Autonics

ANALOG TIMER
ATS11 SERIES
INSTRUCTION MANUAL

Thank you for choosing our Autonics product.
Please read the following safety considerations before use.

■ Safety Considerations

※Please observe all safety considerations for safe and proper product operation to avoid hazards.
※⚠ symbol represents caution due to special circumstances in which hazards may occur.

⚠ **Warning** Failure to follow these instructions may result in serious injury or death.
⚠ **Caution** Failure to follow these instructions may result in personal injury or product damage.

⚠Warning

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, fire, or economic loss.
2. **Do not use the unit where flammable or explosive gas, humidity, direct sunlight, radiant heat, vibration, or impact 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

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 metal chip, dust, and wire residue from flowing into the unit.**
   Failure to follow this instruction may result in fire or product damage.

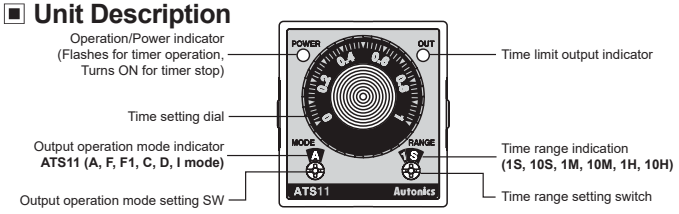
■ Ordering Information

ATS 11 - 4 1 D

※Sockets (PG-11, PS-11(N)) are sold separately.

Output	D	Time limit 2c
	E	Instantaneous 1c + Time limit 1c
Time range	1	Time range 1 (0.1 to 1)
	3	Time range 3 (0.3 to 3)
Power supply	1	12VDC
	2	24VAC 50/60Hz, 24VDC
	4	100-240VAC 50/60Hz, 24-240VDC
Number of plug pins	11	11-pin plug type
Item	ATS	Small Analog Timer

■ Unit Description



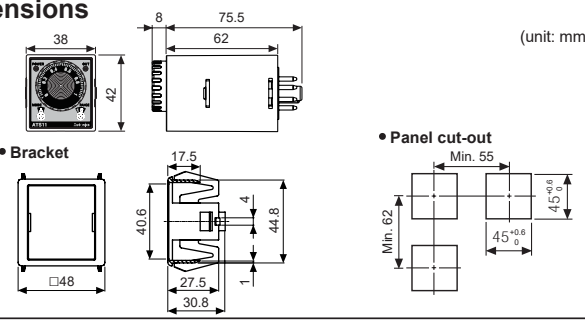
■ Time Specifications

Model	Time range	Time unit	Time setting range	Model	Time range	Time unit	Time setting range
ATS11-□1□	1S	SEC	0.1 to 1 sec.	ATS11-□3□	1S	SEC	0.3 to 3 sec.
	10S		1 to 10 sec.		10S		3 to 30 sec.
	1M	MIN	0.1 to 1 min.		1M	MIN	0.3 to 3 min.
	10M		1 to 10 min.		10M		3 to 30 min.
	1H	HOUR	0.1 to 1 hour		1H	HOUR	0.3 to 3 hour
	10H		1 to 10 hour		10H		3 to 30 hour

※The above specifications are subject to change and some models may be discontinued without notice.
※Be sure to follow cautions written in the instruction manual, user manual and the technical descriptions (catalog, website).

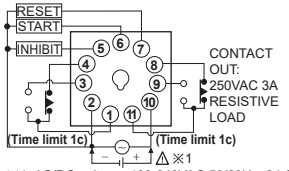
■ Dimensions

(unit: mm)

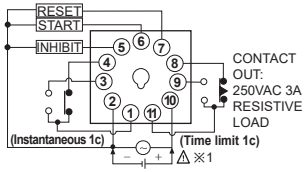


■ Connections

• ATS11-□□D



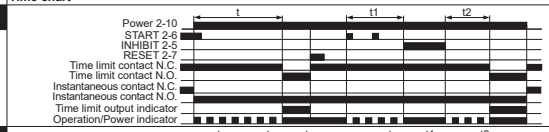
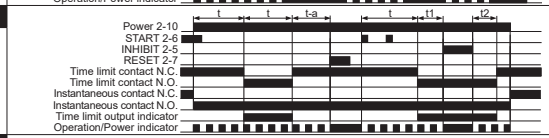
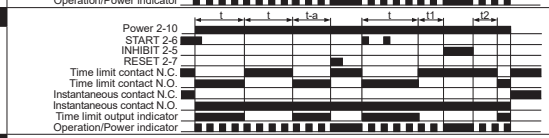
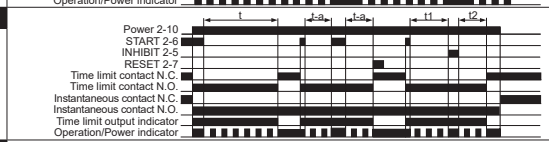
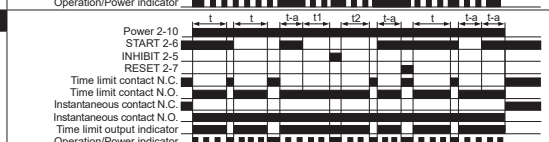
• ATS11-□□E



※1: AC/DC voltage: 100-240VAC 50/60Hz, 24-240VDC
: 24VAC 50/60Hz, 24VDC
DC voltage: 12VDC

■ Output Operation Mode

[t: Setting time, t=t1+t2, t>t-a]

Mode	Time chart
A Signal ON Delay	
F Flicker (OFF Start)	
F1 Flicker 1 (ON Start)	
C Signal OFF Delay	
D Signal ON/OFF Delay	
I Interval	

※ATS11-□□E model only supports Instantaneous contact.
※If power is cut or the RESET terminal is short-circuited, the timer will be RESET.
※If the INHIBIT terminal is short-circuited during a time limit operation, the time will stop.
※In case of F, F1 output operation mode, setting time should be over 100ms.
If not, it may cause abnormal output operation due to under 100ms of setting time.

■ Specifications

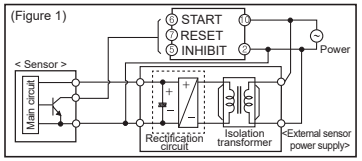
Model		ATS11-□1D	ATS11-□3D	ATS11-□1E	ATS11-□3E
Function		**Multi Function Timer**			
Control time setting range※1		0.1 sec. to 10 hour	0.3 sec. to 30 hour	0.1 sec. to 10 hour	0.3 sec. to 30 hour
Power supply		•100-240VAC 50/60Hz, 24-240VDC universal		•24VAC 50/60Hz, 24VDC universal	• 12VDC
Allowable voltage range		90 to 110% of rated voltage			
Power consumption		•Max. 3.5VA (100-240VAC) , Max. 1.5W (24-240VDC) •Max. 4VA (24VAC), Max. 1.5W (24VDC) •Max. 1W (12VDC)		•Max. 4.2VA (100-240VAC) , Max. 2W (24-240VDC) •Max. 4.5VA (24VAC), Max. 2W (24VDC) •Max. 1.5W (12VDC)	
Return time		Max. 100ms			
Min. input signal width		Start, Inhibit, Reset: Min. 50ms			
Input		Start, Inhibit, Reset: [No-voltage input] - Short-circuit impedance: Max. 1kΩ, Residual voltage: Max. 0.5V, Open-circuit impedance: Max. 100kΩ			
Time operation		Signal ON Start			
Control output	Contact type	Time limit DPDT (2c)		Instantaneous SPDT (1c)+Time limit SPDT (1c)	
	Contact capacity	250VAC 3A resistive load			
Relay life cycle	Mechanical	Min. 10,000,000 operations			
	Electrical	Min. 100,000 operations (250VAC 3A resistive load)			
Repeat error		Max. ±0.2% ±10ms			
Setting error		Max. ±5% ±50ms			
Voltage error		Max. ±0.5%			
Temperature error		Max. ±2%			
Insulation resistance		100MΩ (at 500VDC megger)			
Dielectric stength		2,000VAC 50/60Hz for 1 minute			
Noise resistance		±2kV the square wave noise (pulse width 1μs) by 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 3 times			
	Malfunction	100m/s² (approx. 10G) in each X, Y, Z direction 3 times			
Environment	Ambient temp.	-10 to 55℃, Storage: -25 to 65℃			
	Ambient humid.	35 to 85%RH, Storage: 35 to 85%RH			
Approval		CE cULus			
Accessory		Bracket			
Weight※2		Approx. 95g (approx. 70g)			

※1: Refer to time specifications for control time setting range by model.
※2: The weight includes packaging. The weight in parentheses is for unit only.
※Environment resistance is rated at no freezing or condensation.

■ Cautions During Use

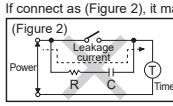
1. Follow instructions in 'Cautions during Use'. Otherwise, It may cause unexpected accidents.
2. 12VDC, 24VAC, 24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
3. When supplying or turning off the power, use a switch or etc. to avoid chattering.
4. Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
5. In order to block peripheral current, use isolation transformer which of secondary part is not grounded as (Figure 1) to supply power to the external input device.

(Figure 1)

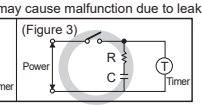


6. In order to avoid leakage current flowing, connect resistance and condenser as (Figure 3).
If connect as (Figure 2), it may cause malfunction due to leakage current.

(Figure 2)



(Figure 3)



7. Do not connect two or more timers with only one input contact or transistor simultaneously.
8. 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.
9. Change setting time, time range, operation mode or etc. after turning off the power of the timer.
10. This unit 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

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