

# E10 SERIES

## ELECTRONIC PRESET COUNTER

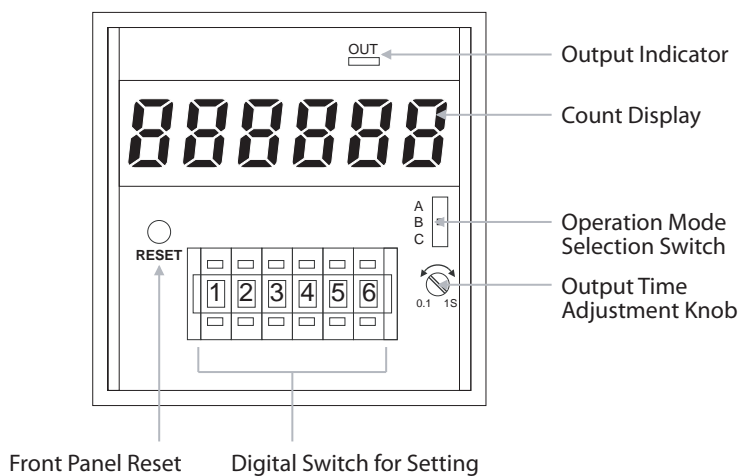
- DIN 72 x 72
- LARGE LED DISPLAY
- 6 DIGIT MODEL
- 1 LEVEL
- HIGH COUNT SPEED
- ADD / SUBTR COUNTER



### MODELS

| MODEL     | NO. OF DIGITS | PRESET LEVEL | MEMORY | FRONT RESET |
|-----------|---------------|--------------|--------|-------------|
| E10-166M  | 6             | 1            | ○      | —           |
| E10-166MR |               |              |        | ○           |

### FRONT PANEL(E10-166MR)

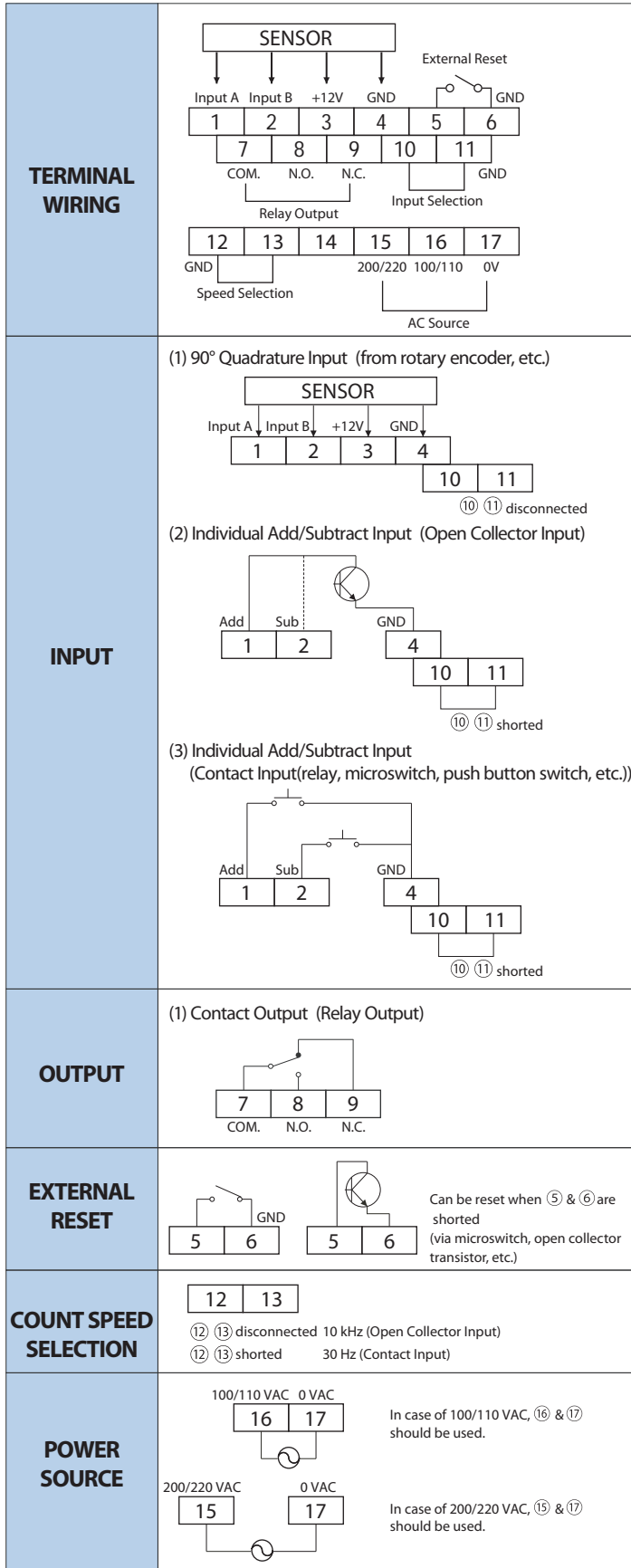


### SPECIFICATIONS

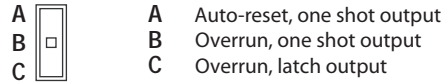
|                                |  |
|--------------------------------|--|
| <b>Display</b>                 | 6 Digits 7-Segment Red LED 10.16 mm (H) x 5.54 mm (W)  |
| <b>Power Source</b>            | 100/110 VAC or 200/220 VAC, 50/60 Hz   |
| <b>Power Consumption</b>       | 4.3 VA   |
| <b>Preset Level</b>            | 1 Level  |
| <b>Setting Range</b>           | 0 - 999999*  |
| <b>Input Mode</b>              | Open Collector Input L : 0 to 2 V (sink current 7mA max.)<br>Contact Input: Relay, Microswitch, etc. (sink current 7mA max.) |
| <b>Count Mode</b>              | 90° Quadrature Input / Individual Add/Subtract Input<br>(simultaneous input of add and subtract is not possible)             |
| <b>Count Speed</b>             | Open Collector Input: 10 kHz / Contact Input: 30 Hz  |
| <b>Pulse Width</b>             | Open Collector Input: 50 μs / Contact Input: 16.6 ms   |
| <b>Duty</b>                    | 1 : 1  |
| <b>Output</b>                  | Relay Type 1C, 250 VAC, 2A (125VA), 220 VDC 2A (60W) cosφ = 1  |
| <b>Output Display</b>          | Red LED (ON when output is actuated)   |
| <b>Output Time</b>             | 0.1 to 1 second per shot (adjustable via front panel knob) or latch output   |
| <b>Reset Input</b>             | Contact (100 ms min.)<br>Open Collector (sink current 10mA max.)   |
| <b>Reset Mode</b>              | Remote Reset, Auto-Reset, Front Panel Reset (E10-166MR)  |
| <b>Operation Mode</b>          | Auto-reset (display resets when preset value is reached)<br>Overrun (counting continues even after preset value is reached)  |
| <b>Memory</b>                  | EEPROM Data Retention: approximately 20 years<br>Memory Frequency: 100,000 times max.  |
| <b>Power Source for Sensor</b> | 12 VDC, 60mA max.  |
| <b>Operating Temperature</b>   | -10°C to +50°C (should not be frozen)  |
| <b>Operating Humidity</b>      | 35 to 85 % RH (non-condensing)   |
| <b>Hi-pot Test</b>             | 1500 VAC (1 minute)  |
| <b>Insulation Resistance</b>   | 100 MΩ min. (500 VDC Megger)<br>(on Power leads and between non-charged metal parts)   |
| <b>Noise Immunity</b>          | Square wave noise from Noise Simulator<br>±2.0 kV (PowerTerminals), ±500 V(Input Terminals)                                  |
| <b>Vibration Immunity</b>      | Malfunction: 10 to 55 Hz, double amplitude 0.5mm<br>Destruction: 16.7 Hz, double amplitude 4mm                               |
| <b>Shock Immunity</b>          | Malfunction: 100 m/s <sup>2</sup> (10G) Destruction: 300 m/s <sup>2</sup> (30G)  |
| <b>Weight</b>                  | 550g   |

\* When set to 0, counter will count down from displayed value to 0, when output signal occurs.

## WIRING



## OPERATION MODE SELECTION



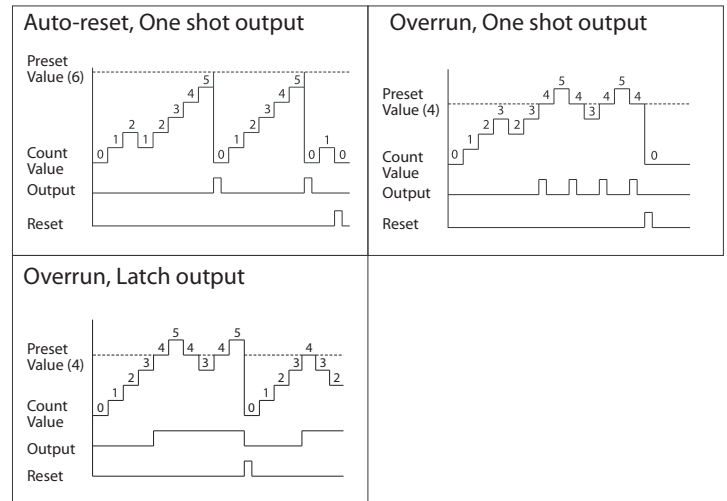
Prior to operation, please select both display mode and output mode by slide switch on front panel.

## ADJUSTMENT OF OUTPUT TIME



When operation mode A or B is selected, please adjust output time from 0.1 to 1 second by turning the knob below the slide switch.

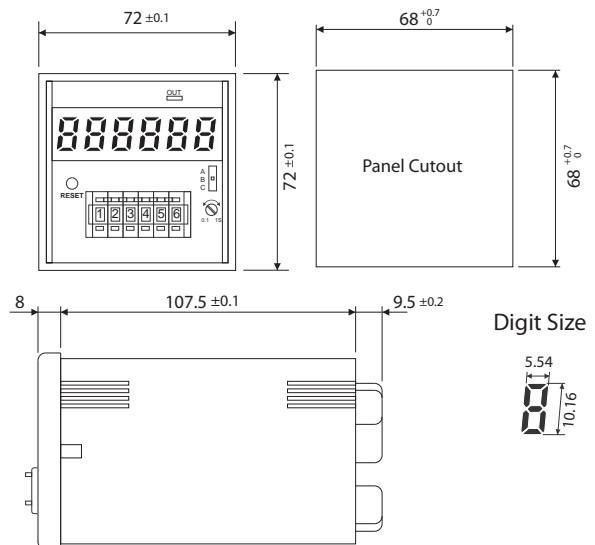
## OPERATION EXAMPLE



## CAUTION

- The counter will not accept count or reset signals during the first 100 ms after power-up.
- In case Individual Add/Subtract Input is selected, additive and subtractive signals cannot be input simultaneously.
- Shielded wires should be used for input/output leads.
- Input/output leads should be separated from power leads as much as possible.
- Wires for short circuit (jumpers) should be as short as possible.
- When noise is observed on input or power leads, noise suppressor or power source noise filter should be used.

## DIMENSIONS



## DUSTPROOF COVER (OPTION)

In case the counter will be used in a bad environmental conditions (e.g. dust / splash), a dustproof cover should be used.  
If the cover is to be used, the panel cutout should be 70 x 70 mm

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