

Preset Counter/Timer

Programmable Type

KTC



SALIENT FEATURES

- ◆ 6 Digits PV, SV
- ◆ Universal Input
- ◆ Dual alarm output
- ◆ MODBUS via RS-485
- ◆ High Speed - 10 KCPS
- ◆ Multiple output modes
- ◆ Batch Counting, Prescale

Model Number Legend

KTC - \square \square - \square

1 2 3 4

1. Series

KTC

2. Size

S: 48 x 48 mm DIN

W: 96 x 48 mm DIN

M: 72 x 72 mm DIN

3. Output Type

R: Relay Output

M: Relay + RS-485 Output

4. Power Supply

24DC: 24V DC

230AD: 230V AC/ DC

#. Accessories included

Panel Mounting Kit : 1 Set

Example:

KTC-SM-230AD

KTC Series - 48*48mm Din Size, 2 Relay Output type with RS-485 Communication - 110-230V AC/ DC Power Supply

NOTE: Contact us for models not shown in catalogue.

- Sensing
- Digital Panel Meters
- Temperature Controllers
- Timers & Counters
- Level Controllers
- Convertors & Amplifiers
- Weighing
- Automation
- Components

Product Highlights

◆ 6 Digit LED display!

High- brightness six digit PV & SV LED display in both KTC-S & KTC-W.

◆ Universal Input

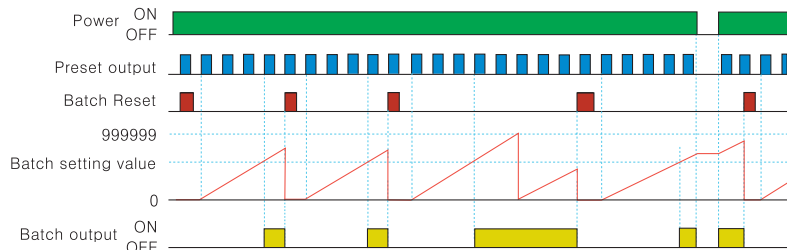
The KTC accepts both No-voltage (NPN) input and voltage (PNP) input. The input logic selection can be done directly through the front panel keys.

◆ Batch Counting

Batch Counting function is provided in both timer and counter modes.

Batch reset using external trigger is enabled.

Also Power-off hold function built in the KTC series enables the counter to retain the state of the output value even if power is interrupted.



COUNTING MODE

Batch alarm output when counting quantity is equal to the batch setting value.

When batch control output is used, the time interval must be larger than 10ms.

TIMING MODE

Batch alarm output when the time quantity is equal to or greater than the batch time setting value.

BATCH OUTPUT

Batch alarm output is ON, until batch reset signal is applied externally. Batch output is held even if power is reset.

◆ Prescale Function

The KTC series has built in pre-scale function capability. Prescale function is used in places where multiple input pulses need to be combined as one.

Application

Pulse number P is a number of pulse created by rotary encoder, L is the measured length. Prescale value equals 'L' divided 'P'.

$$\begin{aligned} \text{Prescale Value} &= \frac{\pi \times \text{Diameter of the roller (D)}}{\text{Pulse numbers per 1 revolution of the encoder}} \\ &= \frac{3.1416 \times 22}{1000} \\ &= 0.069 \text{ mm/ pulse.} \end{aligned}$$

Set the prescale value at 0.069 in the settings.

◆ High Speed input

The KTC series counter accepts high speed pulse input of upto 10KCPS.

◆ Dual Function

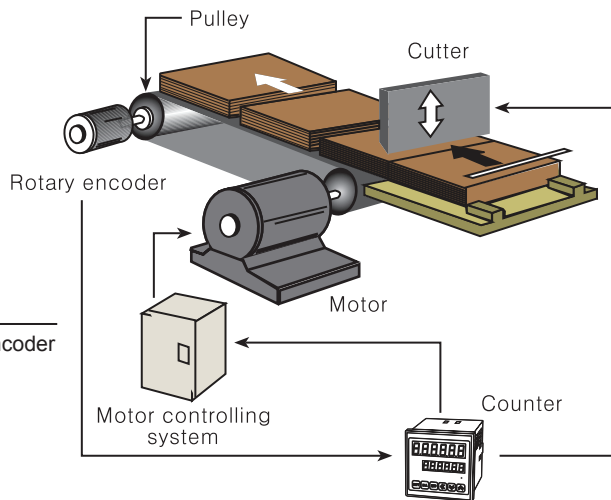
The KTC series can function as Timer/ Counter. The same can be set and changed using the front panel keys.

◆ Multiple Output Modes

Multiple output modes are provided in the KTC series. One-shot output, Hold output and Simultaneous output types are provided.

◆ RS-485 Ouptut

The KTC provides multiple output options in one compact package. Relay Alarm Output & RS-485 with read and write functions are provided.



The diameter of the roller connected to the rotary encoder is 22mm
The pulse number per revolution of the encoder is 1000

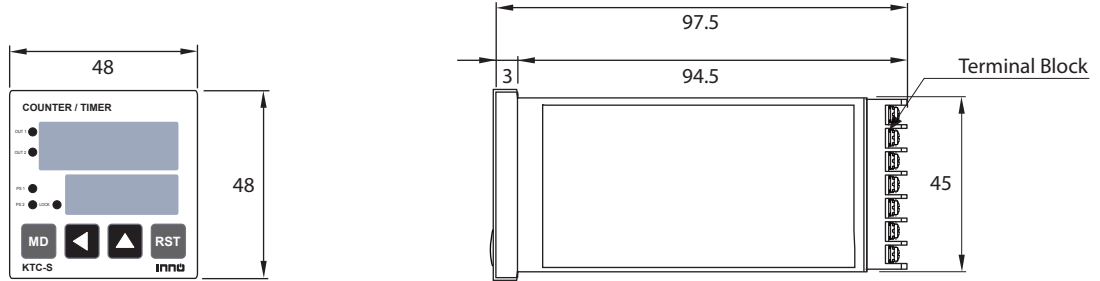
Output Type		Relay Output		Relay + RS-485 Output	
Models	48 x 48 mm	KTC-SR-24DC	KTC-SR-230AD	KTC-SM-24DC	KTC-SM-230AD
	96 x 48 mm	KTC-WR-24DC	KTC-WR-230AD	KTC-WM-24DC	KTC-WM-230AD
	72 x 72 mm	KTC-MR-24DC	KTC-MR-230AD	KTC-MM-24DC	KTC-MM-230AD
Power Supply		24 VDC	100-240 VAC/ DC	24 VDC	100-240 VAC/ DC
Ripple		±10% (FS)			
Power Consumption		35mA at 220 VAC			
Display		Dual Line 6 digit LED (PV- Red; SV- Green)			
Input	Voltage Input	Input impedance 5.4KΩ; H- 5~30VDC, L- 0~2VDC			
	No- voltage Input	Short- circuit impedance 1KΩ			
	Residual Voltage	max. 2VDC			
Min. Signal Width		INA, INHIBIT, RESET, BATCH, RESET selectable 1 or 20ms			
Max. Counting Speed		1, 30 Hz, 1, 5, 10 KHz (selectable)			
Timer		max. ±0.01% ; ±0.05 second			
Data Retention		10 Years			
Auxiliary Voltage Output		12 VDC, 100mA			
One- shot Output		10/ 50/ 100/ 200/ 500/ 1000/ 2000/ 5000 ms			
Output Type		2 Relay		2 Relay + RS-485	
Control Output Specification		250 VAC, 3 A (Resistive Load)			
Contact Life		max. 100,000 times (NO: 250 VAC, 3A; NC: 25- VAC, 2A)			
Dielectric Strength		min. 100MΩ at 500 VDC			
Dielectric		At power terminals 2000 VAC, 50Hz, 1 min			
Interference (AC Power)		±2kV Square- wave generator interference (width of pulse:1 μs)			
Vibration Resistance		0.75mm amplitude, 10-55 Hz in X, Y, Z directions for 10 minutes till destruction			
Shock Resistance		10 G (X, Y, Z in each direction for three times)			
Ambient Temperature		Operation: -10° ~ 50°C; Storage: -25° ~ 65°C (non- freezing; non- condensing)			
Ambient Humidity		Operation: 45 ~ 80% RH; Storage: 35 ~ 85% RH (non- condensing)			
Protection Class		IP20, Front panel IP65			
Weight		48 x 48: 149 g; 96 x 48: 159 g; 72 x 72: 253 g			
Material		Front Panel: PU Housing: ABS or Equiv.			

Note:

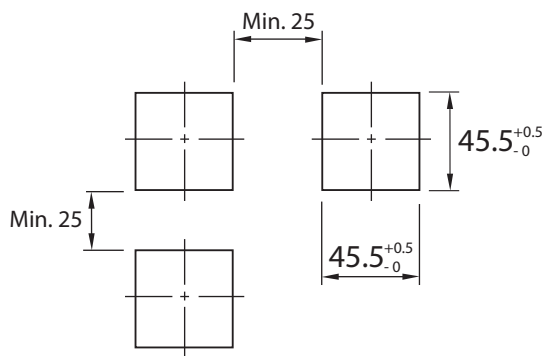
Configuration options differ for 48 x 48mm, 48 x 96mm & 72 x 72mm.
 4 front panel keys are available in 48 x 48mm model; 6 front panel keys are available in 48 x 96mm & 72 x 72mm models.
 Start-up time of minimum 3 seconds are to be accounted for during power on.
 IP 65 rating for front panel is valid only when a panel washer is used between the bezel and panel surface.

Dimension Drawing

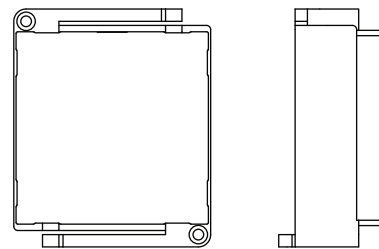
◆ KTC-S _ _



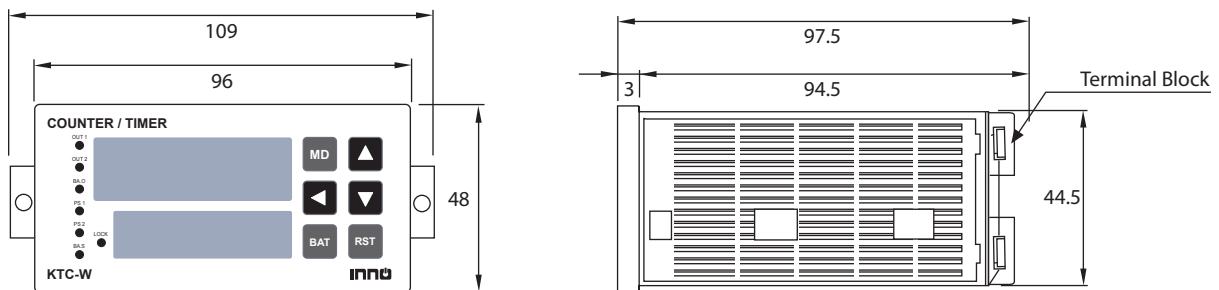
① Panel Cut-out



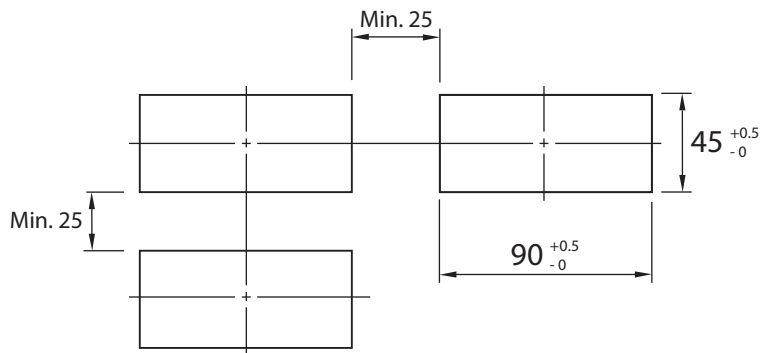
① Panel Adapter



◆ KTC-W _ _



① Panel Cut-out

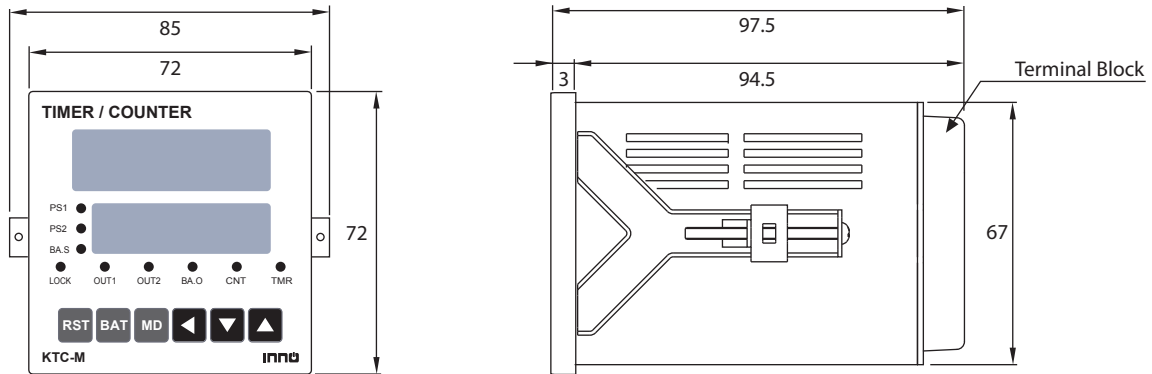


All dimensions are in mm

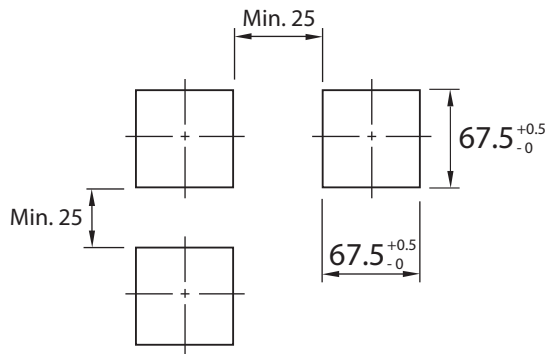
Dimension Drawing

KTC

◆ KTC-M _ _



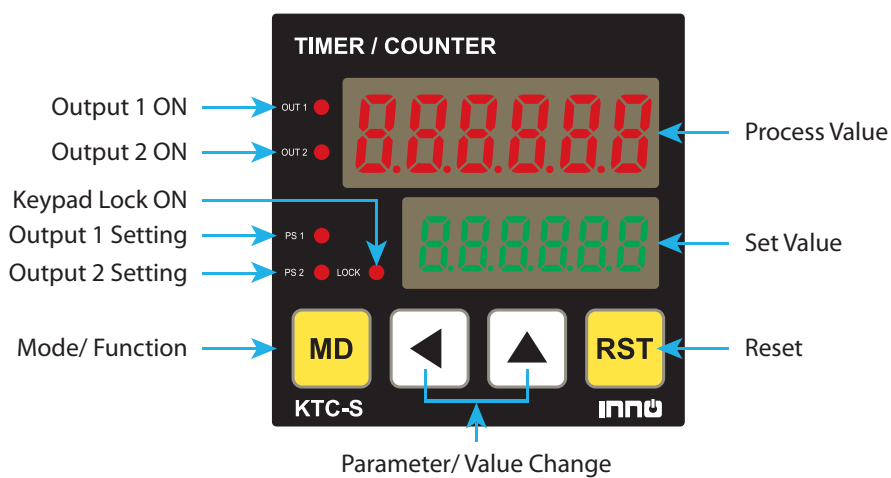
① Panel Cut-out



All dimensions are in mm

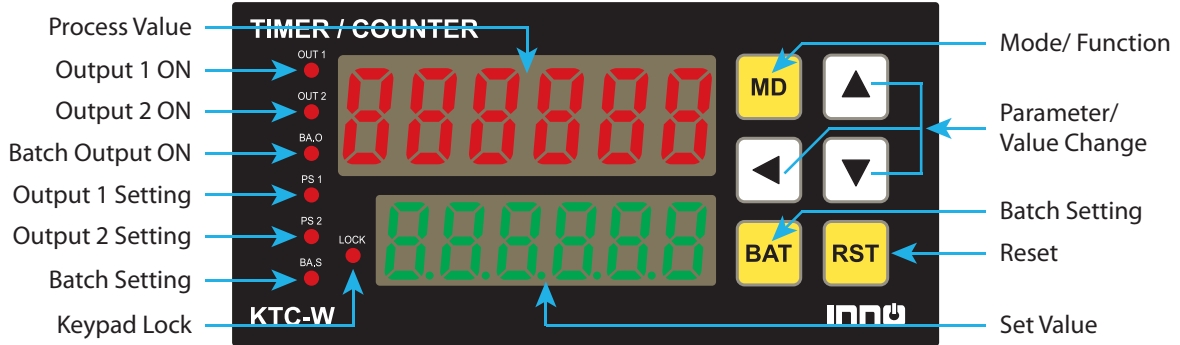
Component Names and Function

◆ KTC-S

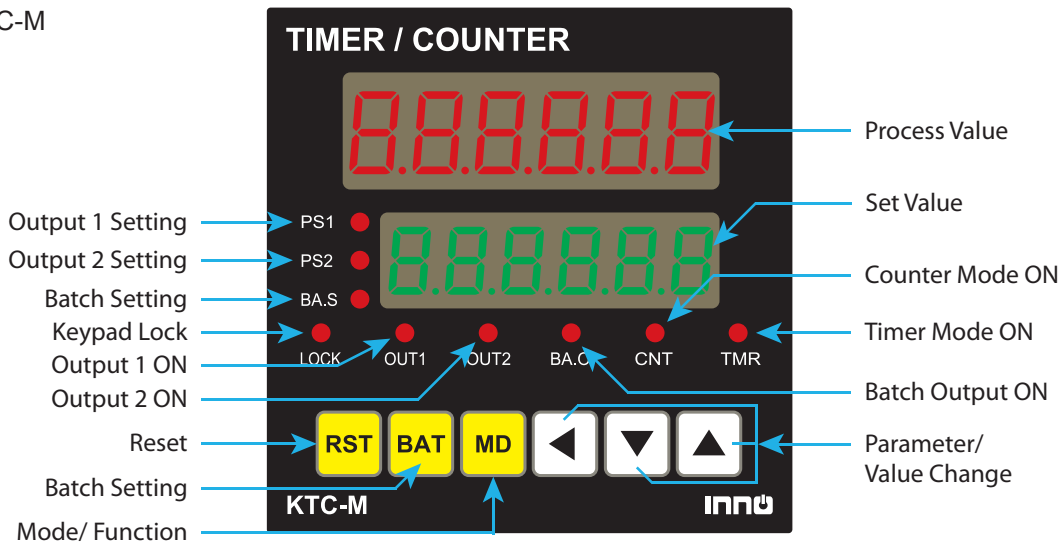


Component Names and Function

◆ KTC-W

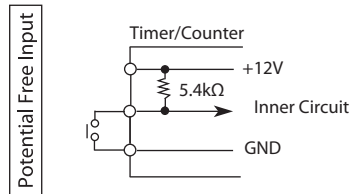
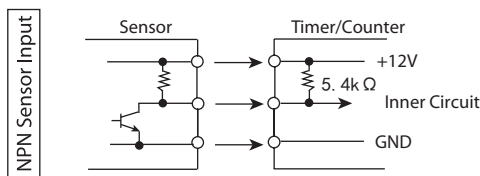


◆ KTC-M

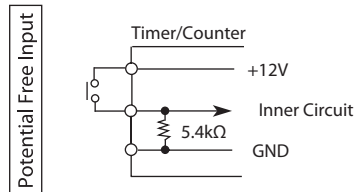
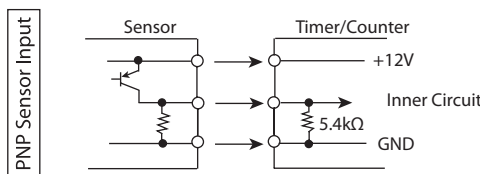


Connections

◆ Input Connection (NPN)



◆ Input Connection (PNP)

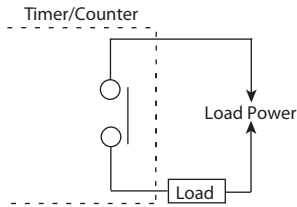


Connections

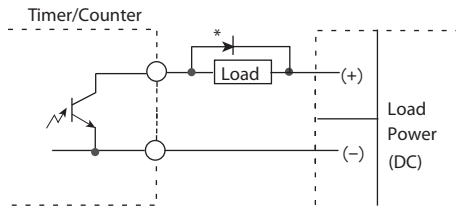
KTC

◆ Output Connection

Relay Output



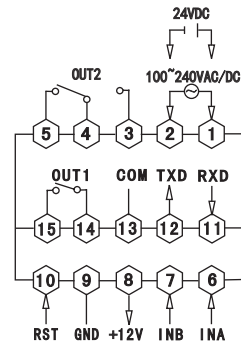
SSR Output



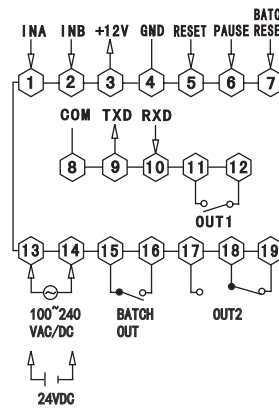
Note - *
Use proper load and power for load not to exceed ON/OFF capacity (30VDC max.; 100mA max.) of solid state output. Be sure not to apply reverse polarity to power. When using inductive load, a surge absorber (diode, varistor etc.) must be connected between both sides of the load.

◆ Terminal Connections

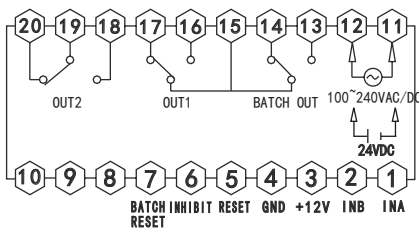
◆ KTC-S



◆ KTC-M



◆ KTC-W



Cat. No. KTC-C12

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