1746-NR8 Eight Channel RTD/Resistance Input Module

Allen-Bradley

Product Profile

Cost Effective Temperature Measurement and Control for the SLC 500 Platform

The new 1746-NR8 RTD module offers advanced performance features for temperature measurement and control applications with large numbers of RTD or resistance inputs. This module has excellent accuracy and compatibility with various RTD types (e.g. platinum, nickel, copper, nickel-iron) or other resistance inputs and supports connections from two or three wire RTD sensors.

This new eight channel module provides more efficient use of rack space and lower cost per point compared to competitive four channel analog modules. A removable terminal block facilitates wiring and module replacement.

Improve System Accuracy with 1746-NR8's User Configurable Hardware and Software Feature

The 1746-NR8 is a factory-calibrated module that undergoes auto-calibration on power-up. Additionally, a choice of periodic and single point calibration features allow high accuracy to be maintained over time and temperature. The module also provides a selection of filter frequencies for high noise environments, and faster module updates.

Machine uptime is increased and troubleshooting time reduced with the help of diagnostic status bits for open circuit and out of range detection. Eight channel status indicators and a module status indicator are also provided.

Each channel can be individually configured with the ladder program and can be reconfigured without interrupting CPU operation. Simple bit configuration allows you to choose the input range, filtering frequency, data format, and status data best suited for your application. The on-board scaling feature eliminates the need to program this function with complex ladder programming.

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1746-NR8 Specifications

Number of Channels	8
CPU/Remote Chassis Compatibility	Compatible with 5/01 thru 5/05 CPUs plus ASB, ACN15, ACNR15 adapters in remote chassis
RTD/Resistance Input Compatibility	RTD-platinum (385, 3916), nickel (618, 672), copper (426) , nickel-iron (518) Resistance-150, 500, 1000, 3000 ohm, Compatible with 2 and 3 wire RTDís, also with 4 wire but does not make use of the 4th GND sense wire.
Effective Resolution	+/- 0.1° C to +/- 0.4° C depending on the filter frequency chosen
Accuracy	Ranges from +/- .2°C to +/- 1.0°C (+/- .4°F to 1.8°F) depending on RTD type and excitation current.
Channel Update Time	6 msec to 125 msec per enabled channel dependent on filter selection.
Diagnostics	Over & under range status bits, and broken sensor detection.
Auto-Calibration	On power-up. Periodic calibration can also be enabled.
Common Mode Noise Rejection	120 dB minimum at 50/60 Hz (with 28 Hz, 50/60 Hz filter)
Normal Mode Noise Rejection	65 dB minimum at 50/60 Hz with 50/60 Hz filter 110 dB minimum at 50 Hz with 28 Hz filter 95 dB minimum at 60 Hz with 28 Hz filter
Common Mode Voltage Range Isolation (Input to backplane)	+/- 1V maximum 500 VAC for 1 minute Optical & magnetic
Isolation (Channel to Channel)	+/- 5V

(Preliminary and subject to change)

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