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 100 sec
  - T2 (switching time): Selectable 0.05, 0.1, 0.2, 0.3, 0.4, 0.5 sec
- Simple setting time, switching time operation
- Easy to check output status by LED display
- Application: Starting large capacity motors

Please read "Safety Considerations" in the instruction 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

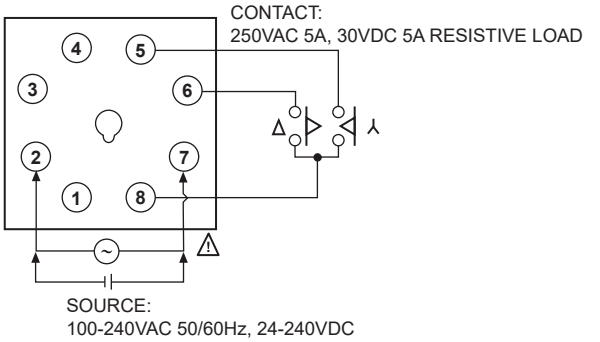
※8-pin socket (PG-08, PS-08(N)) is sold separately.

▣ 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, 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
⅄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 min
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 hour
	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

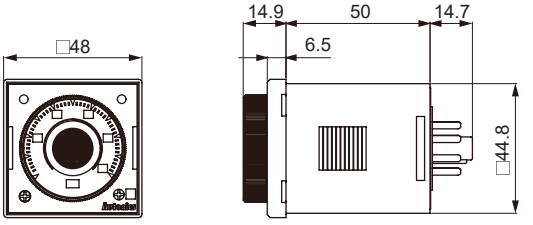
※1: Refer to time specifications for control time setting range.
※Environment resistance is rated at no freezing or condensation.

▣ Connections

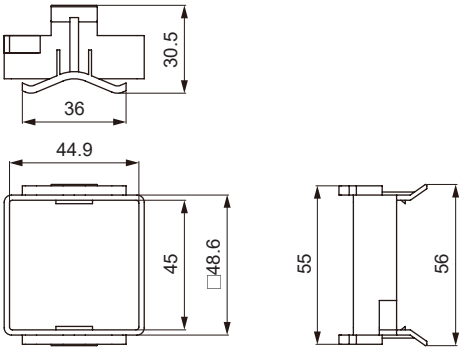


▣ Dimensions

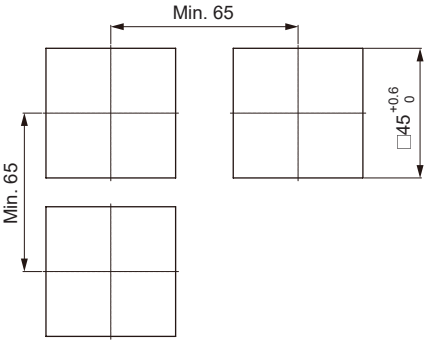
(unit: mm)



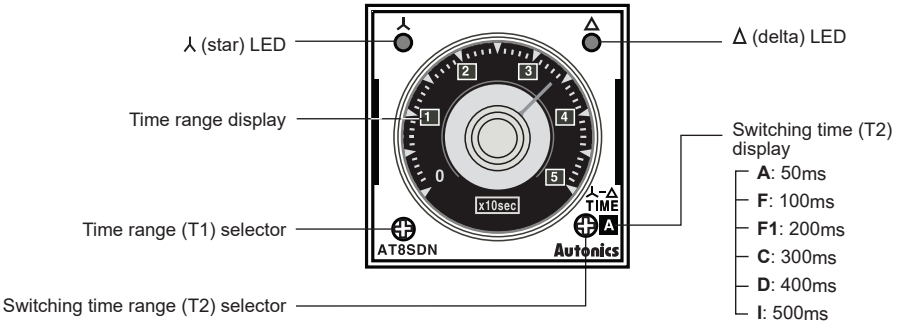
◎ Bracket



◎ Panel cut-out



▣ Unit Description



▣ Time Specifications

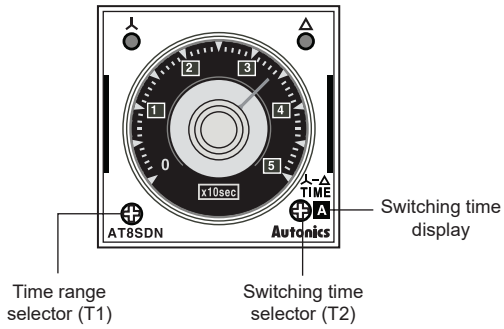
1. T1 (setting time)

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

2. T2 (⅄ - Δ switching time)

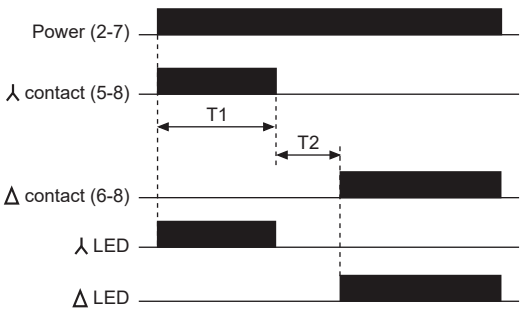
(unit: sec)

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

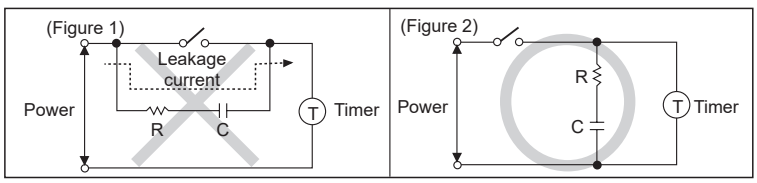
⅄ contact will be ON as soon as power is supplied, ⅄ contact will be OFF when T1 setting time is up then Δ contact will be ON after T2 switching time is up. Δ contact will be OFF when cut off the power at the status of Δ contact is ON.



※T1: Setting time (⅄contact operation time)
※T2: ⅄-Δ Swtiching time (⅄ and Δ contact are OFF when power is ON.)

▣ Proper Usage

- Follow instructions in 'Proper Usage'. Otherwise, it may cause unexpected accidents.
- When supplying or turning off the power, use a switch or etc. to avoid chattering.
- Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
- In order to avoid leakage current flowing, connect resistance and condenser as (Figure 2).
  If connect as (Figure 1), it may cause malfunction due to leakage current.



- Keep away from high voltage lines or power lines to prevent inductive noise.
  In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line.
  Do not use near the equipment which generates strong magnetic force or high frequency noise.
- Change setting time(T1), ⅄-△ switching time or etc. after turning off the power of the timer.
- This product may be used in the following environments.
  ①Indoors (in the environment condition rated in 'Specifications')
  ②Altitude max. 2,000m
  ③Pollution degree 2
  ④Installation category II