Macromatic

ANALOG TIMER
TAA2U

M A N U A L

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.

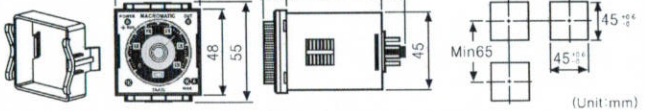
⚠ Warning

1. **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.
2. **Install the unit on a panel.**
   It may give an electric shock.
3. **Do not connect, inspect or repair when power is on.**
   It may give an electric shock.
4. **Do not disassemble the case. Please contact us if it is required.**
   It may cause an electric shock or a fire.

⚠ Caution

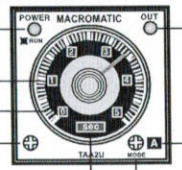
1. **This unit shall not be used outdoors.**
   It might shorten the life cycle of the product or give an electric shock.
2. **Please observe the rated specifications.**
   It might shorten the life cycle of the product and cause a fire.
3. **Do not use beyond of the rated switching capacity of Relay contact.**
   It may cause insulation failure, contact melt, contact failure, relay broken and fire etc.
4. **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.
5. **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.
6. Please be careful not to blow dust or wire clippings into the unit.
   It may cause a fire or malfunction.

■ Dimensions



※**The above specifications are subject to change without notice.**

■ Front panel identification

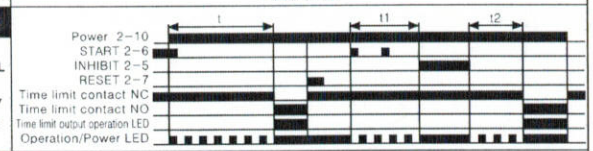
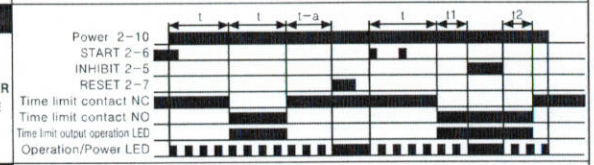
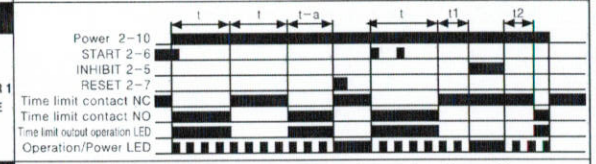
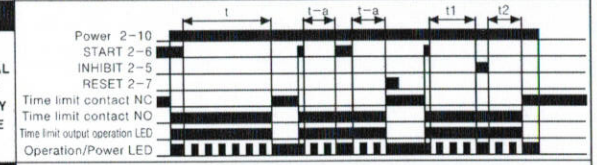
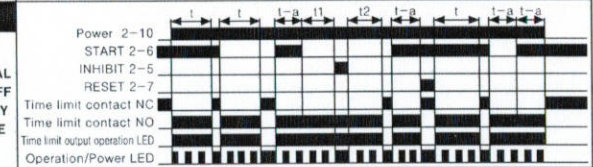
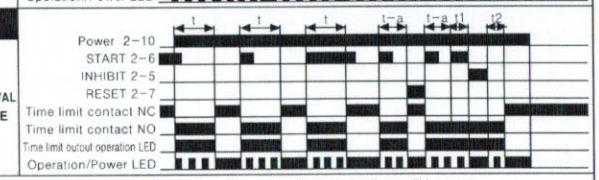


- Operation/Power LED (Timer operation:Flashing, Timer stop:LED ON)
- Time range display
- Time range selector (Changing the time unit per 4 revolutions)
- Time unit (**sec , min , hour , 10h**)
- Output LED [Time limit output operation(ON) : Light on]
- Operation mode display
  - A : Signal ON Delay
  - F : Flicker
  - F1 : Flicker1
  - C : Signal OFF Delay
  - D : Signal ON/OFF Delay
  - I : Interval
- Operation mode selector

※Please rotate the time range switch and operation mode switch to CW(Clockwise) direction.

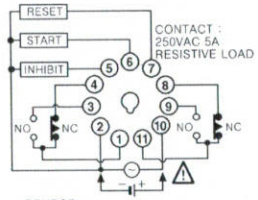
■ Output operation mode

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

Mode	Time chart
A SIGNAL ON DELAY MODE	
F FLICKER MODE	
F1 FLICKER 1 MODE	
C SIGNAL OFF DELAY MODE	
D SIGNAL ON/OFF DELAY MODE	
I INTERVAL MODE	

Note) 1. If power is cut or the RESET terminal is short-circuited, the timer will be reset.
2. If the INHIBIT terminal is short-circuited during a timing cycle, the time will stop.
3. When using F, F1 output operation modes, if the time is set too short, the output may not work properly due to contact output response time. Please set the time at least over 100ms.

■ Connections



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

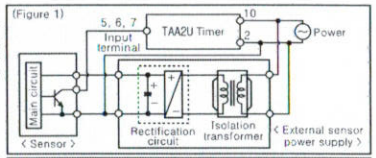
■ Specifications

Model		TAA2U
Control time setting range		0.05 sec ~ 100 hour
Power supply		
Allowable voltage range		90 ~ 110% of rated voltage
Power consumption		• 100-240VAC : 3.5VA, 24-240VDC : 1.5W
Return time		Max. 100ms
Min. input signal width	START	Min. 50ms
	RESET	
	INHIBIT	
Input	START	No-voltage input : Short-circuit impedance : Max. 1kΩ Residual voltage : Max. 0.5V Open-circuit impedance : Min. 100kΩ
	RESET	
	INHIBIT	
Control output	Contact Type	Time limit DPDT(2c)
	Contact 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%
Insulation resistance		100MΩ (at 500VDC)
Dielectric stength		2000VAC 50/60Hz for 1 minute
Ambient temperature		-10 ~ 55℃(at non-freezing status)
Storage temperature		-25 ~ 65℃(at non-freezing status)
Ambient humidity		35 ~ 85%RH
Unit weight		Approx. 90g

■ Caution for using

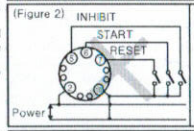
1. Power circuit for TAA2U Timer is designed without using a transformer. For the power of sensor, therefore, use isolation transformer which is not grounded on secondary side in order to cut off the unnecessary current flow as shown in figure 1.

(Figure 1)

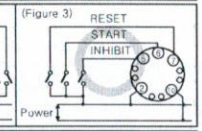


2. Please use the terminal ② as the common terminal as shown in Figure 3. If use the terminal ⑩ as common terminal as shown in Figure 2, it might cause damage to inner circuit of TAA2U Timer.
3. Please connect DC power input after checking polarity of power.

(Figure 2)

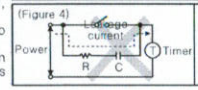


(Figure 3)

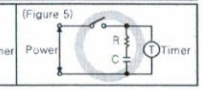


4. When supply the power to the timer, connection as shown in Figure 4. It might cause malfunction due to leakage current though R and C. Please connect R and C as shown in Figure 5 to prevent malfunction as shown in Figure 5.

(Figure 4)



(Figure 5)



5. In order to apply input signals (START,RESET, INHIBIT), short-circuit the terminal no. ②-⑤, ②-⑥ or ②-⑦. It may cause internal circuit damage by wrong connections.
6. Do not wire START, RESET, INHIBIT signal input line with power line, high voltage line in parallel.
7. It might cause malfunction if change the setting time, time range or operation mode during unit operating. Please change the setting time, time range or operation mode after cut the power off.
8. Do not use this unit at below places.
   ①Place where there are severe vibration or impact.
   ②Place where strong alkalis or acids are used.
   ③Place where there are direct ray of the sun
   ④Place where strong magnetic field or electric noise are generated.
9. Installation environment
   ①It shall be used indoor ②Altitude Max. 2000m
   ③Pollution Degree 2 ④Installation Category II

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

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