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Solid-state Timer H3Y Series

Miniature Timer Compatible with the MY Relay



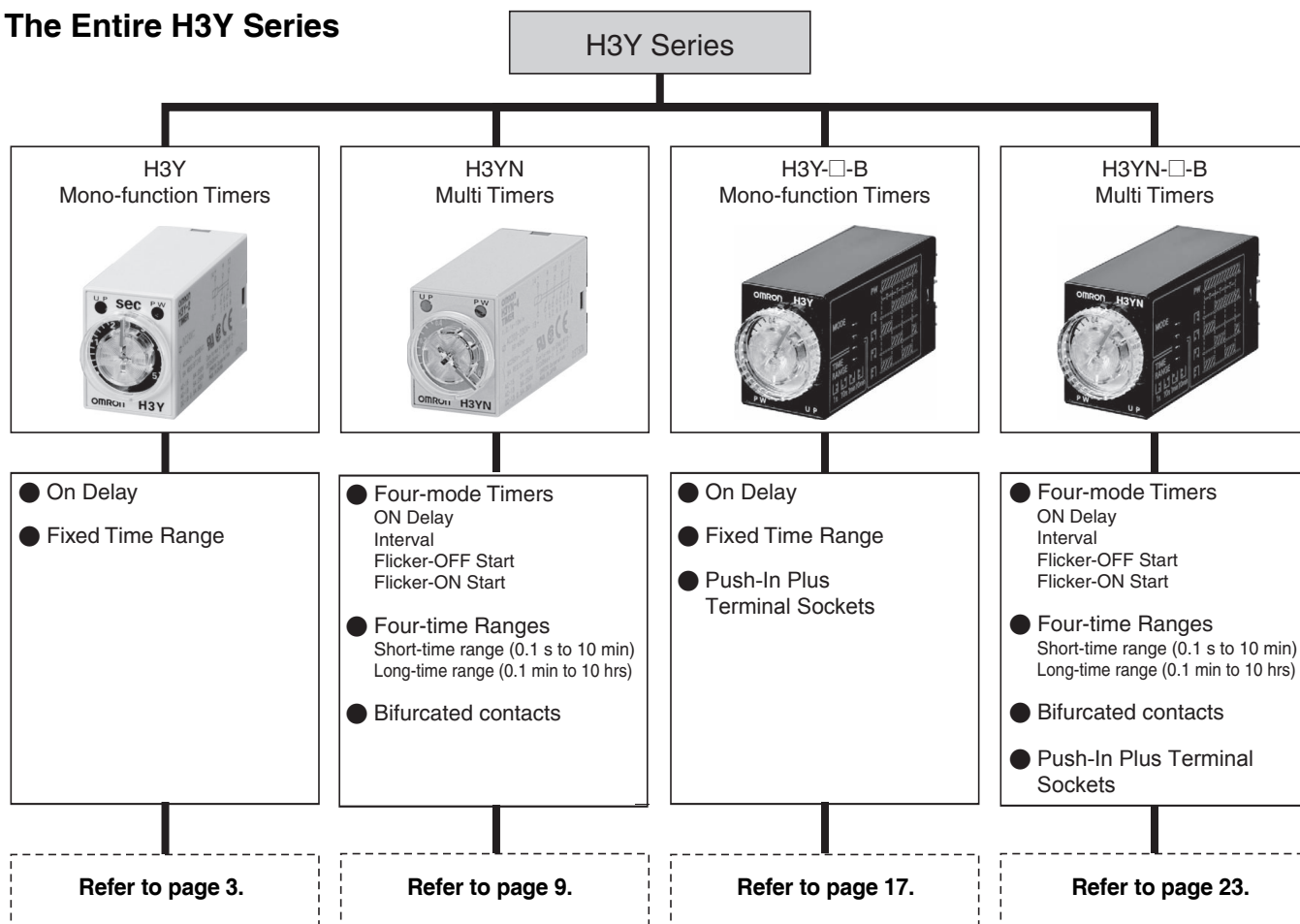
- The Push-In Plus Terminal Block Socket-compatible H3Y-□-B/H3YN-□-B Timers in a black design join the Single-mode H3Y and Multi-mode H3YN.
- The H3Y-□-B and H3YN-□-B are UL listed when they are used together with Push-In Plus Terminal Block Sockets.
- Large transparent time setting knob facilitates 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

Model Number Structure

H3Y- □ - □ - □
 (1) (2) (3)

(1) Output

Symbol	Meaning
2	DPDT
4	4PDT

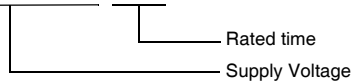
(2) Terminal Type

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



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
0	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

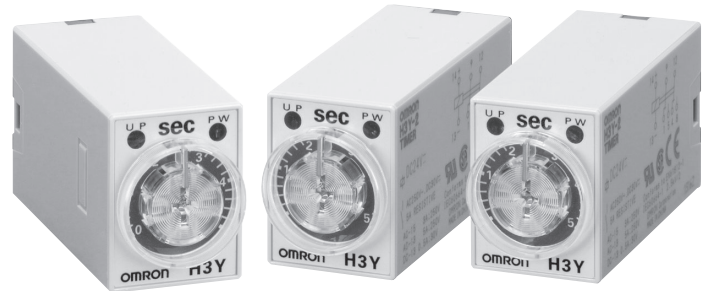
Note: Specify both the model number and the supply voltage when ordering.

Ex) H3YN-2 100 to 120VAC
 Supply Voltage

Solid-state Timer H3Y

Miniature Timer Compatible with the MY Relay

- Multiple supply voltage options.
- 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 36.

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, Clip

Name/specification		Model
Flush mounting adapter		Y92F-78
Mounting Plate for Socket	For 1 Socket	PYP-1
	For 18 Sockets	PYP-18
Clip	For PYF□A	Y92H-3
	For PY□ and PYF□M	Y92H-4

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	PYF08A
				DIN track mounting (Finger-safe type)	PYF08A-E
				Screw mounting	PYF08F
			Back Connecting	Solder terminal	PY08
4PDT	H3Y-4	14-pin	Front Connecting	DIN track mounting	PYF14A
				DIN track mounting (Finger-safe type)	PYF14A-E
			Back Connecting	Solder terminal	PY14

- Note:**
1. Cannot be used with the H3Y-□-0 (PCB terminals).
 2. The PYF□□A-E has 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.

H3Y

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 ($\cos\phi = 1$) 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 ($\cos\phi = 1$) 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 2-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) Emission Enclosure: EN 61812-1 Emission AC Mains: EN 55011 Group 1 class A (EMS) Immunity ESD: EN 61812-1 Immunity RF-interference: IEC 61000-4-2 Immunity Burst: IEC 61000-4-3 Immunity Surge: IEC 61000-4-4 Immunity Conducted Disturbance: IEC 61000-4-5 Immunity Voltage Dip/Interruption: IEC 61000-4-6 IEC 61000-4-11
Approved standards	UL 508, CSA C22.2 No. 14, Lloyds, CCC 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.

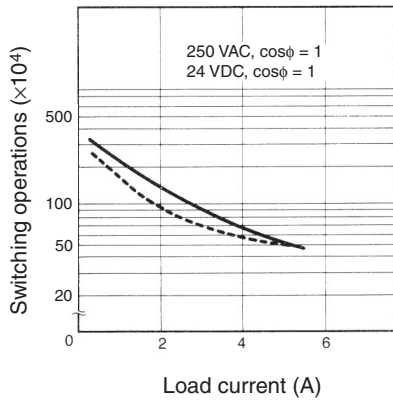
*2. Terminal screw sections are excluded.

*3. The destructive shock resistance test was performed on the Timer.

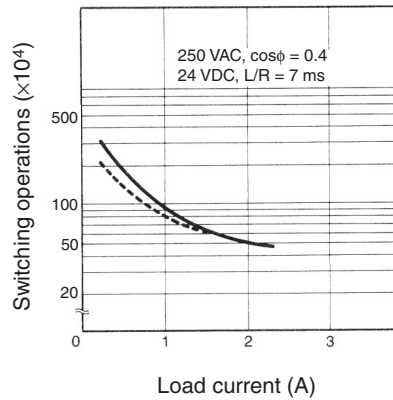
*4. Check the electrical life curve.

*5. Overvoltage category II.

H3Y-2, H3Y-2-0

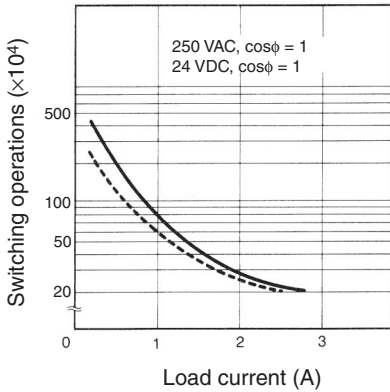


H3Y-2, H3Y-2-0

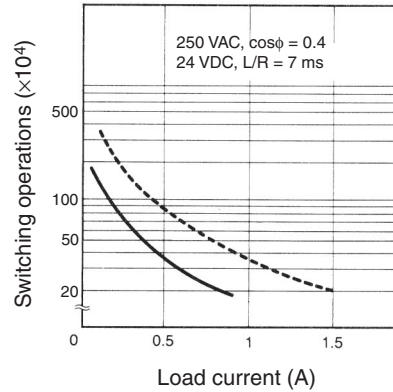


Reference: A maximum current of 0.6 A can be switched at 125 VDC ($\cos\phi = 1$).
Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a life of 100,000 operations can be expected. The minimum applicable load is 1 mA at 5 VDC (P reference value).

H3Y-4, H3Y-4-0



H3Y-4, H3Y-4-0

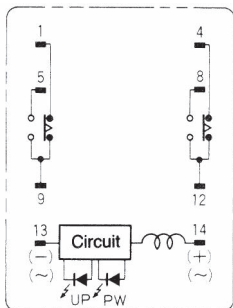


Reference: A maximum current of 0.5 A can be switched at 125 VDC ($\cos\phi = 1$).
Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a life of 100,000 operations can be expected. The minimum applicable load is 1 mA at 1 VDC (P reference value).

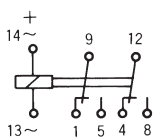
Connections

Connections

H3Y-2, H3Y-2-0



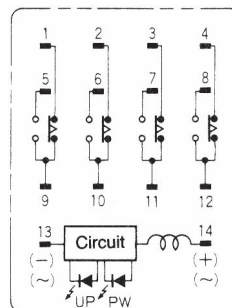
(Bottom View)



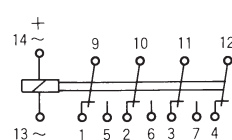
(DIN notation)

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

H3Y-4, H3Y-4-0



(Bottom View)



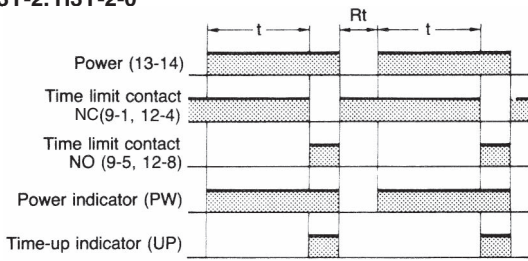
(DIN notation)

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

Operation

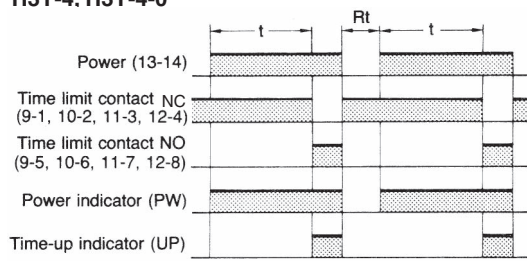
Timing Chart

H3Y-2, H3Y-2-0



Note: t = Set time
Rt = Reset time

H3Y-4, H3Y-4-0

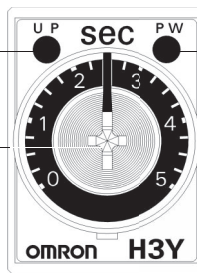


Note: t = Set time
Rt = Reset time

Nomenclature

Output Indicator (Orange)
(Lit: Output ON)

Main Dial
Set the desired time according to time range selectable by DIP switch.



Run/Power Indicator (Green)
(Lit: Power ON)

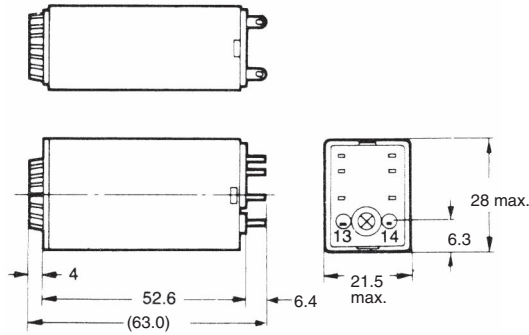
H3Y

Dimensions

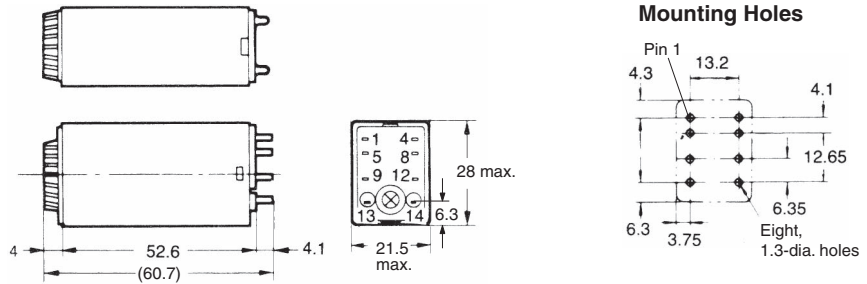
(Unit: mm)

Timers

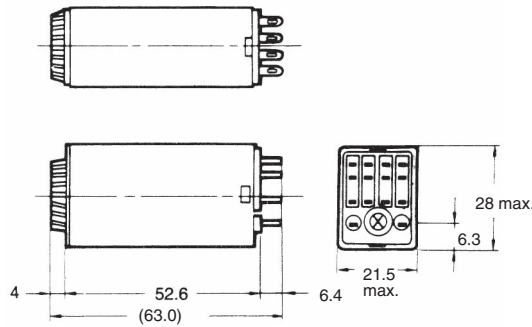
H3Y-2



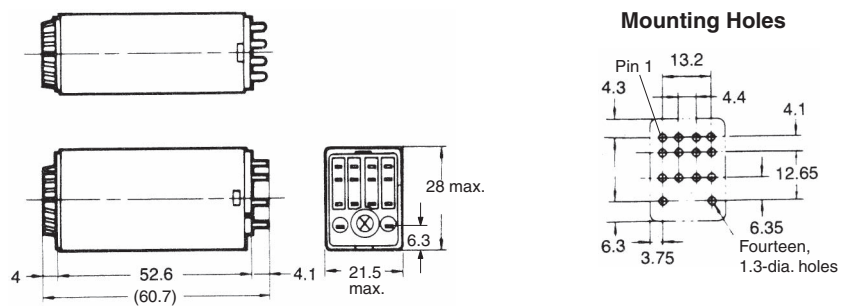
H3Y-2-0



H3Y-4



H3Y-4-0



Solid-state Timer

H3YN

Miniature Timer with Multiple Time Ranges and Multiple Operating Modes



- Minimizes stock.
- Pin configuration compatible with MY Power Relay.
- User selectable operating modes include ON-delay, Interval, Flicker ON-start and Flicker OFF-start.
- Multiple time ranges between 0.1 s to 10 min and 0.1 min to 10 h depending on model
- Conforms to EN 61812-1 and IEC 60664-1 for Low Voltage, and EMC Directives.



Refer to *Safety Precautions* on page 36.

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

Ordering Information

List of Models

Supply voltage	Time-limit contact	Short-time range model (0.1 s to 10 min)	Long-time range model (0.1 min to 10 h)
24, 100 to 120, 200 to 230 VAC; 12, 24, 48, 100 to 110, 125 VDC	DPDT	H3YN-2	H3YN-21
	4PDT	H3YN-4 *1	H3YN-41 *1
24 VDC	4PDT (Twin contacts)	H3YN-4-Z *1, *2	H3YN-41-Z *1, *2

Note: Sockets and Hold-down Clips are not included with the H3YN. They must be ordered separately.

*1. Use the H3YN-4 or H3YN-41 Series when switching micro loads, and use the H3YN-4-Z or H3YN-41-Z Series when switching even smaller loads.

*2. Only models with 24-VDC power supply are available.

Accessories (Order Separately)

Adapter, Mounting Plate, Clip

Name/specification	Model	
Flush mounting adapter	Y92F-78	
Mounting Plate for Socket	For 1 Socket	PYP-1
	For 18 Sockets	PYP-18
Clip	For PYF□A	Y92H-3
	For PY□ and PYF□M	Y92H-4

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

Socket

Timer		Square Sockets			
Contact	Model	Pin	Connection	Terminal	Model
DPDT	H3YN-2□	8-pin	Front Connecting	DIN track mounting	PYF08A
				DIN track mounting (Finger-safe type)	PYF08A-E
			Back Connecting	Screw mounting	PYF08F
				Solder terminal	PY08
4PDT	H3YN-4□	14-pin	Front Connecting	DIN track mounting	PYF14A
				DIN track mounting (Finger-safe type)	PYF14A-E
			Back Connecting	Solder terminal	PY14

Note: 1. Cannot be used with the H3Y-□-0 (PCB terminals).

2. The PYF□□A-E has 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.

H3YN

Specifications

Ratings

Item	H3YN-2/-4/-4-Z	H3YN-21/-41/-41-Z
Time ranges	0.1 s to 10 min (1 s, 10 s, 1 min, or 10 min max. selectable)	0.1 min to 10 h (1 min, 10 min, 1 h, or 10 h max. selectable)
Rated supply voltage *5, *6	24, 100 to 120, 200 to 230 VAC (50/60 Hz) *1 12, 24, 48, 100 to 110, 125 VDC *2	
Pin type	Plug-in	
Operating mode	ON-delay, interval, flicker OFF start, or flicker ON start (selectable with DIP switch)	
Operating voltage range	85% to 110% of rated supply voltage (12 VDC: 90% to 110% of rated supply voltage) *3	
Reset voltage	10% min. of rated supply voltage *4	
Power consumption	100 to 120 VAC: Relay ON: Approx. 1.8 VA (1.6 W) at 120 VAC, 60 Hz Relay OFF: Approx. 1 VA (0.6 W) at 120 VAC, 60 Hz 200 to 230 VAC: Relay ON: Approx. 2.2 VA (1.8 W) at 230 VAC, 60 Hz Relay OFF: Approx. 1.5 VA (1.1 W) at 230 VAC, 60 Hz 24 VAC: Relay ON: Approx. 1.8 VA (1.4 W) at 24 VAC, 60 Hz Relay OFF: Approx. 0.3 VA (0.2 W) at 24 VAC, 60 Hz 12 VDC: Relay ON: Approx. 1.1 W at 12 VDC Relay OFF: Approx. 0.1 W at 12 VDC 24 VDC: Relay ON: Approx. 1.1 W at 24 VDC Relay OFF: Approx. 0.1 W at 24 VDC 48 VDC: Relay ON: Approx. 1.2 W at 48 VDC Relay OFF: Approx. 0.3 W at 48 VDC 100 to 110 VDC: Relay ON: Approx. 1.6 W at 110 VDC Relay OFF: Approx. 0.4 W at 110 VDC 125 VDC: Relay ON: Approx. 1.6 W at 125 VDC Relay OFF: Approx. 0.4 W at 125 VDC	
Control outputs	DPDT: 5 A at 250 VAC, resistive load ($\cos\phi = 1$) The minimum applicable load is 1 mA at 5 VDC (P reference value). Contact materials: Ag 4PDT: 3 A at 250 VAC, resistive load ($\cos\phi = 1$) H3YN-4/-41 series: The minimum applicable load is 1 mA at 1 VDC (P reference value). H3YN-4-Z/-41-Z series: 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. Single-phase, full-wave-rectified power supplies can be used.

*3. When using the H3YN continuously in any place where the ambient temperature is in a range of 45°C to 50°C, supply 90% to 110% of the rated supply voltages (supply 95% to 110% with 12 VDC type).

*4. 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.

*5. Refer to *Safety Precautions for All Timers* on your OMRON website when combining the Timer with an AC 2-wire proximity sensor.

*6. A diode to prevent reverse voltages is provided only on models with a DC power supply.

Characteristics

Item	H3YN-2/-21/-4/-41
Accuracy of operating time	±1% FS max. (1 s range: ±1%±10 ms max.)
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.
Influence of temperature	±2% FS max.
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) *1 2,000 VAC, 50/60 Hz for 1 min (between operating power circuit and control output) 2,000 VAC, 50/60 Hz for 1 min (between different pole contacts; 2-pole model) 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)
Vibration resistance	Destruction: 10 to 55 Hz, 0.75-mm single amplitude for 1 h each in 3 directions Malfunction: 10 to 55 Hz, 0.5-mm single amplitude for 10 min each in 3 directions
Shock resistance	Destruction: 1,000 m/s ² *2 Malfunction: 100 m/s ²
Life expectancy	Mechanical: 10,000,000 operations min. (under no load at 1,800 operations/h) Electrical: DPDT: 500,000 operations min. (5 A at 250 VAC, resistive load at 1,800 operations/h) 4PDT: 200,000 operations min. (H3YN-4-Z/-41-Z: 100,000 operations min.) (3 A at 250 VAC, resistive load at 1,800 operations/h) *3
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, 24 VAC 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, 24 VAC
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
Degree of protection	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 Conforms to EN 61812-1 and IEC 60664-1. (2.5 kV/2 for H3YN-2/-21, 2.5 kV/1 for H3YN-4/-41, H3YN-4-Z/-41-Z) *4

*1. Terminal screw sections are excluded.

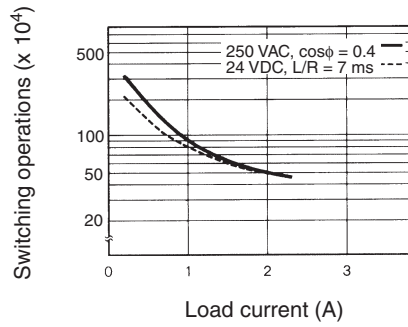
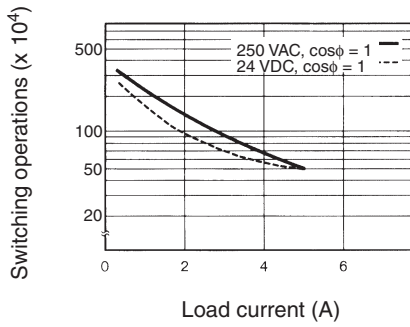
*2. The destructive shock resistance test was performed on the Timer.

*3. Refer to the *Life-test Curve*.

*4. Overvoltage category II.

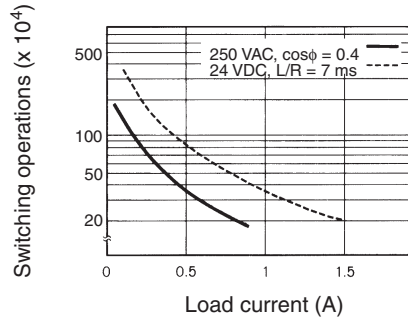
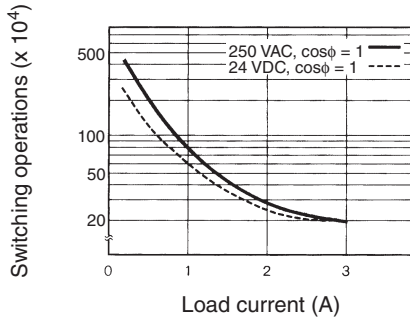
Life-test Curve (Reference Value)

H3YN-2/-21



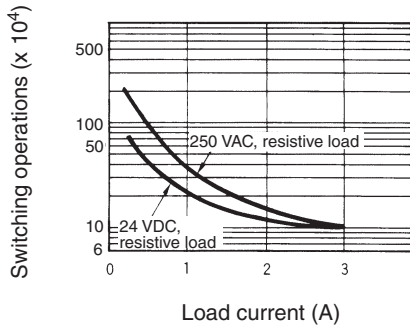
Reference: A maximum current of 0.6 A can be switched at 125 VDC ($\cos\phi = 1$).
Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a
life of 100,000 operations can be expected.
 The minimum applicable load is 1 mA at 5 VDC (P reference value)

H3YN-4/-41



Reference: A maximum current of 0.5 A can be switched at 125 VDC ($\cos\phi = 1$).
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)

H3YN-4-Z/-41-Z

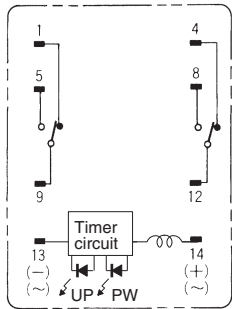


Reference: A maximum current of 0.5 A can be switched at 125 VDC ($\cos\phi = 1$).
Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a
life of 100,000 operations can be expected.
 The minimum applicable load is 0.1 mA at 1 VDC (P reference value)

Connections

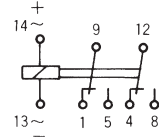
Connection

H3YN-2/-21

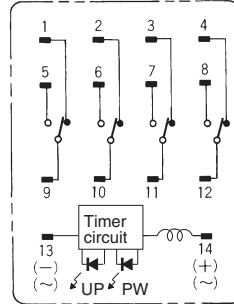


(Bottom View)

DIN Notation

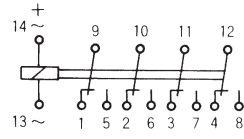


H3YN-4/-41 H3YN-4-Z/-41-Z



(Bottom View)

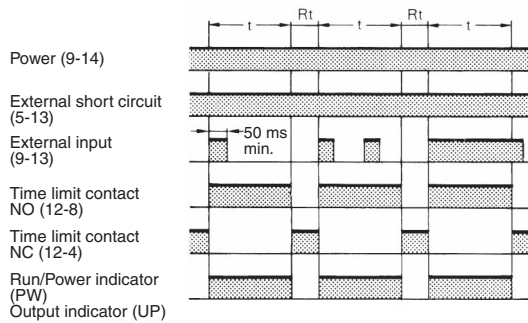
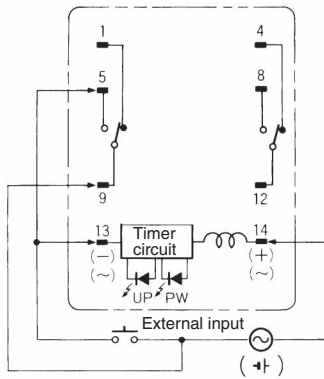
DIN Notation



Pulse Operation

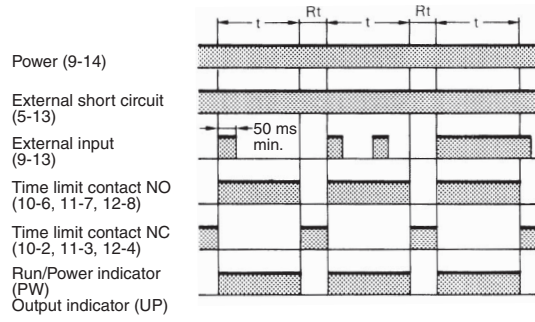
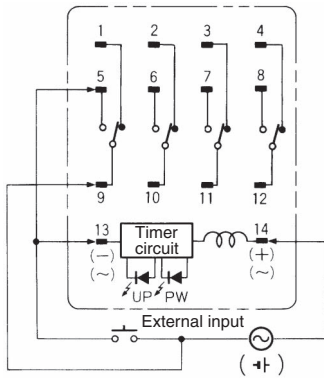
A pulse output for a certain period can be obtained with a random external input signal. Use the H3YN in interval mode as shown in the following timing charts.

H3YN-2/-21



Note: t: Set time
Rt: Reset time

H3YN-4/-41 H3YN-4-Z/-41-Z



Note: t: Set time
Rt: Reset time

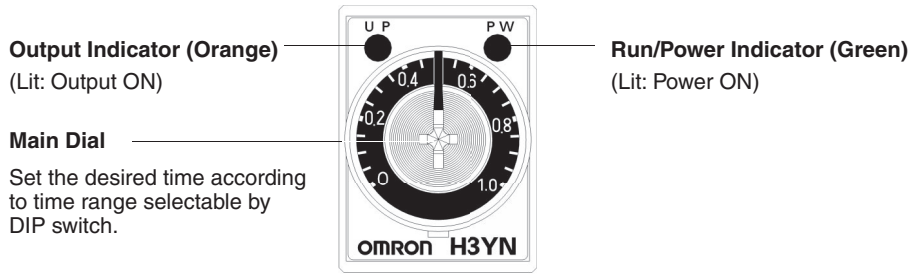
Caution

Be careful when connecting wires.

Mode	Terminals
Pulse operation	Power supply between 9 and 14 Short-circuit between 5 and 13 Input signal between 9 and 13
Operating mode; interval and all other modes	Power supply between 13 and 14

H3YN

Nomenclature

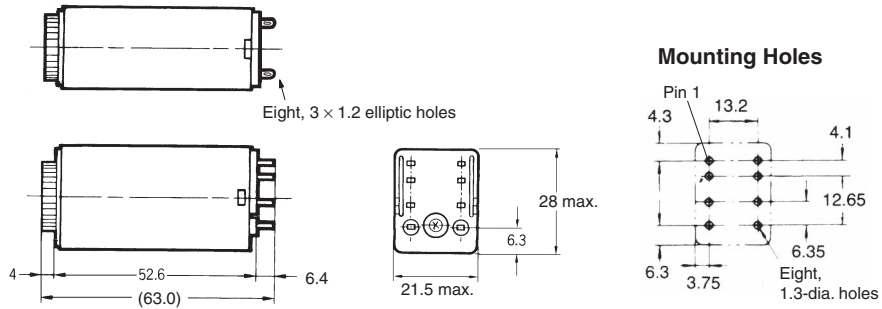


Dimensions

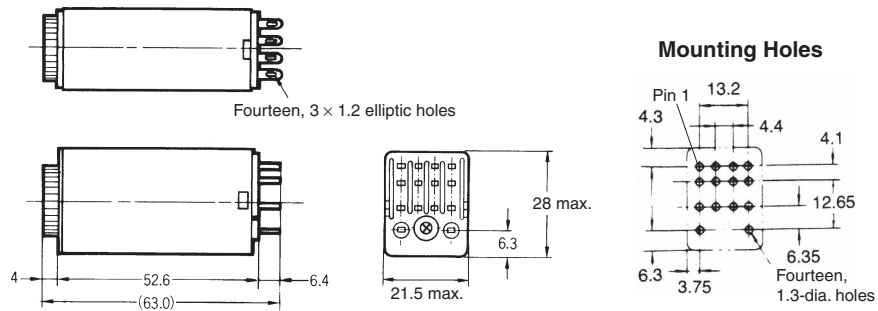
(Unit: mm)

Timers

H3YN-2/-21 Front Mounting



H3YN-4/-41 Front Mounting H3YN-4-Z/-41-Z



Operation

DIP Switch Settings

The 1-s range and ON-delay mode for H3YN-2/-4/-4-Z, the 1-min range and ON-delay mode for H3YN-21/-41/-41-Z are factory-set before shipping.

Time Ranges

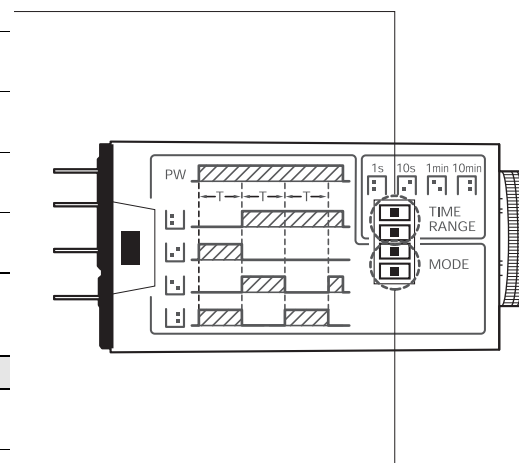
Model	Time range	Time setting range	Setting	Factory-set
H3YN-2, H3YN-4 H3YN-4-Z	1 s	0.1 to 1 s		Yes
	10 s	1 to 10 s		No
	1 min	0.1 to 1 min		No
	10 min	1 to 10 min		No
H3YN-21, H3YN-41 H3YN-41-Z	1 min	0.1 to 1 min		Yes
	10 min	1 to 10 min		No
	1 h	0.1 to 1 h		No
	10 h	1 to 10 h		No

Note: The top two DIP switch pins are used to select the time ranges.

Operating Modes

Operating mode	Setting	Factory-set
ON-delay		Yes
Interval		No
Flicker OFF-start		No
Flicker ON-start		No

Note: The bottom two DIP switch pins are used to select the operating mode.



Timing Chart

Operating mode	Timing chart	
	H3YN-2/-21	H3YN-4/-41
ON-delay 		
Interval 		
Flicker OFF-start 		
Flicker ON-start 		

Note: t: Set time
 Rt: Reset time

Solid-state Timer

H3Y-□-B

Miniature ON-Delay Timer with Fixed Time Range Fits the MY Relay Footprint




- UL listed when used with a Push-In Plus Terminal Block Socket. *
Conforms to CSA, CE Marking, CCC and LR.
- Black design with power supply terminals on top and contact output terminals on bottom.
- Timers plug into P2RF-PU Sockets with Push-In Plus Terminals reducing wiring time by 60 percent
- Large transparent time setting knob facilitates time setting.
A flat-blade and Phillips screwdriver can also be used for time setting.
- Multiple supply voltage options.

* When used in combination with a Push-In Plus Terminal Block Socket (PYF-□-PU-L).



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 36.

Ordering Information

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

Note: Sockets and Hold-down Clips are not included with the H3Y-B. They must be ordered separately.

* Use the H3Y-4-B Series when switching micro loads.

Accessories (Order Separately)

Clip

Name/specification		Model
Clip	For PYF-□-PU-L	Y92H-3

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

Socket

Timer		Square Sockets				
Contact	Model	Pin	Connection	Terminal	Model	Terminal Type
DPDT	H3Y-2-B	8-pin	Front Connecting	DIN track mounting	PYF-08-PU-L	Push-In Plus Terminal Block
4PDT	H3Y-4-B	14-pin	Front Connecting	DIN track mounting	PYF-14-PU-L	Push-In Plus Terminal Block

Note: 1. Cannot be used with the H3Y-□-0 (PCB terminals).

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

H3Y-□-B

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-B/H3Y-4-B
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-B: 5 A at 250 VAC, resistive load ($\cos\phi = 1$) The minimum applicable load is 1 mA at 5 VDC (P reference value). Contact materials: Ag H3Y-4-B: 3 A at 250 VAC, resistive load ($\cos\phi = 1$) 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 55°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-B Series include 2-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-B: 500,000 operations min. (5 A at 250 VAC, resistive load at 1800 operations/h) H3Y-4-B: 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 *5, CSA C22.2 No.14, Lloyds, CCC Conforms to EN 61812-1 and IEC 60664-1. (2.5 kV/2 for H3Y-2-B *6, 2.5 kV/1 for H3Y-4-B *6)

*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.

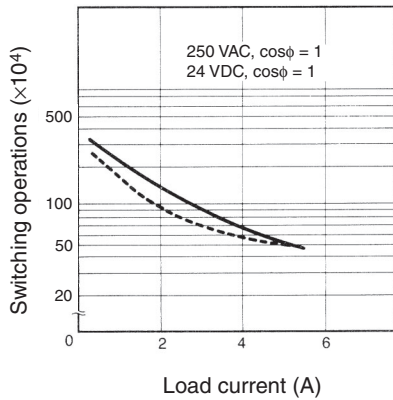
*4. Check the electrical life curve.

*5. cULus listing applies when the OMRON PYF-□-PU-L is used.

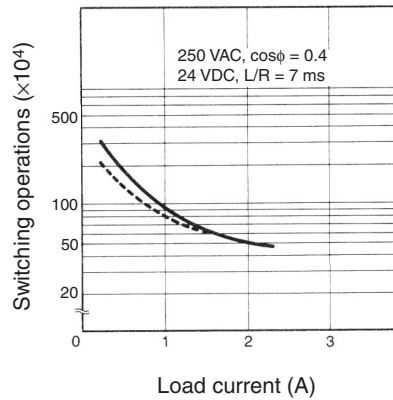
cURus recognition applies when any other socket is used.

*6. Overvoltage category II.

H3Y-2-B

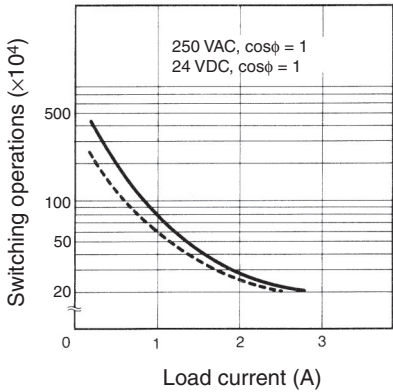


H3Y-2-B

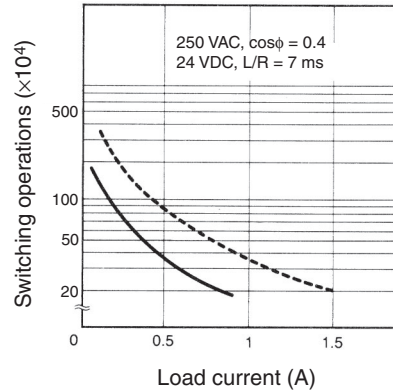


Reference: A maximum current of 0.6 A can be switched at 125 VDC ($\cos\phi = 1$).
Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a life of 100,000 operations can be expected. The minimum applicable load is 1 mA at 5 VDC (P reference value).

H3Y-4-B



H3Y-4-B

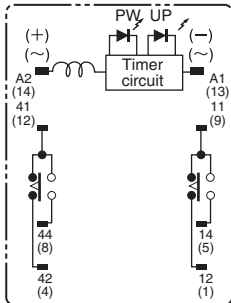


Reference: A maximum current of 0.5 A can be switched at 125 VDC ($\cos\phi = 1$).
Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a life of 100,000 operations can be expected. The minimum applicable load is 1 mA at 1 VDC (P reference value).

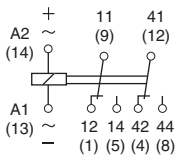
Connections

Connections

H3Y-2-B

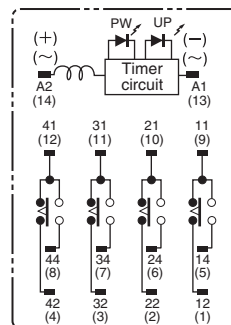


(Bottom View)

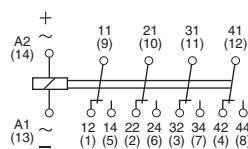


(DIN notation)

H3Y-4-B



(Bottom View)



(DIN notation)

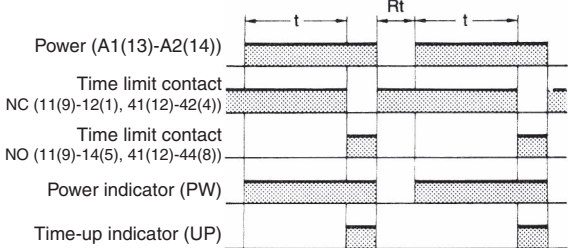
Connect the DC power supply to terminals A1(13) and A2(14) according to the polarity marks.

Connect the DC power supply to terminals A1(13) and A2(14) according to the polarity marks.

Operation

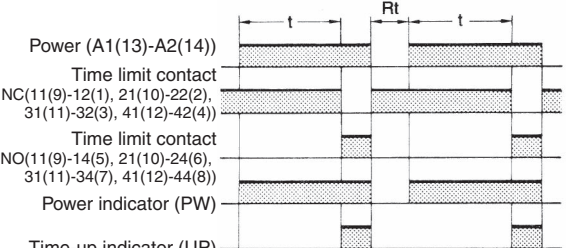
Timing Chart

H3Y-2-B



Note: t = Set time
Rt = Reset time

H3Y-4-B



Note: t = Set time
Rt = Reset time

Nomenclature

Main Dial — Set the desired time according to time range selectable by DIP switch.

Run/Power Indicator (Green) (Lit: Power ON)

Output Indicator (Orange) (Lit: Output ON)

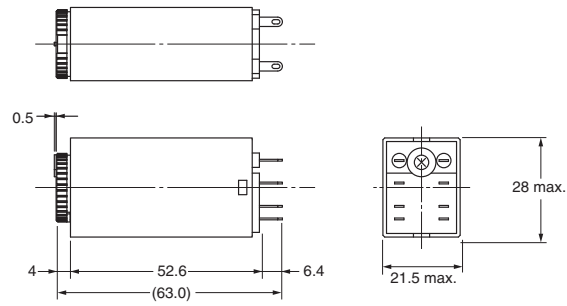
H3Y-□-B

Dimensions

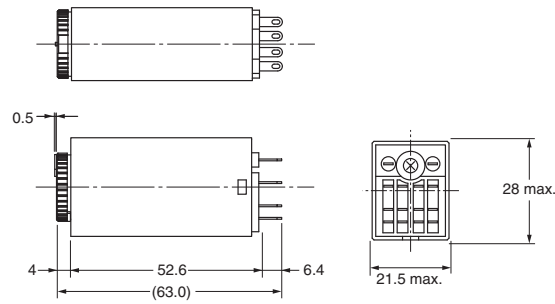
(Unit: mm)

Timers

H3Y-2-B



H3Y-4-B



Solid-state Timer

H3YN-□-B

Miniature Timer with Multiple Time Ranges and Multiple Operating Modes



- UL listed when used with a Push-In Plus Terminal Block Socket. *
Conforms to CSA, CE Marking, LR, and CCC.
- Black design with power supply terminals on top and contact output terminals on bottom.
- Standard multiple operating modes and multiple time ranges.
- Pin configuration compatible with MY Power Relay.
- Minimizes stock.

* When used in combination with a Push-In Plus Terminal Block Socket (PYF-□-PU-L).



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 36.

Ordering Information

List of Models

Supply voltage	Time-limit contact	Short-time range model (0.1 s to 10 min)	Long-time range model (0.1 min to 10 h)
24, 100 to 120, 200 to 230 VAC; 12, 24, 48, 100 to 110, 125 VDC	DPDT	H3YN-2-B	H3YN-21-B
	4PDT	H3YN-4-B *1	H3YN-41-B *1
24 VDC	4PDT (Twin contacts)	H3YN-4-Z-B *1, *2	H3YN-41-Z-B *1, *2

Note: 1. Sockets and Hold-down Clips are not included with the H3YN-B. They must be ordered separately.

*1. Use the H3YN-4-B or H3YN-41-B Series when switching micro loads, and use the H3YN-4-Z-B or H3YN-41-Z-B Series when switching even smaller loads.

*2. Only models with 24-VDC power supply are available.

Accessories (Order Separately)

Clip

Name/specification		Model
Clip	For PYF-□-PU-L	Y92H-3

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

Socket

Timer		Square Sockets				
Contact	Model	Pin	Connection	Terminal	Model	Terminal Type
DPDT	H3YN-2□-B	8-pin	Front Connecting	DIN track mounting	PYF-08-PU-L	Push-In Plus Terminal Block
4PDT	H3YN-4□-B	14-pin	Front Connecting	DIN track mounting	PYF-14-PU-L	Push-In Plus Terminal Block

Note: 1. Cannot be used with the H3YN-□-0 (PCB terminals).

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

Specifications

Ratings

Item	H3YN-2-B/-4-B/-4-Z-B	H3YN-21-B/-41-B/-41-Z-B
Time ranges	0.1 s to 10 min (1 s, 10 s, 1 min, or 10 min max. selectable)	0.1 min to 10 h (1 min, 10 min, 1 h, or 10 h max. selectable)
Rated supply voltage *5, *6	24, 100 to 120, 200 to 230 VAC (50/60 Hz) *1 12, 24, 48, 100 to 110, 125 VDC *2	
Pin type	Plug-in	
Operating mode	ON-delay, interval, flicker OFF start, or flicker ON start (selectable with DIP switch)	
Operating voltage range	85% to 110% of rated supply voltage (12 VDC: 90% to 110% of rated supply voltage) *3	
Reset voltage	10% min. of rated supply voltage *4	
Power consumption	100 to 120 VAC: Relay ON: Approx. 1.8 VA (1.6 W) at 120 VAC, 60 Hz Relay OFF: Approx. 1 VA (0.6 W) at 120 VAC, 60 Hz 200 to 230 VAC: Relay ON: Approx. 2.2 VA (1.8 W) at 230 VAC, 60 Hz Relay OFF: Approx. 1.5 VA (1.1 W) at 230 VAC, 60 Hz 24 VAC: Relay ON: Approx. 1.8 VA (1.4 W) at 24 VAC, 60 Hz Relay OFF: Approx. 0.3 VA (0.2 W) at 24 VAC, 60 Hz 12 VDC: Relay ON: Approx. 1.1 W at 12 VDC Relay OFF: Approx. 0.1 W at 12 VDC 24 VDC: Relay ON: Approx. 1.1 W at 24 VDC Relay OFF: Approx. 0.1 W at 24 VDC 48 VDC: Relay ON: Approx. 1.2 W at 48 VDC Relay OFF: Approx. 0.3 W at 48 VDC 100 to 110 VDC: Relay ON: Approx. 1.6 W at 110 VDC Relay OFF: Approx. 0.4 W at 110 VDC 125 VDC: Relay ON: Approx. 1.6 W at 125 VDC Relay OFF: Approx. 0.4 W at 125 VDC	
Control outputs	DPDT: 5 A at 250 VAC, resistive load ($\cos\phi = 1$) The minimum applicable load is 1 mA at 5 VDC (P reference value). Contact materials: Ag 4PDT: 3 A at 250 VAC, resistive load ($\cos\phi = 1$) H3YN-4-B/-41-B series: The minimum applicable load is 1 mA at 1 VDC (P reference value). H3YN-4-Z-B/-41-Z-B series: 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 55°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. Single-phase, full-wave-rectified power supplies can be used.

*3. When using the H3YN-B continuously in any place where the ambient temperature is in a range of 45°C to 50°C, supply 90% to 110% of the rated supply voltages (supply 95% to 110% with 12 VDC type).

*4. 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.

*5. Refer to *Safety Precautions for All Timers* on your OMRON website when combining the Timer with an AC 2-wire proximity sensor.

*6. A diode to prevent reverse voltages is provided only on models with a DC power supply.

Characteristics

Item	H3YN-2-B/-21-B/-4-B/-41-B
Accuracy of operating time	±1% FS max. (1 s range: ±1%±10 ms max.)
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.
Influence of temperature	±2% FS max.
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) *1 2,000 VAC, 50/60 Hz for 1 min (between operating power circuit and control output) 2,000 VAC, 50/60 Hz for 1 min (between different pole contacts; 2-pole model) 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)
Vibration resistance	Destruction: 10 to 55 Hz, 0.75-mm single amplitude for 1 h each in 3 directions Malfunction: 10 to 55 Hz, 0.5-mm single amplitude for 10 min each in 3 directions
Shock resistance	Destruction: 1,000 m/s ² Malfunction: 100 m/s ²
Life expectancy	Mechanical: 10,000,000 operations min. (under no load at 1,800 operations/h) Electrical: DPDT: 500,000 operations min. (5 A at 250 VAC, resistive load at 1,800 operations/h) 4PDT: 200,000 operations min. (H3YN-4-Z/-41-Z: 100,000 operations min.) (3 A at 250 VAC, resistive load at 1,800 operations/h) *2
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, 24 VAC 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, 24 VAC
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
Degree of protection	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	cULus (or cURus): UL 508/CSA C22.2 No.14 *3, CSA C22.2 No.14, Lloyds, CCC Conforms to EN 61812-1 and IEC 60664-1. (2.5 kV/2 for H3YN-2-B/-21-B *4, 2.5 kV/1 for H3YN-4-B/-41-B, H3YN-4-Z-B/-41-Z-B *4)

*1. Terminal screw sections are excluded.

*2. Refer to the *Life-test Curve*.

*3. cULus listing applies when the OMRON PYF-□-PU-L is used.

cURus recognition applies when any other socket is used.

*4. Overvoltage category II