

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

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

※8-pin socket (PG-08, PS-08(N)) is sold separately.

■ Specifications

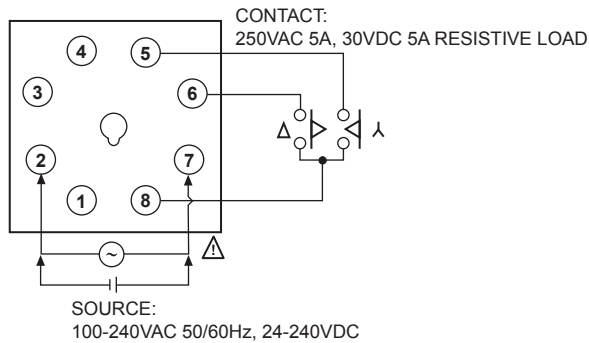
Model		AT8SDN
Function		Star-Delta timer
Control time setting range※1		0.5 to 100 sec
Power supply		100-240VAC~ 50/60Hz, 24-240VDC= universal
Allowable voltage range		90 to 110% of rated voltage
Power consumption		Max. 3.2VA (100-240VAC~), Max. 1.5W (24-240VDC=)
Return time		Max. 100ms
Timing operation		Power ON start type
Control output	Contact type	λ contact: SPST (1a), Δ contact: SPST (1a)
	Contact capacity	250VAC~ 5A, 30VDC= 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		Over 100MΩ (at 500VDC megger)
Dielectric strength		2,000VAC 50/60Hz for 1 minute
Noise immunity		±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
	Malfuction	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 ² (approx. 30G) in each X, Y, Z direction for 3 times
	Malfuction	100m/s ² (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
Approval		CE c UL US
Accessory		Bracket
Unit weight		Approx. 90g

※1: Refer to time specifications for control time setting range.

※Environment resistance is rated at no freezing or condensation.

Star-Delta Analog Timer

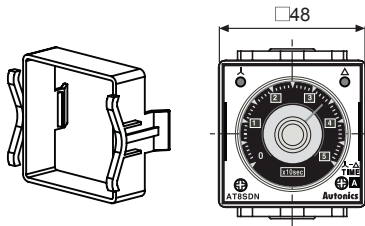
■ Connections



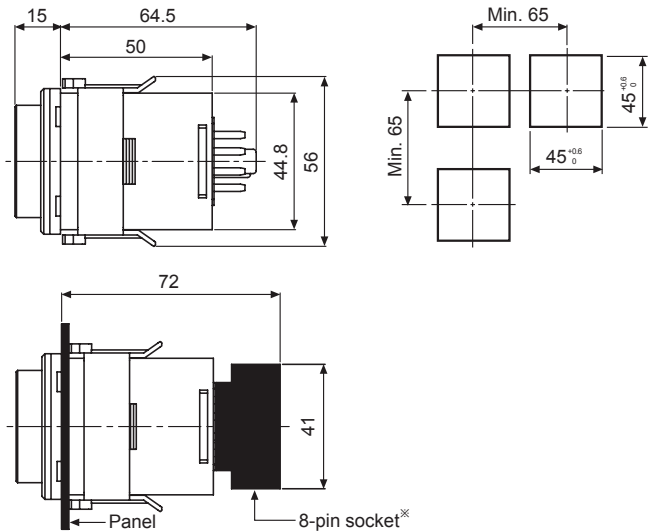
■ Dimensions

(unit: mm)

● Bracket



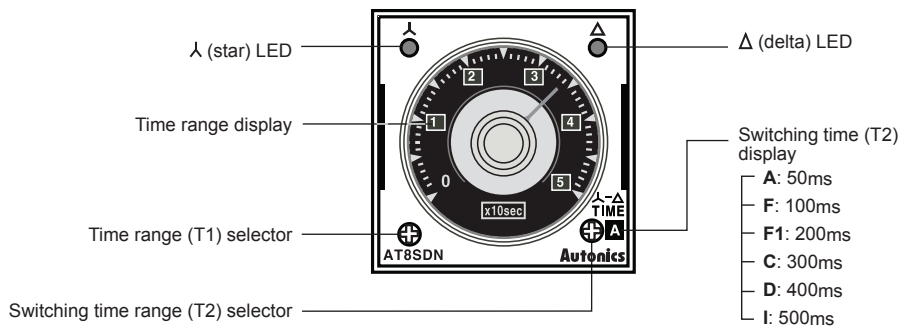
● Panel cut-out



※8-pin socket (PG-08, PS-08(N)) is sold separately.

Refer to the '(G)Connectors/Connector Cables/Sensor Distribution Boxes/Sockets'.

■ Parts Description



(A)	Photoelectric Sensors
(B)	Fiber Optic Sensors
(C)	Door/Area Sensors
(D)	Proximity Sensors
(E)	Pressure Sensors
(F)	Rotary Encoders
(G)	Connectors/ Connector Cables/ Sensor Distribution Boxes/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

■ Time Specifications

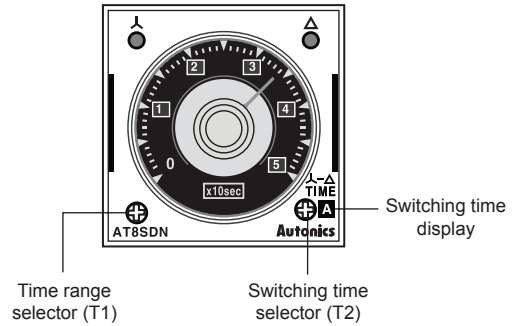
1. T1 (setting time)

Time range	Time unit	Time setting range
0.5	10SEC	0.5 to 5sec
1		1 to 10sec
5		5 to 50sec
10		10 to 100sec

2. T2 (λ - Δ switching time)

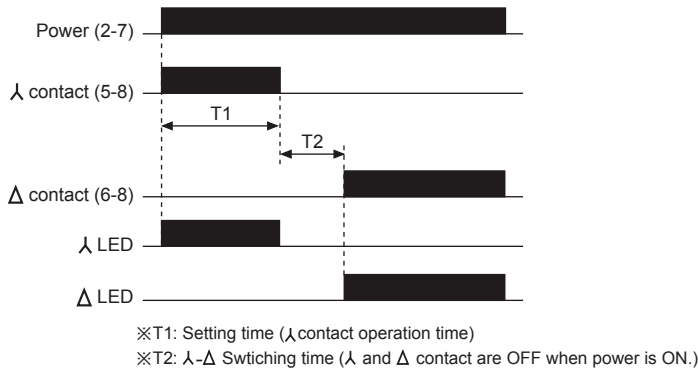
(unit: sec)

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



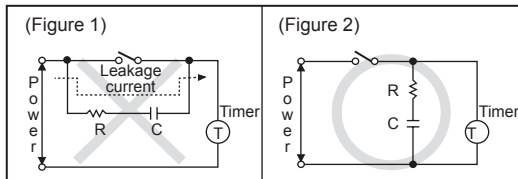
■ Output Operation Mode

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.



■ 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 (Figure 1) might cause malfunction due to leakage current through R and C. Please connect R and C as shown in (Figure 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: Max. 2,000m
- Pollution Degree 2
- Installation Category II