# Star-Delta Timer

#### DIN W48×H48mm Star-delta timer

#### ■ Features

•Realization of wide range of power supply

: 100-240VAC 50/60Hz / 24-240VDC

- •Wide range of setting time and switching time
  - T1 (Setting time) : Selectable 5 to 100sec.
  - T2(Switching time): Selectable 0.05, 0.1, 0.2, 0.3, 0.4, 0.5sec.

SDN

8

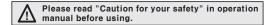
Star delta type

8 Pin plug type

Analog Timer

Socket required : PG−08, PS−08

- •Simple setting time, switching time operation
- Easy to check output status by LED display
- •Application: Starting large capacity motors



Function type

Ordering information

Plug type

SDN

8



# \*EXPLET



Upgrade Photo electric sensor

(B) Fiber optic sensor

(C) Door/Area

(D) Proximity sensor

(E) Pressure

(F) Rotary encoder

(G) Connector/ Socket

(H) Temp. controller

(I) SSR/ Power controller

(J) Counter

## ■ Specifications

Item

**AT** 

| Model                      |                  | AT8SDN  |  |  |  |
|----------------------------|------------------|---|--|--|--|
| Function                   |                  | Star-delta timer  |  |  |  |
| Control time setting range |                  | 0.5 to 100 sec.   |  |  |  |
| Power supply               |                  | 100-240VAC 50/60Hz / 24-240VDC  |  |  |  |
| Allowable voltage range    |                  | 90 to 110% of rated voltage   |  |  |  |
| Power consumption          |                  | 100-240VAC: 3.2VA, 24-240VDC: 1.5W  |  |  |  |
| Reset time                 |                  | Max. 100ms  |  |  |  |
| Timing operation           |                  | Power ON start type   |  |  |  |
| Control<br>output          | Contact type     | 人 contact : SPST(1a), △ contact : SPST(1a)  |  |  |  |
|                            | Contact capacity | 250VAC 5A resistive load  |  |  |  |
| Relay<br>life cycle        | Mechanical       | Min. 10,000,000 times   |  |  |  |
|                            | Electrical       | Min. 100,000 times (250VAC 5A resistive load)                                       |  |  |  |
| Repeat error               |                  | Max. ±0.2 % ±10ms   |  |  |  |
| 人 Setting error            |                  | Max. ±5% ±50ms  |  |  |  |
| Voltage error              |                  | Max. ±0.5%  |  |  |  |
| Temperature error          |                  | Max. ±2%  |  |  |  |
| △ Switching time error     |                  | Max. ±25%   |  |  |  |
| Insulation resistance      |                  | 100MΩ (at 500VDC megger)  |  |  |  |
| Dielectric strength        |                  | 2000VAC 50/60Hz for 1 minute  |  |  |  |
| Noise strength             |                  | $\pm 2$ kV the square wave noise(pulse width: 1 $\mu$ s) by the noise simulator     |  |  |  |
| Vibration                  | Mechanical       | 0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1 hou |  |  |  |
|                            | Malfunction      | 0.5mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10 min |  |  |  |
| Shock                      | Mechanical       | 300m/s² (Approx. 30G) in X, Y, Z directions 3 times                                 |  |  |  |
|                            | Malfunction      | 100m/s² (Approx. 10G) in X, Y, Z directions 3 times                                 |  |  |  |
| Ambient temperature        |                  | -10 to 55℃ (at non-freezing status)   |  |  |  |
| Storage temperature        |                  | -25 to 65℃ (at non-freezing status)   |  |  |  |
| Ambient humidity           |                  | 35 to 85%RH   |  |  |  |
| Approval                   |                  | (€ c <b>PL</b> ∪s   |  |  |  |
| Unit weight                |                  | Approx. 90g   |  |  |  |

#### (K) Timer

(L) Panel meter

(M) Tacho/ Speed/ Pulse meter

(N) Display unit

(O) Sensor controller

(P) Switching power supply

(Q) Stepping motor & Driver & Controller

Graphic/ Logic panel

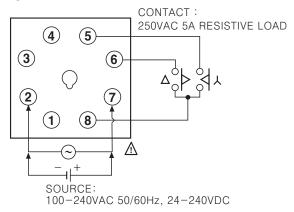
(S) Field network device

(T) Production stoppage models & replacement

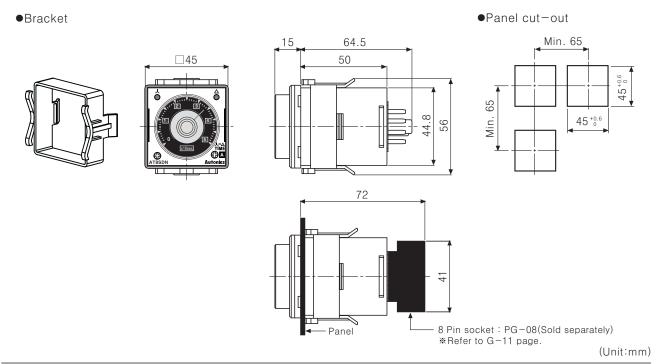
Autonics K-46

# **AT8SDN Series**

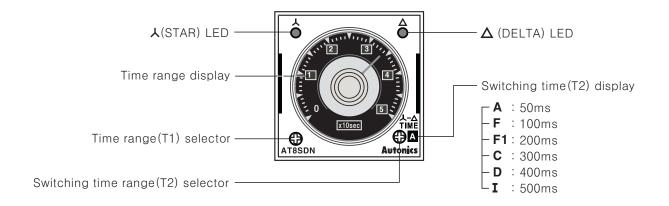
#### **■**Connections



#### Dimensions



### **■**Front panel identification



K-47 Autonics

## Star-Delta Timer

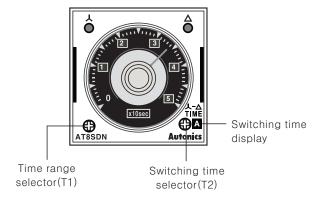
#### ■Time specifications

1. T1 (Setting time)

| Time range | Time unit | Time setting range |  |  |
|------------|-----------|--------------------|--|--|
| 0.5        |           | 0.5 to 5sec.       |  |  |
| 1.0        | ×10sec    | 1 to 10sec.        |  |  |
| 5          | ^ 103ec   | 5 to 50sec.        |  |  |
| 10         |           | 10 to 100sec.      |  |  |

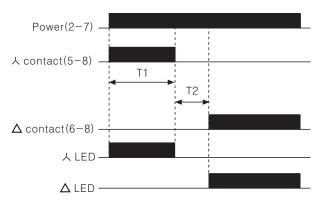
2. T2(Switching time)

| Display           | Α | F | F1          | С | D | I |
|-------------------|---|---|-------------|---|---|---|
| T2 switching time |   |   | 0.2<br>sec. |   |   |   |



#### Output operation mode

When power is applied,  $\lambda$  contact will be ON. When reaching to T1 setting time,  $\lambda$  contact will be OFF and  $\Delta$  contact will be ON after switching time of T2 is passed. If the power is OFF,  $\lambda$  contact will be OFF.

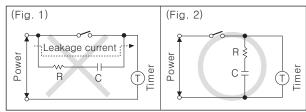


**※T1**: Setting time ( ★ contact operation time)

\*T2: Switching time ( $\lambda$  contact and  $\Delta$  contact are OFF simultaneously at power ON)

#### Proper usage

- 1. Please supply power quickly at once with using switch or relay contact. Otherwise it may cause time error or power reset failure.
- 2. 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.



3. It might cause malfunction if changing the setting time, time range or operation mode during operating unit. Please change the the setting time, time range or operation mode after cut the power off.

- 4. 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.
- 5. 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 rays of the sun
  - •Place where strong magnetic field or electric noise are generated.
- 6. Installation environment
  - •It shall be used indoor
  - •Altitude Max. 2000m
  - •Pollution Degree 2
  - ●Installation Category II.

(A) Photo electric sensor

(B) Fiber optic

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(E) Pressure sensor

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(T) Production stoppage models & replacement

Autonics K-48

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