

Voltage Input Specifications for 4-Channel Modules

Cat. No.	1746-NI4	1746-NIO4I	1746-NIO4V	1746-FIO4I	1746-FIO4V
Full Scale	10V dc	10V dc	10V dc	10V dc	10V dc
Input Range	± 10 V dc -1 LSB			0...10V dc -1 LSB	
Input Impedance	1 M Ω			1 M Ω	
Overvoltage Protection (IN+ to -IN)	220V dc or ac RMS continuously			220V dc or ac RMS continuously	
Resolution	305.176 μ V per LSB			2.4414 mV per LSB (nominal)	
Voltage Input Coding	-32,768...+32,767 for ± 10 V dc			0...4095 counts for 0...10V dc	
Overall Accuracy at 25 °C (77 °F)	$\pm 0.284\%$ of full scale			$\pm 0.440\%$ of full scale	
Overall Accuracy, 0...60 °C (32...140 °F)	$\pm 0.504\%$ of full scale			$\pm 0.750\%$ of full scale	
Overall Accuracy Drift (maximum)	+63 ppm/°C of full scale (maximum)			+88 ppm/°C (maximum)	
Gain Error at 25 °C (77 °F)	+0.263% (maximum)			+0.323% of full scale	
Gain Error, 0...60 °C (32...140 °F)	+0.461% (maximum)			+0.530% of full scale	
Gain Error Drift	± 57 ppm/°C			± 79 ppm/°C	

Output Specifications for 4-Channel Modules

Cat. No.	1746-FIO4I	1746-NIO4I	1746-NO4I	1746-FIO4V	1746-NIO4V	1746-NO4V
Number of Outputs	22		4	2	2	4
Backplane Current (mA) at 5V	55 mA		55 mA	55 mA	55 mA	55 mA
Backplane Current (mA) at 24V	150 mA		195 mA *	120 mA	115 mA	145 mA
Isolation Voltage	Tested at 500V ac and 710V dc for 60 seconds					
Full Scale	21 mA					
Output Range (normal)	0...20 mA -1 LSB			10V dc		
Output Coding	0...32,764 for 0...21 mA			± 10 V dc -1 LSB		
Output Resolution (per LSB)	2.56348 μ A			-32,768...+32,764 for ± 10 V dc		
Converter Resolution	14-bit			1.22070 mV		
Conversion Method	R-2R Ladder			14-bit		
Step Response	2.5 ms (5...95%)			R-2R ladder		
Load Range	0...500 Ω			2.5 ms (normal)		
				1K... ∞ Ω		
Load Current (maximum)	N/A			10 mA		
Over-range Capability	5% (0...21 mA -1 LSB)			N/A		
Overall Accuracy at 25 °C (77 °F)	$\pm 0.298\%$ of full scale			$\pm 0.208\%$ of full scale		
Overall Accuracy, 0...60 °C (32...140 °F)	$\pm 0.541\%$ of full scale			$\pm 0.384\%$ of full scale		
Overall Accuracy Drift (maximum)	± 70 ppm/°C of full scale			± 54 ppm/°C of full scale		
Gain Error at 25 °C (77 °F)	$\pm 298\%$ of full scale			$\pm 208\%$ of full scale		
Gain Error, 0...60 °C (32...140 °F)	$\pm 516\%$ of full scale			$\pm 374\%$ of full scale		
Gain Error Drift (maximum)	± 62 ppm/°C of full scale			± 47 ppm/°C of full scale		

* The 1746-NO4I and 1746-NO4V analog output modules have connections for user-supplied 24V dc power supplies. When external 24V dc power is used, the module only draws 5V dc current from the SLC backplane. If an external 24V dc power supply is required, the tolerance must be 24V $\pm 10\%$ (26.6...26.4V dc). The user power supplies for SLC 500 modular systems, 1746-P1, 1746-P2, 1746-P5, and 1746-P6 power supplies do not meet this specification.