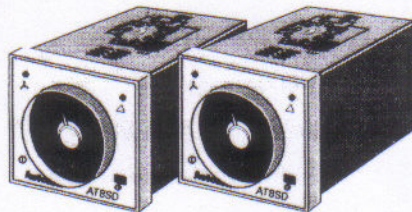


# AT8SD STAR(λ)-DELTA(Δ) TIMER MANUAL

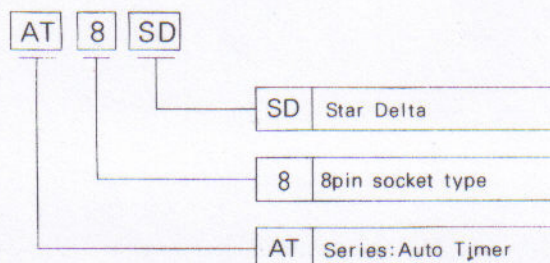


Thank you very much for selecting Autonics Timer.  
Please read this manual carefully before you use this instrument.

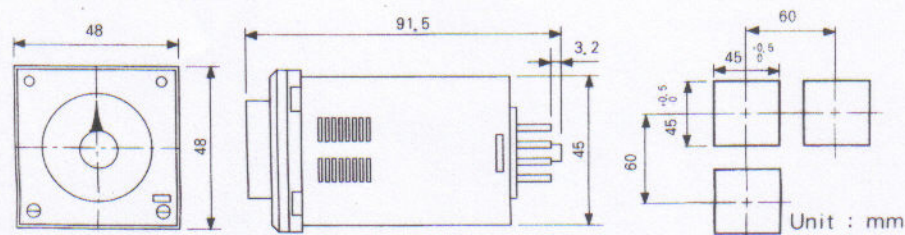
## ■ Features

- Multi time range
  - T1(λ setting time): 5, 10, 50, 100sec
  - T2(λ-Δ switching time): 0.05, 0.1, 0.25, 0.5sec
- Mechanism allows easy time setting and direct reading.
- It is indicated λ - Δ output by 2 red LED.
- Power supply 110/220VAC.
- Application for motor start-up.

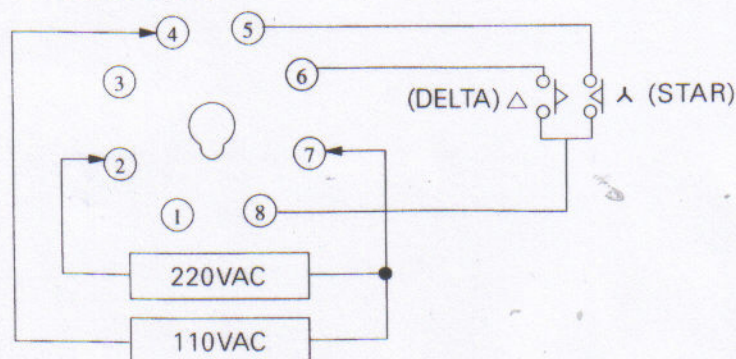
## ■ Ordering information



## ■ Dimension & panel cut-out



## ■ Connection

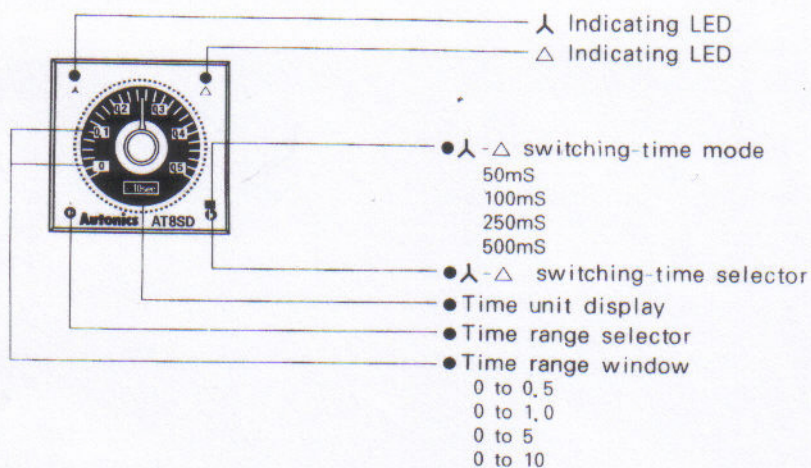




## Specification

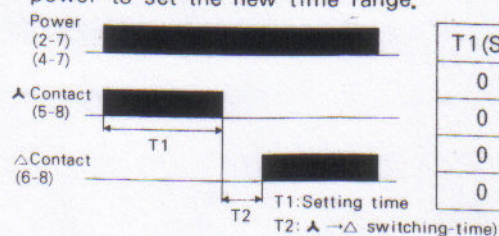
Model		AT8SD
Power supply		110/220VAC 50/60Hz
Operating voltage range		90 to 110% of rated voltage
Operating function		Y→ΔTIMER(Star-delta Timer)
Deviation		±0.3%
Setting error		±5%
Reseting time		Max. 200mS
Error by voltage		±0.5%
Error by temp.		±2%
Time range		5, 10, 50, 100sec(Multi range:0.05, 0.1, 0.25, 0.5sec)
Connection function		Y Contact:1a    Δ Contact:1a
Rated control capacity		250VAC 3A(resistive load)
Y→Δ switching-time		A:50mS B:100mS C:250mS D:500mS
Insulation resistance		Min. 100MΩ(at 500VDC)
Dielectric strength		2,000VDC 50/60Hz for 1minute(between charging and non-charging part and between contact and control circuit) 1,000VDC 50/60Hz for 1minute(between non-continous contacts)
Vibration	Malfunction durability	10 to 55Hz(cycle:1min) 0.5mm double amplitude
	Mechanical durability	10 to 55Hz(cycle:1min) 0.75mm double amplitude
Shock	Malfunction durability	Min. 10G(times in 4 axes)
	Mechanical durability	Min. 30G(times in 5 axes)
Service life	Mechanically	Min. 10,000,000 operation
	Electrically	250VDC(resistive load) Min. 100,000 operation
Temp.		-10 to +50℃
Humidity		Max. 85%
Air pressure		860 to 1060mb
Power ripple		Max. 20%
Power consumption		Max. 10VA(AC TYPE), Max. 2W(DC TYPE)

## Parts name



## Operation mode

- When power is on, setting time of  $\lambda$  (time) starts at the same time, after reached setting time of  $\lambda$  (time), to be restarted setting time of  $\Delta$  (time), it takes T2 ( $\lambda$ - $\Delta$  switching time)
- It can be selected T2 as follow chart by  $\lambda$ - $\Delta$  switching selector.
- When power is on, time range and setting time cannot be changed, turn off the power to set the new time range.



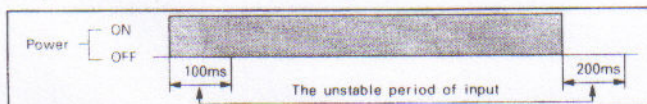
T1 (Setting time)	T2 ( $\lambda \rightarrow \Delta$ switching-time)
0 to 5sec	50mS: A
0 to 10sec	100mS: B
0 to 50sec	250mS: C
0 to 100sec	500mS: D



## ■ How to use

### ◎POWER

- For the first 100mS after power is connected, the inner circuit voltage starts to pick up, at this time the input may not work, conversely, for the last 200mS after the power is disconnected the inner circuit voltage drops down, at this time, the input may work.



- Use the voltage of the power within allowance range, and turn on or off the power at a stretch not to make a chattering.



### ◎NOISE

- Impulse voltage between terminals is tested at 2KV & pulse width of  $1\mu\text{s}$ , External noise voltage is tested at 1KV, pulse width of  $1\mu\text{s}$  by noise simulator. In case impulse noise voltage happens over this value, connect 0.1~ $1\mu\text{F}$  of AC MP condenser or oil condenser between power terminals.
- In case of circuit inner voltage test, impulse voltage test or insulation resistance test after you install it on the systems.
  - ① Cut off all circuits from the systems.
  - ② Short all terminals of counter-timer.

### ◎SURROUNDINGS

Avoid the following places

- Strong vibration to impact.
- Flammable, corrosive gas, water, oil or dust
- Strong flux, noise
- Sunny place
- High temperature humidity
- Strong alkali, acid

## ■ Main products

- COUNTER ■ TIMER ■ TEMPERATURE CONTROLLER
- PANEL METER ■ TACHO/SPEED METER
- SENSOR ● Proximity Switch ● Photo Sensor ● Rotary Encoder
- Fiber Sensor ● Sensor Controller

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