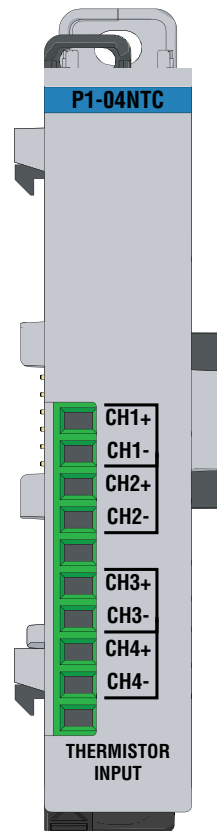


NTC Input Specifications	
Input Channels	4 Single Ended (Temp only)
Data Format	Floating Point
Common Mode Rejection	100dB @ DC
Input Impedance	>5M Ω
Maximum Ratings	Fault Protected Inputs to $\pm 50V$
Resolution	16-bit, $\pm 0.1^{\circ}C$ or $^{\circ}F$
Thermistor Input Ranges	2252 $-40^{\circ}C$ to $150^{\circ}C$ ($-40^{\circ}F$ to $300^{\circ}F$) 10K-AN Type 3 $-40^{\circ}C$ to $150^{\circ}C$ ($-40^{\circ}F$ to $300^{\circ}F$) 10K-CP Type 2 $-40^{\circ}C$ to $150^{\circ}C$ ($-40^{\circ}F$ to $300^{\circ}F$) 5K $-40^{\circ}C$ to $150^{\circ}C$ ($-40^{\circ}F$ to $300^{\circ}F$) 3K $-40^{\circ}C$ to $150^{\circ}C$ ($-40^{\circ}F$ to $300^{\circ}F$) 1.8K $-40^{\circ}C$ to $150^{\circ}C$ ($-40^{\circ}F$ to $300^{\circ}F$)
Thermistor Linearization	Automatic
Sample Duration	Dependent on digital filter settings- 61ms @ 33Hz, 4ms @ 470Hz
Sample Duration Time	Per channel: 61ms @ 33Hz, 4ms @ 470Hz
All Channel Update Rate	1.2 s @ 33Hz, 300ms @ 470Hz
Open Circuit Detection Time	Within 5s @ 33Hz
Conversion Method	Sigma-Delta
Accuracy vs. Temperature	± 35 ppm per $^{\circ}C$ (maximum)
Maximum Inaccuracy	$\pm 1^{\circ}C$ maximum (33Hz) $\pm 2.5^{\circ}C$ maximum (470Hz) (excluding thermistor error; including temperature drift)
Linearity Error	$\pm 0.5^{\circ}C$ maximum ($\pm 0.35^{\circ}C$ typical) Monotonic with no missing codes
Filter Characteristics	Digital Filter cutoff frequencies: 33Hz, 470Hz
External Power Supply Required	None



P1-04NTC Thermistor

The P1-04NTC module provides four Thermistor input channels for use with the Productivity1000 system.

General Specifications	1
NTC Input Specifications	2
Removable Terminal Block Specifications	2
Wiring Diagram and Schematic	3
Module Installation Procedure	4
QR Code	4
Wiring Options	5
Module Configuration	5
Warning	8

Terminal Block Included. Not Compatible with ZIPLink.
 Warranty: Thirty-day money-back guarantee. Two-year limited replacement (See www.productivity1000.com for details).

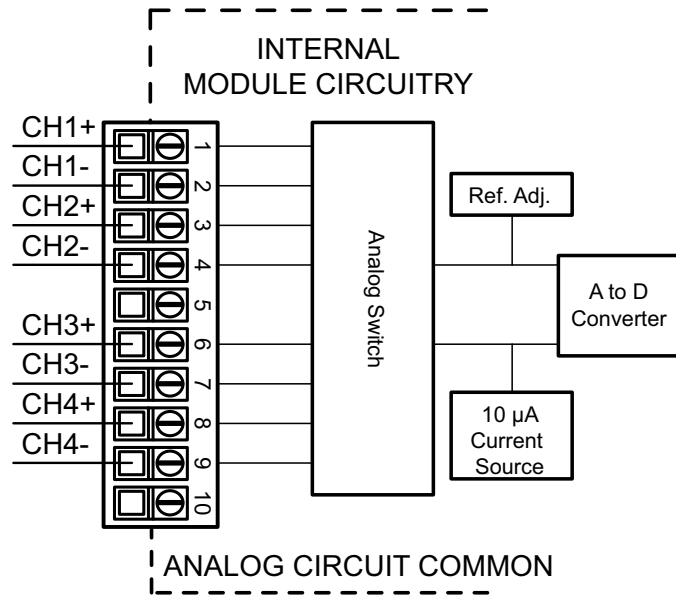
General Specifications	
Operating Temperature	0° to 60°C (32° to 140°F)
Storage Temperature	-20° to 70°C (-4° to 158°F)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Field to Logic Side Isolation	1800VAC applied for 1 second
Heat Dissipation	100mW
Enclosure Type	Open Equipment
Module Location	Any I/O position in a Productivity1000 System
Field Wiring	Removable terminal block (included). The P1-04NTC module is not compatible with the ZIP Link wiring system.
EU Directive	See the "EU Directive" topic in the Productivity Suite Help File. Information can also be obtained at: www.productivity1000.com
Connector Type	10-position Removable Terminal Block
Weight	60g (2.1 oz)
Agency Approvals	UL 61010-2-201 file E139594, Canada & USA CE (EN61131-2 EMC and EN61010-2-201 Safety)*

*See CE Declaration of Conformance for details.

Terminal Block Specifications		
Part Number	P1-10RTB	P1-10RTB-1
Positions	10 Screw Terminals	10 Spring Clamp Terminals
Wire Range	30–16 AWG (0.051–1.31 mm ²) Solid / Stranded Conductor	28–16 AWG (0.081–1.31 mm ²) Solid / Stranded Conductor
	3/64 in (1.2 mm) Insulation Max. 1/4 in (6–7 mm) Strip Length	3/64 in (1.2 mm) Insulation Max. 19/64 in (7–8 mm) Strip Length
Conductors	"USE COPPER CONDUCTORS, 75°C" or equivalent.	
Screw Driver	0.1 in (2.5 mm) Maximum*	
Screw Size	M2	N/A
Screw Torque	2.5 lb-in (0.28 N-m)	N/A

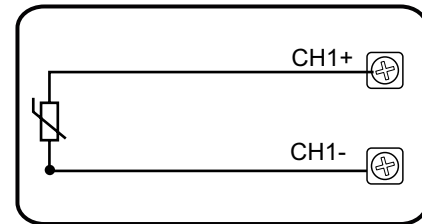
*Recommended Screw Driver TW-SD-MSL-1

P1-04NTC Schematic

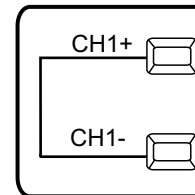


P1-04NTC Wiring Diagram

Thermistor Input



Jumpers



NOTES:

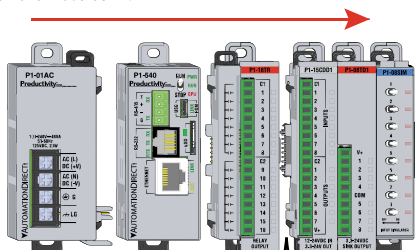
1. Install jumper wire on each unused input. CH1+ to CH1-

Module Installation

QR Code

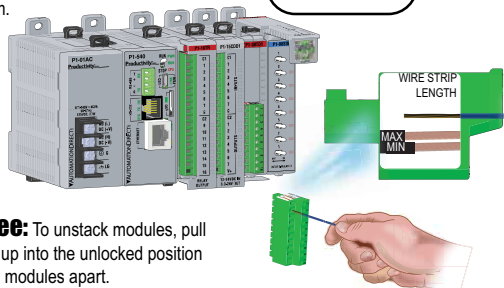
WARNING: Do not add or remove modules with field power applied.

Step One: With latch in "locked" position, align connectors on the side of each module and stack by pressing together. Click indicates lock is engaged.

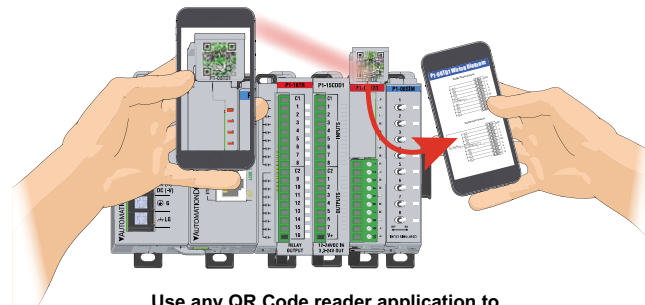
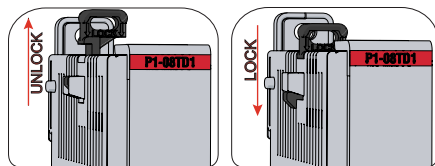


Step Two: Attach field wiring using the removable terminal block or ZIPLink wiring system.

Check all latches are secure after modules are connected.



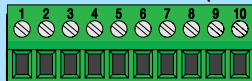
Step Three: To unstack modules, pull locking latch up into the unlocked position and then pull modules apart.



Use any QR Code reader application to display the module's product insert.

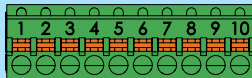
Wiring Options

1 Screw Terminal Block (included)



P1-10RTB
(Quantity 1)

2 Spring Clamp Terminal Block



P1-10RTB-1
(Quantity 1)

Module Configuration

Using the Hardware Configuration tool in the Productivity Suite programming software, drag and drop the P1-04NTC module into the configuration.

Specify Input Range, Temperature Scale, Digital Filter and Burnout Detection, using the drop down menus. If desired, assign a User Tagname to each channel selected and to each Status Bit Item.

P1-04NTC

4CH, 16-BIT, THERMISTOR INPUT

Input Range: 2252 Temperature Scale: Degrees F

Digital Filter: 61 msec Burnout Detection: Low Side Burnout Detection

Add Default Tags Remove Default Tags

Point	User Tagname	Ch. Select	Burnout Error	Under Range Error	Over Range Error
1	A1F32-0.1.1.1	<input checked="" type="checkbox"/>	MST-0.1.1.41	MST-0.1.1.57	MST-0.1.1.89
2	A1F32-0.1.1.2	<input checked="" type="checkbox"/>	MST-0.1.1.42	MST-0.1.1.58	MST-0.1.1.90
3	A1F32-0.1.1.3	<input checked="" type="checkbox"/>	MST-0.1.1.43	MST-0.1.1.59	MST-0.1.1.91
4	A1F32-0.1.1.4	<input checked="" type="checkbox"/>	MST-0.1.1.44	MST-0.1.1.60	MST-0.1.1.92

Status Bit: User Tagname

Module Failed: MST-0.1.1.25

Module Not Ready: MST-0.1.1.27

Module Info Monitor OK Cancel Help

WARNING: To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call Technical Support at .

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Document Name	Edition/Revision	Date
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