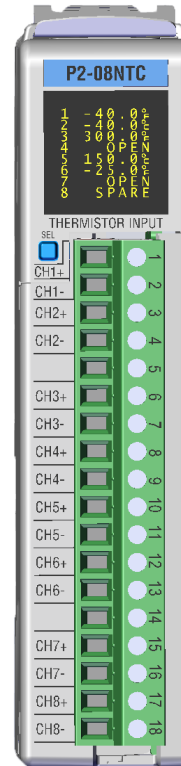


General Specifications

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)
Altitude	2,000 meters max
Pollution Degree	2
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Overtoltage Category	II
Field to Logic Side Isolation	1000VDC
Heat Dissipation	500mW
Enclosure Type	Open Equipment
Module Keying to Backplane	Electronic
Module Location	Any I/O slot in a Productivity2000 System
Field Wiring	Removable terminal block (included). The P2-08NTC module is not compatible with the ZIPLink wiring system.
Connector Type (included)	18-position removable terminal block
Weight	136g (4.8 oz)
Agency Approvals	UL 61010-1 and UL 61010-2-201 File E139594, Canada and USA CE (EN 61131-2 EMC, EN 61010-1 and EN 61010-2-201 Safety)*

*Meets EMC and Safety requirements. See the D.O.C. for details.



P2-08NTC Thermistor

The P2-08NTC module provides eight Thermistor input channels for use with the Productivity2000 System.

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Warning	8
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Terminal Block Included. Not Compatible with ZIPLink.

NTC Input Specifications

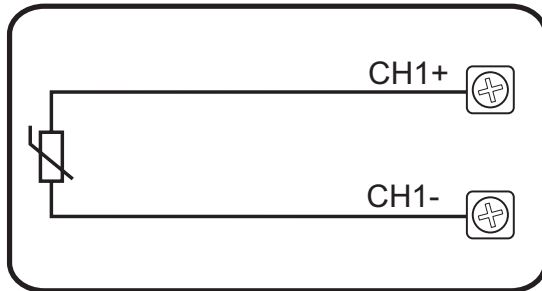
Input Channels	8 Single Ended (Temp Only)
Data Format	Floating Point
Common Mode Rejection	-97dB @ DC, >50dB @ 50/60Hz
Input Impedance	>5MΩ
Maximum Ratings	Fault-protected inputs to +/- 50VDC
Resolution	16-bit, +/- 0.1 °C or °F
Thermistor Input Ranges	2252 -40°C to 150°C (-40°F to 302°F) 10K-AN Type 3 -40°C to 150°C (-40°F to 302°F) 10K-CP Type 2 -40°C to 150°C (-40°F to 302°F) 5K -40°C to 150°C (-40°F to 302°F) 3K -40°C to 150°C (-40°F to 302°F) 1.8K -40°C to 150°C (-40°F to 302°F)
Thermistor Linearization	Automatic
Maximum Inaccuracy	± 0.5°C maximum (33Hz) ± 1°C maximum (123, and 470Hz) (excluding thermistor error; including temperature drift)
Excitation Current	10uA - 210uA autoscaling
Accuracy vs. Temperature	±35ppm per °C (maximum)
Linearity Error	Non-linear
Warm-up Time	30 Minutes for ±1°C Repeatability
Sample Duration (Single channel update rate)	Dependent on digital filter settings- 61ms @ 33Hz, 16ms @ 123Hz, 4ms @ 470Hz
Filter Characteristics**	Digital filter cutoff frequencies: 33Hz, 123Hz, or 470Hz
All Channel Update Rate	2.2 s @16.7 Hz
Open Circuit Detection Time	Within 2s @ 16.7 Hz
Conversion Method	Sigma-Delta
External DC Power	NONE

** Frequencies <123Hz, Display push button may need to be pressed / held >2 seconds.

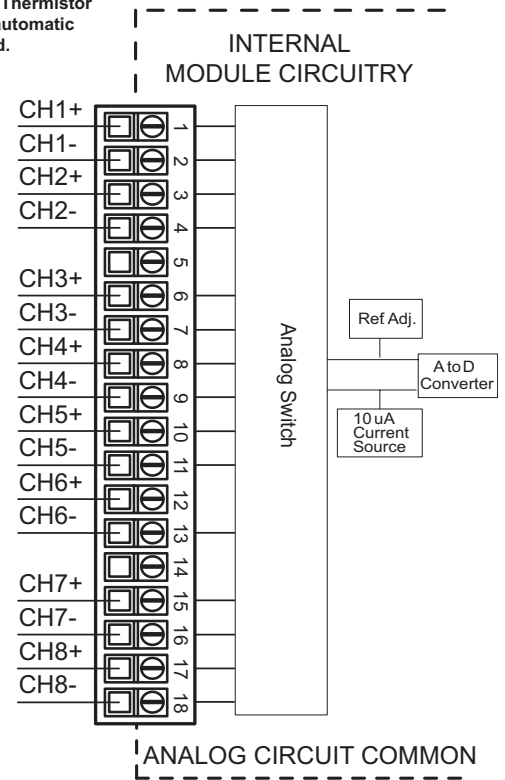
Diagnostics

Module Diagnostics Failure	1 bit per module
Module Not Ready	1 bit per module
Channel Burn-out (Thermistor only)	1 bit per channel
Under-range (Thermistor only)	1 bit per channel
Over-range	1 bit per channel

Thermistor Input



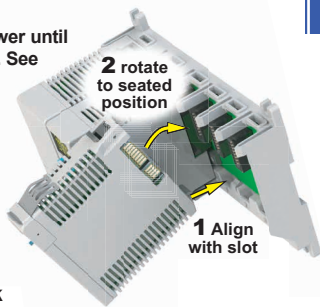
At module power-up Channel 1 must have a functional Thermistor connected so internal automatic calibration is performed.



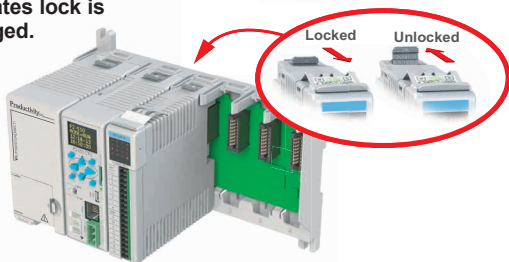
Module Installation

WARNING: Do not apply field power until the following steps are completed. See hot-swapping procedure for exceptions.

Step One: Align module catch with base slot and rotate module into connector.



Step Two: Pull top locking tab toward module face. Click indicates lock is engaged.



Step Three: Attach field wiring to terminal block.



QR Code



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

Caution: If possible, remove field power prior to proceeding. If not, then **EXTREME** care **MUST** be taken to prevent damage to the module, or even personal injury due to a short circuit from the live terminal block.

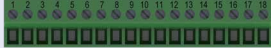
Important Hot-Swap Information

The Productivity2000 System supports hot-swap!

Individual modules can be taken offline, removed, and replaced while the rest of the system continues controlling your process. Before attempting to use the hot-swap feature, be sure to read the hot-swap topic in the programming software's help file or our online documentation at AutomationDirect.com for details on how to plan your installation for use of this powerful feature.

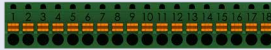
Wiring Options

1 Screw Terminal Block (Included)



P2-RTB
(Quantity 1)

2 Spring Clamp Terminal Block



P2-RTB-1
(Quantity 1)

Module Configuration

Using the Hardware Configuration tool in the Productivity Suite programming software, drag and drop the P2-08NTC module into the base configuration.

Select *Automatic Module Verification* or *No Verification and Enable Hot Swap*. Then select *Input Range*, *Digital Filter*, *Temperature Scale* and *Burnout Detection*. If desired, assign a *User Tagname* to each input point (channel) selected and to each *Status Bit Item*.

8CH 16-BIT THERMISTOR INPUT

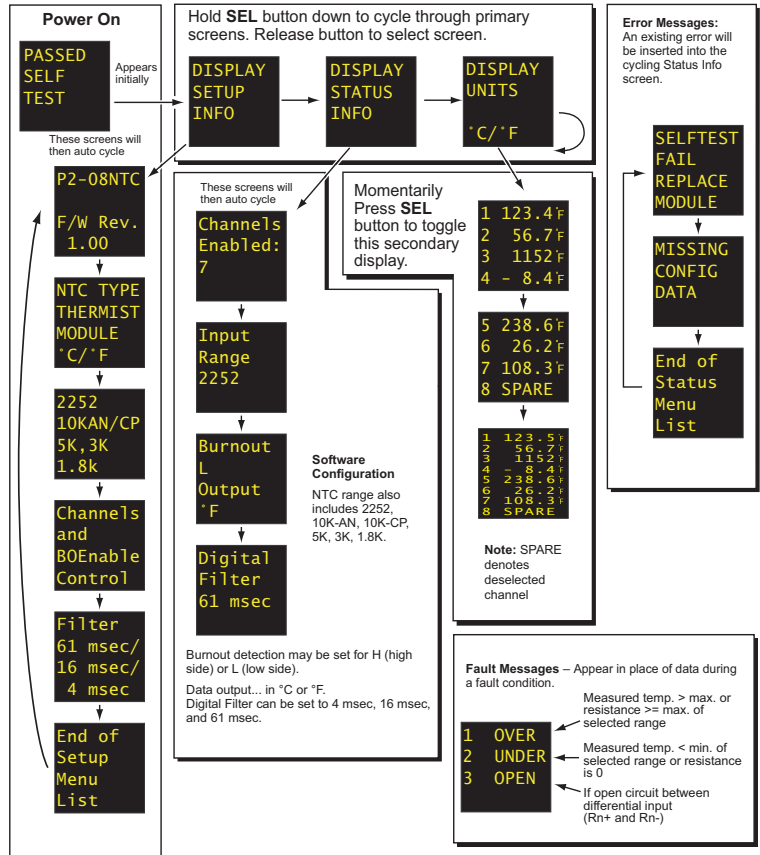
Automatic Module Verification
 No Verification and Enable Hot Swap

Input Range: 10K-AN Temperature Scale: Degrees F
 Digital Filter: 61ms Burnout Detection: Low Side Burnout Detection

Point	User Tagname	Ch. Select	Burnout Error	Under Range Error	Over Range Error
1	AIF32-0.1.12.1	<input checked="" type="checkbox"/>	MST-0.1.12.41	MST-0.1.12.57	MST-0.1.12.89
2	AIF32-0.1.12.2	<input checked="" type="checkbox"/>	MST-0.1.12.42	MST-0.1.12.58	MST-0.1.12.90
3	AIF32-0.1.12.3	<input checked="" type="checkbox"/>	MST-0.1.12.43	MST-0.1.12.59	MST-0.1.12.91
4	AIF32-0.1.12.4	<input checked="" type="checkbox"/>	MST-0.1.12.44	MST-0.1.12.60	MST-0.1.12.92
5	AIF32-0.1.12.5	<input checked="" type="checkbox"/>	MST-0.1.12.45	MST-0.1.12.61	MST-0.1.12.93
6	AIF32-0.1.12.6	<input checked="" type="checkbox"/>	MST-0.1.12.46	MST-0.1.12.62	MST-0.1.12.94
7	AIF32-0.1.12.7	<input checked="" type="checkbox"/>	MST-0.1.12.47	MST-0.1.12.63	MST-0.1.12.95
8	AIF32-0.1.12.8	<input checked="" type="checkbox"/>	MST-0.1.12.48	MST-0.1.12.64	MST-0.1.12.96

Status Bit User Tagname
 Module Failed MST-0.1.12.25
 Module Not Ready MST-0.1.12.27

OLED Panel Display



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 770-844-4200.

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Removable Terminal Block Specifications

Part Number	P2-RTB (included)	P2-RTB-1
Number of positions	18 Screw Terminals	18 Spring Clamp Terminals
Wire Range	30–16 AWG (0.051–1.31 mm ²) Solid / Stranded Conductor 3/64 in. (1.2 mm) Insulation Maximum 1/4 in (6–7 mm) Strip Length	28–16 AWG (0.081–1.31 mm ²) Solid / Stranded Conductor 3/64 in (1.2 mm) Insulation Maximum 19/64 in (7–8 mm) Strip Length
Conductors	"USE COPPER CONDUCTORS, 75°C" or equivalent.	
Screw Driver Width	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 Screwdriver TW-SD-MSL-1

Document Name	Edition/Revision	Date
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