

Electronic counter MC4E with backlit LCD display DIN-sized 48mm sq.

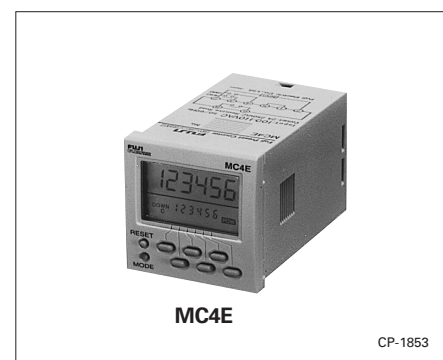
■ **Description**

FUJI MC4E's are UP/DOWN changeover type electronic preset counters, which are easy to operate and cost-effective. They are designed to meet the requirements of electronic equipment.

■ **Features**

- DIN-sized 48mm sq. counters
Miniature DIN-sized, 48mm × 48mm, thus allowing these counters to be easily incorporated into existing system.
- Easy-to-set 6-digit pushbutton switches
A separate pushbutton for each digit makes setting and modification simple and convenient.

- Easy-to-read large size backlit LCD display
The counted value display uses a large size 6-digit backlit LCD display (Letter height: 7mm). The preset value, counting mode (UP/DOWN) and power ON/OFF are all displayed.
- Budget priced
- Three operation modes
In mode N, the output is activated when the preset count is reached, and the count is retained.
In mode F, the output is activated when the preset count is reached, but counting continues up to the maximum count. In mode C, reaching the preset count generates an output pulse and reset or presets the counter to restart counting. (one-shot operation)
- UP/DOWN (Adding/Subtracting) changeover counting system
MC4E types can be used as both UP and DOWN counters by using the MODE key.



■ **Ordering information**

Specify the following:

1. Ordering code of counter body and socket.

■ **Specifications**

Type	Ordering code	Input voltage	Counting speed	Counter input signal	Operation	Digital display	Output contact	Mounting and socket
MC4E	MC4ES-AK MC4ES-AP MC4ES-DE	100 – 120V AC 200 – 240V AC 24V DC	30Hz	Relay contact or solid-state contact	UP/DOWN (Changeover) Provided with data memory function	Backlit LCD 6-digit	Relay 1NO	Surface: TP48X, 8GB Flush: TP48SB, ATX1NS

■ **Technical data**

Maximum counting speed: 30Hz

Count signal

Pulse minimum width: 16.7ms (On-off ratio 1:1)

Reset system

- External reset
Reset pulse width: 30ms or more
Reset time after reset signal ON: 50ms or less
- Manual reset
Reset pulse width: 200ms or more
Reset time after reset signal ON: 200ms or less

Output contact : 250V AC 2A

Operating voltage range: 0.85 to 1.1 times input voltage

Power consumption: 100–120V AC Approx. 3.9VA
200–240V AC Approx. 6.6VA
24V DC Approx. 1W

Operating temperature range: –10 to +50°C

Dielectric strength: 2000V AC rms. 1min. between circuit and earth
1500V AC rms. 1min. between power supply circuit and input/output circuit
1500V AC rms. 1min. between input circuit and output circuit
750V AC rms. 1min. between open contacts

Insulation resistance: 100MΩ at 500V DC megger

Mechanical durability: 20 million operations

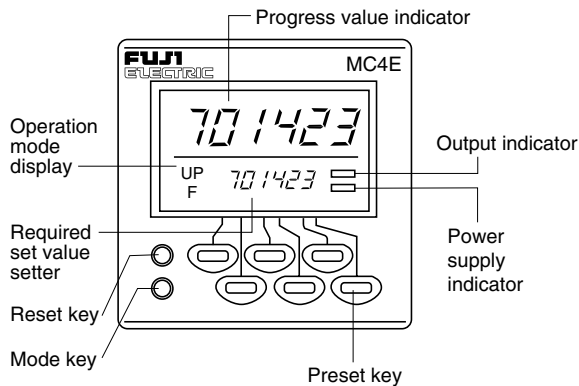
■ **Electrical durability**

Voltage		Make (A)	Break (A)	Electrical durability (Operations)
250V AC	Inductive load	10 5	1 0.5	130,000 300,000
	Resistive load	2 1	2 1	250,000 500,000
120V AC	Inductive load	10 5	1 0.5	200,000 400,000
	Resistive load	2 1	2 1	400,000 750,000
30V DC	Inductive load	1 0.5	1 0.5	200,000 450,000
	Resistive load	2 1	2 1	250,000 500,000

Electronic Counters

Preset type

MC4E

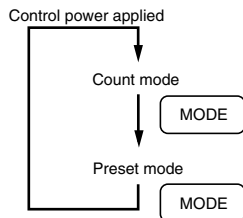


■ Operations

Basic key operations

1. Operations with the control power applied
Pressing the MODE key enables selection of either of the following modes.

- Count mode: Enables normal counting
- Preset mode: Enables preset keys for changing the preset value

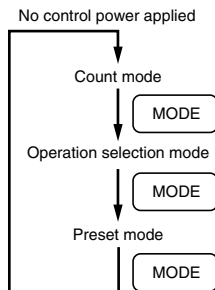


With the no control power applied, transition of the operation selection mode is disabled.

2. Operations with no control power applied
With no control power applied, the LCD is turned off.

Pressing any key for at least one second turns the LED on. After the LCD has been turned on, press the MODE key to select the appropriate setting mode.

- Count mode: With no control power applied, the counter is not operated for counting but only for indication.
- Operation selection mode: Enables selection of the appropriate operation mode.
- Preset mode: Enables the preset value to be changed.

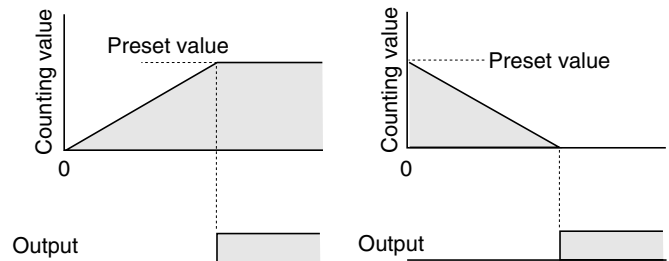


3. Setting with preset key

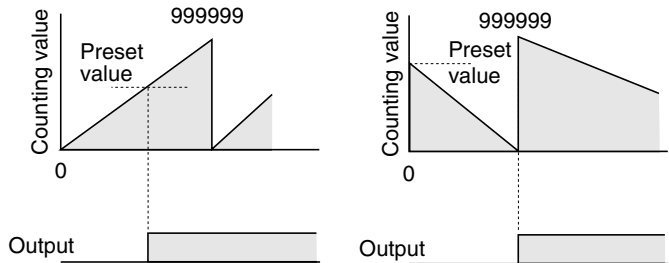
- Operation selection mode
Pressing any preset key enables operation mode selection.
- Preset mode
Pressing a preset key sets the value of the corresponding digit.

■ Operating mode

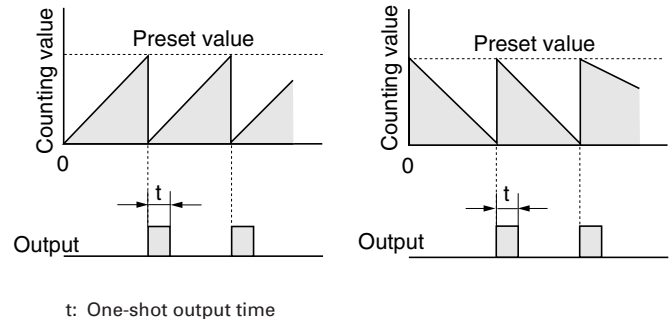
- UP
 - DOWN
- N mode (Retained output, retained count)



F mode (Retained output, counting continued)

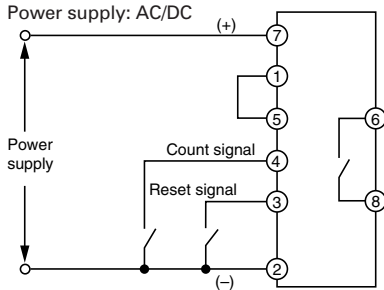


C mode (One-shot output, counting repeated)



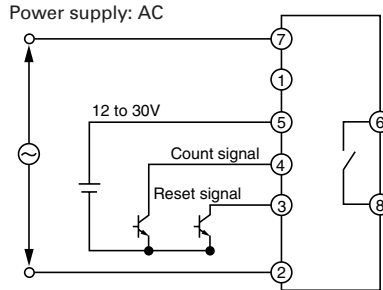
■ Wiring diagrams

● Contact input

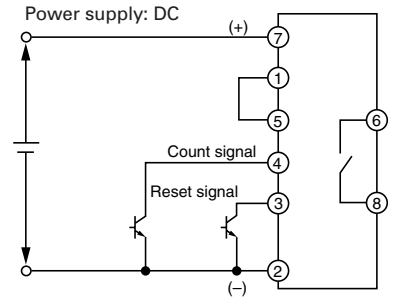


When count input signal is turned on, the counting starts.
When reset signal is switched on, the counter is reset.

● Solid-state input

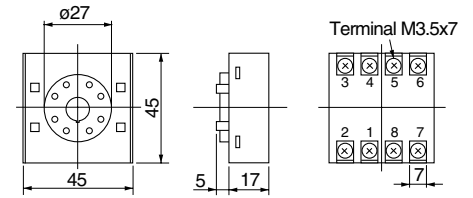


Control power supply and input circuit are isolated by photocoupler.



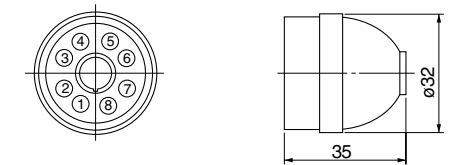
■ Dimensions, mm

Socket TP48SB



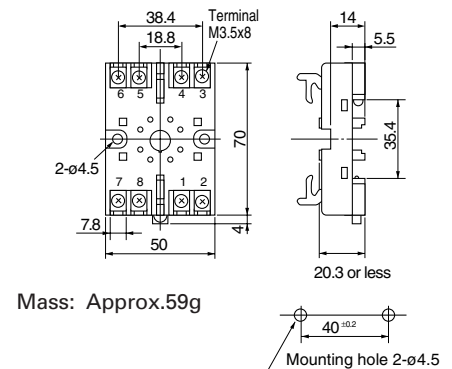
Mass: Approx.38g

Socket ATX1NS



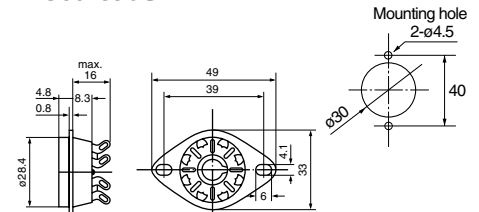
Mass: Approx.18g

Socket TP48X



Mass: Approx.59g

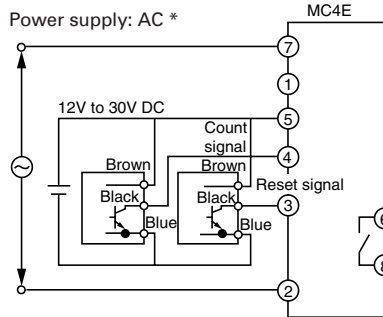
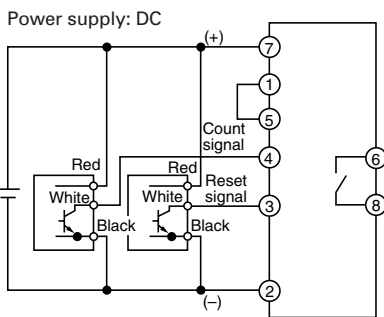
Socket 8GB



Mass: Approx.13g

● Solid-state input

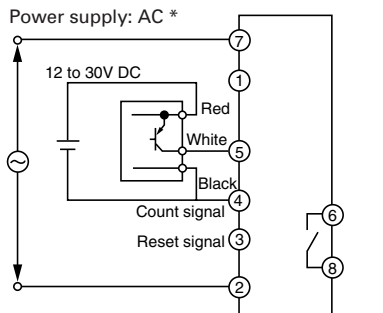
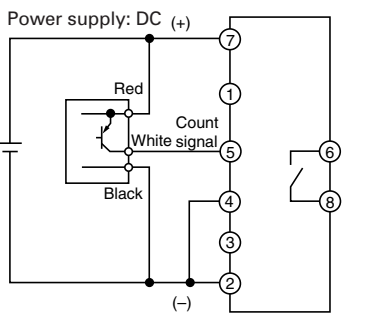
Connected with proximity limit switch or photoelectric switch (NPN transistor, voltage/current output type)



* Control power supply and input circuit are isolated by photocoupler.

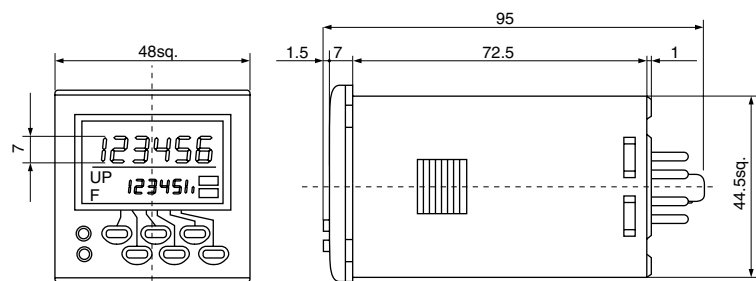
● Solid-state input

Connected with proximity limit switch (PNP transistor, voltage/current output type)



* Control power supply and input circuit are isolated by photocoupler.

■ Dimensions, mm
Counter body



Mass: Approx. 110g