Autonics AT11DN Analog Timer Universal Voltage Instruction Manual

Contents

Autonics AT11DN Analog Timer Universal Voltagee

Product Information

Transparent Guide – ATN Series
The ATN Series Transparent Guide is a device used in conjunction with machinery that may cause serious injury or substantial economic loss. It should be used in applications such as nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.

The unit should not be used in areas where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present to avoid explosion or fire.

The installation of a fail-safe device is mandatory when using the unit with machinery to prevent personal injury, economic loss or fire. The device should be installed on a device panel to avoid fire or electric shock.

The connections should be checked before wiring to avoid fire. The use of dry cloth is recommended for cleaning the unit, and water or organic solvent should not be used as it may result in fire or electric shock. The product should be kept away from metal chips, dust and wire residue which may flow into the unit to avoid fire or product damage.

The unit may only be used in the environments specified in the instructions. The power line and input signal line should be installed closely and a line filter or varistor at power line and shielded wire at input signal line should be used. The unit should not be used near equipment which generates strong magnetic force or high-frequency noise.

The product comes with various ordering information for selecting the specified model. For more information on selecting the specified model, follow the Autonics website.

Product Usage Instructions

1. Install the fail-safe device when using the unit with machinery that may cause serious injury or substantial

economic loss. The device should be installed on a device panel to avoid fire or electric shock.
2. Do not use the unit in areas where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present to avoid explosion or fire.
3. Check the connections before wiring to avoid fire. Use a dry cloth to clean the unit, and avoid the use of water or organic solvent to prevent fire or electric shock.
4. Do not connect, repair, or inspect the unit while connected to a power source to prevent fire or electric shock.
5. Use the unit within the rated specifications to avoid fire or product damage.
6. Do not disassemble or modify the unit to prevent fire or electric shock.
7. Keep the product away from metal chips, dust and wire residue which may flow into the unit to avoid fire or product damage.

Thank you for choosing our Autonics product.
Read and understand the instruction manual and manual thoroughly before using the product.
For your safety, read and follow the below safety considerations before using. For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

- Keep this instruction manual in a place where you can find easily.
- The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.
- Follow Autonics website for the latest information.

Safety Considerations

- Observe all ‘Safety Considerations’ for safe and proper operation to avoid hazards.
- **warning:** symbol indicates caution due to special circumstances in which hazards may occur.

Warning: Failure to follow instructions may result in serious injury or death.

1. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.) Failure to follow this instruction may result in personal injury, economic loss or fire.
2. Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.
   Failure to follow this instruction may result in explosion or fire.
3. Install on a device panel to use. Failure to follow this instruction may result in fire or electric shock.
4. Do not connect, repair, or inspect the unit while connected to a power source. Failure to follow this instruction may result in fire or electric shock.
5. Check ‘Connections’ before wiring. Failure to follow this instruction may result in fire.
6. Do not disassemble or modify the unit. Failure to follow this instruction may result in fire or electric shock.

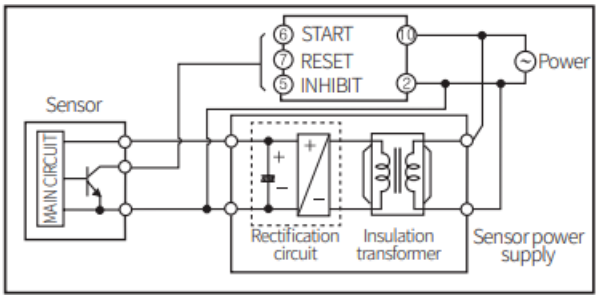
Caution: Failure to follow instructions may result in injury or product damage.

1. Use the unit within the rated specifications. Failure to follow this instruction may result in fire or product damage.

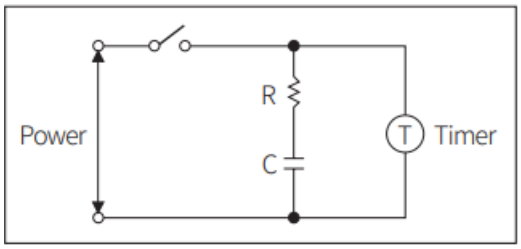
2. Use a dry cloth to clean the unit, and do not use water or organic solvent. Failure to follow this instruction may result in fire or electric shock.
3. Keep the product away from metal chip, dust, and wire residue which flow into the unit. Failure to follow this instruction may result in fire or product damage.

Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- Power supply should be insulated and limited voltage/current or Class2, SELV power supply device.
- 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 block peripheral current, use isolation transformer which of secondary part is not grounded to supply power to the external input device.



- In order to avoid leakage current flowing, connect resistance and condenser like below. Otherwise, it may cause malfunction.



- Do not connect two or more timers with only one input contact or transistor simultaneously.
- After turning off the power, change the time range, etc.
- 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.

This unit may be used in the following environments.

- Indoors (in the environment condition rated in 'Specifications')
- Altitude max. 2,000 m
- Pollution degree 2

Ordering Information

This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website.

AT ❶ ❷ N - ❸

❶ Plug type

8: 8-pin plug

11: 11-pin plug

❸ Power supply

No mark: 100 - 240 VAC~ 50 / 60 Hz, 24 - 240 VDC⎓

1: 12 VDC⎓

2: 24 VAC~ 50 / 60 Hz, 24 VDC⎓

❷ Output

No mark: Time limit DPDT (2c), Instantaneous SPDT (1c) + Time limit SPDT (1c)

D: Time limit DPDT (2c)

E: Instantaneous SPDT (1c) + Time limit SPDT (1c)

Product Components

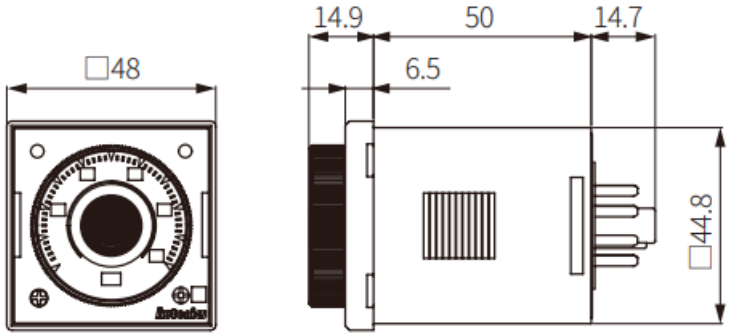
- Product (+ bracket)
- Instruction manual

Sold Separately

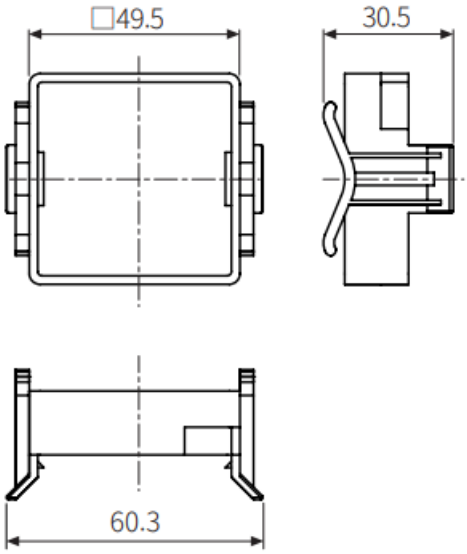
- 8-pin socket: PG-08, PS-08(N)
- 11-pin socket: PG-11, PS-11(N)

Dimensions

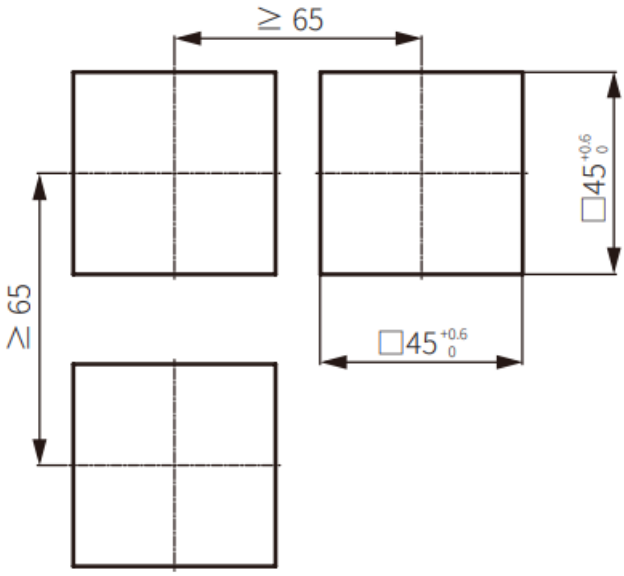
- Unit: mm, For the detailed drawings, follow the Autonics website.



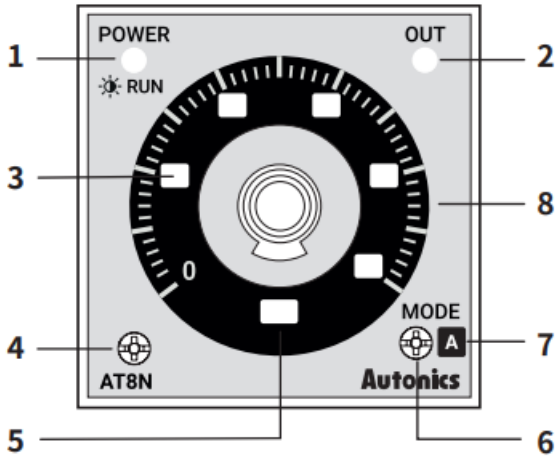
Bracket



Panel cut-out



Unit Descriptions



No.	Name
1	Power indicator
2	Time limit output indicator
3	Time range display part
4	Time range setting switch
5	Time unit display part • SEC, MIN, HOUR, 10H
6	Output operation mode setting switch
7	Output operation mode display part
8	Dial for the time setting

Output Operation Mode

For the detailed timing chart for operation output mode, refer to the manual. The output operation mode differs depending on each model.

AT8N

Display part	Output operation mode
A	Power ON Delay
A1	Power ON Delay1 (One-shot output)
B	Power ON Delay2
F	Flicker (OFF Start)
F1	Flicker1 (ON Start)
I	Interval

AT11N

Display part	Output operation mode
A	Signal ON Delay
F	Flicker (OFF Start)
F1	Flicker1 (ON Start)
C	Signal OFF Delay
D	Signal ON/OFF Delay
I	Interval

Time Range
The unit of time range follows the time unit display part (SEC, MIN, HOUR). If the display part is set 10H, the unit of the time range is the hour.

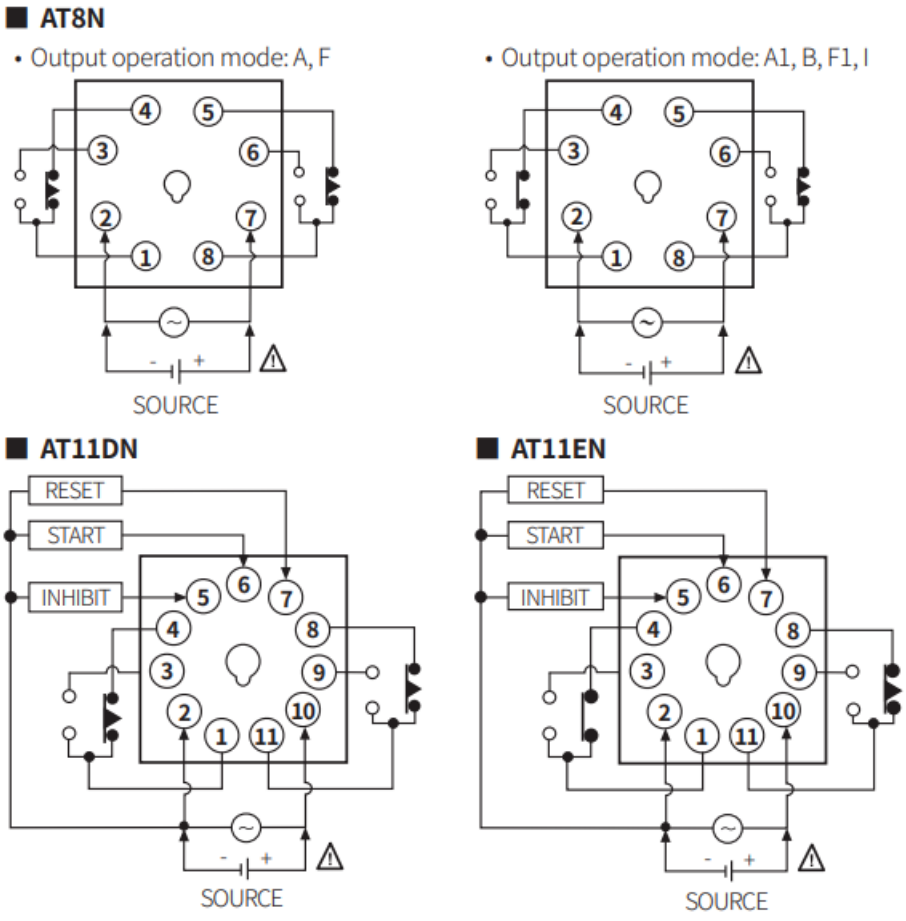
Display	Range	Unit
0.5	0.05 ~ 0.5	SEC / MIN / HOUR
1	0.1 ~ 1	
5	0.5 ~ 5	
10	1 ~ 10	

Display	Range	Unit
0.5	0.5 ~ 5	10H
1	1 ~ 10	
5	5 ~ 50	
10	10 ~ 100	

Connections

Caution

- Refer to the ‘specifications’ for checking the power supply and control output.
- The AT11N model: Be sure to use terminal No. 2 as the common terminal to connect terminals No. 5, 6, and 7. Failure to follow this instruction may result in product malfunction.



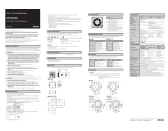
Specifications

Model	**AT8N-**	**AT11DN-**	**AT11EN-**
Function	Multi Function Timer		
Return time	≤ 100 ms		
Time operation	Power ON Start	Signal ON Start	
Input	–	INHIBIT, START, RESET	
Min. signal width	–	≈ 50 ms	
No-voltage input	–	Short-circuit impedance: ≤ 1 kΩ Short-circuit residual voltage: ≤ 0.5 VDC Open-circuit impedance: ≥ 100 kΩ	
Control output	Relay		
Contact type	Time limit DPDT (2c), Time limit SPDT (1c) + Instantaneous SPDT (1c)	Time limit DPDT (2c)	Time limit SPDT (1c) + Instantaneous SPDT (1c)
Contact capacity	250 VAC 5 A, 30 VDC 5 A resistive load	250 VAC 5 A, 24 VDC 5 A resistive load	250 VAC 5 A, 30 VDC 5 A resistive load
Error	Repeat: ≤ ± 0.2% ± 10 ms SET: ≤ ± 5% ± 50 ms Voltage: ≤ ± 0.5% Temp.: ≤ ± 2%		
Approval			
Unit weight (packaging)	≈ 86.71 g (≈ 134.12 g)	≈ 85 g (≈ 132.2 g)	≈ 87.5 g (≈ 134.7 g)

Power supply	**100 – 240 VAC ± 10% 50 / 60 Hz, 24 – 240 VDC ± 10%**	**12 VDC ± 10%**	**24 VAC ± 10% 50 / 60 Hz, 24 VDC ± 10%**
Power consumption	It depends on the model.		
AT8N-	AC: ≤ 4.3 VA DC: ≤ 2 W	DC: ≤ 1.5 W	AC: ≤ 4.5 VA DC: ≤ 2 W
AT11DN-	AC: ≤ 3.5 VA DC: ≤ 1.5 W	DC: ≤ 1 W	AC: ≤ 4 VA DC: ≤ 1.5 W
AT11EN-	AC: ≤ 4.3 VA DC: ≤ 2 W	DC: ≤ 1.5 W	AC: ≤ 4.5 VA DC: ≤ 2 W
Insulation resistive	≥ 100 MΩ (500 VDC megger)		
Dielectric strength	2,000 VAC 50 / 60 Hz for 1 min		
Noise immunity	± 2 kV square-wave noise by noise simulator (pulse width 1)	± 500 V square-wave noise by noise simulator (pul se width 1)	
Vibration	0.75 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 1 hour		
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 min		
Shock	300 m/s2 (≈ 30 G) in each X, Y, Z direction for 3 times		
Shock (malfunction)	100 m/s2 (≈ 30 G) In each X, Y, Z direction for 3 times		
Relay life cycle	Mechanical: ≥ 10,000,000 operations Electrical: ≥ 100,000 operations (250 VAC 5 A resistive load)		
Ambient temperature	-10 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)		
Ambient humidity	35 to 85%RH, storage: 35 to 85%RH (no freezing or condensation)		

18, Bansong-ro 513Beon-gil, Haeundae-gu, Busan, Republic of Korea, 48002
www.autonics.com
+82-2-2048-1577
sales@autonics.com

Documents / Resources

	Autonics AT11DN Analog Timer Universal Voltage [pdf] Instruction Manual AT11DN Analog Timer Universal Voltage, AT11DN, Analog Timer Universal Voltage, Voltage

References

- autonics.com