

E10 SERIES MANUAL

ELECTRONIC PRESET COUNTER INSTRUCTION MANUAL

E10 Series

Thank you for purchasing our E10 product.
Please confirm that you have the correct device by checking the product label.
Please read this Instruction Manual carefully before using this device to ensure correct usage.
Please keep this Instruction Manual for future reference.

ATTENTION!
Please note that misuse of this device may lead to injury to the user or damage to the device.
Please observe all safety precautions and warnings in this Instruction Manual.

Customer Service
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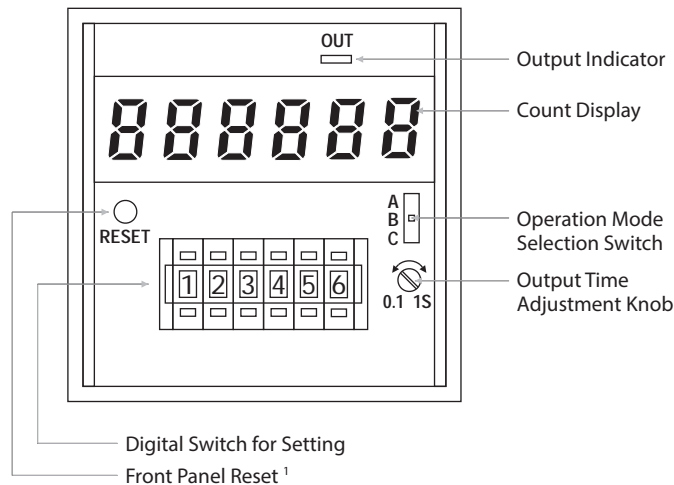
ATTENTION!

- Do not use this device near machines that emit strong electromagnetic fields or objects that store static electricity.
- Do not drop or subject this device to strong impact.
- Do not use or store this device where it will be exposed to water or in places with wet conditions.
- Do not use or store this device where it can be exposed to direct sunlight, dust, high temperature and high humidity.
- Do not attempt to disassemble or modify this device.
- Do not use organic solvents such as thinners, etc. They will damage the external finish.
- Internal circuit may be destroyed if a voltage outside the rated voltage is applied.

MODELS

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

FRONT PANEL



¹ Front Panel Reset is available for E10-166MR model only.

OPERATION MODE SELECTION

A	Auto-reset, one shot output
B	Overrun, one shot output
C	Overrun, latch output

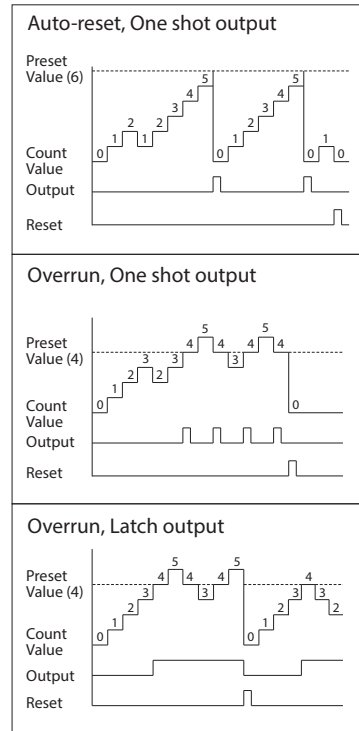
Display and output modes must be set through the front panel slide switch prior to operation.

ADJUSTMENT OF OUTPUT TIME



In case of A or B operation mode, output time can be adjusted with the front panel knob from 0.1 sec to 1 sec.

OPERATION EXAMPLE



TERMINAL CONNECTIONS

Terminal No.	Connection	
1	Input A (Add)	
2	Input B (Subtract)	
3	DC12V	
4	GND	
5	External Reset (resets when shorted with GND)	
6	GND	
7	COM.	Relay Output
8	N. O.	
9	N. C.	
10	Input Mode Selection (Individual Add/Subtract Input when connected to No.11; 90° Quadrature Input when not connected)	
11	GND for Input Mode Selection	
12	GND for Input Speed Selection	
13	Input Speed Selection (Low Speed (30Hz max.) when connected to No.12; High Speed (10kHz max.) when not connected)	
14	- No connection -	
15	AC220/200V	
16	AC110/100V	
17	AC0V	

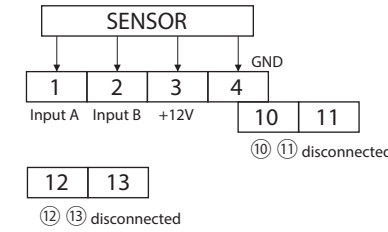
CAUTION

- The counter will not accept count or reset signals during the first 100 msec after power up.
- The counter will not display, count, or reset in case of power failure.
- In case Individual Add/Subtract Input is selected, additive and subtractive signals can not be input simultaneously.
- Shielded wires should be used for input leads.
- Input leads should be separated as much as possible from power leads.
- Wires used for short connections (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.

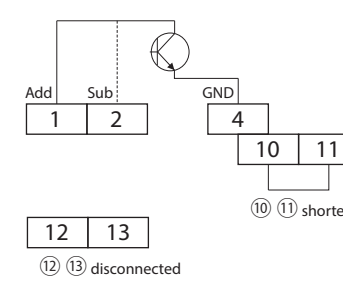
WIRING

INPUT

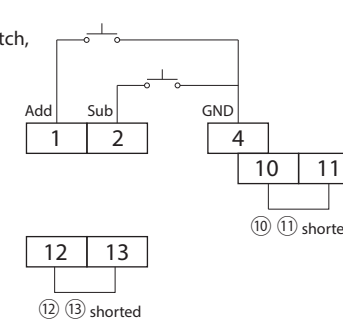
(1) 90° Quadrature Input (from rotary encoder, etc.)



(2) Individual Add/Subtract Input (Open Collector Input)



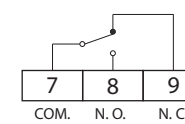
(3) Individual Add/Subtract Input (Contact Input (relay, microswitch, push button switch, etc.))



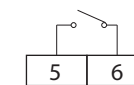
※ Power cycle the product when changing connection of ⑬ in order to implement the changes.

OUTPUT

(1) Contact Output (Relay Output)

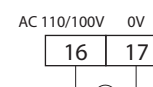


EXTERNAL RESET

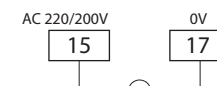


Resets when ⑤ & ⑥ are shorted (via microswitch, open collector transistor, etc.)

POWER SOURCE



In case of 110/100V AC, ⑯ & ⑰ should be used.



In case of 220/200V AC, ⑮ & ⑰ should be used.

SPECIFICATIONS

Display	6 Digits 7-Segment Red LED 10.16 mm (H) x 5.54 mm (W)
Setting Method	Digital Switches
Preset Level	1 Level
Setting Range	0 ~ 999999 ²
Count Input	Open Collector Input L: 0~2V (sink current 7mA max.) Contact Input: Relay, Microswitch, etc. (sink current 7mA max.)
Count Modes	90° Quadrature Input / Individual Add/Subtract Input (simultaneous input not possible)
Count Speed	Open Collector Input: 10kHz / Contact Input: 30Hz
Pulse Width	Open Collector Input: 50 μsec / Contact Input: 16.6 msec
Duty	1 : 1
Output	Relay Type 1C, 250 VAC, 2A (125VA), 220VDC 2A (60W) cosφ = 1
Output Display	Red LED (ON when output is actuated)
Output Time	0.1 ~ 1 second one shot (adjustable via front panel knob) or latch output
Output Delay Time	Contact Output 10kHz: < 10 msec Contact Output 30Hz: < 25 msec
Reset Input	Contact (100 msec minimum) Open Collector (sink current 10mA max.)
Reset Modes	Remote Reset Auto-Reset Front Panel Reset ³
Operation Modes	Auto-reset (display resets when preset value is reached) Overrun (counting continues even after preset value is reached)
Memory	EEPROM Data Retention: approximately 20 years Memory Frequency: 100,000 times maximum
Power Source	AC100/110V or AC200/220V, 50/60 Hz
Power Consumption	4.3 VA
External Power Supply	DC12V, 60mA maximum
Operating Temperature	-10°C ~ 50°C (non-freezing)
Operating Humidity	35 ~ 85 % RH (non-condensing)
Hi-pot Test	AC1500V (1 minute)
Dielectric Test	100MΩ minimum (DC500V Megger) (on Power leads and between non-chargeable metal parts)
Noise Immunity	Square wave noise from Noise Simulator ±2.0kV (Power Terminals), ±500V (Input Terminals)
Vibration Immunity	Operating: 10~55 Hz, double amplitude 0.5mm Storage: 16.7 Hz, double amplitude 4mm
Shock Immunity	Operating: 100 m/s ² (10G) Storage: 300 m/s ² (30G)
Weight	550g

² When set to 0, counter will count down from displayed value to 0, when output signal occurs.

³ Front panel reset feature (push button) is available for E10-166MR model only.

For more details, please visit our website at <http://www.lineseiki.com>

DIMENSIONS

