

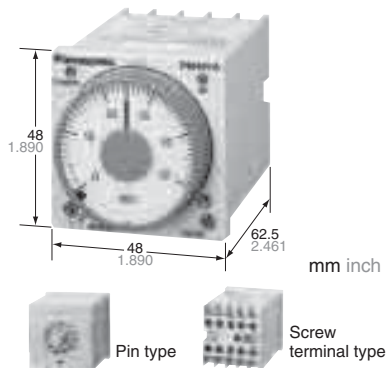
PM4H-A/S/M

Panasonic
ideas for life

**DIN48 SIZE
MULTI-RANGE
ANALOG TIMER**

**PM4H-A
PM4H-S
PM4H-M**

Analog
Timers



UL File No.: E122222
CSA File No.: LR39291



Features

- 100-240V AC free-voltage input, 48-125V DC type available
- Short body — 62.5mm 2.461 inch (screw terminal type)
- Front panel of IP65 type is protected against water-splash and dust
- Built-in Screw terminals
Screw terminal type is used for easy wiring and reducing additional cost for accessories.
- 0 setting instantaneous output operation
- Multiple time ranges — 1 s to 500 h (Max.)
- 8 different operation modes: (PM4H-A)
- Compliant with UL/CSA, CE and LLOYD

Product types

| Type | Operation mode | Contact arrangement | Time range | Protective construction | Rated operating voltage | Terminal type | Part number |
|--------|--|---|------------------------------------|-------------------------|-------------------------|----------------|------------------|
| PM4H-A | 8 operation modes • Pulse ON-delay • Pulse Flicker • Pulse ON-flicker • Differential ON/OFF-delay (1) (2) • Signal OFF-delay • Pulse One-shot • Pulse One-cycle | Relay Timed-out 2 Form C | 16 selectable ranges 1s to 500h | IP65 | 100 to 240V AC | 11 pins | PM4HA-H-AC240VW |
| | | | | | | Screw terminal | PM4HA-H-AC240VSW |
| | | | | | 48 to 125V DC | 11 pins | PM4HA-H-DC125VW |
| | | | | | | Screw terminal | PM4HA-H-DC125VSW |
| | | | | | 24V AC/DC | 11 pins | PM4HA-H-24VW |
| | | | | | | Screw terminal | PM4HA-H-24VSW |
| | | | | | 12V DC | 11 pins | PM4HA-H-DC12VW |
| | | | | | | Screw terminal | PM4HA-H-DC12VSW |
| PM4H-S | Power ON-delay | Relay Timed-out 2 Form C | 16 selectable ranges 1s to 500h | IP65 | 100 to 240V AC | 11 pins | PM4HA-H-AC240V |
| | | | | | | Screw terminal | PM4HA-H-AC240VS |
| | | | | | 48 to 125V DC | 11 pins | PM4HA-H-DC125V |
| | | | | | | Screw terminal | PM4HA-H-DC125VS |
| | | | | | 24V AC/DC | 11 pins | PM4HA-H-24V |
| | | | | | | Screw terminal | PM4HA-H-24VS |
| | | | | | 12V DC | 11 pins | PM4HA-H-DC12V |
| | | | | | | Screw terminal | PM4HA-H-DC12VS |
| PM4H-M | 5 operation modes (With instantaneous contact) • Power ON-delay • Power Flicker • Power ON-flicker • Power One-shot • Power One-cycle | Relay Timed-out 1 Form C Instantaneous 1 Form C | 16 selectable ranges 1s to 500h | IP65 | 100 to 240V AC | 8 pins | PM4HS-H-AC240VW |
| | | | | | | Screw terminal | PM4HS-H-AC240VSW |
| | | | | | 48 to 125V DC | 8 pins | PM4HS-H-DC125VW |
| | | | | | | Screw terminal | PM4HS-H-DC125VSW |
| | | | | | 24V AC/DC | 8 pins | PM4HS-H-24VW |
| | | | | | | Screw terminal | PM4HS-H-24VSW |
| | | | | | 12V DC | 8 pins | PM4HS-H-DC12VW |
| | | | | | | Screw terminal | PM4HS-H-DC12VSW |
| PM4H-M | 5 operation modes (With instantaneous contact) • Power ON-delay • Power Flicker • Power ON-flicker • Power One-shot • Power One-cycle | Relay Timed-out 1 Form C Instantaneous 1 Form C | 16 selectable ranges 1s to 500h | IP50 | 100 to 240V AC | 8 pins | PM4HS-H-AC240V |
| | | | | | | Screw terminal | PM4HS-H-AC240VS |
| | | | | | 48 to 125V DC | 8 pins | PM4HS-H-DC125V |
| | | | | | | Screw terminal | PM4HS-H-DC125VS |
| | | | | | 24V AC/DC | 8 pins | PM4HS-H-24V |
| | | | | | | Screw terminal | PM4HS-H-24VS |
| | | | | | 12V DC | 8 pins | PM4HS-H-DC12V |
| | | | | | | Screw terminal | PM4HS-H-DC12VS |
| PM4H-M | 5 operation modes (With instantaneous contact) • Power ON-delay • Power Flicker • Power ON-flicker • Power One-shot • Power One-cycle | Relay Timed-out 1 Form C Instantaneous 1 Form C | 16 selectable ranges 1s to 500h | IP65 | 100 to 240V AC | 8 pins | PM4HM-H-AC240VW |
| | | | | | | Screw terminal | PM4HM-H-AC240VSW |
| | | | | | 48 to 125V DC | 8 pins | PM4HM-H-DC125VW |
| | | | | | | Screw terminal | PM4HM-H-DC125VSW |
| | | | | | 24V AC/DC | 8 pins | PM4HM-H-24VW |
| | | | | | | Screw terminal | PM4HM-H-24VSW |
| | | | | | 12V DC | 8 pins | PM4HM-H-DC12VW |
| | | | | | | Screw terminal | PM4HM-H-DC12VSW |
| PM4H-M | 5 operation modes (With instantaneous contact) • Power ON-delay • Power Flicker • Power ON-flicker • Power One-shot • Power One-cycle | Relay Timed-out 1 Form C Instantaneous 1 Form C | 16 selectable ranges 1s to 500h | IP50 | 100 to 240V AC | 8 pins | PM4HM-H-AC240V |
| | | | | | | Screw terminal | PM4HM-H-AC240VS |
| | | | | | 48 to 125V DC | 8 pins | PM4HM-H-DC125V |
| | | | | | | Screw terminal | PM4HM-H-DC125VS |
| | | | | | 24V AC/DC | 8 pins | PM4HM-H-24V |
| | | | | | | Screw terminal | PM4HM-H-24VS |
| | | | | | 12V DC | 8 pins | PM4HM-H-DC12V |
| | | | | | | Screw terminal | PM4HM-H-DC12VS |

If you use this timer under harsh environment, please order above sealed type (IP65 type). IP65 type — Protection dust and water jet spray on the front face.

09/2009

PM4H-A/S/M

Time range

| Scale | Time unit | | | | | |
|-------|--------------------|-------------|-------------------|-------------|-------------|--|
| | sec | min | hrs | 10h | | |
| 1 | Control time range | 0.1s to 1s | 0.1 min to 1 min | 0.1h to 1h | 1.0h to 10h | |
| 5 | | 0.5s to 5s | 0.5 min to 5 min | 0.5h to 5h | 5h to 50h | |
| 10 | | 1.0s to 10s | 1.0 min to 10 min | 1.0h to 10h | 10h to 100h | |
| 50 | | 5s to 50s | 5 min to 50 min | 5h to 50h | 50h to 500h | |

PM4H-A/PM4H-S/PM4H-M
All types of PM4H timer have multi-time range.
16 time ranges are selectable.
1s to 500h (Max. range) is controlled.

Note: 0 setting is for instantaneous output operation.

Specifications

| Item | Type | PM4H-A | PM4H-S | PM4H-M |
|--------------------------|---------------------------------------|---|---|--|
| Rating | Rated operating voltage | 100 to 240V AC, 48 to 125V DC, 12V DC, 24V AC/DC | | |
| | Rated frequency | 50/60Hz common (AC operating type) | | |
| | Rated power consumption | Approx. 10VA (100 to 240V AC) Approx. 2.5VA (24V AC) Approx. 1.5W (12V DC, 24V DC, 48 to 125V DC) | | |
| | Rated control capacity | 5A 250V AC (resistive load) | | |
| | Operating mode | Pulse ON-delay Pulse Flicker Pulse ON-Flicker Differential ON/OFF-delay (1) (2) Signal OFF-delay Pulse One-shot Pulse One-cycle | Power ON-delay | Power ON-delay Power Flicker Power ON-flicker Power One-shot Power One-cycle (with instantaneous contact) |
| | Time range | 1s to 500h (Max.) 16 time ranges switchable | | |
| Time accuracy Note:1) | Operating time fluctuation | ±0.3% (power off time change at the range of 0.1s to 1h) | | |
| | Setting error | ±5% (Full-scale value) | | |
| | Voltage error | ±0.5% (at the operating voltage changes between 85 to 110%) | | |
| | Temperature error | ±2% (at 20°C ambient temp. at the range of -10 to +50°C +14 to +122°F) | | |
| Contact | Contact arrangement | Timed-out 2 Form C | Timed-out 1 Form C Instantaneous 1 Form C | |
| | Contact resistance (Initial value) | Max. 100mΩ (at 1A 6V DC) | | |
| | Contact material | Silver alloy | Au flash on Silver alloy | |
| Life | Mechanical (contact) | 2×10 ⁷ | | |
| | Electrical (contact) | 10 ⁵ (at rated control capacity) | | |
| Electrical function | Allowable operating voltage range | 85 to 110% of rated operating voltage (at 20°C coil temp.) | | |
| | Insulation resistance (Initial value) | Min. 100MΩ | Between live and dead metal parts Between input and output Between contacts of different poles Between contacts of same pole | (At 500V DC) |
| | Breakdown voltage (Initial value) | 2,000Vrms for 1 min Between live and dead metal parts 2,000Vrms for 1 min Between input and output 2,000Vrms for 1 min Between contacts of different poles 1,000Vrms for 1 min Between contacts of same pole | | |
| | Min. power off time | 100ms | | |
| | Max. temperature rise | 55°C 131°F | 65°C 149°F | |
| Mechanical function | Vibration resistance | Functional | 10 to 55Hz: 1 cycle/min double amplitude of 0.25mm (10min on 3 axes) | |
| | | Destructive | 10 to 55Hz: 1 cycle/min double amplitude of 0.375mm (1h on 3 axes) | |
| | Shock resistance | Functional | Min. 98m/s ² (4 times on 3 axes) | |
| | | Destructive | Min. 980m/s ² (5 times on 3 axes) | |
| Operating condition | Ambient temperature | -10 to +50°C +14 to +122°F | | |
| | Ambient humidity | 30 to 85%RH (at 20°C 68°F, non-condensing) | | |
| | Atmospheric pressure | 860 to 1,060hPa | | |
| | Ripple factor (DC type) | 20% | | |
| Others | Protective construction | IP65 on front panel (using rubber gasket ATC18002) <only for IP65 type> | | |
| | Weight | 100g 3.527 oz (Pin type) 110g 3.880 oz (Screw terminal type) | | |

Note: 1) Unless otherwise specified, the measurement conditions at the maximum scale time standard are specified to be the rated operating voltage (within 5% ripple factor for DC), 20°C 68°F ambient temperature, and 1s power off time.

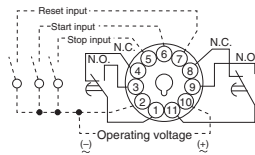
2) For the 1s range, the tolerance for each specification becomes ±10ms.

Terminal layouts and wiring diagrams

PM4H-A

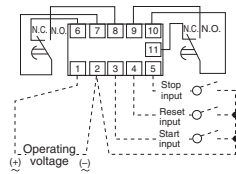
Pin type

- Timed-out 2 Form C



Screw terminal type

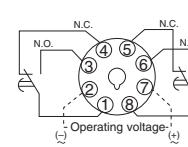
- Timed-out 2 Form C



PM4H-S

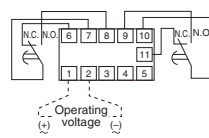
Pin type

- Timed-out 2 Form C



Screw terminal type

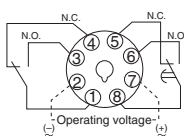
- Timed-out 2 Form C



PM4H-M

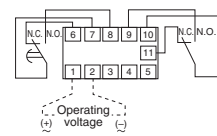
Pin type

- Timed-out 1 Form C
- Instantaneous 1 Form C



Screw terminal type

- Timed-out 1 Form C
- Instantaneous 1 Form C



1) DC Type

| Type | Pin | Screw terminal |
|--------|---|---|
| PM4H-A | Connect the terminal ② to negative (-), and the terminal ⑩ to positive (+). | Connect the terminal ② to negative (-), and the terminal ⑩ to positive (+). |
| PM4H-S | Connect the terminal ② to negative (-), and the terminal ⑦ to positive (+). | Connect the terminal ② to negative (-), and the terminal ① to positive (+). |
| PM4H-M | | |

2) Contact



3) Voltage should not be applied to the various inputs (reset, start, and stop) of the PM4H-A multi-range timer. These inputs should be input without voltage.

Analog
Timers

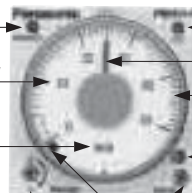
Part names

PM4H-S



Time range selector
16 time settings selectable
(1 s to 500 h)
1s 5s 10s 50s
1min 5min 10min 50min
1h 5h 10h 50h
10h 50h 100h 500h

PM4H-A



Power indicator LED
Time indicator window
Time unit indicator
Output indicator LED
Hand
Set dial
Operation mode indicator

Instantaneous output area
When the hand is in this area,
instantaneous operation starts.

PM4H-M



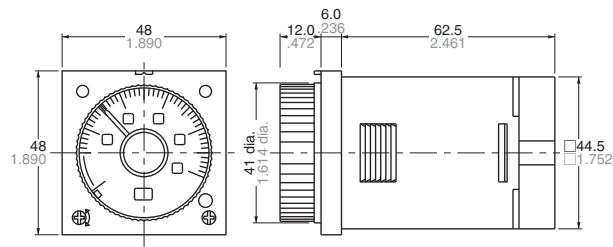
Operation mode selector
Selectable from
5 operation modes
ON : Power ON-delay
FL : Power flicker
FO : Power ON-flicker
OS : Power One-shot
OC : Power One-cycle

Operation mode selector
Selectable from 8 operation modes
ON : Pulse ON-delay
FL : Pulse Flicker
FO : Pulse ON-flicker
OF1 : Differential ON/OFF-delay (1)
SF : Signal OFF-delay
OS : Pulse One-shot
OF2 : Differential ON/OFF-delay (2)
OC : Pulse One-cycle

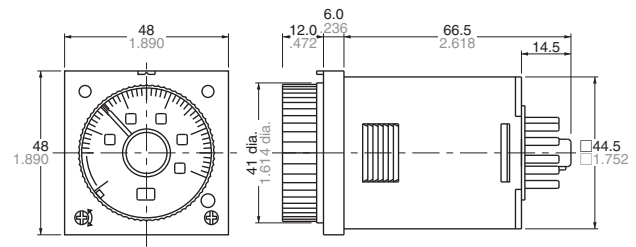
PM4H-A/S/M

Dimensions

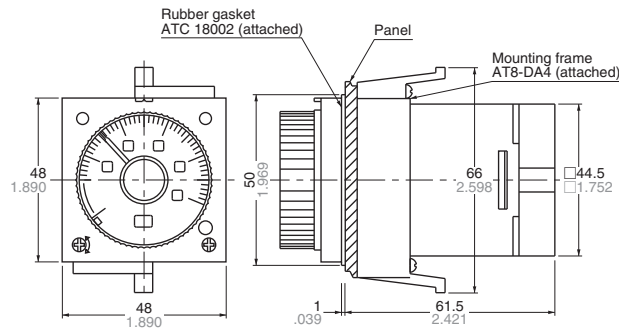
- PM4H-□
Screw terminal type
(Flush mount)



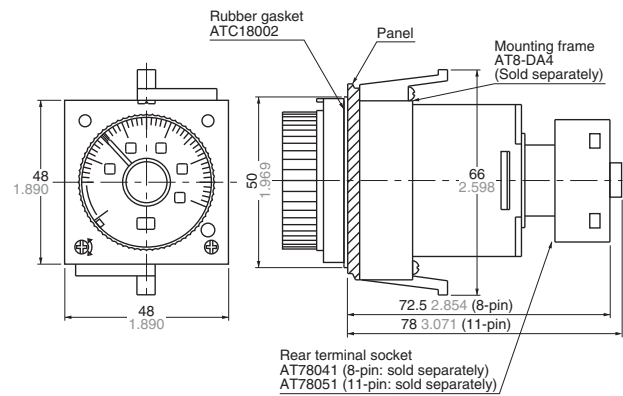
- Pin type
(Flush mount/Surface mount)



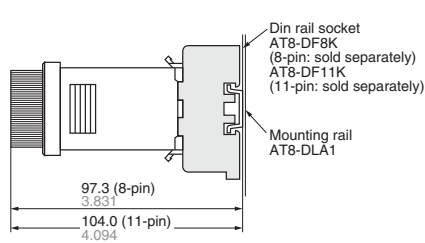
- Panel mount dimensions (with mounting frame)
Screw terminal type



- Pin type

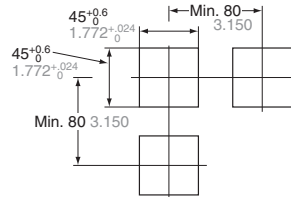


- Surface mount dimensions
Pin type

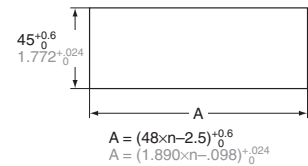


- Panel cut out dimensions

Standard cut out dimensions are shown below.
Use mounting frame (AT8-DA4) and rubber gasket (ATC18002).



- Adjacent mounting



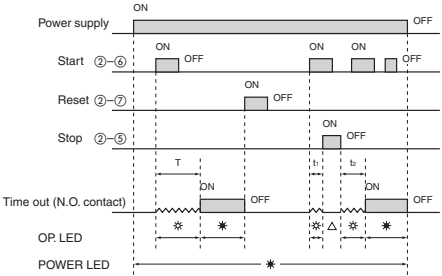


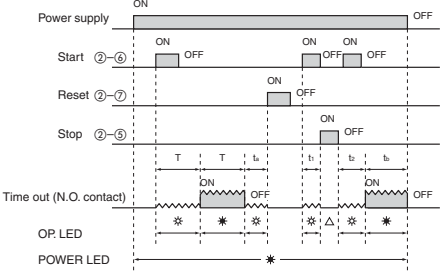


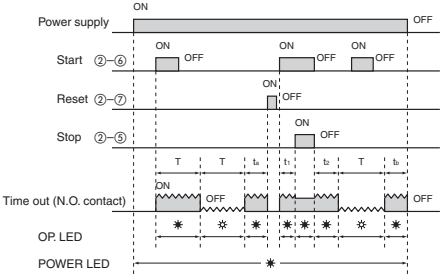


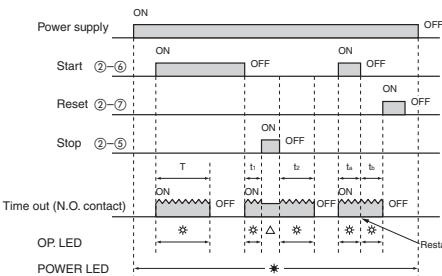


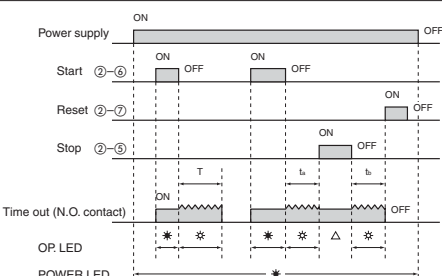


- Note)
1. The proper thickness of mounting panel is between 1 to 5mm.
 2. Adjacent mount is less water-resistant.

Operation mode PM4H-A

(* LED lighting * LED flickering)
T: Setting time $t_1, t_2, t_a, t_b < T$ $t_1+t_2=T$

Analog
Timers

| Operation type | Explanation | Time chart |
|---|--|--|
| Pulse ON-delay  | <ul style="list-style-type: none"> If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins ② to ⑥ (screw-tightening pins ② and ③) should be shorted ahead of time. Turn the operation mode selector switch to the  position. If pins ② to ⑥ (screw-tightening pins ② and ③) are shorted (the start input is turned on) with the power supply on, the output will go on after the set time has elapsed. If the power supply is turned off, or pins ② to ⑦ (screw-tightening pins ② to ④) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins ② to ⑤ (screw-tightening pins ② to ⑤) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. |  <p>△Note: * LED lighting or No LED lighting</p> |
| Pulse Flicker  | <ul style="list-style-type: none"> If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins ② to ⑥ (screw-tightening pins ② and ③) should be shorted ahead of time. Turn the operation mode selector switch to the  position. When pins ② to ⑥ (screw-tightening pins ② and ③) are shorted (the start input is turned on) with the power supply on, the limited time interval begins, and the output goes on after the set time has elapsed. After the output has gone on, it goes off when the set time has elapsed, and this process is subsequently repeated. If the power supply is turned off, or pins ② to ⑦ (screw-tightening pins ② to ④) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins ② to ⑤ (screw-tightening pins ② to ⑤) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. |  <p>△Note: * LED lighting or No LED lighting</p> |
| Pulse ON-flicker  | <ul style="list-style-type: none"> If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins ② to ⑥ (screw-tightening pins ② and ③) should be shorted ahead of time. Turn the operation mode selector switch to the  position. When pins ② to ⑥ (screw-tightening pins ② and ③) are shorted (the start input is turned on) with the power supply on, the output goes on, and after the set time has elapsed, it goes off. This process is subsequently repeated. If the power supply is turned off, or pins ② to ⑦ (screw-tightening pins ② to ④) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins ② to ⑤ (screw-tightening pins ② to ⑤) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. |  <p>△Note: * LED lighting or No LED lighting</p> |
| Differential ON/OFF-delay (1)  | <ul style="list-style-type: none"> Turn the operation mode selector switch to the  position. When pins ② to ⑥ (screw-tightening pins ② and ③) are shorted (the start input is turned on) with the power supply on, the output goes on, and after the set time has elapsed, it goes off. Also, when pins ② to ⑥ are released (the start input goes off), the output goes on, and after the set time has elapsed, it goes off. If the status of pins ② to ⑥ (screw-tightening pins ② and ③) changes during the time-limit interval (the start input goes from on to off, or from off to on), the time-limit interval is restarted from the point at which the change took place. If the power supply is turned off, or pins ② to ⑦ (screw-tightening pins ② to ④) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins ② to ⑤ (screw-tightening pins ② to ⑤) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. |  <p>△Note: * LED lighting or No LED lighting</p> |
| Signal OFF-delay  | <ul style="list-style-type: none"> Turn the operation mode selector switch to the  position. When pins ② to ⑥ (screw-tightening pins ② and ③) are shorted (the start input is turned on) with the power supply on, the output goes on, and when pins ② to ⑥ (screw-tightening pins ② and ③) are released (the start input is turned off), the time limit interval begins. After the set time has elapsed, the output goes off. If start input is entered at any point during the time limit interval, the time limit interval is reset. Note) During time-limited operation, the time-limited operation is stopped while the pins ② to ⑤ (screw-tightening pins ② to ⑤) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. |  <p>△Note: * LED lighting or No LED lighting</p> |

Note: Keep 0.1s or more for power off time.
Keep 0.05s or more for start, stop, reset input time.

PM4H-A/S/M

| Operation type | Explanation | Time chart |
|---|--|---|
| Pulse One-shot (OS) | <ul style="list-style-type: none"> If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins ② to ⑥ (screw-tightening pins ② and ③) should be shorted ahead of time. Turn the operation mode selector switch to the (OS) position. When pins ② to ⑥ (screw-tightening pins ② and ③) are shorted (the start input is turned on) with the power supply on, the output goes on for the set time limit interval. If the power supply is turned off, or pins ② to ⑦ (screw-tightening pins ② to ④) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins ② to ⑤ (screw-tightening pins ② to ⑤) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. | <p>△Note: * LED lighting or No LED lighting</p> |
| Differential ON/OFF-delay (2) (OF2) | <ul style="list-style-type: none"> Turn the operation mode selector switch to the (OF2) position. When pins ② to ⑥ (screw-tightening pins ② and ③) are shorted (the start input is turned on) with the power supply on, the time limit interval begins, and after the set time interval has elapsed, the output goes on. Also, when pins ② to ⑥ are released (the start input goes off), the time limit interval begins, and after it has elapsed, the output goes off. If the status of pins ② to ⑥ (screw-tightening pins ② and ③) changes during the time-limit interval (the start input goes from on to off, or from off to on), the time limit interval is restarted from the point at which the change took place. If the power supply is turned off, or pins ② to ⑦ (screw-tightening pins ② to ④) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins ② to ⑤ (screw-tightening pins ② to ⑤) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. | <p>△Note: * LED lighting or No LED lighting</p> |
| Pulse One-cycle (OC) | <ul style="list-style-type: none"> If using a time-limit start when the power is turned on, and a reset when the power is turned off, pins ② to ⑥ (screw-tightening pins ② and ③) should be shorted ahead of time. Turn the operation mode selector switch to the (OC) position. When pins ② to ⑥ (screw-tightening pins ② and ③) are shorted (the start input is turned on) with the power supply on, the output goes on after the set time limit interval has elapsed. After it has gone on, it goes off after one pulse (approximately 0.8 seconds). If the power supply is turned off, or pins ② to ⑦ (screw-tightening pins ② to ④) are shorted (the reset input is turned on), a reset is carried out. Note) During time-limited operation, the time-limited operation is stopped while the pins ② to ⑤ (screw-tightening pins ② to ⑤) are being shorted (the stop input is on). When the pins are released, time-limited operation resumes. | <p>One pulse time (t): Approx. 0.8s △Note: * LED lighting or No LED lighting</p> |

Note: Keep 0.1s or more for power off time.
 Keep 0.05s or more for start, stop, reset input time.

PM4H-S

(* LED lighting * LED flickering)
 T: Setting time

| Operation type | Explanation | Time chart |
|-----------------------|---|------------|
| Power ON-delay | Time limit contact relay When the power supply is turned on, the output goes on after the set time interval has elapsed. When the power supply is turned off, a reset is carried out. | |

PM4H-M

| Operation type | Explanation | Time chart |
|---|---|--------------------|
| Power ON-delay (ON) Power Flicker (FL) Power ON-flicker (FO) Power One-shot (OS) Power One-cycle (OC) | Turn the operation mode selector switch to display the various operations. When the power supply is turned on, the time limit interval begins, and operation is carried out. When the power supply is turned off, a reset is carried out. | Power ON-delay |

Note: Keep 0.1s or more for power off time. PM4H-M timers do not have each input which is start, reset and stop.