

Operation instructions

Attention to safety¹⁾ is to use the product safely and correctly to prevent dangerous accidents. Please follow the following instructions.

Attention to safety can be divided into two parts, "Warning" and "Attention", with the following meanings:

Warning: Violation of this item may result in serious injury or death.

Caution: Violation of this item may result in minor injury or product damage.

 Indicates that accidents or dangers may occur in special circumstances

1. When used for machines that have a significant impact on personal and property (such as nuclear power control, medical equipment, ships, vehicles, railways, aviation, combustion equipment, safety devices, anti-theft/disaster prevention devices, etc.), dual safety protection devices need to be installed before use.
Otherwise, it may cause fire, personal injury or property damage.
2. The panel must be installed during use.
Otherwise, there is a risk of electric shock.
3. Do not perform maintenance work while powered on.
Otherwise, there is a risk of electric shock.
4. Please confirm the terminal number before wiring.
Otherwise, it may cause a fire.
5. Except for our company's maintenance personnel, we are not allowed to modify this product.
Otherwise, electric shock or fire may occur.

1. Do not use this product outdoors.
Otherwise, the service life of the product may be shortened or electric shock accidents may occur.
2. When wiring the power input terminal and relay output terminal, please use AWG20 (0.50mm²) cable with a screw torque of 0.74-0.90N·m.
Poor contact may cause a fire.
3. Please use this product within the rated specification range.
Otherwise, it will shorten the lifespan of the product and pose a fire hazard.
4. Please use a load smaller than the allowable capacity of the relay contact.
Otherwise, it may cause poor insulation, rough adhesion, poor contact, relay damage, fire, etc.
5. Do not use water or organic solvents during cleaning, use a dry towel to wipe.
Otherwise, it may cause electric shock or fire.
6. Avoid using this product in flammable, explosive, humid, direct sunlight, thermal radiation, vibration, and other places.
Otherwise, it may cause a fire or explosion.
7. Do not allow dust or cable residue to enter the interior of the product.
Otherwise, it may cause a fire or product malfunction.
8. Please confirm the polarity of the terminals and connect the thermocouple wiring correctly.
Otherwise, it may cause a fire or explosion.
9. In order to achieve the purpose of strengthening insulation, please use a power supply device that can ensure basic insulation above.

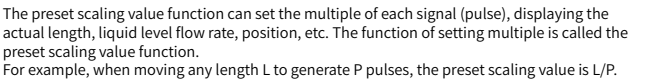
NTC	6	S	2P	A	
Supply voltage				A	100-240VAC 50/60Hz
				D	24VAC 50/60Hz 24-48VDC
Output				2P	2-stage setup type
				1P	1 segment setup type
Overall dimensions				S	DIN W48×H48mm
				M	DIN W72×H72mm
Display number of digits				6	999999(6 digits)
Series				CT	Counter/Timer

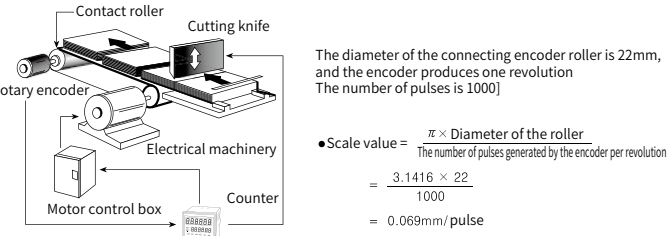
Voltage	AC Power supply type	100-240VAC 50/60Hz
	DC Power supply type	24VDC
Power consumption		≤ 12VA
INA/INB maximum counting speed		1cps/30cps/1Kcps/5Kcps/10Kcps optional
Minimum signal width	Counter	Reset input: 1ms, 20ms optional
	Timer	INA, RESET, INHIBIT, BATCH RESET RESET: 2ms, 20ms optional
Input method		No voltage input
One shot output time		Counter, timer, 0.01 second-99.99 second
Memory storage		10 years (non volatile semiconductor memory)
Connection		Connecting terminal
Using ambient humidity		-25~+70°C (Unfrozen state)
Storage temperature		-30~+80°C (Unfrozen state)
Humidity		35%~95%RH (No condensation state)

The figure displays four pin diagrams for different NTC module types, arranged in a 2x2 grid. Each diagram shows a 12-pin connector on the left and a 12-pin connector on the right, with various electrical connections and labels.

- NTC6S-2P (Top Left):**
 - Pin 1: OUT1: 250VAC/3A
 - Pin 2: OUT2: 250VAC/3A
 - Pin 3: 100~240VAC 5VA 50/60Hz
 - Pin 4: MAX30VDC 100MA
 - Pin 5: INA
 - Pin 6: INB/INH
 - Pin 7: RESET
 - Pin 8: 0VDC
 - Pin 9: 120VDC 100MA
 - Pin 10: OUT2
 - Pin 11: MAX30VDC 100MA
 - Pin 12: 100~240VAC 5VA 50/60Hz
- NTC6S-1P (Top Right):**
 - Pin 1: OUT1: 250VAC/3A
 - Pin 2: OUT2: 250VAC/3A
 - Pin 3: 100~240VAC 5VA 50/60Hz
 - Pin 4: MAX30VDC 100MA
 - Pin 5: INA
 - Pin 6: INB/INH
 - Pin 7: RESET
 - Pin 8: 0VDC
 - Pin 9: 120VDC 100MA
 - Pin 10: OUT2
 - Pin 11: MAX30VDC 100MA
 - Pin 12: 100~240VAC 5VA 50/60Hz
- NTC6M-2P (Bottom Left):**
 - Pin 1: OVDC
 - Pin 2: 12VDC 100MA
 - Pin 3: OUT1: 250VAC/3A
 - Pin 4: OUT2: 250VAC/3A
 - Pin 5: 100~240VAC 5VA 50/60Hz
 - Pin 6: MAX30VDC/100MA
 - Pin 7: INA
 - Pin 8: INB
 - Pin 9: RESET
 - Pin 10: INHIBIT
 - Pin 11: BATCH RESET
 - Pin 12: MAX30VDC/100MA
 - Pin 13: OUT1
 - Pin 14: OUT2
 - Pin 15: BATCH
 - Pin 16: BUS
 - Pin 17: 100~240VAC 5VA 50/60Hz
 - Pin 18: MAX30VDC/100MA
- NTC6M-1P (Bottom Right):**
 - Pin 1: OVDC
 - Pin 2: 12VDC 100MA
 - Pin 3: OUT1: 250VAC/3A
 - Pin 4: OUT2: 250VAC/3A
 - Pin 5: 100~240VAC 5VA 50/60Hz
 - Pin 6: MAX30VDC/100MA
 - Pin 7: INA
 - Pin 8: INB
 - Pin 9: RESET
 - Pin 10: INHIBIT
 - Pin 11: BATCH RESET
 - Pin 12: MAX30VDC/100MA
 - Pin 13: OUT1
 - Pin 14: OUT2
 - Pin 15: BATCH
 - Pin 16: BUS
 - Pin 17: 100~240VAC 5VA 50/60Hz
 - Pin 18: MAX30VDC/100MA

- When the counter value reaches the preset value of 5, the batch count value increases by 1. At the same time, the product sends a control signal (OUT) to the control box, sending the full box and then an empty box. This action is repeated until the batch count value reaches the target value (200).





The decimal point setting (DP) is set to (-----), and the preset scaling value decimal point setting (SC.DP) is set to "----". If the preset scaling value (SCL) setting is set to "0.069", the conveyor belt can achieve 0.1mm control accuracy.

Initial value function (counter)

In counter mode, the function of counting the counter from the initial value.

- Counter input mode is "dn", "dn-1", "dn-2" cannot be used.
- Input a reset signal, and the current value will be initialized to the initial value.
- Exist "c", "r", "p", "q" In output mode, after inputting the counting signal, the process value (PV) starts counting from the initial value.

Input mode (counter)

Input mode	Timing diagram	Action description
UP (Up)		※When INA is the count signal input, INB will be the count suppression signal input. When INB is the count signal input, INA will be the count suppression signal input
$UP-1$ (Up-1)		※When the INA input signal rises (↑), count it. ※INA: Counting signal input ※INB: Counting suppression signal input
$UP-2$ (Up-2)		※When the INA input signal drops (↓), count it. ※INA: Counting signal input ※INB: Counting suppression signal input
dn (Down)		※When INA is the count signal input, INB will be the count suppression signal input. When INB is the count signal input, INA will be the count suppression signal input
$dn-1$ (Down-1)		※When the INA input signal rises (↑), count ※INA: Counting signal input ※INB: Counting suppression signal input
$dn-2$ (Down-2)		※When the INA input signal drops (↓), count ※INA: Counting signal input ※INB: Counting suppression signal input
$Ud-A$ (Up/Down-A)		※INA: Counting signal input INB: Counting method signal input ※INB: When "L" is used, it represents the addition (UP) count ※INB: "H" is a subtractive (Down) count
$Ud-B$ (Up/Down-B)		※INA: Add Count Input. INB: Subtraction input. ※When INA and INB both change from "L" to "H" The count value will remain in the previous state.
$Ud-C$ (Up/Down-C)		※When using encoder input A and B phases and connecting counters INA and INB, the counter input mode ("dn") must select phase difference input (Ud-C).

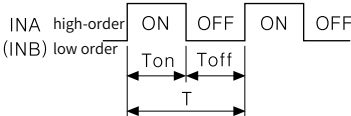
※ Ⓐ Above minimum signal width Ⓑ More than half of the minimum signal width may result in a counting error of ± 1 when it is less than this signal width.

※ The meanings of "H" and "L" in the following table are as follows

	Voltage input (PNP)	No voltage input (NPN)
H	5-30 VDC	Short circuit
L	0-2 VDC	Open circuit

※ Minimum signal width for each counting speed

Counting speed	Minimum signal width
1cps	500ms
30cps	16.7ms
1kcps	0.5ms
5kcps	0.1ms
10kcps	0.05ms



Output mode (counter)

Output mode	Timeline	Action description
F (F)		After receiving the counting signal, the displayed value continues to increase or decrease, reaches the preset value and maintains the output. After receiving the reset signal, all values are reset.
n (n)		After receiving the count signal, the displayed value continues to increase or decrease, and when it reaches the OUT2 target value, the count remains. After receiving the reset signal, all values are reset.
c (c)		※After receiving the count signal, the displayed value continues to increase or decrease. When it reaches the OUT2 target value, the count is reset and output. After the One shot output time of OUT2, the HOLD output of OUT1 will be OFF. ※ One shot output time of OUT1 is independent of OUT2 output
r (r)		※After receiving the count signal, the displayed value continues to increase or decrease, and all reset signals are reset. After the One shot output time of OUT2, the HOLD output of OUT1 will be OFF. ※ The One shot output time of OUT1 is independent of OUT2 output
k (k)		※After receiving the count signal, the displayed value continues to increase or decrease, and all reset signals are reset. After the One shot output time of OUT2, the HOLD output of OUT1 will be OFF. ※ One shot output time of OUT1 is independent of OUT2 output

p (p)		※After receiving the counting signal, the displayed value continues to increase or decrease, and outputs continues counting after reaching the OUT2 target value. After the One shot output time of OUT2, the HOLD output of OUT1 will be OFF. ※ One shot output time of OUT1 is independent of OUT2 output
q (q)		※After receiving the counting signal, the displayed value continues to increase or decrease, and outputs continues counting after reaching the OUT2 target value. After outputting OUT2, count again. After the One shot output time of OUT2, the HOLD output of OUT1 will be OFF. ※ The One shot output time of OUT1 is independent of OUT2 output
a (a)		※After receiving the count signal, the displayed value continues to increase or decrease, and when it reaches the OUT2 target value, it outputs and maintains all reset after receiving the reset signal. ※ One shot output time of OUT1 is independent of OUT2 output

※In the 1-segment setup type OUT output and in the 2-stage setup type OUT2 same output.

※OUT1 output can be set to 0 in all output modes and output corresponding values.

※The output mode is C(c), R(r), P(p), Q(q)※, OUT2 output cannot be set to 0.

Output mode (counter)

Output mode	Timeline	Action description
5 (s)		※When the displayed value is ≥ the preset value of 1, the OUT1 output remains in the ON state. When the displayed value is ≥ the preset value of 2, the OUT2 output remains in the ON state.
t (t)		※When the displayed value is ≥ the preset value of 1, the OUT1 output remains in the OFF state. (Note: When the preset value of 1 is 0, it remains in the ON state) When the displayed value is ≥ the preset value of 2, the OUT2 output remains in the ON state.
d (d)		※When the counting speed is set to 1kcps, please use contactless input. (When using contact input, it is not possible to output normally due to issues such as contact reaction time)

※The OUT output in the 1-segment setup type is the same as the OUT2 output in the 2-segment setup type.

※In the 2-segment setup mode, OUT1 can choose either One shot output or hold output mode. (5, t, d excluding modes)

※In all output modes, the preset value of OUT1 can be set to 0, and the output corresponds to the state corresponding to the preset value of 0.

※The output mode is C(c), R(r), P(p), Q(q)※, OUT2 output cannot be set to 0.

Parameter settings (timer)

Set project	Set content
Counter/Timer C-t	$CoUn \leftrightarrow t \cdot nE$ ※CoUn: counter action ※t·nE: timer action
Time frame HoUr / a / nSEc	※6 position 0.001s~999.999s, 0.01s~999.99s, 0.1s~999.99s, 1s~999.99s, 99m59.99s~99m59.99s, 0.1s~99m59.99s
UP/DOWN mode U-d	$UP \leftrightarrow dn$ ※UP: Display the timing process from 0 to the set time ※dn: Display the timing process from the set time to 0
Output mode out·n	$ond \leftrightarrow ond1 \leftrightarrow ond2 \leftrightarrow FLU \leftrightarrow FLK1 \leftrightarrow FLK2 \leftrightarrow Int \leftrightarrow IntG \leftrightarrow nFd1 \leftrightarrow nFd \leftrightarrow oFd \leftrightarrow Int2 \leftrightarrow Int.1$
OUT2 output time out2	⏏ key: activate OUT2 output time value ⏏ key: change the OUT2 output time value of the active bit ※Set one shot output time for OUT2 ※Setting range: 0.01~99.99 second ※Press ⏏ Press the key 4 times to display the HoLd.
OUT1 output time out1	⏏ key: Activate OUT1 output time value ⏏ key: Change the OUT1 output time value of the active bit ※Set one shot output time for OUT2 ※Setting range: 0.01~99.99s Hold ※Press ⏏ Press the key 4 times to display the HoLd.
Input logic confirmation SiG	nPn: No voltage input PnP: Voltage input ※View the set input logic(PNP,NPN)
Input signal time Int	$I \leftrightarrow 2D$ [units:ms] ※CTS/CTY:select INA, INH, RESET minimum signal width ※CTM:select INA, RESET, INHIBIT, BATCH RESET minimum signal width
Lock key setting LoCL	$LoFF \leftrightarrow LoC1$ $LoC3 \leftrightarrow LoC2$ ※LoFF: 解除锁键, Lock LED OFF LoC1: 锁Lock LED ON LoC2: 锁Lock LED ON LoC3: 锁Lock LED ON

Output mode (timer)

Output mode	Timeline	Action description
ond (OND)		1) When INA input is ON, timing begins. 2) When INA input is OFF, it is in the RESET state. 3) When INA input is ON, timing starts when powered on. 4) When the RESET signal changes from ON to OFF, timing begins. 5) The control output is one shot output.
$ond1$ (OND.1)		1) When INA input is ON, timing begins. 2) When INA input is ON, timing starts when powered on. 3) When the RESET signal changes from ON to OFF, timing begins. 4) When repeatedly inputting the INA signal, only the first input signal is valid.
$ond2$ (OND.2)		1) Start timing when powered on (without INA function). 2) RESET ON: Timing reset. 3) When the RESET signal changes from ON to OFF, timing begins. 4) The control output is one shot output. 5) Store the timing time of the moment the power is turned off.
FLK (FLK)		1) When the input is ON, the timing begins. 2) When the INA signal is ON, timing starts when powered on. 3) Control the output action to maintain output, output as OFF during the Toff action time, and output as ON during the Ton action time. T=Toff+Ton set time. 4) The Toff and Ton setting times should be set separately. 5) When using contact output, please set the minimum setting time to over 100ms.

※Power on reset: No memory protection. (Initialize display value when power is turned off)

※Power on hold: with memory protection.

(Stored at the moment of power outage, displaying the previously memorized display value when the power supply is re provided)

Output mode (timer)

Output mode	Timeline	Action description
$FLK1$ (FLK.1)		1) When INA input is ON, timing begins. 2) When the INA signal is ON, timing starts when powered on. 3) Control the output to perform a Hold action. 4) When using contact output, please set the minimum setting time to over 100ms.
$FLK2$ (FLK.2)		1) When the INA input is ON, timing begins and the timing time at the moment of power outage is stored. 2) When the INA signal is ON, timing starts when powered on. 3) When the RESET signal changes from ON to OFF, timing begins. 4) When the set time is reached, the control output will reverse. Note (At the beginning of the first time, the OUT2 control output is OFF). 5) When using contact output, please set the minimum setting time to over 100ms.
Int (INT)		1) When the INA input is ON, the control output becomes ON and timing begins. 2) Reset when INA input is OFF. 3) When the INA signal is ON, timing starts when powered on. 4) Automatically reset when the set time is reached. 5) Control output, set to ON during timing.
$Int.1$ (INT.1)		1) When the INA input is ON, the control output becomes ON and timing begins. 2) When the INA input signal is ON, the timing starts when powered on. 3) Automatically reset when the set time is reached. 4) The control output is ON during timing. 5) The INA input signal is invalid while timing is in progress.
$Int.2$ (INT.2)		1) When INA input is ON, timing begins, and when INA input is OFF, it automatically resets. 2) When the INA input signal is ON, the OUT2 output remains ON during T1 (HOLD) or T2. 3) If the set time is reached, the timer will reset. During the T2 (HOLD) or T2 output time, the OUT2 output remains in the ON state. ※Even if the One shot time is longer than the set time, the output will be OFF as long as the set time is reached.

※Power on reset: No memory protection. (Initialize display value when power is turned off)

※Power on hold: with memory protection.

(Stored at the moment of power outage, displaying the previously memorized display value when the power supply is re provided)

Output mode	Timeline	Action description
oFd (OFD)		1) When the INA input is ON, the control output becomes ON and timing begins. (Note: Exceptions when Power Off and Reset ON) 2) When the INA input is OFF, timing begins and reaches the set point. The time will automatically reset.
nFd (NFD)		1) When the INA input is ON, the output is ON and timing begins, after the On Delay time, the output changes to OFF. 2) When the INA input is OFF, the output is ON and timing begins, after the Off Delay time, the output will become OFF. 3) If the INA input becomes OFF during the On Delay time, it will Perform the action of 2). 4) If the INA input becomes ON during the Off Delay time, it will execute the action of 1) and will be executed.
$nFd.1$ (NFD.1)		1) When the INA input is ON, the timing begins, and after the On Delay time, the output will become ON. 2) When the INA input is OFF, the timing begins, and after the Off Delay time, the output will become OFF. 3) If the INA input becomes OFF during the On Delay time, the output will become ON and execute the action of 2. 4) If the INA input becomes ON during the Off Delay time, the output will become ON and execute the action of 1.
$IntG$ (INTG)		1) When the INA input is in the ON state, timing occurs. 2) When the INA input is in the OFF state, the timing will stop. 3) When the set time is reached, the output will be ON.

※Power on reset: no memory protection. (Initialize display value when power is turned off)

※Power on hold: with memory protection. (Stored at the moment of power outage, displaying the previously memorized display value when the power supply is re provided)