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

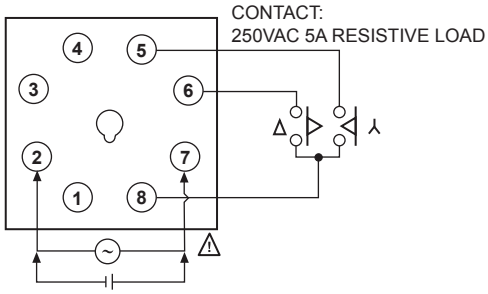
※8-pin socket (PG-08, PS-08(N)) is sold separately.

▣ 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	⅄ 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
⅄Setting error		Max. ±5% ±50ms
Voltage error		Max. ±0.5%
Temperature error		Max. ±2%
⅄-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
	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/s² (approx. 30G) in each X, Y, Z direction for 3 times
	Malfunction	100m/s² (approx. 10G) in each X, Y, Z direction for 3 times
Environment	Ambient temperature	-10 to 55℃, storage: -25 to 65℃
	Ambient humidity	35 to 85%RH
Approval		
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.

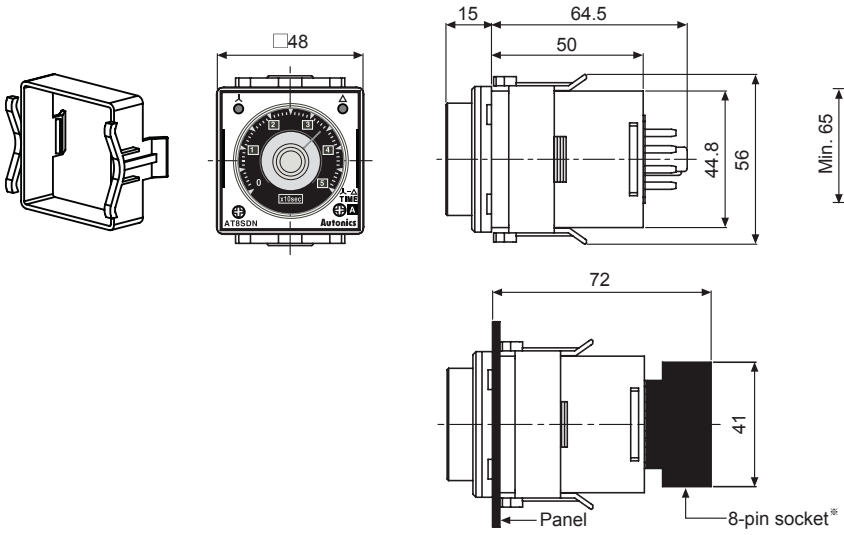
▣ Connections



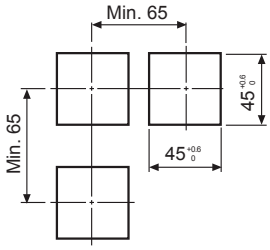
▣ Dimensions

(unit: mm)

● **Bracket**

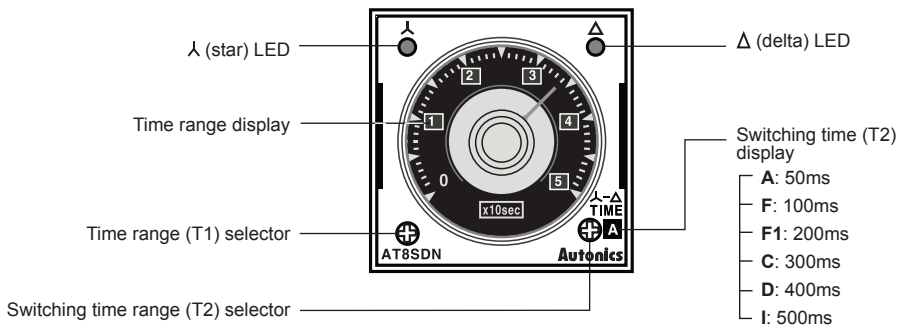


● **Panel cut-out**



※8-pin socket (PG-08, PS-08(N)) is sold separately.
Refer to the '(G)Connectors/Connector Cables/Sensor Distribution Boxes/Sockets'.

▣ Parts Description



▣ Time Specifications

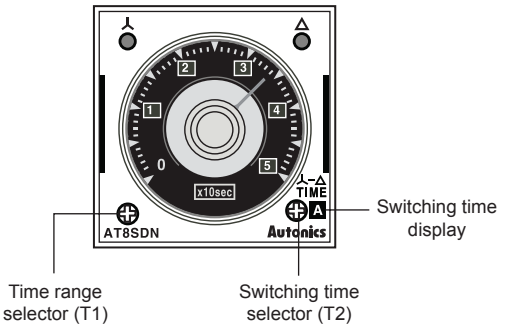
1. T1 (setting time)

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 (⅄ - Δ switching time)

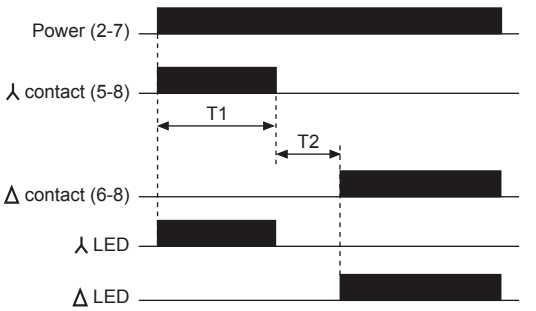
(unit: sec)

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



▣ Output Operation Mode

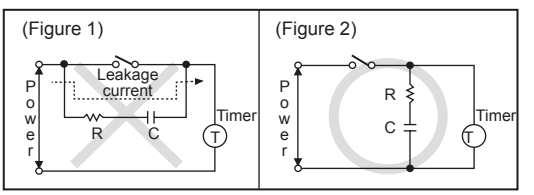
⅄ contact will be ON as soon as power is supplied, ⅄ contact will be OFF when T1 setting time is up then Δ contact will be ON after T2 switching time is up. Δ contact will be OFF when cut off the power at the status of Δ contact is ON.



※T1: Setting time (⅄contact operation time)
※T2: ⅄-Δ Swtiching time (⅄ 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 (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 ⅄-Δ switching time (T2). Otherwise, it might cause malfunction if changing the setting time (T1), time range or ⅄-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-curcuited.
- 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