Solid-state Timer

H3Y Series

Miniature Timer Compatible with the MY Relay

- The Push-In Plus Terminal Block Socket-compatible H3Y-□-B/H3YN-□-B Timers in a black design join the Single-mode H3Y and Multi-mode H3YN.
- The H3Y-□-B and H3YN-□-B are UL listed when they are used together with Push-In Plus Terminal Block Sockets.
- Large transparent time setting knob facilitates time setting.
  A flat-blade and Phillips screwdriver can also be used for time setting.
- Conforms to EMC standards.
- Conforms to EN 61812-1 and approved by UL and CSA.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Model Number Structure

The Entire H3Y Series

H3Y Series

H3Y Mono-function Timers	H3YN Multi Timers	H3Y-□-B Mono-function Timers	H3YN-□-B Multi Timers
● On Delay ● Fixed Time Range	● Four-mode Timers ON Delay Interval Flicker-OFF Start Flicker-ON Start ● Four-time Ranges Short-time range (0.1 s to 10 min) Long-time range (0.1 min to 10 hrs) ● Bifurcated contacts	● On Delay ● Fixed Time Range	● Four-mode Timers ON Delay Interval Flicker-OFF Start Flicker-ON Start ● Four-time Ranges Short-time range (0.1 s to 10 min) Long-time range (0.1 min to 10 hrs) ● Bifurcated contacts
Refer to page 3.	**Refer to page 9.**	**Refer to page 17.**	**Refer to page 23.**

Model Number Structure

H3Y- □ **-** □ **-** □
(1) (2) (3)

(1) Output

Symbol	Meaning
2	DPDT
4	4PDT

(2) Terminal Type

Symbol	Meaning
None	Plug-in terminals
0	PCB terminals

(3) Body Color and Terminal Arrangement

Symbol	Meaning
None	Beige with output terminals on top and power supply terminals on bottom
B	Black with power supply terminals on top and output terminals on bottom

Ex) H3Y-2 100 to 120VAC 0.5S
Rated time
Supply Voltage

Note: Specify both the model number, supply voltage, and rated time when ordering.

H3YN - □ □ □ **-** □
(1) (2) (3) (4)

(1) Output

Symbol	Meaning
2	DPDT
4	4PDT

(2) Time Range

Symbol	Meaning
None	Short-time range
1	Long-time range

(3) Contact Type

Symbol	Meaning
None	Single contact
Z	Twin contacts

(4) Body Color and Terminal Arrangement

Symbol	Meaning
None	Beige with output terminals on top and power supply terminals on bottom
B	Black with power supply terminals on top and output terminals on bottom

Ex) H3YN-2 100 to 120VAC
Supply Voltage

Note: Specify both the model number, supply voltage when ordering.

Solid-state Timer
H3Y

Miniature Timer Compatible with the MY Relay

- Semi-multi power supply voltage.
- Large transparent time setting knob facilitates time setting.
  A flat-blade and Phillips screwdriver can also be used for time setting.
- Pin configuration compatible with MY Power Relay.
- LED indication for power and output statuses.
- Conforms to EMC standards.
- Conforms to EN 61812-1 and approved by UL and CSA.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

⚠ Refer to *Safety Precautions* on page 38.

Ordering Information

Operation/resetting system	Time-limit contact	Time ranges	Supply voltage	Mounting	
				Surface/DIN-track mounting (with socket)	Surface mounting (with PCB terminals)
Time-limit operation/ self-resetting	DPDT (for power switching)	0.04 s to 3 h	24, 100 to 120, 200 to 230, 240 VAC (50/60 Hz); 12, 24, 48, 125, 100 to 110 VDC	**H3Y-2**	**H3Y-2-0**
	4PDT			**H3Y-4 ✻**	**H3Y-4-0 ✻**

Note: Sockets and Hold-down Clips are not included with the H3Y. They must be ordered separately.
✻ Use the H3Y-4 or H3Y-4-0 Series when switching micro loads.

Accessories (Order Separately)

Adapter, Mounting Plate, Hold-down Clips, Terminal covers

Name/specification		Model
Flush mounting adapter		**Y92F-78**
Mounting Plate for Socket	For 1 Socket	**PYP-1**
	For 18 Sockets	**PYP-18**
Hold-down Clips	For PYFZ-□ and PYF□A	**Y92H-3**
	For PY□ and PYF□M	**Y92H-4**
Terminal covers	For PYFZ-08	**PYCZ-C08 (2 pcs/set)**
	For PYFZ-14	**PYCZ-C14 (1 pcs/set)**

Note: For details, refer to *Precautions for H3Y-series Timers* on page 31.

Socket

Timer		Square Sockets			
Contact	Model	Pin	Connection	Terminal	Model
DPDT	H3Y-2	8-pin	Front Connecting	DIN track mounting	**PYFZ-08**
				DIN track mounting (Finger Protection Structure)	**PYFZ-08-E**
				Screw mounting	**PYF08M**
			Back Connecting	Solder terminal	**PY08**
				PCB terminal	**PY08-02**
4PDT	H3Y-4	14-pin	Front Connecting	DIN track mounting	**PYFZ-14**
				DIN track mounting (Finger Protection Structure)	**PYFZ-14-E**
			Back Connecting	Solder terminal	**PY14**
				PCB terminal	**PY14-02**

Note: 1. Cannot be used with the H3Y-□-0 (PCB terminals).
2. The PYFZ-□-E and PYF□A-E have a finger-protection structure. Round crimp terminals cannot be used. Use forked crimp terminals.
3. For details, refer to *Precautions for H3Y-series Timers* on page 31.

Specifications

Time Ranges

Rated time	Time setting range	Rated time	Time setting range
0.5 s	0.04 to 0.5 s	3 min	0.1 to 3 min
1 s	0.1 to 1 s	5 min	0.2 to 5 min
5 s	0.2 to 5 s	10 min	0.5 to 10 min
10 s	0.5 to 10 s	30 min	1 to 30 min
30 s	1.0 to 30 s	60 min	2 to 60 min
60 s	2.0 to 60 s	3 h	0.1 to 3 h
120 s	5.0 to 120 s	---	---

Ratings

Item	H3Y-2(-0)/H3Y-4(-0)
Rated supply voltage ✻6, ✻7	100 to 120 (50/60 Hz), 200 to 230 VAC (50/60 Hz), 24 VAC (50/60 Hz) ✻1 12, 24, 48, 125, 100 to 110 VDC ✻2, ✻3
Operating voltage range	All rated voltages except 12 VDC: 85% to 110% of rated supply voltage 12 VDC: 90% to 110% of rated supply voltage ✻4
Reset voltage	10% min. of rated supply voltage ✻5
Power consumption	100 to 120 VAC: 1.5 VA (at 120 VAC) 200 to 230 VAC: 1.8 VA (at 230 VAC) 24 VAC: 1.5 VA (at 24 VAC) 12 VDC: 0.9 W (at 12 VDC) 24 VDC: 0.9 W (at 24 VDC) 48 VDC: 1.0 W (at 48 VDC) 100 to 110 VDC: 1.3 W (at 110 VDC) 125 VDC: 1.3 W (at 125 VDC)
Control outputs	H3Y-2(-0): 5 A at 250 VAC, resistive load (cosϕ = 1) The minimum applicable load is 1 mA at 5 VDC (P reference value). Contact materials: Ag H3Y-4(-0): 3 A at 250 VAC, resistive load (cosϕ = 1) The minimum applicable load is 1 mA at 1 VDC (P reference value). Contact materials: Au-clad + Ag-alloy
Ambient operating temperature	-10°C to 50°C (with no icing)
Storage temperature	-25°C to 65°C
Ambient operating humidity	35% to 85%

✻1. Do not use the output from an inverter as the power supply. Refer to *Safety Precautions for All Timers* for details on your OMRON website.
✻2. With DC ratings, single-phase full-wave rectified power sources may be used.
✻3. Only the H3Y-2 and H3Y-2-0 Series include 12 VDC models.
✻4. Use the Timer within 90% to 110% of the rated supply voltage (95% to 110% for 12 VDC) when using it continuously under an ambient operating temperature of 50°C.
✻5. Set the reset voltage as follows to ensure proper resetting.
100 to 120 VAC: 10 VAC max.
200 to 230 VAC: 20 VAC max.
100 to 110 VDC: 10 VDC max.
✻6. Refer to *Safety Precautions for All Timers* on your OMRON website when combining the Timer with an AC 2-wire proximity sensor.
✻7. A diode to prevent reverse voltages is provided only on models with a DC power supply.

Characteristics

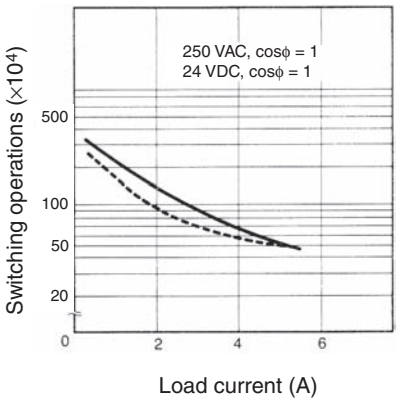
Accuracy of operating time	±1% FS max. (0.5 s range: ±1%±10 ms max.) ✱1
Setting error	±10%±50 ms FS max.
Reset time	Min. power-opening time: 0.1 s max. (including halfway reset)
Influence of voltage	±2% FS max. ✱1
Influence of temperature	±2% FS max. ✱1
Insulation resistance	100 MΩ min. (at 500 VDC)
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min (between current-carrying terminals and exposed non-current-carrying metal parts) ✱2 2,000 VAC, 50/60 Hz for 1 min (between operating power circuit and control output) ✱2 2,000 VAC, 50/60 Hz for 1 min (between different pole contacts; 2-pole model) ✱2 1,500 VAC, 50/60 Hz for 1 min (between different pole contacts; 4-pole model) 1,000 VAC, 50/60 Hz for 1 min (between non-continuous contacts)
Impulse withstand voltage	Between power terminals: 3 kV for 100 to 120 VAC, 200 to 230 VAC, 100 to 110 VDC, 125 VDC 1 kV for 12 VDC, 24 VDC, 48 VDC Between exposed non-current-carrying metal parts: 4.5 kV for 100 to 120 VAC, 200 to 230 VAC, 100 to 110 VDC, 125 VDC 1.5 kV for 12 VDC, 24 VDC, 48 VDC
Noise immunity	±1.5 kV, square-wave noise by noise simulator (pulse width: 100 ns/1 μs, 1-ns rise)
Static immunity	Destruction: 8 kV Malfunction: 4 kV
Vibration resistance	Destruction: 10 to 55 Hz, 0.75-mm single amplitude Malfunction: 10 to 55 Hz, 0.5-mm single amplitude
Shock resistance	Destruction: 1,000 m/s^2 (approx. 100G) ✱3 Malfunction: 100 m/s^2 (approx. 10G)
Life expectancy	Mechanical:10,000,000 operations min. (under no load at 1,800 operations/h) Electrical: H3Y-2: 500,000 operations min. (5 A at 250 VAC, resistive load at 1800 operations/h) H3Y-4: 200,000 operations min. (3 A at 250 VAC, resistive load at 1800 operations/h) ✱4
Enclosure rating	IP40
Weight	Approx. 50 g
EMC	(EMI) EN 61812-1 Emission Enclosure: EN 55011 Group 1 class A Emission AC Mains: EN 55011 Group 1 class A (EMS) EN 61812-1 Immunity ESD: IEC 61000-4-2 Immunity RF-interference: IEC 61000-4-3 Immunity Burst: IEC 61000-4-4 Immunity Surge: IEC 61000-4-5 Immunity Conducted Disturbance: IEC 61000-4-6 Immunity Voltage Dip/Interruption: IEC 61000-4-11
Approved standards	UL 508, CSA C22.2 No. 14, Lloyds, CCC: GB/T 14048.5 ✱6 Conforms to EN 61812-1 and IEC 60664-1. (2.5 kV/2 for H3Y-2/-2-0, 2.5 kV/1 for H3Y-4/-4-0) ✱5

✱**1.** Add ±10 mS to the above value for the 0.5-S range model.
✱**2.** Terminal screw sections are excluded.
✱**3.** The destructive shock resistance test was performed on the Timer.
✱**4.** Check the electrical life curve.
✱**5.** Overvoltage category II.
✱**6.** CCC certification requirements

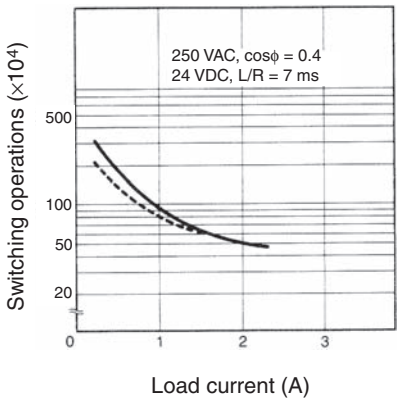
Model	H3Y-2 (-0)	H3Y-4 (-0)
Recommended fuse	RT14-20/6A (380 VAC 6 A), manufactured by DELIXI	RT14-20/4A (380 VAC 4 A), manufactured by DELIXI
Rated operating voltage Ue Rated operating current Ie	AC-15: Ue: 250 VAC, Ie: 3 A AC-13: Ue: 250 VAC, Ie: 5 A DC-13: Ue: 30 VDC, Ie: 0.5 A	AC-15: Ue: 250 VAC, Ie: 2 A AC-13: Ue: 250 VAC, Ie: 3 A DC-13: Ue: 30 VDC, Ie: 0.5 A
Rated insulation voltage	250 V	
Rated impulse withstand voltage (altitude: 2,000 m max.)	2.5 kV (at 240 VAC)	
Conditional short-circuit current	1000 A	

Engineering Data

H3Y-2, H3Y-2-0

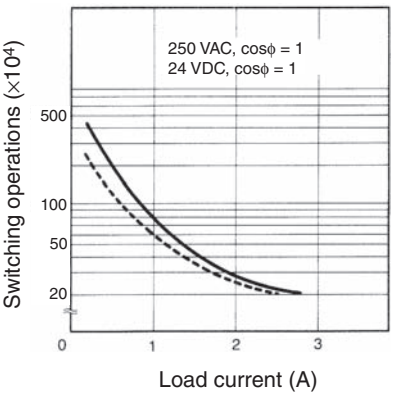


H3Y-2, H3Y-2-0

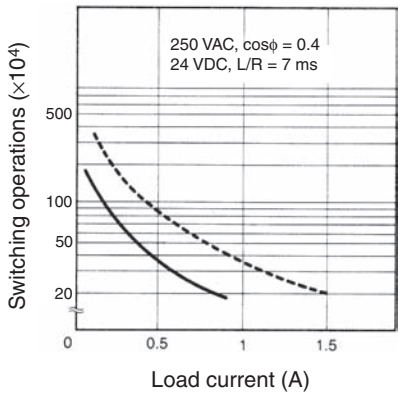


Reference: A maximum current of 0.6 A can be switched at 125 VDC (cosϕ = 1). Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a life of 100,000 operations can be expected.The minimum applicable load is 1 mA at 5 VDC (P reference value).

H3Y-4, H3Y-4-0



H3Y-4, H3Y-4-0

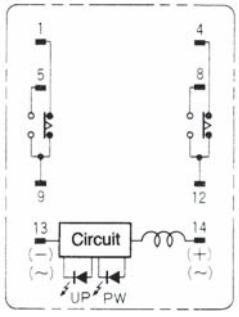


Reference: A maximum current of 0.5 A can be switched at 125 VDC (cosϕ = 1). Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a life of 100,000 operations can be expected.The minimum applicable load is 1 mA at 1 VDC (P reference value).

Connections

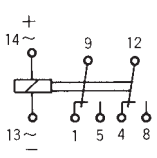
Connections

H3Y-2, H3Y-2-0



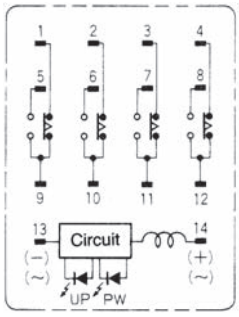
(Bottom View)

Connect the DC power supply to terminals 13 and 14 according to the polarity marks.



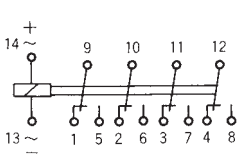
(DIN notation)

H3Y-4, H3Y-4-0



(Bottom View)

Connect the DC power supply to terminals 13 and 14 according to the polarity marks.

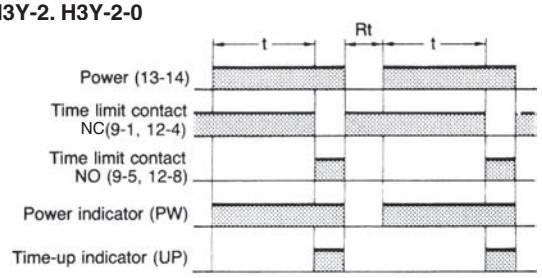


(DIN notation)

Operation

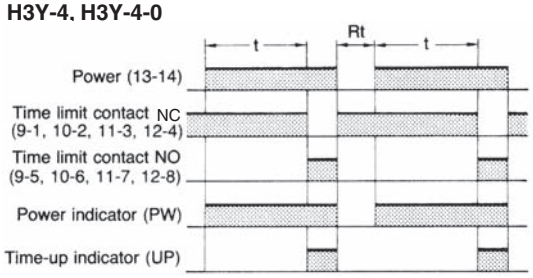
Timing Chart

H3Y-2, H3Y-2-0



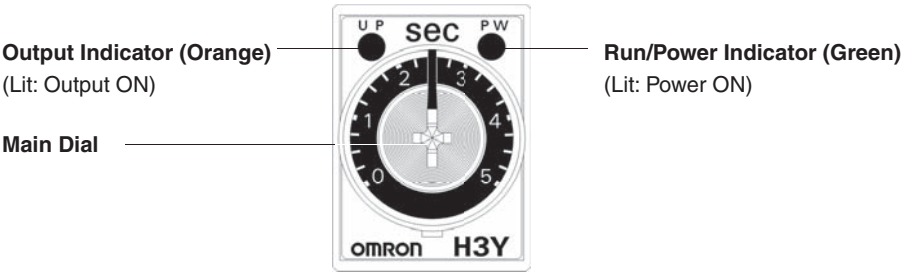
Note: t = Set time
Rt = Reset time

H3Y-4, H3Y-4-0



Note: t = Set time
Rt = Reset time

Nomenclature

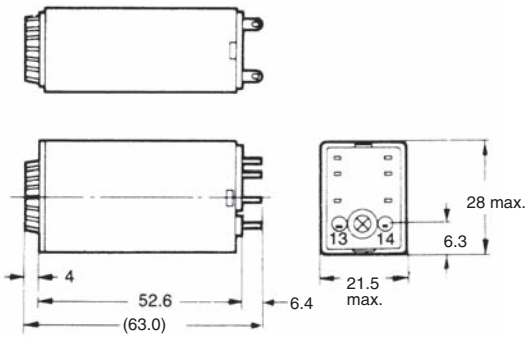


Dimensions

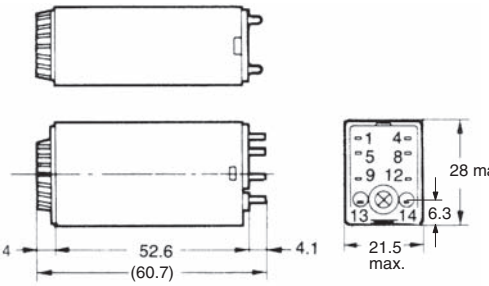
(Unit: mm)

Timers

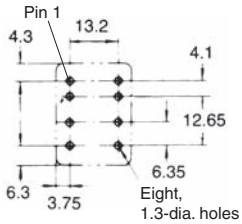
H3Y-2



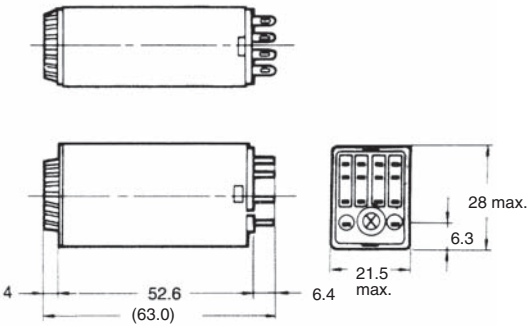
H3Y-2-0



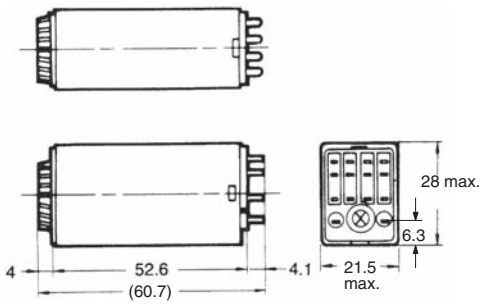
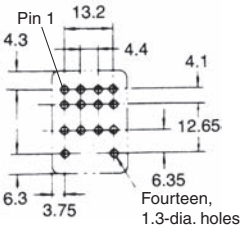
Mounting Holes



H3Y-4



H3Y-4-0



Mounting Holes