Analog twin timer

TF62A

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.

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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

⚠ DENGER

- 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				Description	Product configuration
TF62A	□-	□	□-	□	Analog twin timer 38.4(W) X 42.4(H) X 59.0(D) mm	• TF62A-1N-A • TF62A-3N-A • TF62A-6N-A
Time range		1			Maximum time : 1sec / 1min / 1hour / 10sec / 10min / 10hour	
		3			Maximum time : 3sec / 3min / 3hour / 30sec / 30min / 30hour	
		6			Maximum time : 6sec / 6min / 6hour / 60sec / 60min / 60hour	
Control output			N		No option	
power voltage				A	24 ~ 240 V a.c. 50/60 Hz or 24 ~ 240 V d.c. dual usage	

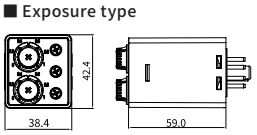
Specification

Model		TF62A
Timer type		Analog twin timer
Power 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 (at 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 (durability)		10 ~ 55 Hz (1 minute) 0.75mm double amplitude 0.75 in each X, Y, Z direction for 2 hours
Shock resistance (durability)		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. 79 g (Exposure type)
Approval		CE

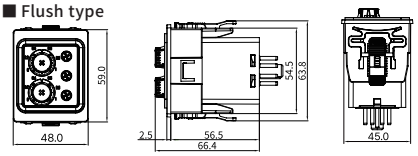
Dimension & Panel cutout

[Unit:mm]

■ Exposure type



■ Flush type

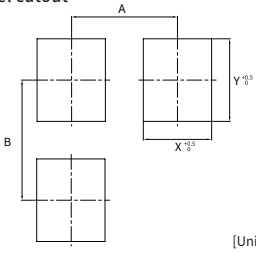


※ Application of BRACKET-M (BRACKET-S/L refer to the chart below)

■ 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

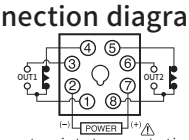
■ Panel cutout



[Unit:mm]

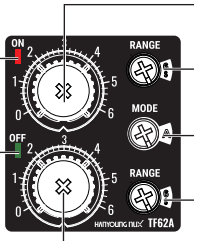
Assortment	Indication	S	M	L
Panel cutout (+0.5 / -0)	X	45.0	45.5	51.0
	Y	45.0	55.0	63.0
	A	60.0	70.5	60.0
	B	60.0	80.0	86.0

Connection diagram



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

Function and name of each part



- Volume for setting ON operation time
  ON operation time setting in operation mode 'A/B/D/E/F'
  Setting ON operation time of OUT2 in operation mode 'C'
- Output ON indicator
  Turns on when output is 'ON' in operation mode 'A/B/D/E'
  Turns on when OUT2 output is 'ON' in operation mode 'C/F'
- ON operation time range selection switch
  Select ON operation time range in operation mode 'A/B/D/E/F'
  Select ON operation time range of OUT2 in operation mode 'C'
- Refer to the below table about
  The operation mode selection switch
- Output OFF indicator
  Turns on when output is 'OFF' in operation mode 'A/B/D/E'
  Turns on when OUT1 output is 'ON' in operation mode 'C/F'
- OFF operation time range selection switch
  Select OFF operation time range in operation mode 'A/B/D/E/F'
  Select the ON operation time range of OUT1 in operation mode 'C'
- Volume for setting OFF operation time
  OFF operation time setting in operation mode 'A/B/D/E/F'
  Setting ON operation time of OUT1 in operation mode 'C'

ON/OFF operation time range selection switch (*change after power is off)			
time range		setting time range	
TF62A-1	1 S	0.1 ~ 1	sec
	1 M	0.1 ~ 1	min
	1 H	0.1 ~ 1	hour
	10 S	1 ~ 10	sec
	10 M	1 ~ 10	min
	10 H	1 ~ 10	hour
TF62A-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
TF62A-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

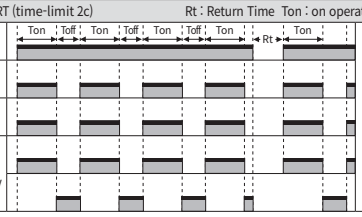
Operation mode selection switch (*change after power is off)		
Indication		Output operation mode
TF62A	A	FLICKER ON START (time-limit 2c)
	B	FLICKER OFF START + instantaneous 1c
	C	TWIN (time-limit 1c + time-limit 1c)
	D	FLICKER OFF START (time-limit 2c)
	E	FLICKER ON START + instantaneous 1c
	F	DUAL (time-limit 1c + time-limit 1c) * Same as TF62D output operation of existing product

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

※ 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.

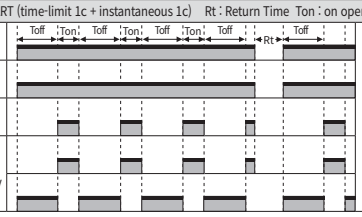
Operation mode

A — FLICKER ON START (time-limit 2c) — Rt : Return Time Ton : on operation time Toff : off operation time



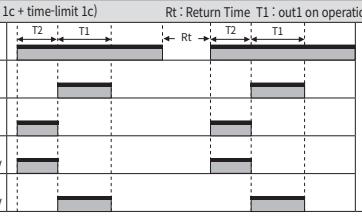
When power is applied, OUT1 output and OUT2 output turn ON at the same time, and timekeeping starts. Until the power is turned off, OUT1 output and OUT2 output repeat ON/OFF operation according to Ton time and Toff time.

B — FLICKER OFF START (time-limit 1c + instantaneous 1c) — Rt : Return Time Ton : on operation time Toff : off operation time



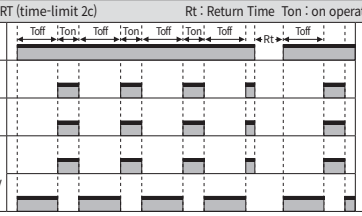
OUT1 output is an instantaneous output that turns on at the same time as power is applied, and maintains the ON state until the power is turned off regardless of Ton time and Toff time.When power is applied, OUT2 output remains OFF and timekeeping starts.Until the power is turned OFF, the OUT2 output repeats ON/OFF operation according to the Ton time and Toff time.

C — TWIN (time-limit 1c + time-limit 1c) — Rt : Return Time T1 : out1 on operation time T2 : out2 on operation time



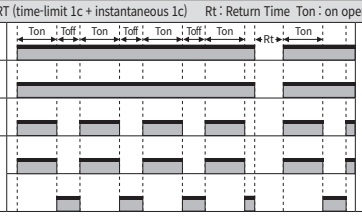
When the power is applied, the OUT2 output turns ON and the T2 time is displayed.When the time time reaches T2, OUT2 output turns OFF, OUT1 output is ON and time T1 is displayed. When the time reaches T1 time, OUT1 output turns OFF and timer operation stops.Time T1 is set to volume OFF and time T2 is set to volume ON.

D — FLICKER OFF START (time-limit 2c) — Rt : Return Time Ton : on operation time Toff : off operation time



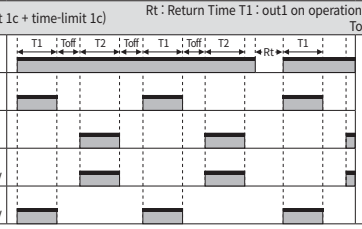
When power is applied, OUT1 output and OUT2 output remain OFF, and timekeeping starts. Until the power is turned OFF OUT1 output and OUT2 output repeat ON/OFF operation according to Ton time and Toff time.

E — FLICKER ON START (time-limit 1c + instantaneous 1c) — Rt : Return Time Ton : on operation time Toff : off operation time



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 Ton time and Toff time.When power is applied, OUT2 output turns ON and timekeeping starts.Until the power is turned OFF, OUT2 output repeats ON/OFF operation according to Ton time and Toff time

F — DUAL (time-limit 1c + time-limit 1c) — Rt : Return Time T1 : out1 on operation time T2 : out2 on operation time Toff : out1 & out2 off operation time



When power is applied, OUT1 output and OUT2 output repeat the "OUT1 ON -> OUT1 OFF -> OUT2 ON -> OUT2 OFF" operation according to the T1, T2, and Toff times until the power is turned off. T1 and T2 times are the same, set to ON volume. Toff time is set to OFF volume.