Analog twin timer

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.

HANYOUNG NUX

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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

<u></u>	DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury
<u>^</u>	WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
<u></u>	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.

A 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	0- 0 0- 0			Analog twin timer 38.4(W) X 42.4(H) X 59.0(D) mm		
		1			Maximum time: 1sec / 1min / 1hour / 10sec / 10min / 10hour	
		ange 3			Maximum time: 3sec / 3min / 3hour / 30sec / 30min / 30hour	• TF62A-1N-A • TF62A-3N-A
		6			Maximum time: 6sec / 6min / 6hour / 60sec / 60min / 60hour	
Control output N			No option	• TF62A-6N-A		
power voltage				Α	24 – 240 V a.c. 50/60 Hz or 24 – 240 V d.c. dual usage	

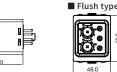
Specification

	Model	TF62A						
Т	imer type	Analog twin timer						
Po	wer voltage	24 - 240 V a.c. 50/60 Hz or 24 - 240 V d.c. dual usage						
Allov	wable voltage	±10 % of Power supply voltage						
Powe	r consumption	• Max. 4.1 VA (24 – 240 V a.c. 50/60 Hz) • Max. 2 W (24 – 240 V d.c.)						
Opera	ting time range	0.1 sec ~ 60 hour						
Opera	ting time error	Setting error: Max. ±5 % ±0.05 Voltage error: Max. ±0.5 % Temperature error: Max. ±2 %						
R	eturn time	Max. 100 ms						
External c	onnection method	8-pin socket						
	Operation mode	A/B/C/D/E/F (selected by front operating mode selector switch)						
Control output	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: Mln. 10 million cycles Electrical life: Min. 20,000 cycles (250 V a.c. 2A resistive load)						
Insula	tion resistance	Min. 100 MΩ (500 V d.c. mega, at conductive terminal and non-charged metal which is exposed)						
Diele	ectric strength	2000 V a.c. 60 Hz for 1 minute (at conductive terminal and non-charged metal which is exposed)						
Noi	se immunity	\pm 2kV (between the power terminals, pulse width = 1 us, square wave noise by noise simulator)						
Vibration re	esistance (durability)	10 - 55 Hz (1 minute) 0.75mm double amplitude 0.75 in each X, Y, Z direction for 2 hours						
Shock res	istance (durability)	300 m/s² (30G) in each X, Y, Z direction for 3 times						
Operating a	ambient temperature							
A	ccessories	• Fixing Bracket • BRACKET-M (48.0 X 59.0 mm) flush type bracket						
		• BRACKET-S (48.0 X 48.0 mm) • BRACKET-L (53.5 X 84.4 mm)						
		bracket for adjusting size (flush type) bracket for adjusting size (flush type)						
V	Weight (g)	Approx. 79 g (Exposure type)						
	Approval	(€						
Relay life Insulation resistance Dielectric strength Noise immunity Vibration resistance (durability) Shock resistance (durability) Operating ambient temperature Accessories Accessories (separately sold) Weight (g)		• Mechanical life: Min. 10 million cycles • Electrical life: Min. 20,000 cycles (250 V a.c. 2A resistive load) Min. 100 MΩ (500 V d.c. mega, at conductive terminal and non-charged metal which is expo 2000 V a.c. 60 Hz for 1 minute (at conductive terminal and non-charged metal which is exposed) ±2kV (between the power terminals, pulse width = 1 us, square wave noise by noise simula 10 - 55 Hz (1 minute) 0.75mm double amplitude 0.75 in each X, Y, Z direction for 2 h 300 m/s² (30G) in each X, Y, Z direction for 3 times -10 - 55 °C (without condensation) • Fixing Bracket • BRACKET-M (48.0 X 59.0 mm) flush type bracket • BRACKET-S (48.0 X 48.0 mm)						

Dimension & Panel cutout

Exposure type









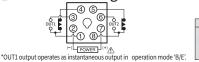
[Unit:mm]

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

■ Bracket

■ Panel cutout Flush Fixing BRACKET-S BRACKET-M BRACKET-L BRACKET-SCO 48.0 X 59.0 mm | 53.5 x 84.4 mn T38A/TF62A code BRACKET-S BRACKET-M BRACKET-L BRACKET SCO

Connection diagram



				Į	Unit:mmj
	Assortment	Indication	S	М	L
		Х	45.0	45.5	51.0
	Panel cutout (+0.5 / -0)	Υ	45.0	55.0	63.0
		A	60.0	70.5	60.0
		В	60.0	80.0	86.0

I Function and name of each part

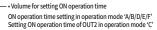
Output ON indicator

Turns on when output is 'ON' in ation mode 'A/B/D/F Turns on when OUT2 output is 'ON' in

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

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 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

· 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'

ON/OFF operati	on time range se	lection switch (**change	e after power is off)	Operation mode selection switch (*change after power is off)						
time	range	setting tim	ie range	Indic	ation	Output operation mode				
	1 S	0.1 ~ 1	sec		Α	FLICKER ON START (time-limit 2c)				
	1 M	0.1 ~ 1	min	TF62A	В	FLICKER OFF START + instantaneous 1c				
TECOA 1	1 H	0.1 ~ 1	hour		С	TWIN (time-limit 1c + time-limit 1c)				
TF62A-1	10 S	1 ~ 10	sec		D	FLICKER OFF START (time-limit 2c)				
	10 M	1 ~ 10	min		E	FLICKER ON START + instantaneous 1c				
	10 H	1 ~ 10	hour			DUAL (time-limit 1c + time-limit 1c) * Same as TF62D output operation of				
	3 S	0.3 ~ 3	sec		F					
TF62A-3	3 M	0.3 ~ 3	min			existing product				
	3 H	0.3 ~ 3	hour			g time range is selected as '10 S / 10 M / 10 H, 30 S				
	30 S	3 ~ 30	sec			60 M / 60 H, the operating time is converted to				

(A) 6

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 3 ~ 30 hour to 'x10' from the display time on the front panel and operates. 0.6 ~ 6 sec 0.6 ~ 6 min

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

60 H Operation mode

30 H

6 M

6 H

60 S 60 M 0.6 ~ 6

6 ~ 60 sec

6 ~ 60 min

6 ~ 60 hour

hour

I	А	FLICKER ON START				ation time Toff: off operation time
	Power	2-7	Ton Toff, Ton Toff	Ton Rt→	Ton	When power is applied, OUT1
	OUT1 (time-limit)	1 - 3				output and OUT2 output turn ON at the same time,
	OUT2 (time-limit)	6-8				and timekeeping starts. Until the power is turned off, OUT1 output and OUT2 output
1	ON indicator	OUT1 & OUT2				repeat ON/OFF operation according to Ton time and
	OFF indicator	operation display				Toff time.
ĺ	В	FLICKER OFF STAR	T (time-limit 1c + instantaneous 1c)	Rt: Return Tim	e Ton : on ope	eration time Toff: off operation time
1			' Toff 'Ton' Toff 'Ton' Toff 'Ton'	! Toff !!	Toff !!	

Power	2-7	Toff Ton Toff	Ton Toff	Ton Toff	Toff	OUT1 output is an instantaneous output that turns on at the same time
OUT1 (instantaneous)	1 - 3					as power is applied, and maintains the ON state until the power is turned
OUT2 (time-limit)	6 - 8					off regardless of Ton time and Toff time.When power is applied, OUT2 output remains OFF and timekeeping
ON indicator	OUT2					starts.Until the power is turned OFF, the OUT2 output repeats ON/OFF
OFF indicator	operation display					operation according to the Ton time and Toff time.
r	TM/M /time-limit 1	c + timo-limit 1c)	Dt.	Detum Time T1		inn time T2 : aut2 au anamatian 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 (2) - (7) Powe OUT1 (1) - (3) (time-limit) 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. OUT2 (6) - (8) (time-limit) OUT2 ON indicator tion displa OUT1 OFF indicator ration display

FLICKER OFF START (time-limit 2c) Rt: Return Time Ton: on operation time Toff: off operation time (2) - (7) Power OUT1 output and OUT2 output remain OFF, and timekeeping starts. Until the power is turned OFF (1) - (3) OUT2 (6) - (8) OUT1 output and OUT2 output repeat ON/OFF operation according to Ton time and Toff time. (time-limit) ON indicator eration displa OFF indicator FLICKER ON START (time-limit 1c + instantaneous 1c) Rt: Return Time Ton: on operation time Toff: off operation time

Power	2 - 7	Ton	Toff	Ton T	off Ton	Toff	Ton	∢ Rt≯	Ton	- 1	OUT1 output is an instantaneous output that turns ON at the same
OUT1	(1) - (3)		1 1	- 1	- 1	1 1	- 1				time as power is applied, and remains ON until power is OFF
(instantaneous)	0 0										
OUT2 (time-limit)	6 - 8										regardless of Ton time and Toff time.When power is applied, OUT2 output turns ON and timekeeping
ON indicator	OUT2 operation										starts.Until the power is turned OFF, OUT2 output repeats
OFF indicator	display										ON/OFF operation according to Ton time and Toff time

F	DUAL (time-limit	Rt: Return Time T1: out1 on operation time T2: out2 on operation time T2: out2 on operation time Toff: out1 & out2 off operation time
Power	2-7	T1 Toff, T2 Toff, T1 Toff, T2 Rt. T1 When power is applied, OUT1
OUT1 (time-limit)	1) - 3)	output and OUT2 output repeat the "OUT1 ON > OUT1 OFF >
OUT2 (time-limit)	6 - 8	OUT2 ON > OUT2 OFF" operation according to the T1, T2, and Toff times until the power is turned off.
ON indicator	OUT2 operation display	TI and T2 times are the same, set to ON volume.
OFF indicator	OUT1 operation display	Toff time is set to OFF volume.