



Installation Instructions

SLC 500™ Analog Input Module

(Catalog Number 1746-NI8)

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Specifications

Electrical Specifications

Description	Specification
Backplane Current Consumption	200 mA at 5V dc 100 mA at 24V dc
Backplane Power Consumption	3.4W maximum (1.0W at 5V dc, 2.4W at 24V dc)
Number of Channels	8 (backplane isolated)
I/O Chassis Location	Any I/O module slot except slot 0
A/D Conversion Method	Successive approximation, switched capacitor
Input Filtering	Low-pass digital filter with programmable filter frequencies
Normal Mode Rejection (between [+] input and Analog Com)	Provided by low-pass filter
Common Mode Rejection (between inputs and chassis ground)	Greater than or equal to 75 dB at DC Greater than or equal to 100 dB at 50/60 Hz
Input Filter Frequencies	1 Hz 2 Hz 5 Hz 10 Hz 20 Hz 50 Hz 75 Hz
Calibration	The module performs continuous autocalibration
Isolation	500V dc continuous between the analog inputs and the backplane 530V ac and 750V dc pulse withstand for one second
Common-Mode Voltage Range	±10.5V (15V maximum between any two terminals)

Physical Specifications

Description	Specification
LED Indicators	9 green status indicators one for each of 8 channels and one for module status
Module ID Code	Class 1 Interface: 3526 Class 3 Interface: 12726
Recommended Cable	Belden #8761 or equivalent
Maximum Wire Size	Two 14 AWG wires per terminal
Maximum Cable Impedance	Voltage Source (with less than 10Ω impedance): 40Ω maximum loop impedance, for <1LSB error Current Source (transmitter properly wired to its power supply): 250Ω maximum loop impedance, to meet common-mode voltage requirements
Terminal Block	Removable, Allen-Bradley spare part Catalog Number 1746-RT25G

Environmental Specifications

Description	Specification
Operating Temperature	0°C to +55°C (32°F to 133°F) in any slot except 0 0°C to 60°C (32°F to 140°F) in right most slot of chassis
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Relative Humidity	5% to 95% (without condensation)
Agency Certification	UL listed CSA approved CE compliant for all applicable directives
Hazardous Environment Classification	Class 1 Division 2 Hazardous Environment

Input Specifications

Description	Specification
Type of Input (Selectable)	±10V dc 1 to 5V dc 0 to 5V dc 0 to 10V dc 0 to 20 mA 4 to 20 mA ±20 mA 0 to 1 mA
Type of Data (Selectable)	Engineering Units Scaled-for-PID Proportional Counts (-32,768 to +32,767 range) Proportional Counts (User Defined Range, Class 3 only) 1746-NI4 Data Format
Input Impedance	1 MΩ
Voltage Input (maximum)	±30V between any two signal terminals
Current Input (maximum)	30 mA
Time to Detect Open Circuit	1 module scan
Input Step Response	(1)
Input Resolution	1 mV or 1 μA
Display Resolution	1 mV or 1 μA
Overall Module Accuracy (0°C to +60°C, +32°F to +140°F)	Voltage input types (±10V dc, 1 to 5V dc, 0 to 5V dc, 0 to 10V dc): ±0.1% Current Input Types (0 to 20 mA, 4 to 20 mA, ±20 mA): ±0.05% Current Input Type (0 to 1 mA): ±0.5%
Overall Module Drift	Voltage input type: ±6 ppm/°C Current Input Type: ±12 ppm/°C

(1) Depends on filter selected. Refer to the *1746-NI8 User Manual*, publication 1746-6.8.