
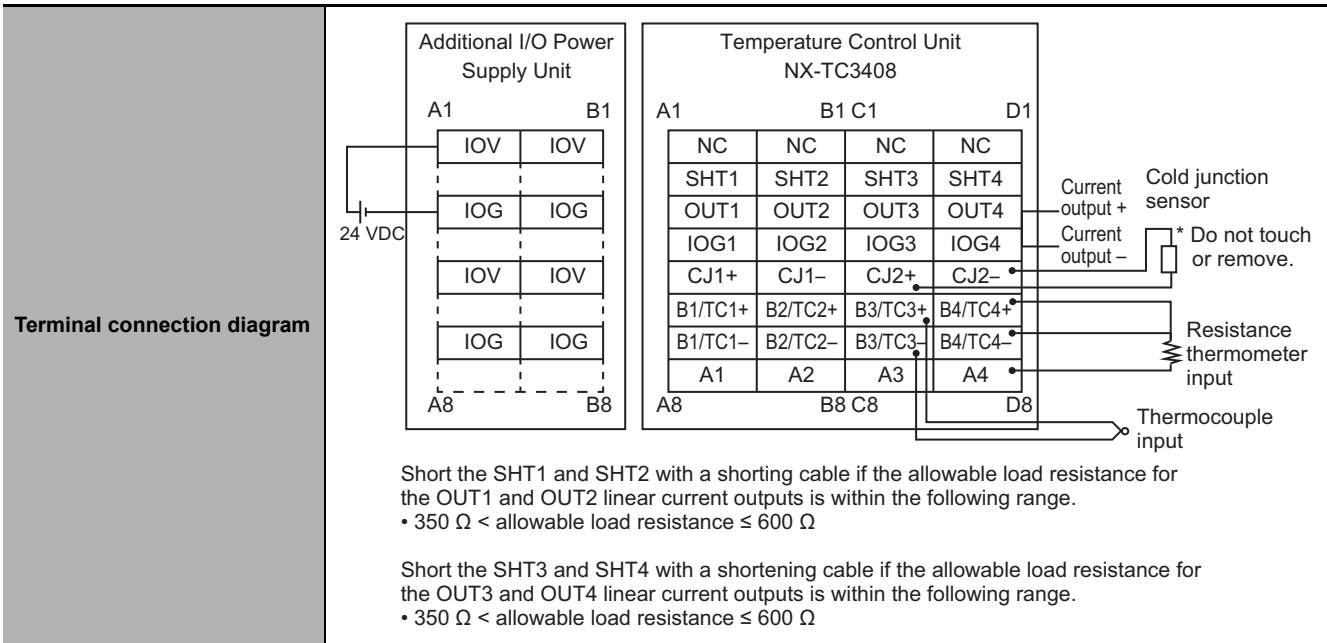


Unit name		Temperature Control Unit (4-channel type)	Model	NX-TC3408	
Number of Channels		4 channels	Control type	Heating/cooling control	
Points per channel		<ul style="list-style-type: none"> Temperature input: 1 point per channel (4 points per Unit) CT input: none Control input: 1 point per channel (4 points per Unit) 	External connection terminal	Screwless clamping terminal block (16 terminals × 2)	
I/O refreshing method		Free-Run Refreshing			
Indicators		TS indicator and output indicators 	CT Input section	CT current input range	---
				Input resistance	---
				Connectable CTs	---
				Maximum heater current	---
				Resolution	---
				Overall accuracy (25°C)	---
				Influence of temperature (0 to 55°C)	---
				Conversion time	---
Sensor Input section		<ul style="list-style-type: none"> Thermocouple input: K, J, T, E, L, U, N, R, S, B, C/W, PL II Platinum resistance thermometer input: Pt100 (3-wire type), JPt100 (3-wire type) 	Control Output section	Control output type and points per channel	Linear current output, 1 point per channel
				Internal I/O common	---
				Control Period	---
				manipulated variable	-5% to 105%
				Resolution	1/10,000
				Rated Voltage	24 VDC
				Operating Load Voltage Range	15 to 28.8 VDC
				Maximum load current	---
				Maximum Inrush Current	---
				Allowable load resistance	350 Ω max., or greater than 350 Ω but not exceeding 600 Ω ^{*4}
				Leakage current	---
				Residual voltage	---
Load Short-circuit Protection	---				
Output range	0 to 20 mA, 4 to 20 mA				
Effect of conductor resistance	<ul style="list-style-type: none"> Thermocouple input: 0.1°C per Ω (100 Ω max. per line) Platinum resistance thermometer input: 0.06°C per Ω (20 Ω max. per line) 	Overall accuracy (25°C)	± 0.3% full-scale However, 1% full-scale from 0 to 4 mA in 0 to 20 mA range		
Warm-up period	30 minutes	Influence of temperature (0 to 55°C)	±0.3% (full-scale)		
Conversion time	50 ms per Unit				

Dimensions	24 mm (W) x 100 mm (H) x 71 mm (D)	Isolation method	<ul style="list-style-type: none"> Between sensor input and internal circuit: Power = transformer, Signal = digital isolator Between sensor inputs: Power = transformer, Signal = digital isolator Between control output and internal circuit: Photocoupler isolation No isolation between control outputs
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute with a leakage current of 5 mA max.
I/O power supply method	Supplied from the NX bus.	Current capacity of I/O power supply terminals	IOG: 0.1 A per terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit 1.65 W max. Connected to Communications Coupler Unit 1.25 W max. 	Current consumption from I/O power supply	30 mA max.
Weight	140 g max.		
Circuit configuration	<p>The diagram illustrates the internal circuit configuration. It shows two main sections: a control output section and a temperature sensor input section. The control output section includes an internal circuit, an isolator, and an amplifier (AMP) driving a transistor. The temperature sensor input section includes an input circuit, an isolator, and an internal circuit. Power is supplied from the NX bus connectors (left and right), which provide I/O power supply + and - lines. The terminal block provides outputs OUT1 to 4 and IOG1 to 4.</p>		
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit Possible in upright installation. Connected to a Communications Coupler Unit Possible in 6 orientations. <p>Restrictions:</p> <p>The cold junction compensation error is restricted according to the installation orientation of the Unit as well as the types and power consumption of adjacent Units. Refer to A-1-4 <i>Specifications of Cold Junction Compensation Error for Thermocouple Inputs</i> on page A-33 for details.</p>		



- *1. Refer to 7-3-1 *Input Type Settings* on page 7-11 for the setting range and input indication range of each sensor.
- *2. + 20°C only for the following input type settings:
 - 1: JPt 100
 - 3: JPt 100
 - 10: T
 - 14: U
- *3. Refer to A-1-3 *Table of Reference Accuracies and Temperature Coefficients* on page A-31. For thermocouple inputs, reference accuracy and cold junction compensation error are guaranteed for a set of a Temperature Control Unit and a terminal block on which a cold junction sensor is mounted. Be sure to use the terminal block and the Temperature Control Unit with the same calibration control number together. A calibration control number is displayed both on the terminal block and the Unit. In order to distinguish left and right terminal blocks, each terminal block has either a letter "L" (left side) or "R" (right side) appended at the end of a calibration control number. Make sure to return the terminal block to which a cold junction sensor is mounted and the Unit together.
- *4. To use an allowable load resistance greater than 350 Ω but not exceeding 600 Ω, either SHT1 and SHT2, or SHT3 and SHT4 must be shorted with a shorting cable. Refer to *Switching the Allowable Load Resistance* on page 4-41 for details.
- *5. Refer to A-1-4 *Specifications of Cold Junction Compensation Error for Thermocouple Inputs* on page A-33.