Panasonic
INDUSTRY

Preset Counter

LC2H

2022.5

* The contents of this catalog are as of October 2017.
For the latest information, please visit our company website.

Counter

LC2H Preset Counter

* Refer to our website for details of product.

RoHS compliance

Half-size body (24 x 48 mm 0.945 × 1.890 in) equipped with the preset function

Features

- **Preset function equipped in half size (24 × 48 mm 0.945 × 1.890 in)**
- **7-segment LCD with backlight for fantastic visibility**
  The backlight is switchable between green and red and the display can be switched between lighting and flashing illumination when counting up
- **8.7 mm 0.343 in Letter Height (Number of digits: 8 digits)**
- **Counting Speed Switchable between 30 Hz and 5 kHz**
- **IP66 compliant for resistance against negative environmental influences (only when panel surface uses rubber packing)**
- **Includes reassuring lock mode and lock switch to prevent erroneous operation**
- **Screw terminals are constructed to protect fingers to ensure safety**

IP66 Mode selectable

PRODUCT TYPES

No. digits	Counting speed	Output mode	Output	Operating voltage	Model No.
8 digits	30 Hz/ 5 kHz switchable	• Output maintain/hold count • Output maintain/over count • One shot/over count • One shot/recount	Tr (1a)	24 V DC	**LC2HP-FEW-B-DC24V**
Options		Mounting frame	Use for waterproofing (front panel surface)		**ATH3803**
		Rubber gasket			**ATH3804**

Note: Mounting frame and rubber gasket are not included.

CHANGING THE PRESET VALUE

It is possible to change the preset value even during counting. However, be aware of the following points.

- If the preset value is changed to less than the count value with counting set to the addition direction, counting will continue until it reaches full scale, returns to "0 (zero)", and then reaches the new preset value. If the preset value is changed to a value above the count value, counting will continue until the count value reaches the new preset value.
- Suppose that the counter is preset to count down. Whether a preset count down value is smaller or larger than the count value, the counter counts down to "0 (zero)".

If the preset value is changed to"0 (zero)", the counter will not complete count-up. It starts counting up when the counting value comes to "0 (zero)" again.

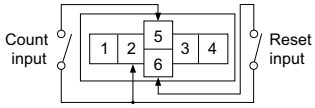
- Addition (up-count) input when counting is set to the addition direction, counting will continue until full scale is reached, return to "0 (zero)" and then complete count-up.
- Subtraction (down-count) input when counting is set to the subtraction direction, counting will continue until full scale "-9999999" is reached, and then the display will change to "- - - - - - - -".

CAUTIONS FOR USE

Input and output connection

Input connection

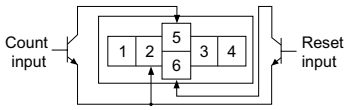
• Contact input
Use highly reliable metal plated contacts. Since the contact's bounce time leads directly to error in the count value, use contacts with as short a bounce time as possible.
In general, select input to have a maximum counting speed of 30 Hz.



• Non-contact input (Transistor input)
Connect with an open collector. Use transistors whose characteristics satisfy the criteria given below.
V_{CEO} = Min. 20 V
I_C = Min. 20 mA
I_{CBO} = Max. 6 μA
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 kΩ.

> When the impedance is 0 Ω, the current coming from the count 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 kΩ.

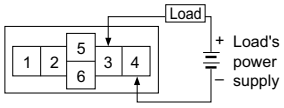


• Input wiring
When wiring, use shielded wires or metallic wire tubes, and keep the wire lengths as short as possible.

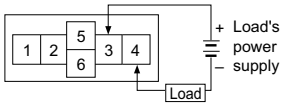
Output connection

Since the transistor output of counter 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

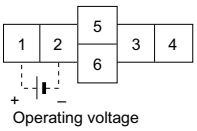
If a malfunction occurs, one of the following displays will appear.

Display	Contents	Output condition	Restoration procedure	Preset values after restoration
Err-00	Malfunctioning CPU	OFF	Enter front reset key or restart counter	The 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.

Terminal connection

• When wiring the terminals, refer to the terminal layout and wiring diagrams and be sure to perform the wiring properly without errors.
An external power supply is required in order to run the main unit.
Power should be applied between terminals ① and ② .
Terminal ① acts as the positive "+"connection and terminal ② as the negative "–".



• After turning the counter 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.

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