.5	136.4				
DC	6	146 (151)		41.0 (39.8)	0.17	0.33		10% min. *2		Approx. 0.9
	12	72.7 (75)		165 (160)	0.73	1.37				
	24	36.3 (37.7)		662 (636)	3.2	5.72				
	48	17.6 (18.8)		2,725 (2,560)	10.6	21.0				
	100/110	8.7 (9.0)/9.6 (9.9)		11,440 (11,100)	45.6	86.2				
	220	3.6		60,394	362.3	452.9				Approx. 0.8

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 values in parentheses for the rated currents and coil voltages of DC coils are for models with LED operation indicators.
5. 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.
The Relay will operate if 80% or higher of the rated voltage is applied. However, to achieve the specified characteristics, apply the rated voltage to the coil.
✻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.

Contacts

	2 poles		4 poles	
	Resistive load	Inductive load (cos ϕ = 0.4, L/R = 7 ms)	Resistive load	Inductive load (cos ϕ = 0.4, L/R = 7 ms)
Contact configuration	DPDT		4PDT	
Contact structure	Single			
Contact material	Ag			
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, 220 VDC		250 VAC, 220 VDC	
Maximum contact current	5 A		3 A	
Maximum switching capacity	1,100 VA 120 W	440 VA 48 W	660 VA 72 W	176 VA 36 W
Minimum load (reference values)*	1 mA at 5 VDC			

✻ These values are guides for the switchable limits for minute load levels, such as in electronic circuits. Actual characteristics may be different. These values will depend on the switching frequency, atmosphere, and expected reliability level. Confirm applicability in the actual system under actual application conditions.

Characteristics

		2 poles	4 poles
Contact resistance *1		100 mΩ max.	
Operation time *2		20 ms max.	
Release time *2		20 ms max.	
Maximum operating frequency	Mechanical	18, 000 operations/h	
	Rated load	2,400 operations/h	
Insulation resistance *3		1,000 MΩ min.	
Dielectric strength	Between coil and contacts	2,000 VAC at 50/60 Hz for 1 min.	
	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 resistance	Destruction	10 to 55 to 10 Hz, Double amplitude: 1.0 mm	
	Malfunction	10 to 55 to 10 Hz, Double amplitude: 1.0 mm	
Shock resistance	Destruction	1,000 m/s^2 (approx. 100 G)	
	Malfunction	200 m/s^2 (Approx. 20 G)	
Endurance	Mechanical	50,000,000 operations (switching frequency: 18,000 operations/h)	
	Electrical *4	500,000 operations (switching frequency: 2,400 operations/h)	200,000 operations (switching frequency: 2,400 operations/h)
Ambient operating temperature		Standard models: –55 to 70°C (with no icing or condensation) Models with LED operation indicators: –40 to 70°C (with no icing or condensation)	
Ambient humidity		5% to 85%	
Weight		Approx. 35 g	

Note: The above values are initial values.
✻1. Measurement conditions: 1 A at 5 VDC using the voltage drop method.
✻2. Measurement conditions: With rated operating power applied, not including contact bounce time.
✻3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.
✻4. Ambient temperature condition: 23°C
Duty ratio: 33%

Certified Ratings for Models Certified for Safety Standards

The rated values for safety standard certification are not the same as individually defined performance values. Always check the specifications before use.

UL-certified Models: UL508

MY-GS	Number of poles	Coil ratings	Contact ratings	Certified number of operations
	2	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, or 220/240 VAC 6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC, or 220 VDC	5 A, 30 VDC (General Use) 5 A, 250 VAC (General Use)	6,000 operations
	4	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, or 220/240 VAC 6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC, or 220 VDC	3 A, 30 VDC (General Use) 3 A, 250 VAC (General Use)	6,000 operations

CSA-certified Models: CSA C22.2 No.14

MY-GS	Number of poles	Coil ratings	Contact ratings	Certified number of operations
	2	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, or 220/240 VAC 6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC, or 220 VDC	5 A, 30 VDC (General Use) 5 A, 250 VAC (General Use)	6,000 operations
	4	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, or 220/240 VAC 6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC, or 220 VDC	3 A, 30 VDC (General Use) 3 A, 250 VAC (General Use)	6,000 operations

VDE-certified Models: EN 61810-1

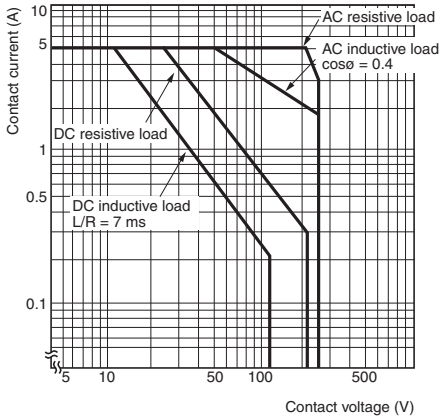
MY-GS	Number of poles	Coil ratings	Contact ratings	Certified number of operations
	2	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, or 220/240 VAC 6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC, or 220 VDC	5 A, 30 VDC (L/R = 1) 5 A, 250 VAC (cosϕ = 1)	10,000 operations
	4	12 VAC, 24 VAC, 48 VAC, 100/110 VAC, 110/120 VAC, 200/220 VAC, or 220/240 VAC 6 VDC, 12 VDC, 24 VDC, 48 VDC, 100/110 VDC, or 220 VDC	3 A, 30 VDC (L/R = 1) 3 A, 250 VAC (cosϕ = 1)	10,000 operations

Engineering Data

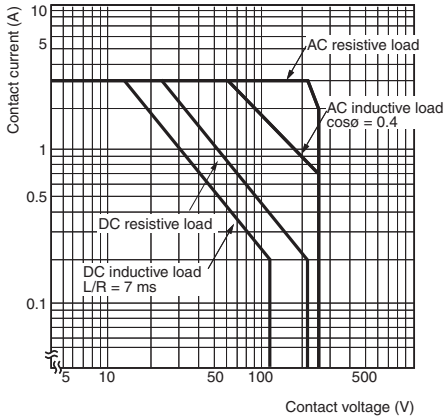
Reference Data

Maximum Switching Capacity

MY2-GS

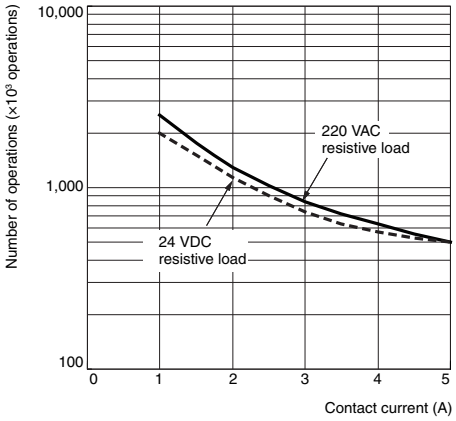


MY4-GS

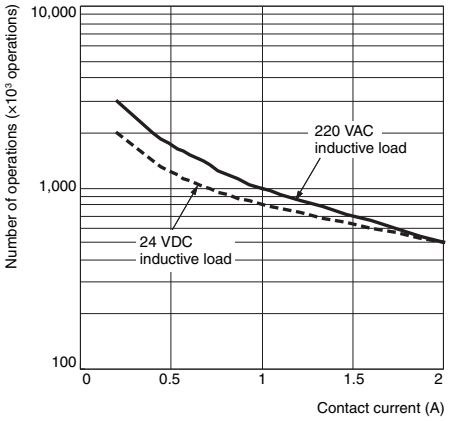


Endurance Curve

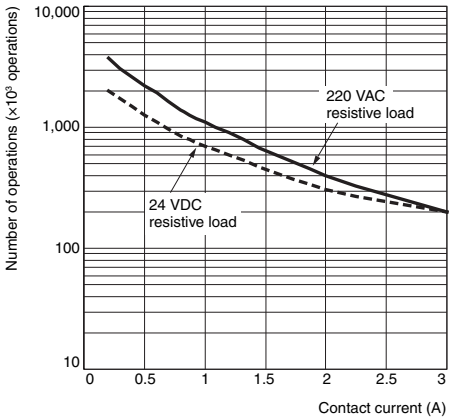
MY2-GS (Resistive Load)



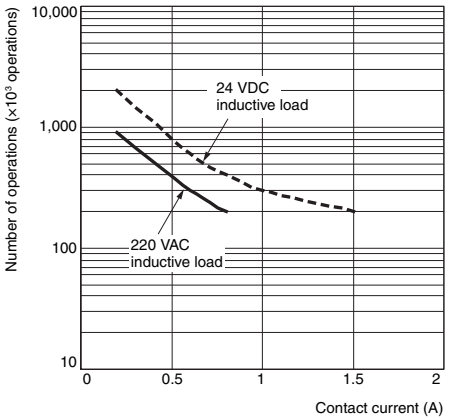
MY2-GS (Inductive Load)



MY4-GS (Resistive Load)



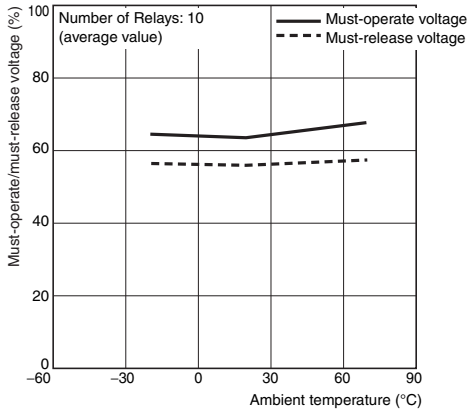
MY4-GS (Inductive Load)



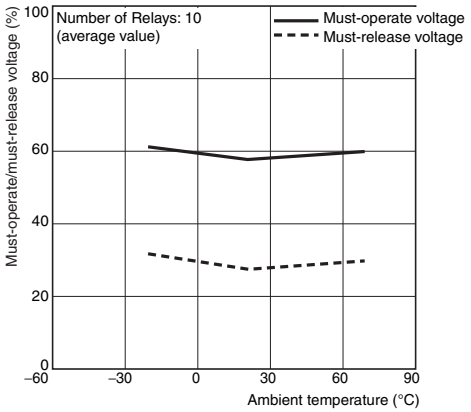
Note: 1. Number of operations: AC load, 50 Hz, 80%
2. Switching condition: NO or NC

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

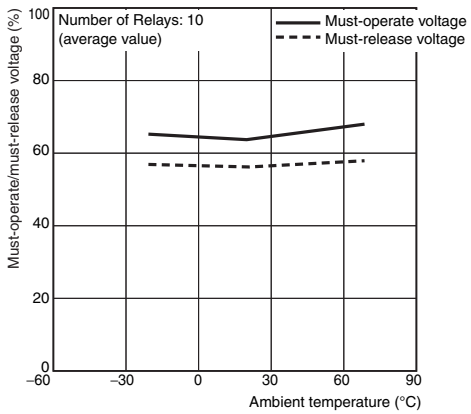
MY2-GS AC Models



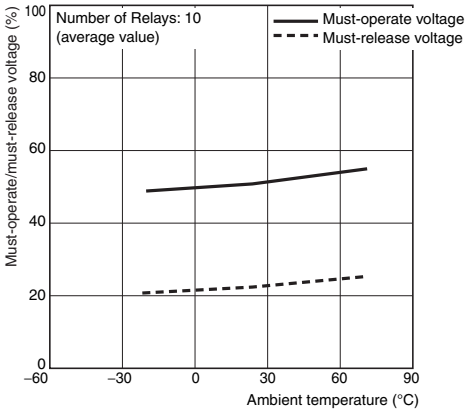
MY2-GS DC Models



MY4-GS AC Models

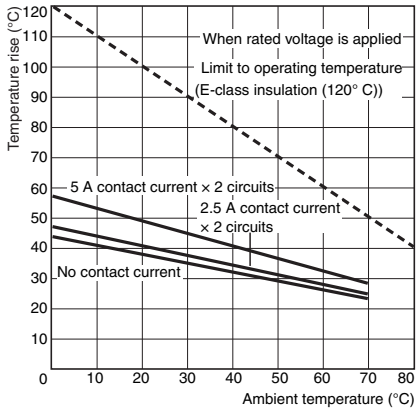


MY4-GS DC Models

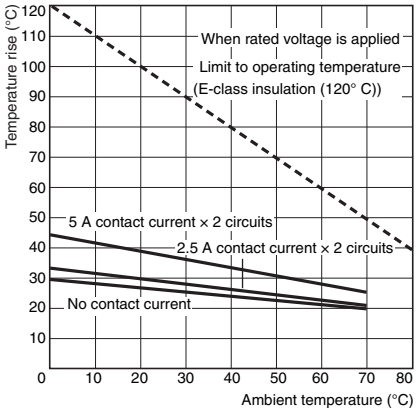


Ambient Temperature vs. Coil Temperature Rise

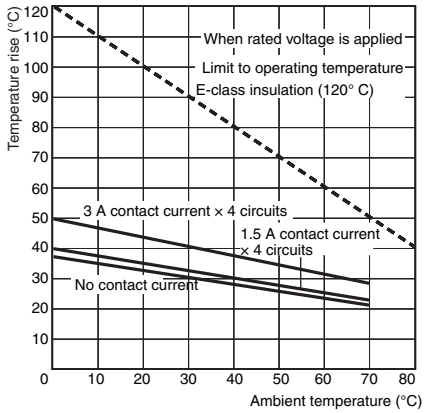
MY2-GS AC Models, 50 Hz



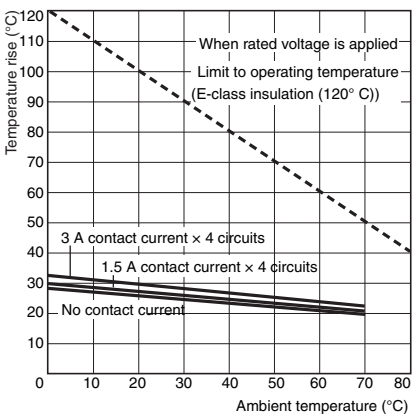
MY2-GS DC Models



MY4-GS AC Models, 50 Hz



MY4-GS DC Models

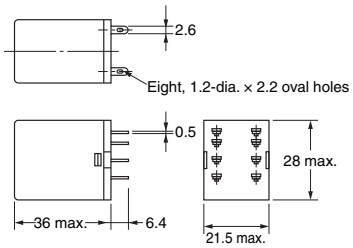


Dimensions

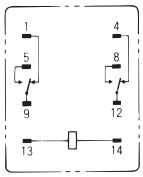
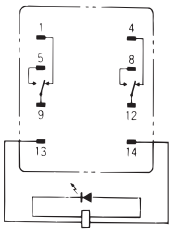
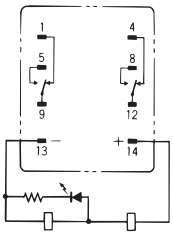
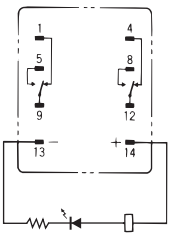
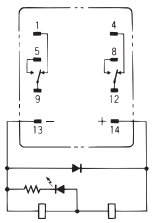
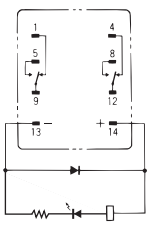
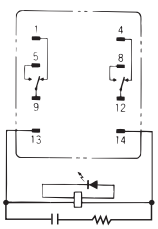
(Unit: mm)

Relays

MY2-GS and MY2N-GS

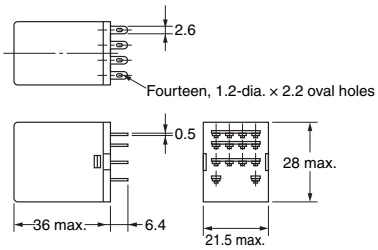


Terminal Arrangement/Internal Connections (Bottom View)

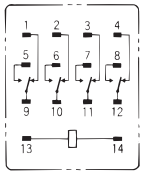
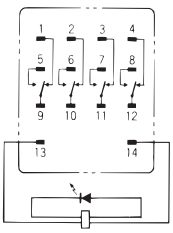
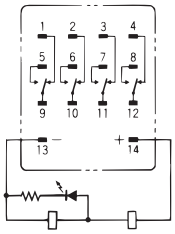
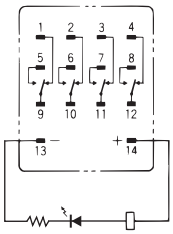
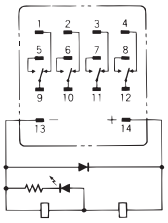
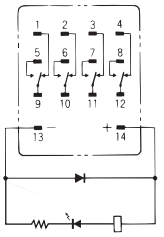
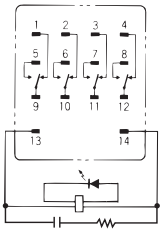
MY2-GS	MY2N-GS			MY2N-D2-GS		MY2N-CR-GS
Standard Models	AC Models	DC Models (except 220 VDC)	DC Models (for 220 VDC)	DC Models (except 220 VDC)	DC Models (for 220 VDC)	AC Models
						
(The coil has no polarity.)	(The coil has no polarity.)	Check the coil polarity when wiring and wire all connections correctly.	Check the coil polarity when wiring and wire all connections correctly.	Check the coil polarity when wiring and wire all connections correctly.	Check the coil polarity when wiring and wire all connections correctly.	(The coil has no polarity.)

Note: 1. An AC model has coil disconnection self-diagnosis.
2. For the DC models, check the coil polarity when wiring and wire all connections correctly.
3. The indicator is red for AC and green for DC.
4. The LED operation indicators indicate the energization of the coil and do not necessarily represent contact operation.

MY4-GS and MY4N-GS



Terminal Arrangement/Internal Connections(Bottom View)

MY4-GS	MY4N-GS			MY4N-D2-GS		MY4N-CR-GS
Standard Models	AC Models	DC Models (except 220 VDC)	DC Models (for 220 VDC)	DC Models (except 220 VDC)	DC Models (for 220 VDC)	AC Models
						
(The coil has no polarity.)	(The coil has no polarity.)	Check the coil polarity when wiring and wire all connections correctly.	Check the coil polarity when wiring and wire all connections correctly.	Check the coil polarity when wiring and wire all connections correctly.	Check the coil polarity when wiring and wire all connections correctly.	(The coil has no polarity.)

Note: 1. An AC model has coil disconnection self-diagnosis.
2. For the DC models, check the coil polarity when wiring and wire all connections correctly.
3. The indicator is red for AC and green for DC.
4. The LED operation indicators indicate the energization of the coil and do not necessarily represent contact operation.

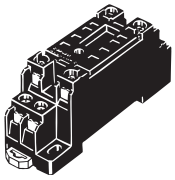
Options (Order Separately)

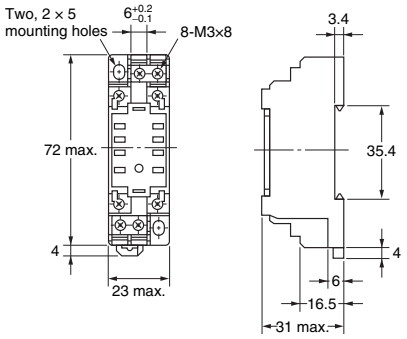
Refer to *Common Socket and DIN Track Products* for details on Connection Sockets and DIN Track products (sold separately).
Refer to *PYF-□□-PU/P2RF-□□-PU* for details on A Push-In Plus Terminal Block Socket.

Connection Sockets

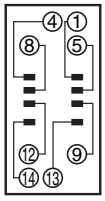
Front-mounting Sockets

PYF08A-E

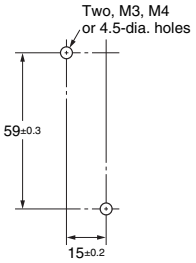




Terminal Arrangement/ Internal Connections (Top View)

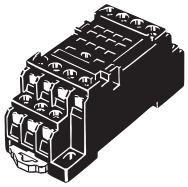


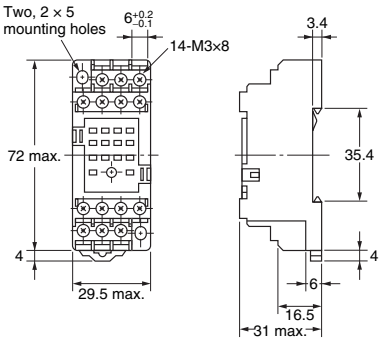
Mounting Hole Dimensions (Top View)



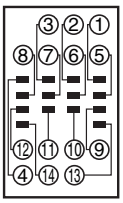
Note: Mounts to DIN Track.

PYF14A-E

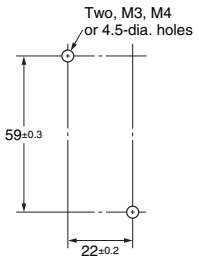




Terminal Arrangement/ Internal Connections (Top View)

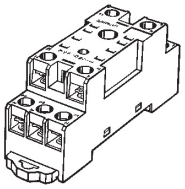


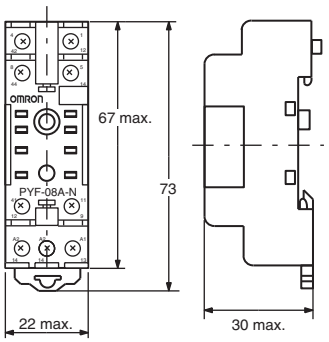
Mounting Hole Dimensions (Top View)



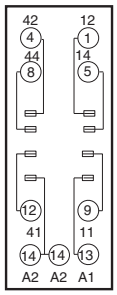
Note: Mounts to DIN Track.

PYF08A-N

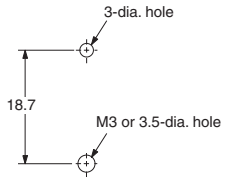




Terminal Arrangement/ Internal Connections (Top View)

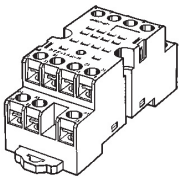


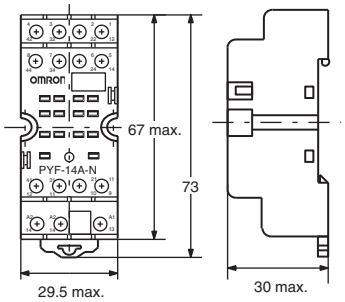
Mounting Hole Dimensions (Top View)



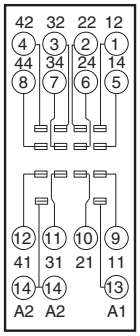
Note: Mounts to DIN Track.

PYF14A-N

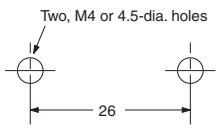




Terminal Arrangement/ Internal Connections (Top View)

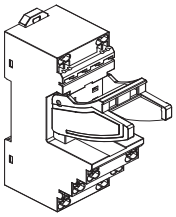


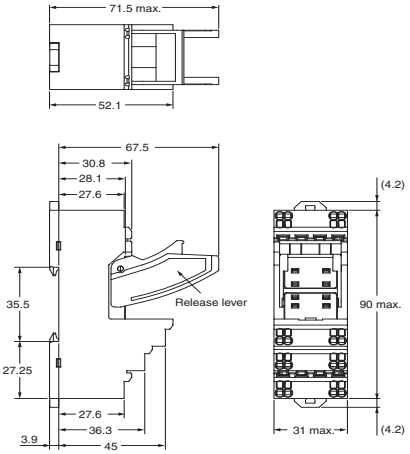
Mounting Hole Dimensions (Top View)



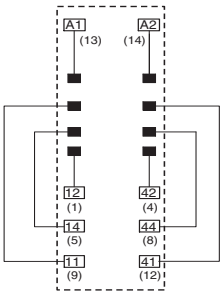
Note: Mounts to DIN Track.

PYF-08-PU





Terminal Arrangement/
Internal Connection Diagram
(TOP VIEW)

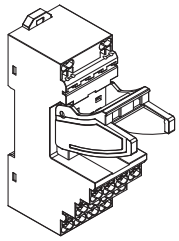


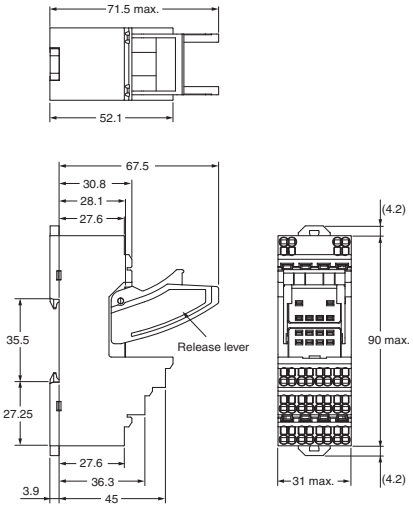
Mounting Hole Dimensions

Note: The numbers in parentheses are traditionally used terminal numbers.

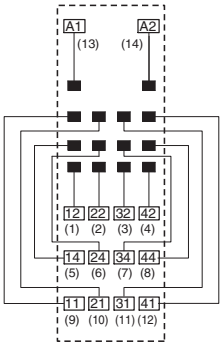
Note: Pull out the hooks to mount the Relay with screws.

PYF-14-PU

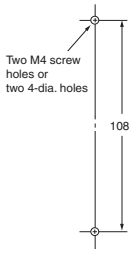




Terminal Arrangement/
Internal Connection Diagram
(TOP VIEW)



Mounting Hole Dimensions

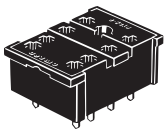


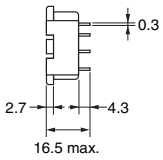
Note: The numbers in parentheses are traditionally used terminal numbers.

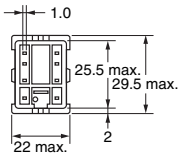
Note: Pull out the hooks to mount the Relay with screws.

Back-mounting Sockets

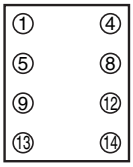
PY08-02



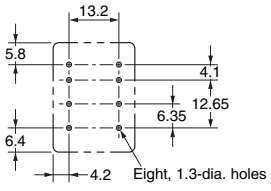




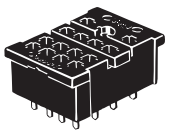
Terminal Arrangement/ Internal Connections (Bottom View)

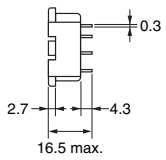


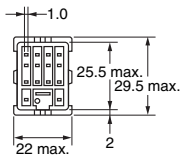
PCB Processing Dimensions



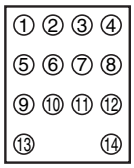
PY14-02



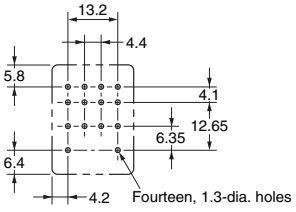




Terminal Arrangement/ Internal Connections (Bottom View)

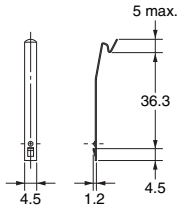
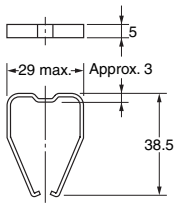


PCB Processing Dimensions



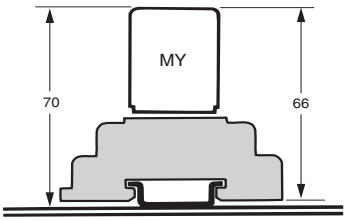
Accessories

Hold-down Clips

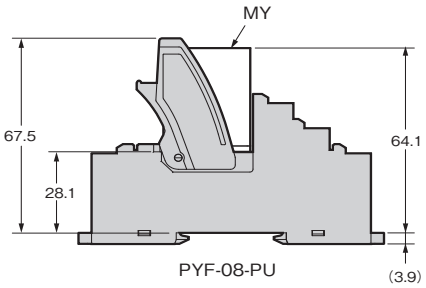
Socket model / Relay model	PYF08A-E PYF14A-E PYF08A-N PYF14A-N	PY08-02 PY14-02
MY2-GS MY2N-GS MY4-GS MY4N-GS	PYC-A1 Set of 2 clips 	PYC-P 

Mounting Heights with Sockets (Unit: mm)

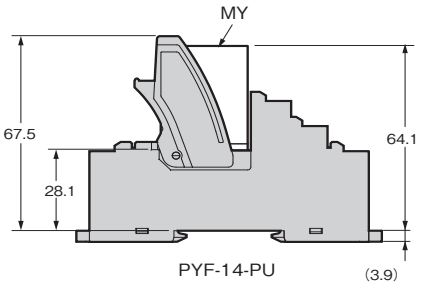
Front-mounting Sockets



PYF□□A-E
PYF□□A-N

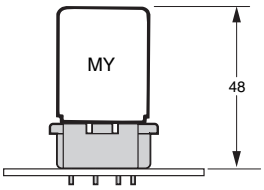


PYF-08-PU



PYF-14-PU

Back-mounting Sockets



PY□□-02

Safety Precautions

Refer to the *Common Relay Precautions* for precautions that apply to all Relays.

Precautions for Correct Use

Handling

For models with built-in LED operation indicators, 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.

Using MY-GS Relays with Microloads with Infrequent Operation

If standard MYGS Relays are used to infrequently 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

Relay Replacement

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

Applicable Sockets

Use only combinations of OMRON Relays and Sockets.

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2016.7

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