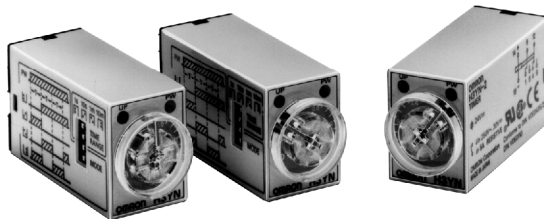


### Miniature Timer with Multiple Time Ranges and Multiple Operating Modes

- Minimize Inventory
- Standard multiple operating modes and multiple time ranges
- 4PDT or DPDT control output
- LED power-ON and time-UP indicators
- Sockets, hold-down clips and mounting accessories may be ordered separately



### Ordering Information

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

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

Example: H3YN-2 24 VAC

Supply voltage

#### MODEL NUMBER LEGEND:

H3YN -   -   
          1    2    3

1. Output  
2: DPDT  
4: 4PDT

2. Time Range  
None: Short-time range (0.1 s to 10 min)  
1: Long-time range (0.1 min to 10 hrs)

3. Contact Type  
None: Single contact  
Z: Twin contact

#### ACCESSORIES (ORDER SEPARATELY)

##### Connecting Socket

| Applicable Timer             | Track-mounting/front-connecting socket | Back-connecting socket |                    |                |
|------------------------------|--|------------------------|--------------------|----------------|
|                              |  | Solder terminal        | Wire-wrap terminal | PCB terminal   |
| H3YN-2/-21                   | <b>PYF08A-E, PYF08A-N</b>              | <b>PY08</b>            | <b>PY08QN(2)</b>   | <b>PY08-02</b> |
| H3YN-4/-41<br>H3YN-4-Z/-41-Z | <b>PYF14A-E, PYF14A-N</b>              | <b>PY14</b>            | <b>PY14QN(2)</b>   | <b>PY14-02</b> |

##### Hold-Down Clips

| Applicable socket                                  | Part number   |
|--|---------------|
| PYF08A-E, PYF08A-N, PYF14A-E, PYF14A-N             | <b>Y92H-3</b> |
| PY08, PY08QN(2), PY08-02, PY14, PY14QN(2), PY14-02 | <b>Y92H-4</b> |

##### Panel Adapter

| Applicable timer                    | Part number    |
|-------------------------------------|----------------|
| H3YN-2/21, H3YN-4/41, H3YN-4-Z/41-Z | <b>Y92F-78</b> |

# 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) |
| Supply voltage    | 24, 100 to 120, 200 to 230 VAC; 12, 24, 48, 100 to 110, 125 VDC (see note 1)  |   |
| Operating mode    | ON-delay, interval, repeat cycle with ON-start or OFF-start (selectable with DIP switch)  |   |
| Operating voltage | 85% to 110% of rated supply voltage (12 VDC: 90% to 110% of rated supply voltage) (see note 2)  |   |
| Power consumption | 24 VAC: Relay ON: 1.1 VA (at 24 VAC, 60 Hz)<br>Relay OFF: 0.2 VA (at 24 VAC, 60 Hz)<br>100 to 120 VAC: Relay ON: 14 VA (at 120 VAC, 60 Hz)<br>Relay OFF: 0.6 VA (at 120 VAC, 60 Hz)<br>200 to 230 VAC: Relay ON: 1.5 VA (at 230 VAC, 60 Hz)<br>Relay OFF: 0.9 VA (at 230 VAC, 60 Hz)<br>12 VDC: Relay ON: 0.9 W (at 12 VDC)<br>Relay OFF: 0.07 W (at 12 VDC)<br>24 VDC: Relay ON: 0.9 W (at 24 VDC)<br>Relay OFF: 0.7 W (at 24 VDC)<br>48 VDC: Relay ON: 1.0 W (at 48 VDC)<br>Relay OFF: 0.2 W (at 48 VDC)<br>100 to 110 VDC: Relay ON: 1.3 W (at 110 VDC)<br>Relay OFF: 0.3 W (at 110 VDC)<br>125 VDC: Relay ON: 1.3 W (at 125 VDC)<br>Relay OFF: 0.3 W (at 125 VDC) |   |
| Control outputs   | DPDT: 5 A at 250 VAC, resistive load ( $\cos\phi = 1$ )<br>4PDT: 3 A at 250 VAC, resistive load ( $\cos\phi = 1$ )  |   |

- Note:**
1. Single-phase, full-wave-rectified power supplies can be used.
  2. When using the H3YN in any place where the ambient temperature is more than 50°C, supply 90% to 110% of the rated supply voltages (supply 95% to 110% with 12 VDC type).

## ■ CHARACTERISTICS

| Item                  | H3YN-2/-21  | H3YN-4/-41  |
|-----------------------|---|---|
| Repeat accuracy       | ±1% FS max. (1 s range: ±1%±10 ms max.)   |   |
| Setting error         | ±10%±50 ms FS max.  |   |
| Resetting time        | Min. power-opening time: 0.1 s max. (including halfway reset)   |   |
| 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) |   |
|                       | 2,000 VAC, 50/60 Hz for 1 min (between operating circuit and control output)                                    |   |
|                       | 1,000 VAC, 50/60 Hz for 1 min (between non-continuous contacts)   |   |
|                       | 2,000 VAC, 50/60 Hz for 1 min (between contacts of different poles)   | 2,000 VAC, 50/60 Hz for 1 min (between contacts of different poles)   |
| Vibration             | Mechanical durability   | 10 to 55 Hz, 0.75-mm single amplitude   |
|                       | Malfunction durability  | 10 to 55 Hz, 0.5-mm single amplitude  |
| Shock                 | Mechanical durability   | 1,000 m/s <sup>2</sup> (approx. 100G)   |
|                       | Malfunction durability  | 100 m/s <sup>2</sup> (approx. 10G)  |
| Ambient temperature   | Operating   | -10°C to 50°C (14°F to 122°F) with no icing   |
|                       | Storage   | -25°C to 65°C (-13°F to 149°F) with no icing  |
| Ambient humidity      | Operating   | 35% to 85% RH   |
| Service life          | Mechanical  | 10,000,000 operations min. (under no load at 1,800 operations/h)  |
|                       | Electrical  | DPDT:<br>500,000 operations min. (5 A at 250 VAC, resistive load at 1,800 operations/h)<br>4PDT:<br>200,000 operations min. (H3YN-4-Z/-41-Z: 100,000 operations min.)<br>(3 A at 250 VAC, resistive load at 1,800 operations/h) |
| Weight                | Approx. 50 g  |   |
| Approvals             | UL/CSA/CE (EMC) (LV)  |   |

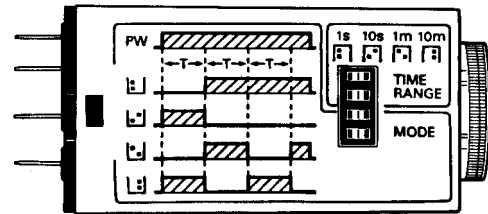
# Operation

## ■ 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,<br>H3YN-4<br>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,<br>H3YN-41<br>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          |
| Repeat cycle OFF-start |         | No          |
| Repeat cycle ON-start  |         | No          |

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

# Connections

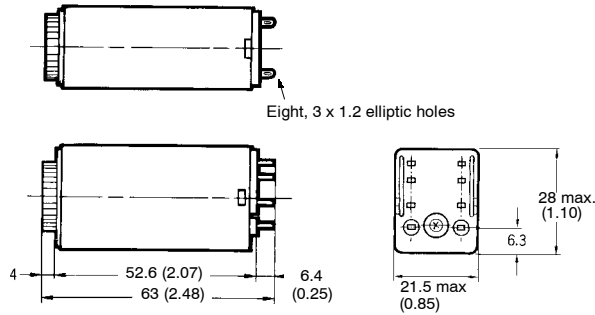
| Part number                 | Power supply terminal numbers |               | Output terminal numbers |                     |                  |                  |
|-----------------------------|-------------------------------|---------------|-------------------------|---------------------|------------------|------------------|
|                             | AC (common), DC-              | AC (hot), DC+ | Type                    | COM                 | NC               | NO               |
| H3YN-21-21                  | 13                            | 14            | Timed contacts (DPDT)   | 9                   | 1                | 5                |
| H3YN-4/-41<br>H3YN 4-Z/41-Z | 13                            | 14            | Timed contacts (4PDT)   | 9<br>10<br>11<br>12 | 1<br>2<br>3<br>4 | 5<br>6<br>7<br>8 |

# Dimensions

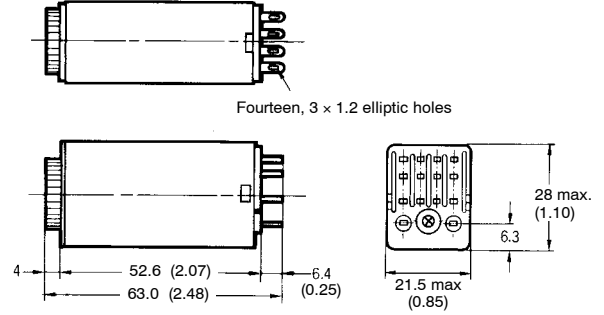
Unit: mm (inch)

## TIMERS

### H3YN-2/-21

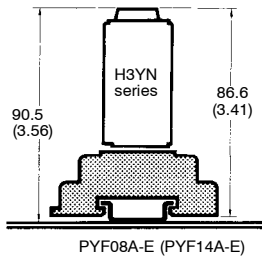


### H3YN-4/-41 H3YN-4-Z/-41-Z

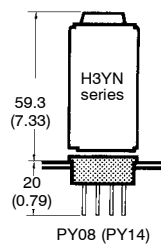


## Overall Mounting Depth

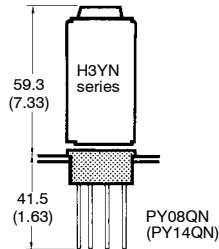
### PYF08E/PYF08A-N (PYF14A/PYF14-N see note)



### PY08 (PY14 see note)



### PY08QN (PY14QN see note)



**Note:** Models in parentheses are sockets connecting to the H3YN-4/-4-Z.