

## DIN W48×H48mm Star-Delta Timer

### ■ Features

- Realization of wide range of power supply  
: 100-240VAC 50/60Hz / 24-240VDC universal
- Wide range of setting time and switching time
  - T1 (Setting time): Selectable 0.5 to 100sec.
  - T2 (Switching time): Selectable 0.05, 0.1, 0.2, 0.3, 0.4, 0.5sec.
- Simple setting time, switching time operation
- Easy to check output status by LED display
- Application: Starting large capacity motors



**!** Please read "Caution for your safety" in operation manual before using.



### ■ Ordering Information

<b>AT</b>	<b>8</b>	<b>SDN</b>	
			Time operation
			SDN
			Star-Delta type
			Number of plug pins
			8
			8-pin plug type
			Item
			AT
			Analog Timer

※Sockets (PG-08, PS-08(N), PS-M8) are sold separately.

### ■ Specifications

Model		AT8SDN
Function		Star-Delta timer
Control time setting range		0.5 to 100 sec.
Power supply		100-240VAC 50/60Hz, 24-240VDC universal
Allowable voltage range		90 to 110% of rated voltage
Power consumption		Max. 3.2VA (100-240VAC), Max. 1.5W (24-240VDC)
Reset time		Max. 100ms
Timing operation		Power ON start type
Control output	Contact type	λ contact: SPST (1a), Δ contact: SPST (1a)
	Contact capacity	250VAC 5A resistive load
Relay life cycle	Mechanical	Min. 10,000,000 operations
	Electrical	Min. 100,000 operations (250VAC 5A resistive load)
Repeat error		Max. ±0.2 % ±10ms
λSetting error		Max. ±5% ±50ms
Voltage error		Max. ±0.5%
Temperature error		Max. ±2%
λ-Δ Switching time error		Max. ±25%
Insulation resistance		100MΩ (at 500VDC megger)
Dielectric strength		2000VAC 50/60Hz for 1 minute
Noise strength		±2kV the square wave noise (pulse width: 1μs) by the noise simulator
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 min.) in each X, Y, Z direction for 1 hours
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 min.) in each X, Y, Z direction for 10 min.
Shock	Mechanical	300m/s <sup>2</sup> (approx. 30G) in each X, Y, Z direction for 3 times
	Malfunction	100m/s <sup>2</sup> (approx. 10G) in each X, Y, Z direction for 3 times
Environment	Ambient temperature	-10 to 55°C, storage: -25 to 65°C
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH
Approval		CE c UL US
Accessory		Bracket
Unit weight		Approx. 90g

※Environment resistance is rated at no freezing or condensation.

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors/ Sockets

(H) Temperature Controllers

(I) SSRs / Power Controllers

(J) Counters

(K) Timers

(L) Panel Meters

(M) Tacho / Speed / Pulse Meters

(N) Display Units

(O) Sensor Controllers

(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

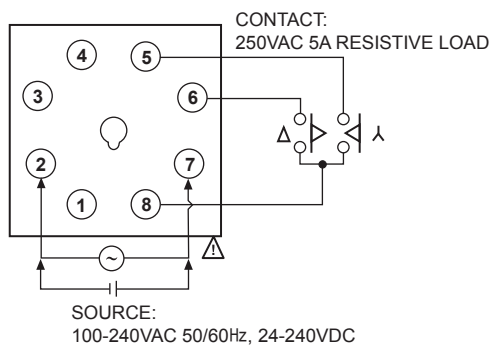
(R) Graphic/ Logic Panels

(S) Field Network Devices

(T) Software

# AT8SDN Series

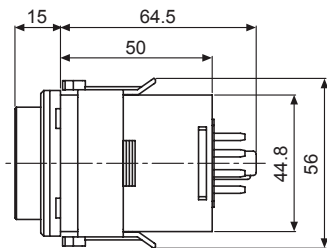
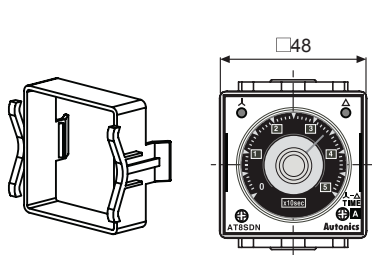
## ■ Connections



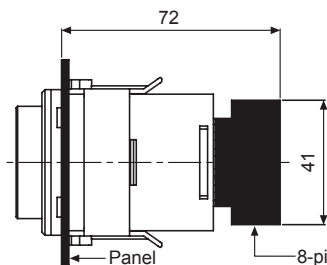
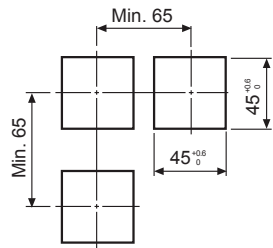
## ■ Dimensions

(unit: mm)

### ● Bracket

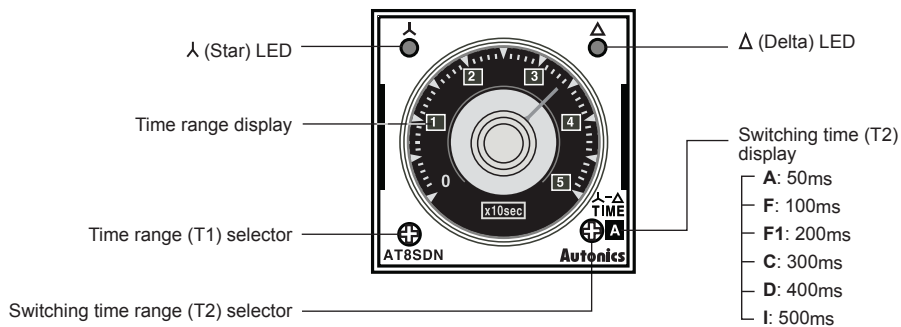


### ● Panel cut-out



8-pin socket: PG-08 (sold separately)  
※ Refer to the G-19 page.

## ■ Parts Description



## Time Specifications

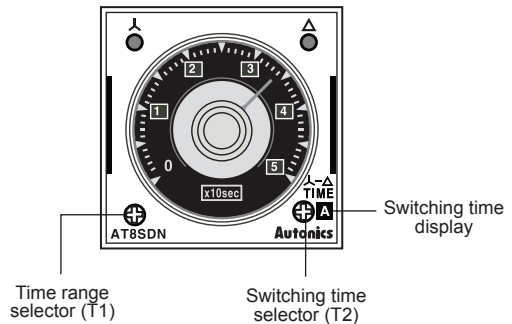
### 1. T1 (Setting time)

Time range	Time unit	Time setting range
0.5	×10sec	0.5 to 5sec.
1.0		1 to 10sec.
5		5 to 50sec.
10		10 to 100sec.

### 2. T2 (λ - Δ Switching time)

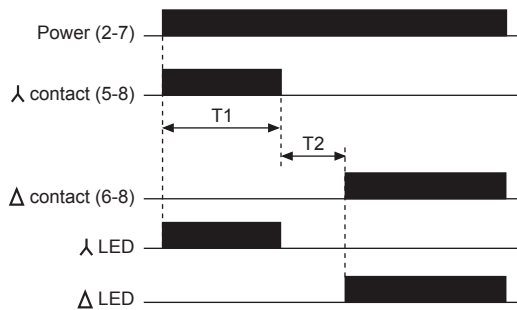
(unit: sec)

Display	A	F	F1	C	D	I
T2 (λ-Δ Switching time)	0.05	0.1	0.2	0.3	0.4	0.5



## Output Operation Mode

λ contact will be ON as soon as power is supplied, λ contact will be OFF when T1 setting time is up then Δ contact will be ON after T2 switching time is up. Δ contact will be OFF when cut off the power at the status of Δ contact is ON.

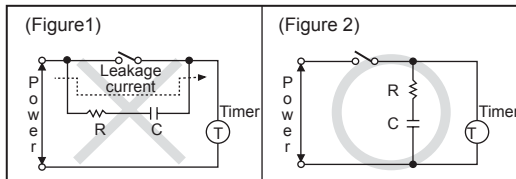


※T1: Setting time (λ contact operation time)

※T2: λ-Δ Switching time (λ and Δ contact are OFF when power is ON.)

## Proper Usage

- Please supply power quickly at once with using switch or relay contact. Otherwise it may cause time error or power reset failure.
- When supply the power to the timer, connection shown in (Fig. 1) might cause malfunction due to leakage current through R and C. Please connect R and C as shown in (Fig.2) to prevent malfunction.



- Change the setting time (T1), time range or λ-Δ switching time (T2). Otherwise, it might cause malfunction if changing the setting time (T1), time range or λ-Δ switching time (T2) during operation.

- When performing dielectric voltage test or insulation resistance test while the unit is installed on control panel,
- Please isolate this unit from the circuit of control panel.
- Please make all terminals of this unit short-circuited.
- Do not use this unit at below places.
- Place where there is severe vibration or impact.
- Place where strong alkalis or acids is used.
- Place where there is direct ray of the sun
- Place where strong magnetic field or electric noise is generated.
- This unit may be used in the following environments.
- Indoor
- Altitude: Under 2,000m
- Pollution degree 2
- Installation category II

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