Analog small timer

T38A

INSTRUCTION MANUAL

Thank you for purchasing Hanyoung Nux products.
Please read the instruction manual
carefully before using this product, and use the product correctly.
Also, please keep this instruction manual where you can see it any time.
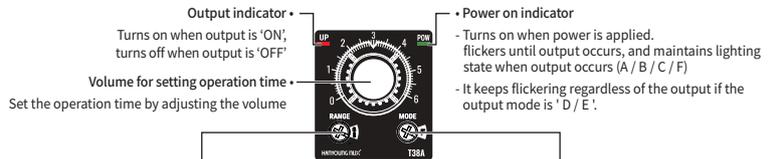
◼ Safety information

Please read the safety information carefully then use the product correctly.
The alerts declared in the manual are classified into **Danger**, **Warning** and **Caution** according to their importance

⚠	DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury
⚠	WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
⚠	CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor injury or property damage

⚠ DANGER

- The input/output terminals are subject to electric shock risk. Never let the input/output terminals come in contact with your body or conductive substances.

⚠ WARNING

- Please install an appropriate protective circuit on the outside if malfunction, an incorrect operation or failure of the product may be a cause of leading to a serious accident and plan for preventing accidents.
- After mounting the product onto a panel, please use a socket dedicated to the product when connecting with other units and do not turn on the power until completing wiring to prevent electric shock.
- Please turn off the power when mounting/dismounting of the product. This is a cause of electric shock, malfunction, or failure.
- If the product is used with methods other than specified by the manufacturer, then it may lead to injury or property damage.
- In order to use this product properly and safely, we recommend periodic maintenance.
- The warranty of this product (including accessories) is 1 year only when it is used for the purpose it was intended under normal condition.

⚠ CAUTION

- Please do not set "Time" to "0". This can be a cause of malfunction. Also, there could be a time difference in timer operation. Please use it after confirming the time difference.
- Please set or change "Time Range" in the dip switch while the timer is OFF. If the "Time Range" has been changed to other value during the operation, please turn off the timer and turn it back on.
- Since this is not explosion-proof structure, please use in a place where corrosive gas (such as harmful gas, ammonia, etc.), combustible or explosive gas does not occur.
- Please use in a place where there is no direct vibration and a large physical impact to the product.
- Please use in a place where there is no water, oil, chemicals, steam, dust, salt, iron or others
- Please avoid using in a place where excessive amounts of inductive interference or electrostatic and magnetic noise occur.
- Please avoid using in a place where heat accumulation occurs due to direct sunlight or radiant heat.
- Please use in a place where the elevation is below 2,000 m.
- Please make sure to inspect the product if exposed to water since there is a possibility of electric leakage or a risk of fire.
- If there is a lot of noise from the power line, installing an insulated transformer or a noise filter is recommended.
- When the power is being supplied there should be a preparation time for the contact output. Please use a delay relay together when it is used as a signal on the outside of interlock circuit or others.
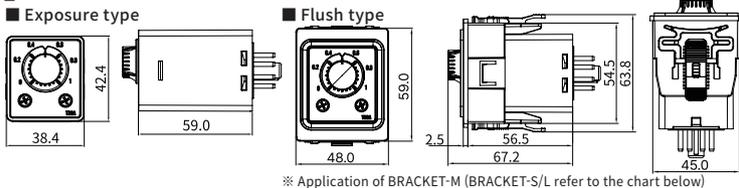
◼ Suffix code

Model	Code		Content	Product configuration
T38A	☐- ☐ ☐- ☐		Analog small timer 38.4(W) x 42.4(H) x 59.0(D) mm	
Time range		1	Maximum time : 1sec / 1min / 1hour / 10sec / 10min / 10hour	• T38A-1N-A
		3	Maximum time : 3sec / 3min / 3hour / 30sec / 30min / 30hour	• T38A-3N-A
		6	Maximum time : 6sec / 6min / 6hour / 60sec / 60min / 60hour	• T38A-6N-A
Control output		N	No option	
Power supply voltage		A	24 — 240 V a.c. 50/60 Hz or 24 — 240 V d.c. dual usage	

◼ Specification

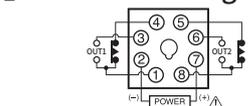| Model		T38A
Timer type		Analog small timer
Power supply voltage		24 — 240 V a.c. 50/60 Hz or 24 — 240 V d.c. dual usage
Allowable voltage		±10 % of Power supply voltage
Power consumption		• Max. 4.1 VA (24 — 240 V a.c. 50/60 Hz) • Max. 2 W (24 — 240 V d.c.)
Operating time range		0.1 sec ~ 60 hour
Operating time error		• Setting error: Max. ±5 % ±0.05 • Repetition error: Max. ±0.3 % • Voltage error: Max. ±0.5 % • Temperature error: Max. ±2 %
Return time		Max. 100 ms
External connection method		8-pin socket
Control output	Operation mode	A/B/C/D/E/F (selected by front operating mode selector switch)
	Contact composition	• instantaneous SPDT (1c) + time-limit SPDT (1c) • time-limit DPDT (2c) *Automatic change of contact composition according to operation mode
	Contact capacity	• N.O. (250 V a.c. 3A Resistive load) • N.C. (250 V a.c. 2A Resistive load)
Relay life		• Mechanical life: Min 10 million cycles • Electrical life: Min. 20,000 cycles (250 V a.c. 2A resistive load)
Insulation resistance		Min. 100 MΩ (500 V d.c. mega, at conductive terminal and non-charged metal which is exposed)
Dielectric strength		2000 V a.c. 60 Hz for 1 minute (conductive terminal and non-charged metal which is exposed)
Noise immunity		±2kV (between the power terminals, pulse width = 1 us, square wave noise by noise simulator)
Vibration resistance		10 - 55 Hz (for 1 minute) 0.75mm double amplitude 0.75mm in each X, Y, Z direction for 2 hours
Shock resistance		300 m/s² (30G) in each X, Y, Z direction for 3 times
Operating ambient temperature		-10 ~ 55 ℃ (without condensation)
Accessories		• Fixing BRACKET • BRACKET-M (48.0 X 59.0 mm) flush type bracket
Accessories (separately sold)		• BRACKET-S (48.0 X 48.0 mm) bracket for adjusting size (flush type) • BRACKET-L (53.5 X 84.4 mm) bracket for adjusting size (flush type)
Weight (g)		Approx. 74 g (exposure type)
Approval		CE

◼ Dimension & Panel cutout

[Unit:mm]

◼ Exposure type

◼ Flush type

※ Application of BRACKET-M (BRACKET-S/L refer to the chart below)

◼ Bracket

Type	Flush			Fixing
Product name	BRACKET-S	BRACKET-M	BRACKET-L	BRACKET-SCO
Size	48.0 x 48.0 mm	48.0 X 59.0 mm	53.5 x 84.4 mm	
Model				
Order code	T38A/TF62A BRACKET-S	T38A/TF62A BRACKET-M	T38A/TF62A BRACKET-L	FIXING BRACKET SCO

◼ Panel cutout

[Unit:mm]

Assortment	Indication	S	M	L
Panel cutout	X	45.0	45.5	51.0
	Y	45.0	55.0	63.0
	A	60.0	70.5	60.0
	B	60.0	80.0	86.0

◼ Connection diagram

*OUT1 output operates as instantaneous output in operation mode 'B/C/E/F'.

◼ Function and name of each part

Output indicator
- Turns on when output is 'ON', turns off when output is 'OFF'

Volume for setting operation time
Set the operation time by adjusting the volume

Power on indicator
- Turns on when power is applied. flickers until output occurs, and maintains lighting state when output occurs (A / B / C / F)
- It keeps flickering regardless of the output if the output mode is ' D / E '.

Operation time range selection switch (*change after power is off)			Operation mode Selection Switch (*change after power is off)	
Time range		Setting time range	Indication	Output operation mode
T38A-1	1 S	0.1 ~ 1 sec	A	POWER ON DELAY
	1 M	0.1 ~ 1 min	B	ONE-SHOT + instantaneous 1c
	1 H	0.1 ~ 1 hour	C	POWER ON DELAY + instantaneous 1c
	10 S	1 ~ 10 sec	D	FLICKER OFF START
	10 M	1 ~ 10 min	E	FLICKER ON START + instantaneous 1c
	10 H	1 ~ 10 hour	F	INTERVAL + instantaneous 1c
T38A-3	3 S	0.3 ~ 3 sec		
	3 M	0.3 ~ 3 min		
	3 H	0.3 ~ 3 hour		
	30 S	3 ~ 30 sec		
	30 M	3 ~ 30 min		
	30 H	3 ~ 30 hour		
T38A-6	6 S	0.6 ~ 6 sec		
	6 M	0.6 ~ 6 min		
	6 H	0.6 ~ 6 hour		
	60 S	6 ~ 60 sec		
	60 M	6 ~ 60 min		
	60 H	6 ~ 60 hour		

(The Operation mode Selection Switch indication column applies to T38A)

* When the operating time range is selected as '10 S / 10 M / 10hrs, 30 S / 30 M / 30H, 60 S / 60 M / 60 H', the operating time is converted to 'x10' from the display time on the front panel and is operated.

※ When the switch power is 'ON', both the operation time range and the operation mode are not changed. (Ex. A -> B / 1 S -> 1 M) Please turn off the switch power and then change it.

◼ Operation mode

Rt : Return Time   t : Set time

A POWER ON DELAY (time-limit 2c)

Power	② - ⑦
OUT1 (time-limit)	① - ③
OUT2 (time-limit)	⑥ - ⑧
UP indicator light	OUT1, OUT2 output display
POW indicator light	Power on indicator

When power is applied, OUT1 output and OUT2 output remain OFF, and timekeeping starts.
When the time reaches the set time, OUT1 output and OUT2 output are turned ON at the same time.
OUT1 output and OUT2 output remain ON until power is turned OFF.

B ONE-SHOT (time-limit 1c + instantaneous 1c)

Power	② - ⑦
OUT1 (instantaneous)	① - ③
OUT2 (time-limit)	⑥ - ⑧
UP indicator light	OUT2 output display
POW indicator light	Power on indicator

OUT1 output is an instantaneous output that turns ON at the same time as power is applied, and maintains ON state until power is OFF regardless of the set time.When power is applied, OUT2 output remains OFF and timekeeping starts. When the time time reaches the set time, the OUT2 output turns ON for 0.5 seconds.OUT2 output remains OFF until the power is turned OFF.ONE-SHOT output time is fixed at 0.5 sec.

C POWER ON DELAY (time-limit 1c + instantaneous 1c)

Power	② - ⑦
OUT1 (instantaneous)	① - ③
OUT2 (time-limit)	⑥ - ⑧
UP indicator light	OUT2 output display
POW indicator light	Power on indicator

OUT1 output is an instantaneous output that turns ON at the same time as power is applied, and maintains ON state until power is OFF regardless of the set time.
When power is applied, OUT2 output remains OFF and timekeeping starts.OUT2 output turns ON when the time time reaches the set time.
OUT2 output remains ON until the power is turned OFF.

D FLICKER OFF START (time-limit 2c)

Power	② - ⑦
OUT1 (time-limit)	① - ③
OUT2 (time-limit)	⑥ - ⑧
UP indicator light	OUT1, OUT2 output display
POW indicator light	Power on indicator

When power is applied, OUT1 output and OUT2 output remain OFF, and timekeeping starts.
OUT1 output and OUT2 output turn ON when the time time reaches the set time.
OUT1 output and OUT2 output repeat ON/OFF operation at the same time according to the set time until the power is turned OFF

E FLICKER ON START (time-limit 1c + instantaneous 1c)

Power	② - ⑦
OUT1 (instantaneous)	① - ③
OUT2 (time-limit)	⑥ - ⑧
UP indicator light	OUT2 output display
POW indicator light	Power on indicator

OUT1 output is an instantaneous output that turns ON at the same time as power is applied, and remains ON until power is OFF regardless of the set time.When power is applied, OUT2 output turns ON and timekeeping starts. When the time time reaches the set time, OUT2 output turns OFF.OUT2 output repeats ON/OFF operation according to the set time until the power is turned OFF.

F INTERVAL (time-limit 1c + instantaneous 1c)

Power	② - ⑦
OUT1 (instantaneous)	① - ③
OUT2 (time-limit)	⑥ - ⑧
UP indicator light	OUT2 output display
POW indicator light	Power on indicator

OUT1 output is an instantaneous output that turns ON at the same time as power is applied, and remains ON until power is OFF regardless of the set time.When power is applied, OUT2 output turns ON and timekeeping starts.
OUT2 output turns OFF when the time time reaches the set time. OUT2 output remains OFF until the power is turned OFF.