

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.

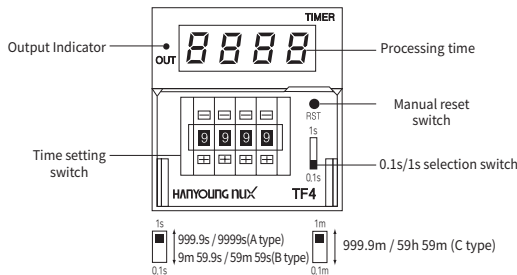
! WARNING

- 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 to 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 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, magnetic noise are generated.
- Please avoid places with heat accumulation caused by direct sunlight, radiations, etc.
- Please use the product in places with elevation below 2000 m.
- When water enters, short circuit or fire may occur, so please inspect the product carefully.
- When there is a lot of noise from the power, we recommend to use 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 close distance for user convenience.
- We recommend regular maintenance for the continuous 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 power supply. If used as a signal to external interlock circuit, etc. please use a delay relay together.

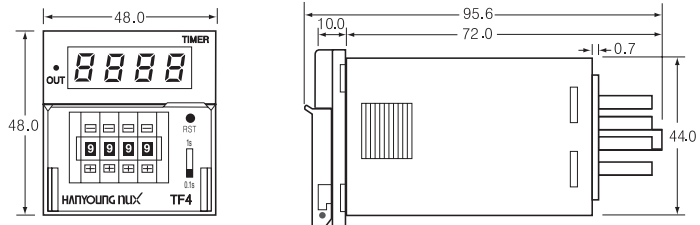
Part names



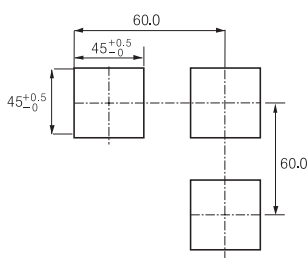
1s 0.1s 999.9s / 9999s (A type)
9m 59.9s / 59m 59s (B type)
1m 0.1m 999.9m / 59h 59m (C type)

Dimension & Panel cutout

■ Dimension

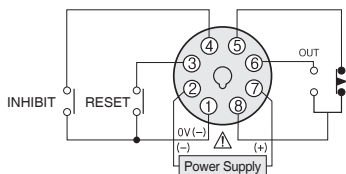


■ Panel cutout

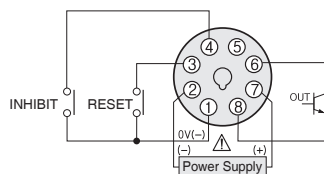


Connection diagram

■ Contact control output



■ Contactless control output



Suffix code

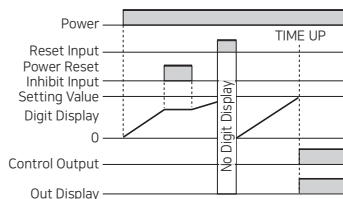
Model	Code	Content
TF4-	☐ ☐ ☐ ☐	Digital Timer (DIN 48 mm × 48 mm)
Time specification	A	999.9s / 9999s
	B	9m 59.9s / 59m 59s
	C	999.9m / 59h 59m
Display	U	Up display
	D	Down display
Input voltage	A	100 - 240V.a.c. 50/60Hz
	D	24 - 60Vd.c.
Control output	R	Relay output
	T	Open collector output

Specification

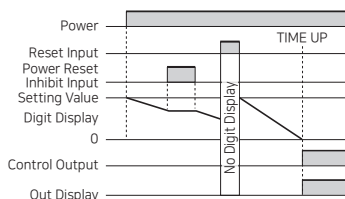
Power voltage		100-240V.a.c. 50/60Hz (AC), 24-60Vd.c. (DC)
Voltage fluctuation rate		Power voltage $\pm 10\%$
Power consumption		Approx. 4.8 V A / 0.7 W (24Vd.c.)
Reset		Power reset : Minimum power open time 0.5 s
Inhibit		External reset or Inhibit : Minimum input signal width 0.02 s
Control output	Contact output	250V.a.c. 3 A Resistive load (COS $\phi=1$)
	Contactless output	Open collector 30Vd.c. 100 mA Max.
Repetition of operating time		
Setup error		Min $\pm 0.01\%$ ± 0.05 s (In case of power start)
Effect of voltage		Min $\pm 0.005\%$ ± 0.003 s (In case of reset)
Effect of temperature		(Percentage for Setting value)
Installation method		Panel mounting method
Operating method		Up, Down operation
Operation Mode		N mode
Reset method		Power reset, Manual reset
External connection method		8 pin socket
Input signal method	Contact output	Open of contact, Input by short-circuit
	Contactless output	Input ON/OFF of Open collector transistor
Control output	Relay	Time limit 1c, 250V.a.c. 3 A (Resistive load)
	Transistor	Open collector 30Vd.c. 100 mA max.
Display		7 Segment LED (Character Height: 11 mm, Character Width: 8 mm)
Processing direction of digit	Up display	Up from 0 to Setting value
	Down display	Down from Setting value to 0
Decimal system		999.9s / 9999s (selected by the front dip switch)
Sexagesimal system		9m 59.9s / 59m 59s (selected by the front dip switch) 999.9m / 59h 59m
Insulation resistance		Min. 100 M Ω
Dielectric strength		2000V.a.c. 50/60 Hz for 1 minute (Electric conduction part and disclosed non-electrically chargeable metal part)
Noise immunity		Square-wave by noise simulator ± 2 KV (between operational power terminals)
Vibration	Destruction	10 - 55 Hz (for 1 minute) single amplitude 0.75 mm X · Y · Z each direction, 2h
	Malfunction	10 - 55 Hz (for 1 minute) single amplitude 0.5 mm X · Y · Z each direction, 2h
Shock	Destruction	300 m/s ² (30G) X · Y · Z each direction, 3 times
	Malfunction	100 m/s ² (10G) X · Y · Z each direction, 3 times
Relay life time	Mechanical	Min 10,000,000 times
	Electrical	Min 100,000 times (250V.a.c. 3 A Resistive load)
Ambient temperature & humidity		0 ~ 50 °C, 35 ~ 85 % RH
Storage temperature		-20 ~ 65 °C
Weight(g)		Approx. 100

Operation chart

■ Up display



■ Down display



■ Output operation mode

