



# HANYOUNG NUX TF4A Digital Timer Instruction Manual

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## **HANYOUNG nux** Digital Timer TF4A 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 at 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

 <b>DANGER</b>	Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury
 <b>WARNING</b>	Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury
 <b>CAUTION</b>	Indicates a potentially hazardous situation that, 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**

- Any use of the product other than those specified by the manufacturer may result in personal injury or property damage.
- If there is a possibility that a malfunction or abnormality of this product may lead to a serious accident in the system, install an appropriate protection circuit on the outside.
- Since this product is not equipped with a power switch and fuse, install them separately on the outside. (fuse rating: 250 VAC 0.5 A).
- Please supply the rated power voltage, in order to prevent product breakdowns or malfunctions.
- To prevent electric shocks and malfunctions, do not supply the power until the wiring is completed.
- The product does not have an explosion-proof structure, so avoid using it in places with flammable or explosive gases.
- Never disassemble, modify, process, improve or repair this product, as it may cause abnormal operations, electric shocks, or fires.
- Please disassemble the product after turning OFF the power. Failure to do so may result in electric shocks, product abnormal operations, or malfunctions.
- Please use this product after installing it to a panel, because there is a risk of electric shock.

## **CAUTION**

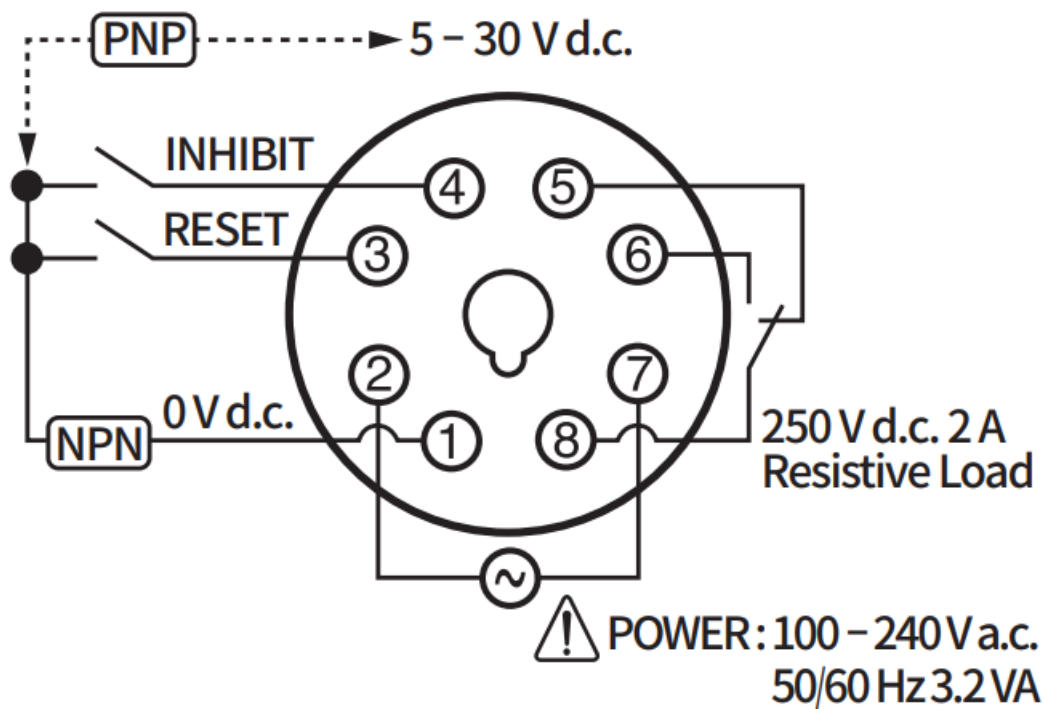
- The contents of this manual may be changed without prior notification.
- Please make sure that the product specifications are the same as you ordered.
- Please make sure that there are no damages or product abnormalities that occurred during shipment.
- Please use the product in places where corrosive gases (especially harmful gases, ammonia, etc.) and flammable gases are not generated.
- Please use the product in places where vibrations and impacts are not applied directly.
- Please use the product in places without liquids, oils, chemicals, steam, dust, salt, iron, etc.

- Please do not wipe the product with organic solvents such as alcohol, benzene, etc. (use neutral detergents).
- Please avoid places where large inductive interference, static electricity, and magnetic noise are generated.
- Please avoid places with heat accumulation caused by direct sunlight, radiation, etc.
- Please use the product in places with an elevation below 2000 m.
- When water enters, a short circuit or fire may occur, so please inspect the product carefully.
- When there is a lot of noise from the power, we recommend using an insulation transformer and noise filter. Please install the noise filter to a grounded panel, etc., and make the wiring of noise filter output and power supply terminal as short as possible.
- Tightly twisting the power cables is effective against noise.
- Do not wire anything to unused terminals.
- Please wire correctly, after checking the polarity of the terminals.
- When you install this product to a panel, please use switches or circuit breakers compliant with IEC60947-1 or IEC60947-3.
- Please install switches or circuit breakers at a close distance for user convenience.
- We recommend regular maintenance for the continued safe use of this product.
- Some components of this product may have a lifespan or deteriorate over time.
- The warranty period of this product, is 1 year, including its accessories, under normal conditions of use.
- The preparation period of the contact output is required during the power supply.  
If used as a signal to external interlock circuit, etc. please use a delay relay together.

#### Suffix code

Model	Code	Content
TF4A	□	Digital Timer, 48(W) X 48(H) mm
Power supply voltage	A	100 240 V a.c. 50/60 Hz

#### Connection diagram

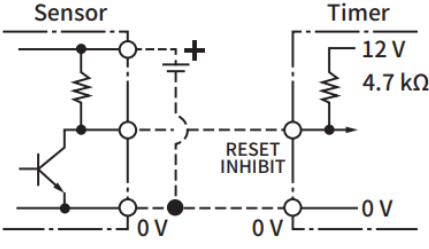
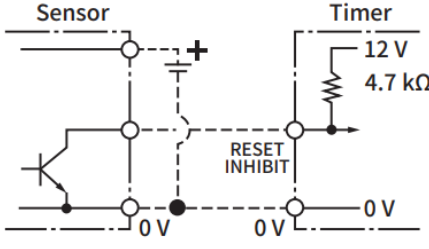
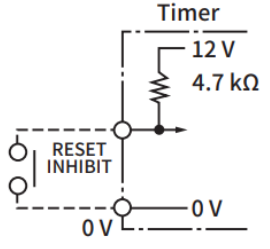


## Input wiring method

When selecting with no voltage input (NPN)

NPN voltage input	NPN open collector input	Contact input

When selected by voltage input (PNP)

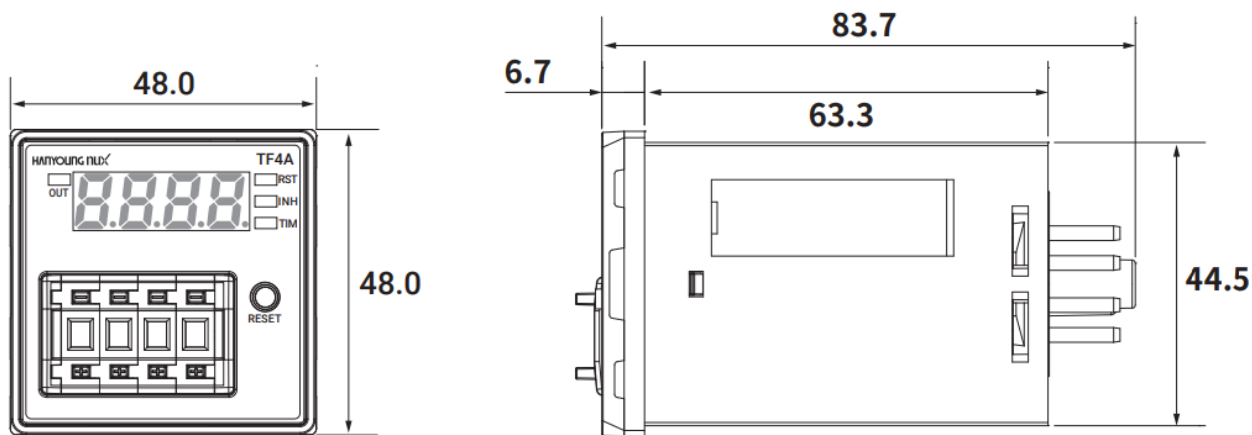
PNP voltage input	PNP open collector input	Contact input
		

**Specification**

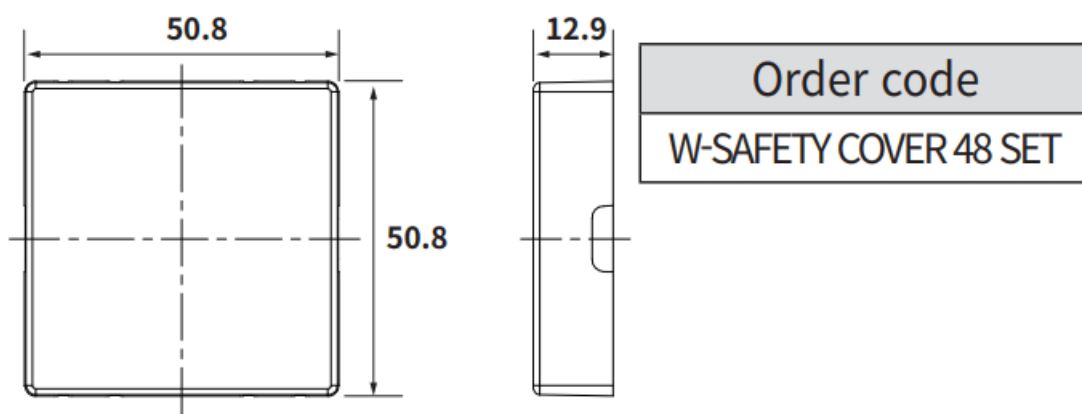
Power voltage	100 – 240 V a.c. 50/60 Hz
Voltage fluctuation rate	Power voltage $\pm 10\%$
Power consumption	3.2 VA
Display	White 7 segments LED
Character size	Character height (8.5 mm), Character width (5.0 mm)
Timer operation	Power On Start
Return time	500 ms max.
Timer operation error	•Power start : $\pm 0.01\% \pm 0.05$ seconds or less • Reset start : $\pm 0.01\% \pm 0.03$ seconds or less
Input	<ul style="list-style-type: none"> <li>•Input method selection by an external switch (Voltage input / No voltage input)</li> <li>•RESET, INHIBIT Composed of input</li> <li>•Voltage input : HIGH level (5 V — 30 V d.c.), LOW level (0 V — 2 V d.c.), Input resistance (Approx. 4.7 k<math>\Omega</math>)</li> <li>•No voltage input: Impedance in case of short circuit (1 k<math>\Omega</math> below), Residual voltage in case of short circuit (2 V d.c. below)</li> </ul>
Input signal time	20 ms below (RESET, INHIBIT input)
Control output	•Time limit I <sub>c</sub> (SPDT) • SPDT : NC (250 V a.c. 2 A), NO (250 V a.c. 5 A), Resistance load
Relay lifetime	Electrical (more than 50,000 times), Mechanical (more than 10 million times)
External connection method	8-pin socket
Insulation resistance	100 MO or more (500 V d.c. Mega standard)
Dielectric strength	2,000 V a.c. 60 Hz 1 minute (Between the conductive part terminal and the case)
Noise immunity	Square wave noise by noise simulator $\pm 2,000$ V (Pulse width 1 $\mu$ s)
Vibration	<ul style="list-style-type: none"> <li>•Durability:10 – 55 Hz (1-minute cycle), Double amplitude 0.75 mm, X • Y • Z 2 hours each direction</li> <li>•Malfunction :10 – 55 Hz (1 minute cycle), Double amplitude 0.5 mm, X • Y • Z 10 minutes each direction</li> </ul>
Ambient temperature & humidity	-10 – 55 °C, 35 – 85 % R.H.
Storage temperature	-20 – 65 °C
Weight (g)	Approx. 92 g

## Dimension & Panel cutout

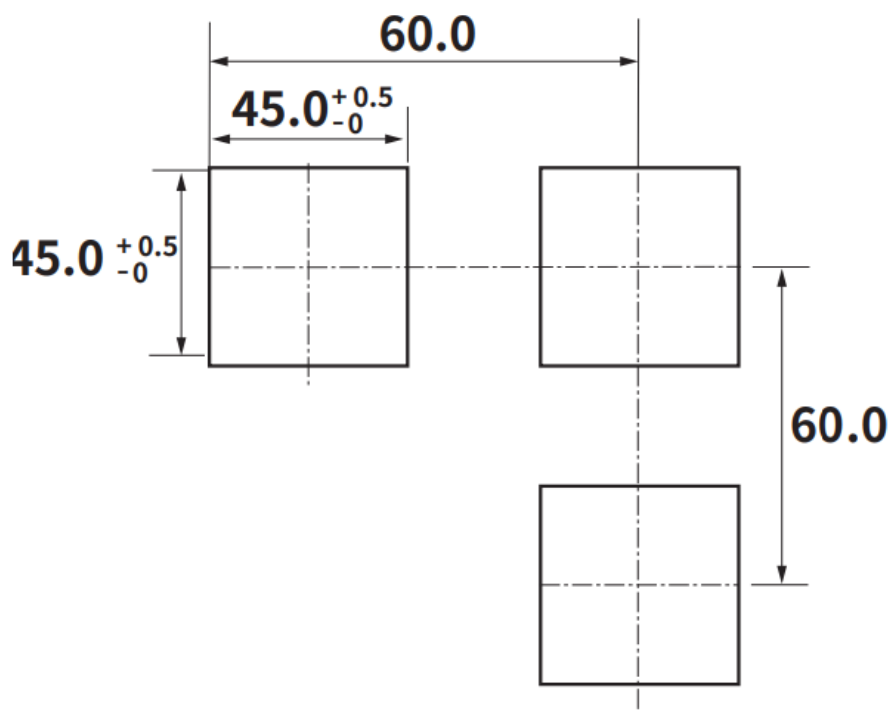
### Dimension



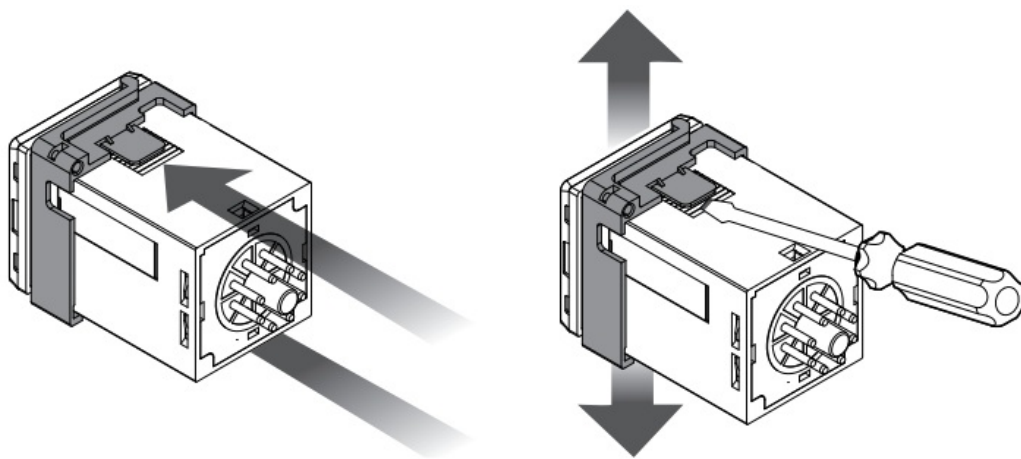
## Front Protective Cover



## Panel cutout

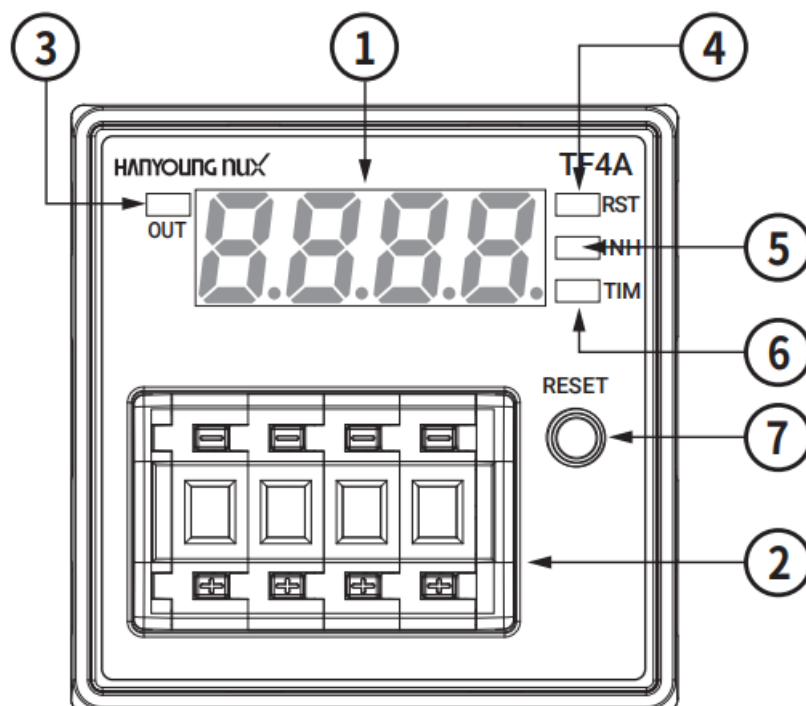


## Bracket assembling/disassembling



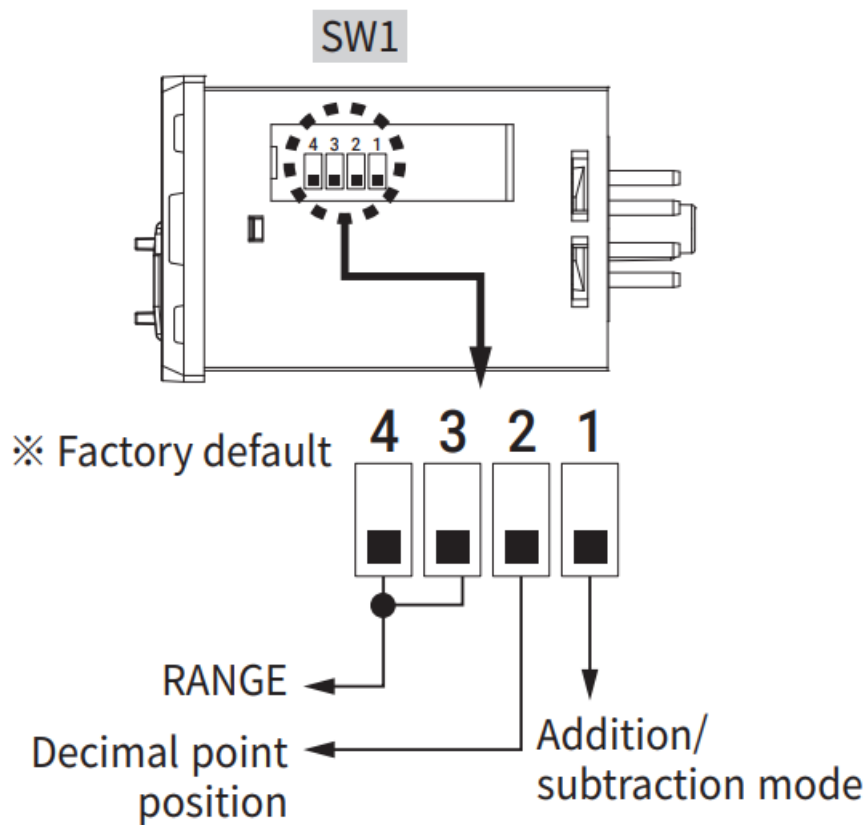
## Function and name of each part

### Front part configuration



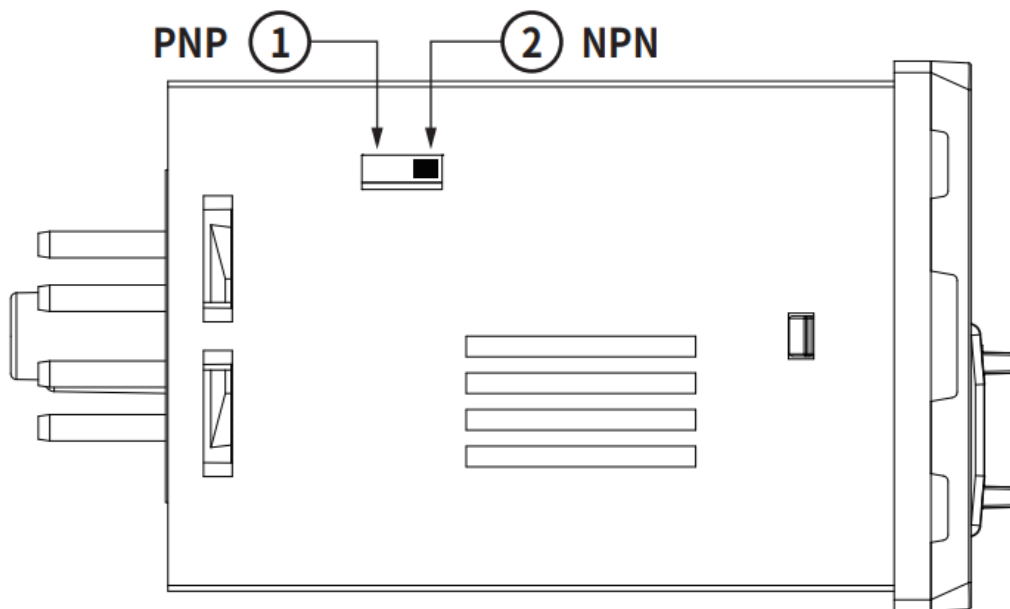
NO.	Name	Function
1	PV display	Time value display
2	SV setting	Time value setting switch
3	Output indicator	Lights up during OUT output operation
4	Reset input indicator	Lights up when external RESET signal is applied
5	Prohibited input indicator	Lights up when external INHIBIT signal is applied
6	Timekeeping indicator	Flashes during a timing operation
7	Reset-key	Time value and output status initialization

### Function switch configuration



NO.	Function			
1	<div style="text-align: center;"> <b>1</b>            ON OFF <input type="checkbox"/> </div>	Addition mode	<div style="text-align: center;"> <b>1</b>            ON OFF <input checked="" type="checkbox"/> </div>	Subtraction mode
2 – 4	<div style="text-align: center;"> <b>4 3 2</b>            ON OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> </div>	9999 sec	<div style="text-align: center;"> <b>4 3 2</b>            ON OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> </div>	999.9 sec
	<div style="text-align: center;"> <b>4 3 2</b>            ON OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> </div>	59 min 59 sec	<div style="text-align: center;"> <b>4 3 2</b>            ON OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> </div>	9 min 59.9 sec
	<div style="text-align: center;"> <b>4 3 2</b>            ON OFF <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> </div>	59 hrs 59 min	<div style="text-align: center;"> <b>4 3 2</b>            ON OFF <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> </div>	999.9 min
	<div style="text-align: center;"> <b>4 3 2</b>            ON OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> </div>	59 hrs 59 min	<div style="text-align: center;"> <b>4 3 2</b>            ON OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> </div>	999.9 min

**Input logic selection**

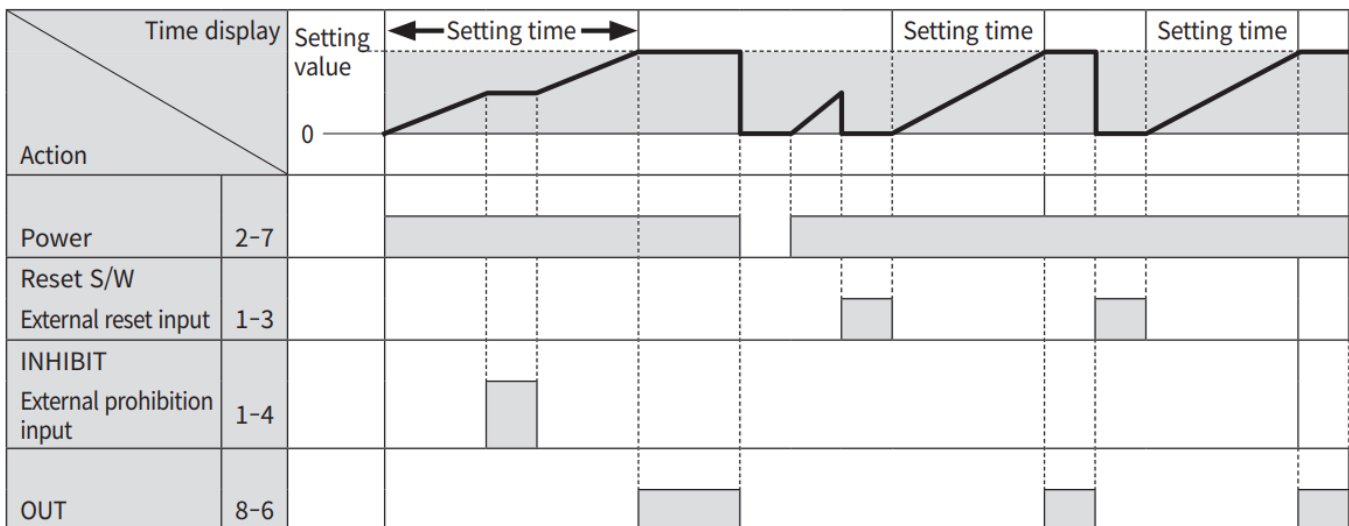


1. Shut off the power of TF4A.
2. Select the input switch attached to the side of the case according to the input logic (① voltage PNP / ② non voltage NPN) you want to use.
3. If you supply power to TF4A after selection is complete, the timer operates according to the selected voltage (PNP)/non-voltage (NPN) input status.

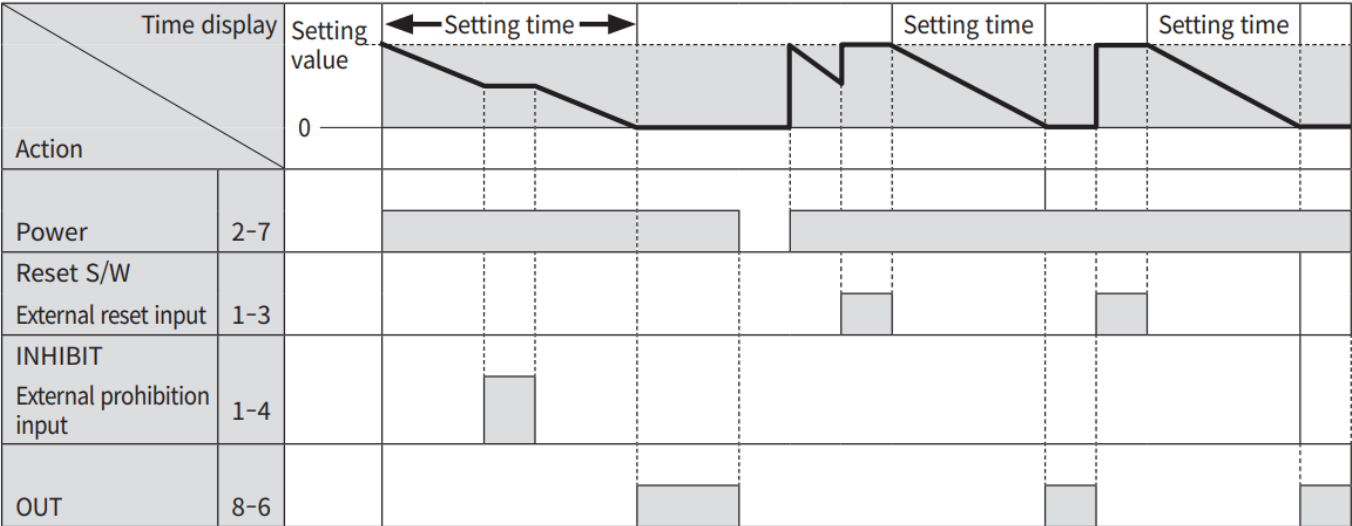
✳️Note) Change the voltage input and no-voltage input selection after the power is turned off.

## Timer operation mode

### Addition mode



### Subtraction mode



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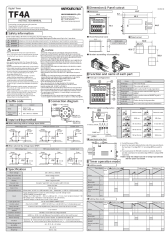
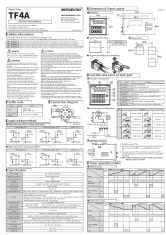
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Documents / Resources

	<p><a href="#">HANYOUNG NUX TF4A Digital Timer</a> [pdf] Instruction Manual TF4A, Digital Timer, TF4A Digital Timer, Timer</p>
	<p><a href="#">HANYOUNG NUX TF4A Digital Timer</a> [pdf] Instruction Manual TF4A, Digital Timer, TF4A Digital Timer, Timer</p>

References

- [H HANYOUNG NUX](#)