

Preset Hour Meter LH2H





Half-size body (24 × 48 mm 0.945 × 1.890 in) equipped with a preset function. Time-out can be indicated by lighting or flashing of the display

Features

- Preset function equipped in half size (24 × 48 mm 0.945 × 1.890 in)
- Display has backlight for instant recognition

Time counting

Green or (Red) (backlight)
[Green] or [Red] can be selected at setup.

Timing up

Red or (Green) (backlight)
(Lit or Flashing)
Red or (Green) (backlight)
(Lit or Flashing)
[Lit] or [Flashing] can be selected at setup.

- 8.7 mm 0.343 in letter height (7 digits)
- Select by switch between two time ranges in a single hour meter
- Screw terminals are constructed to protect fingers to ensure safety

IP66

PRODUCT TYPES

Operation mode	Output	Operating voltage	Measurement time range	Model No.
G (Totalizing ON delay) B (Signal ON delay) F (Signal flicker) E (Pulse ON delay)	Tr (1a)	24 V DC	0 to 999999.9 h / 0 to 3999 d 23.9 h selectable	LH2HP-FEW-DHK-B-DC24V
			0 to 999 h 59 m 59 s / 0 to 9999 h 59.9 m selectable	LH2HP-FEW-HMK-B-DC24V

Note: Mounting frame and rubber gasket are not included.

Options

Product name	Description	Model No.
Mounting frame	Use for waterproofing (front panel surface)	ATH3803
Rubber gasket		ATH3804

CHANGING THE SET TIME (PRESET VALUE)

- It is possible to change the set time even during time delay with the timer. However, be aware of the following points.
 - (1) If the set time is changed to less than the elapsed time (elapsed value) with the time delay set to the addition direction, time delay will continue until the elapsed time reaches full scale, returns to "0 (zero)", and then reaches the new set time. If the set time is changed to a time above the elapsed time, the time delay will continue until the elapsed time reaches the new set time.
 - (2) If the time delay is set to the subtraction direction, time delay will continue until "0 (zero)" regardless of the new set time.
- If the set time is changed to "0 (zero)", the hour meter will operate differently depending on the operation mode. In the G (Totalizing ON delay), B (Signal ON delay), and E (Pulse ON delay) modes, the output turns ON when the start input is ON. However, the output will be OFF while reset is being input. In the F (Signal flicker) mode, the flicker operation will not work even if start input is turned ON.

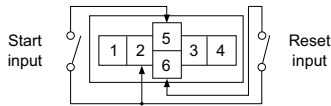
CAUTIONS FOR USE

Input and output connection

Input connection

• Contact input

Use highly reliable metal plated contacts. Since the contact's bounce time leads directly to error in the timer operating time, use contacts with as short a bounce time as possible.



• Non-contact input (Transistor input)

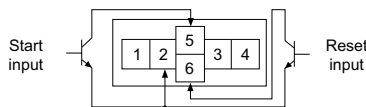
Connect with an open collector.

Use transistors whose characteristics satisfy the criteria given below. $V_{CE0} = \text{Min. } 20 \text{ V}$ $I_C = \text{Min. } 20 \text{ mA}$ $I_{CBO} = \text{Max. } 6 \mu\text{A}$ Also, use transistors with a residual voltage of less than 2 V when the transistor is on.

* The short-circuit impedance should be less than 1 k Ω .

[When the impedance is 0 Ω , the current coming from the start input terminal is approximately 5 mA and from the reset input terminal is approximately 1.5 mA.]

Also, the open-circuit impedance should be more than 100 k Ω .



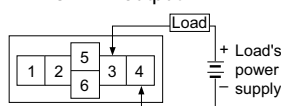
• Input wiring

When wiring, use shielded wires or metallic wire tubes, and keep the wire lengths as short as possible.

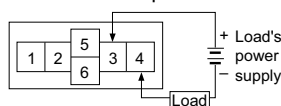
Output connection

Since the transistor output of hour meter is insulated from the internal circuitry by a photo-coupler, it can be used as an NPN output or PNP (equal value) output.

As NPN output



As PNP output



Self-diagnosis function

If a malfunction occurs, one of the following displays will appear.

Display	Contents	Output condition	Restoration procedure	Preset values after restoration
Err-00	Malfunctioning CPU	OFF	Enter front reset key or restart hour meter	Preset value at start-up before the CPU malfunction occurred
Err-01	Malfunctioning memory*			"0"

* Includes the possibility that the EEPROM's life has expired.

Power failure memory

The EEPROM is overwriting with the following timing.

Operation mode	Overwrite timing
G (Totalizing ON delay) mode	Change of preset value or when power is OFF after start and reset input turns ON
Other modes	When power is OFF after changing preset value

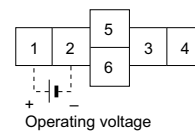
Terminal connection

- When wiring the terminals, refer to the terminal layout and wiring diagrams and be sure to perform the wiring properly without errors.

Tighten the terminal screws with a torque of 0.8 N·cm or less.

An external power supply is required in order to run the main unit.

Power (24 V DC) should be applied between terminals ① and ②. Terminal ① acts as the positive "+" connection and terminal ② as the negative "-".



- After turning the hour meter off, make sure that any resulting induced voltage or residual voltage is not applied to power supply terminals ① through ②. (If the power supply wire is wired parallel to the high voltage wire or power wire, an induced voltage may be generated at the power supply terminal.)
- Have the power supply voltage pass through a switch or relay so that it is applied at one time.

Disclaimer

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