

# Autonics

## STAR DELTA TIMER AT8SDN

M A N U A L



Thank you very much for selecting Autonics products.  
For your safety, please read the following before using.

### Caution for your safety

※Please keep these instructions and review them before using this unit.

※Please observe the cautions that follow;

**Warning** Serious injury may result if instructions are not followed.

**Caution** Product may be damaged, or injury may result if instructions are not followed.

※The following is an explanation of the symbols used in the operation manual.  
⚠ Caution: Injury or danger may occur under special conditions.

#### Warning

- In case of using this unit with machineries(Nuclear power control, medical equipment, vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it is required to install fail-safe device, or contact us.**  
It may cause a fire, human injury or property loss.
- Install the unit on a panel.**  
It may give an electric shock.
- Do not connect, inspect or repair when power is on.**  
It may give an electric shock.
- Do not disassemble the case. Please contact us if it is required.**  
It may cause an electric shock or a fire.

#### Caution

- This unit shall not be used outdoors.**  
It might shorten the life cycle of the product or give an electric shock.
- Please observe the rated specifications.**  
It might shorten the life cycle of the product and cause a fire.
- Do not use beyond of the rated switching capacity of Relay contact.**  
It may cause insulation failure, contact melt, contact failure, relay broken and fire etc.
- In cleaning unit, do not use water or an oil-based detergent and use dry towels.**  
It may cause an electric shock or a fire.
- Do not use this unit in place where there are flammable or explosive gas, humidity, direct ray of the light, radiant heat, vibration and impact etc.**  
It may cause a fire or an explosion.
- Do not inflow dust or wire dregs into the unit.**  
It may cause a fire or a malfunction.

### Ordering information

AT 8 SDN

Operation	SDN	Star-Delta
Plug Type	8	8 Pin
Item	AT	Analog Timer

※8 Pin socket(PG-08, PS-08) : Sold separately

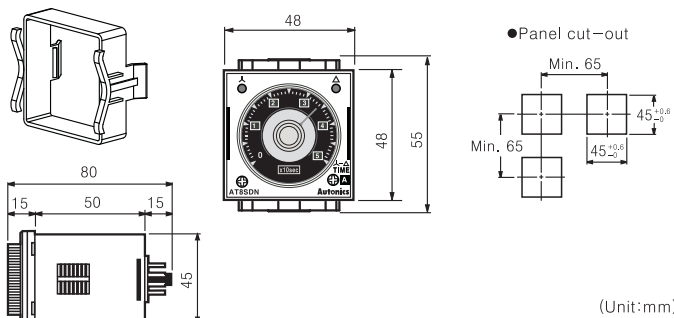
※ The above specifications are subject to change and some models may be discontinued without notice.

### Specifications

Model			AT8SDN
Function			Star-Delta
Control time setting range			0.5 sec ~ 100 sec
Power supply			100-240VAC 50/60Hz, 24-240VDC (Universal)
Allowable voltage range			90 ~ 110% of rated voltage
Power consumption			100-240VAC : 3.2VA, 24-240VDC : 1.5W
Return time			Max. 100ms
Control output	Contact	Type	⏏ Contact : SPST(1a), ⚡ Contact : SPST(1a)
		Capacity	250VAC 5A resistive load
Relay life cycle	Mechanical	Min.10,000,000 times	
	Electrical	Min. 100,000 times(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			100MΩ (at 500VDC megger)
Dielectric strength			2000VAC 50/60Hz for 1 minute
Noise strength			Square-wave noise by noise simulator, apply ±2kV in power input terminals
Vibration	Destruction	0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1 hours	
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10 minutes	
Shock	Destruction	300m/s² (Approx. 30G) 3 times at X, Y, Z direction	
	Malfunction	100m/s² (Approx. 10G) 3 times at X, Y, Z direction	
Environ-ment	Ambient temperature	-10 ~ 55℃, Storage temperature: -25 ~ 65℃	
	Ambient humidity	35 ~ 85%RH, Storage humidity: 35 ~ 85%RH	
Unit weight			Approx. 90g

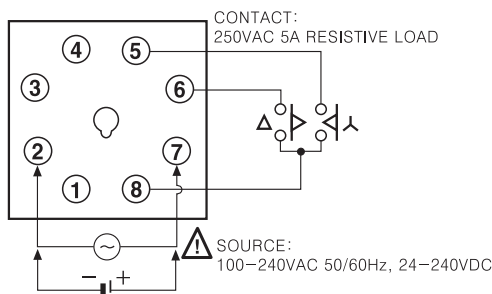
※Environment resistance is rated at no freezing or condensation.

### Dimensions



(Unit:mm)

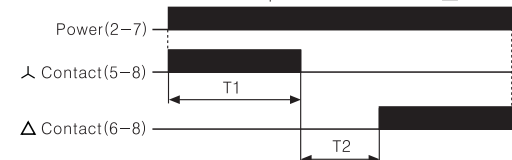
### Connections



### Operation and time specification

#### Operation

⏏ 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)

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

#### Time specification

- T1(Setting time)

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

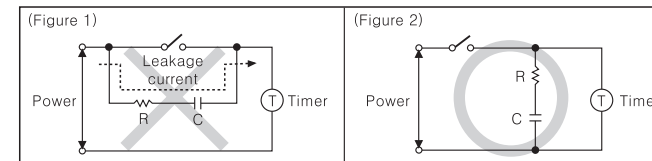
- T2(⏏-Δ Switching time)

[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

### Caution for using

- When apply the power, please apply rating power at the moment by switch, relay etc. Otherwise it might cause malfunction.
- 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.



- It might cause malfunction if changing the setting time, time range or operation mode during operating unit. Please change the setting time, time range or operation mode after cut the power off.
- 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 are severe vibration or impact.
  - Place where strong alkalis or acids are used.
  - Place where there are direct ray of the sun.
  - Place where strong magnetic field or electric noise are generated.
- Installation environment
  - It shall be used indoor
  - Altitude Max. 2000m
  - Pollution Degree 2
  - Installation Category II

※It may cause malfunction if above instructions are not followed.

### Major products

- Photoelectric sensors
- Fiber optic sensors
- Door sensors
- Door side sensors
- Area sensors
- Proximity sensors
- Pressure sensors
- Rotary encoders
- Connector/Sockets
- Temperature controllers
- Temperature/Humidity transducers
- SSR/Power controllers
- Counters
- Timers
- Panel meters
- Pulse meter/Pulse(Rate)meters
- Display units
- Sensor controllers
- Switching mode power supplies
- Control switches/Lamps/Buzzers
- I/O Terminal Blocks & Cables
- Stepper motors/drivers/motion controllers
- Graphic/Logic panels
- Field network devices
- Laser marking system(Fiber, CO<sub>2</sub>, Nd:YAG)
- Laser welding/soldering system

**Autonics Corporation**  
<http://www.autonics.com>

**Satisfiable Partner For Factory Automation**

**HEAD QUARTERS:**  
 18, Bansong-ro 513beon-gil, Haeundae-gu, Busan, Korea  
**OVERSEAS SALES:**  
 #402-404, Bucheon Techno Park, 655, Pyeongcheon-ro, Wonn-gu, Bucheon, Gyeonggi-do, Korea  
 TEL: 82-32-610-2730 / FAX: 82-32-329-0728  
**E-mail:** sales@autonics.com

EP-KE-02-055A