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Hanyoung Nux T48A-3B-A Analog Timer

Instruction Manual

Model: T48A-3B-A | Brand: Hanyoung Nux Korea

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Hanyoung Nux T48A-3B-A Power On Delay Analog Timer. Please read this manual thoroughly before using the product to ensure correct and safe operation.

The T48A-3B-A is a miniaturized analog timer designed for precise time control in various applications. It features a multi-time range selection and easy time setting via a dial.



Figure 1: Front view of the Hanyoung Nux T48A-3B-A Analog Timer. Shows the dial for time setting, power and output indicators, and time range selection.

2. PRODUCT FEATURES

- **Compact Size:** Dimensions of 48.0(W) x 48.0(H) x 59.0(D) mm, ideal for space-constrained installations.
- **Wide Power Supply Range:** Operates on 24 - 240 V AC/DC, offering flexible power options.
- **Easy Time Setting:** Simple and intuitive time adjustment using a front-mounted dial.
- **Multi-Time Range:** Features 20 multiple time ranges, allowing for precise control from 0.1 seconds up to 48 hours.
- **Selectable Time Units:** Users can select between seconds, minutes, or hours for time settings.
- **Output Type:** Instantaneous SPDT (1c) + time-limit SPDT (1c) output.

3. MODEL IDENTIFICATION (SUFFIX CODE)

The model number T48A-3B-A provides specific details about the timer's configuration. Refer to the table below for a breakdown of the suffix codes.

Suffix code						
Model	Code			Content	Product configuration	
T48A	-	□	□-	□	Analog timer 48.0(W) x 48.0(H) x 59.0(D)mm	
Time range		1			Maximum time : 1sec / 1min / 1hour / 10sec / 10min	<ul style="list-style-type: none"> • T48A-1B-A • T48A-3B-A • T48A-6B-A • T48A-12B-A • T48A-1C-A • T48A-3C-A • T48A-6C-A • T48A-12C-A
		3			Maximum time : 3sec / 3min / 3hour / 30sec / 30min	
		6			Maximum time : 6sec / 6min / 6hour / 60sec / 60min	
		12			Maximum time : 12sec / 12min / 12hour / 24hour / 48hour	
Control output		B			instantaneous SPDT (1c) + time-limit SPDT (1c)	
		C			time-limit DPDT (2c)	
Power supply voltage			A		24 - 240 V a.c. 50/60 Hz or 24 - 240 V d.c. dual usage	

Figure 2: Suffix code explanation for T48A series, detailing model, time range, control output, and power supply voltage.

Table 1: T48A-3B-A Model Breakdown

Component	Code	Description for T48A-3B-A
Model Base	T48A	Analog timer with 48.0(W) x 48.0(H) x 59.0(D)mm dimensions.
Time Range	3	Maximum time: 3 seconds / 3 minutes / 3 hours / 30 seconds / 30 minutes.
Control Output	B	Instantaneous SPDT (1c) + time-limit SPDT (1c).
Power Supply Voltage	A	24 - 240 V a.c. 50/60 Hz or 24 - 240 V d.c. dual usage.

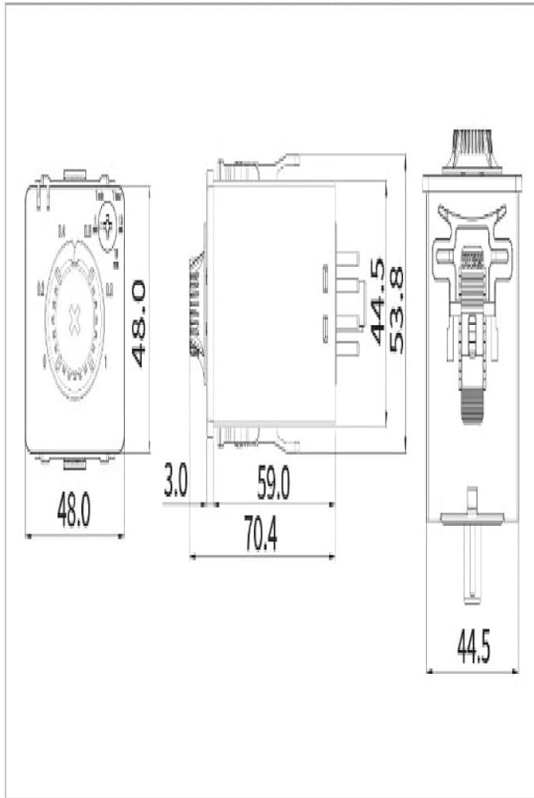
4. DIMENSIONS AND PANEL CUTOUT

Accurate dimensions are crucial for proper installation. The following diagrams illustrate the product dimensions and the recommended panel cutout for mounting.

Dimension & Panel cutout

[Unit : mm]

Dimension



Panel cutout

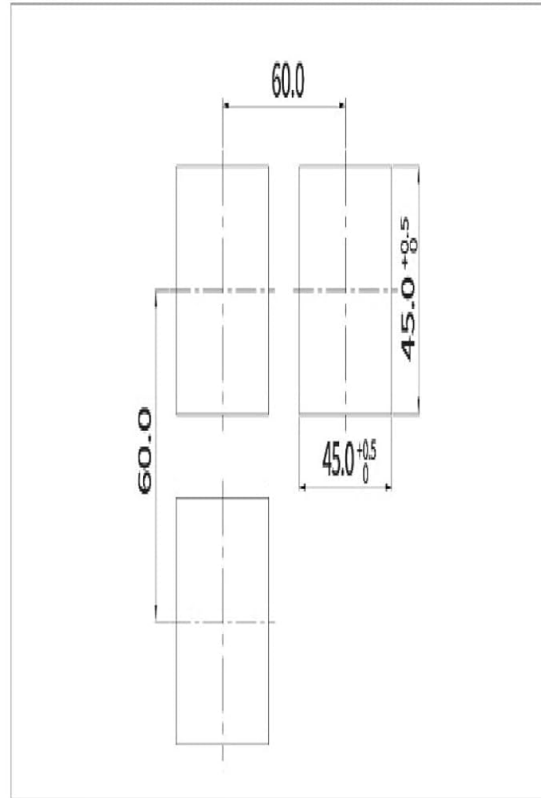


Figure 3: Detailed dimensions of the T48A timer (left) and recommended panel cutout dimensions (right) in millimeters.

- **Product Dimensions (W x H x D):** 48.0 mm x 48.0 mm x 59.0 mm (excluding terminals).
- **Panel Cutout Dimensions (W x H):** 45.0 mm (+0.5, -0) x 45.0 mm (+0.5, -0).

5. SETUP AND INSTALLATION

Before installation, ensure the power supply is disconnected. The timer is designed for panel mounting. A compatible 8-pin socket (not included) is required for connection.

5.1. Mounting

1. Prepare a panel cutout with the dimensions specified in Section 4 (45.0 mm x 45.0 mm).
2. Insert the timer into the panel cutout from the front.
3. Secure the timer using the fixing bracket (if supplied) from the rear of the panel.

5.2. Wiring and Connection

The T48A-3B-A uses an 8-pin socket for electrical connections. Refer to the connection diagram below for proper wiring. Ensure all connections are secure and comply with local electrical codes.

Specification

Model		T48A	
Timer type		Analog 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. 3.7 VA (24 – 240 V a.c. 50/60 Hz)	• Max. 1.5 W (24 – 240 V d.c.)
Operating time range		0.1 sec ~ 48 hour	
Operating time error		• Setting error: Max. ±5 % ±0.05 • Voltage error: Max. ±0.5 %	• Repetition error: Max. ±0.3 % • Temperature error: Max. ±2 %
Return time		Max. 100 ms	
External connection method		8-pin socket	
Operation mode		POWER ON DELAY (fixing)	
Control output	Contact composition	• T48A-B : instantaneous SPDT (1c) + time-limit SPDT (1c)	• T48A-C : time-limit DPDT (2c)
	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		10 – 55 Hz (for 1 minute) 0.75mm double amplitude 0.75 in each X, Y, Z direction for 2 hours	
Shock resistance		300 m/s ² (30G) in each X, Y, Z direction for 3 times	
Operating ambient temperature		-10 ~ 55 °C (without condensation)	
Accessories		Fixing Bracket	
Weight (g)		Approx. 82 g	
Approval		CE	

Connection diagram

■ T48A-B
(instantaneous 1c + time-limit 1c)

■ T48A-C
(time-limit 2c)



Figure 4: Detailed specifications of the T48A timer (top) and connection diagrams for T48A-B and T48A-C models (bottom).

For the T48A-3B-A model, refer to the **T48A-B (instantaneous 1c + time-limit 1c)** connection diagram in Figure 4. The power supply (24-240 V AC/DC) connects to pins 2 and 7. Output contacts are available on pins 1, 3, 4, 5, 6, and 8.

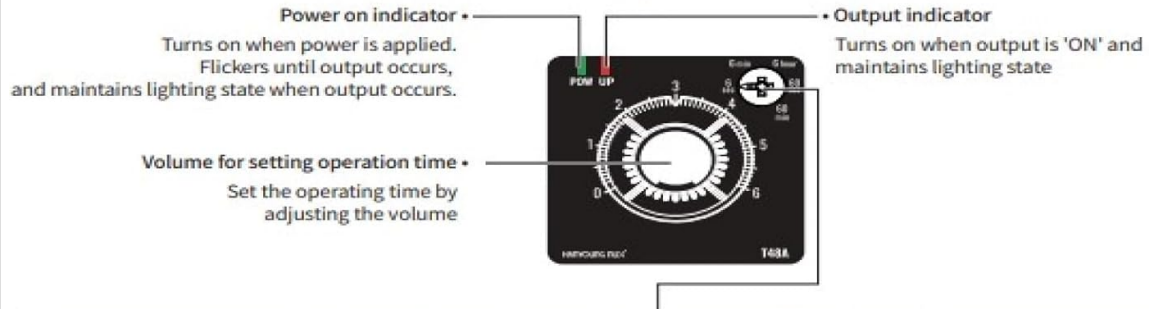
- **Power Input:** Connect the 24-240 V AC/DC power supply to the designated power terminals (typically pins 2 and 7 on an 8-pin socket).
- **Output Connections:** Connect your load to the appropriate output terminals based on your application's requirements (e.g., normally open, normally closed, instantaneous, or time-limit contacts).

Warning: Ensure power is off before making any electrical connections to prevent electric shock or damage to the device.

6. OPERATING INSTRUCTIONS

The T48A-3B-A timer is designed for straightforward operation. Follow these steps to set and operate the timer.

Function and name of each part



Operation time range selection switch (*change after power is off)		
	Time range	Setting time range
T48A-1	1 sec	0.1 ~ 1 sec
	1 min	0.1 ~ 1 min
	1 hour	0.1 ~ 1 hour
	10 sec	1 ~ 10 sec
	10 min	1 ~ 10 min
T48A-3	3 sec	0.3 ~ 3 sec
	3 min	0.3 ~ 3 min
	3 hour	0.3 ~ 3 hour
	30 sec	3 ~ 30 sec
	30 min	3 ~ 30 min
T48A-6	6 sec	0.6 ~ 6 sec
	6 min	0.6 ~ 6 min
	6 hour	0.6 ~ 6 hour
	60 sec	6 ~ 60 sec
	60 min	6 ~ 60 min
T48A-12	12 sec	1.2 ~ 12 sec
	12 min	1.2 ~ 12 min
	12 hour	1.2 ~ 12 hour
	24 hour	2.4 ~ 24 hour
	48 hour	4.8 ~ 48 hour

- * When the operating time range is selected as '10sec / 10min, 30sec / 30min, 60sec / 60min', the operating time is converted to 'x10' from the display time on the front panel and is operated.
- * When the operating time range is selected as '24hour', the operating time is converted to 'x2' from the display time on the front panel and operated.
- * The time unit of the operating time range '24hour / 48hour' is fixed to 'hour'.
- * When '48hour' is selected as the operating time range, the operating time is converted into 'x4' from the display time on the front panel and operates.

※ When the switch power is 'ON', the operation time range is not changed. (Ex. 1 sec -> 1 min)
Please turn off the switch power and then change it.

Figure 5: Diagram showing the function of each part of the timer (top) and the operation time range selection table (bottom).

6.1. Understanding the Controls and Indicators

- **Power On Indicator (POW UP):** Illuminates when power is applied to the timer.
- **Output Indicator:** Illuminates when the timer's output is active (ON).
- **Time Setting Dial:** Used to set the desired operation time within the selected range.
- **Time Range Selection Switch:** Located on the front panel, this switch allows you to select the base time unit (seconds, minutes, or hours) and the overall time range.

6.2. Setting the Operation Time

1. **Select Time Range:** Before applying power, use the time range selection switch to choose the appropriate range (e.g., 3 sec, 3 min, 3 hour, 30 sec, 30 min for T48A-3B-A). Refer to the "Operation time range selection switch" table in Figure 5 for available ranges and their corresponding setting ranges.
2. **Set Time with Dial:** Rotate the large dial on the front of the timer to set the desired time within the selected range. The red indicator on the dial points to the set value.
3. **Apply Power:** Once the time and range are set, apply power to the timer. The "POW UP" indicator will illuminate.
4. **Operation:** The timer will begin its delay cycle. Upon completion of the set time, the output will activate,

and the "Output" indicator will illuminate.

Note: The time range selection switch should be changed only when power is off. If changed while power is on, the operation time range will not change until power is cycled.

7. MAINTENANCE

The Hanyoung Nux T48A-3B-A Analog Timer is designed for reliable operation with minimal maintenance. However, following these guidelines can help ensure its longevity:

- **Cleaning:** Keep the timer clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges (refer to Section 9, Specifications). Avoid exposure to direct sunlight, excessive vibration, or corrosive gases.
- **Connections:** Periodically check all electrical connections to ensure they are secure and free from corrosion.

Caution: Always disconnect power before performing any maintenance or cleaning to prevent electric shock.

8. TROUBLESHOOTING

If you encounter issues with your Hanyoung Nux T48A-3B-A Analog Timer, consider the following common troubleshooting steps:

Table 2: Troubleshooting Guide

Problem	Possible Cause	Solution
Timer does not power on (POW UP indicator off)	No power supply; Incorrect wiring; Power supply voltage out of range.	Check power source; Verify wiring according to Section 5.2; Ensure voltage is within 24-240 V AC/DC.
Output does not activate after set time	Incorrect time setting; Incorrect time range selection; Faulty wiring to load; Load issue.	Re-check time setting and range; Verify output wiring; Test the load independently.
Time setting is inaccurate	Incorrect time range selected; Dial not set precisely.	Ensure the correct time range is selected for the desired duration; Adjust the dial carefully.
Timer behaves erratically	Electrical noise/interference; Damaged unit.	Ensure proper grounding; Isolate from noise sources; If problem persists, contact support.

If the problem persists after attempting these solutions, please contact Hanyoung Nux Korea customer support or your local distributor for assistance.

9. SPECIFICATIONS

The following table provides detailed technical specifications for the Hanyoung Nux T48A-3B-A Analog Timer.

Table 3: Technical Specifications

Parameter	Value
Model	T48A
Timer Type	Analog 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. 3.7 VA (24 - 240 V a.c. 50/60 Hz) / Max. 1.5 W (24 - 240 V d.c.)
Operating Time Range	0.1 sec ~ 48 hour (selectable via time range switch)
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
Operation Mode	POWER ON DELAY (fixing)
Control Output	T48A-B: Instantaneous SPDT (1c) + time-limit SPDT (1c)
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. 50/60 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	10 - 55 Hz (for 1 minute) 0.75mm double amplitude 0.75 mm in X, Y, Z direction for 2 hours
Shock Resistance	300 m/s ² (30G) in each X, Y, Z direction for 3 times
Operating Ambient Temperature	-10 ~ 55 °C (without condensation)
Accessories	Fixing Bracket
Weight (g)	Approx. 82 g
Approval	CE
Product Dimensions (D x W x H)	2.32"D x 1.89"W x 1.89"H (59.0mm x 48.0mm x 48.0mm)
UPC	726179952581

Hanyoung Nux Korea products are manufactured to high quality standards. For specific warranty terms and conditions, please refer to the warranty information provided at the time of purchase or contact your authorized Hanyoung Nux distributor or the manufacturer directly.

For technical support, troubleshooting assistance beyond this manual, or inquiries regarding parts and service, please contact:

- Your point of purchase (seller/distributor).
- Hanyoung Nux Korea customer service (contact information typically available on their official website).

When contacting support, please have your product model number (T48A-3B-A) and any relevant purchase details ready.