

Parameter	Test Conditions/Comments	Min	Typ	Max	Unit
USB POWER Requirement					
Supply Voltage		4.3	5	5.5	V
Current consumption (-D only)	Stand-by mode		40		mA
Current consumption (-AOD only)	Stand-by mode		60		mA
Current consumption (-CD only)	Stand-by mode		180		mA
Current consumption (-RD only)	Stand-by mode		60		mA
Current consumption (-TD only)	Stand-by mode		50		mA
LOGIC INPUT	DI/UART/SPI/I2C/Counter				
Input High Voltage		3	5	5.5	V
Input Low Voltage		-0.5	0	0.5	V
Input Impedance		50k			Ω
LOGIC OUTPUT	DO/UART/SPI/I2C/PWM				
Output High Voltage		3.1	3.3	3.5	V
Output Low Voltage		-0.5	0	0.5	V
Output Current Source				10	mA
Output Current Sink				-10	mA
INDUSTRIAL DIGITAL INPUT (-SNK only)	Sourcing Input				
Input Type					
Isolation Voltage			2.5		kV
Input High Voltage			30		V
Input Low Voltage			12		V
Input Resistance			6.8k		Ω
INDUSTRIAL DIGITAL OUTPUT (-SNK only)	Sinking output				
Output Type					
Isolation Voltage			2.5		kV
Output High Voltage			30		V
Output Low Voltage			12		V
Output Current Sink (Peak Inrush)			-400	-500	mA
Output Current Sink (Continuous)			-300	-350	mA
COMMUNICATION INTERFACE					
UART Baud Rate				460.8k	bps
SPI-1 Data Rate				36M	Hz
SPI-2 Data Rate				18M	Hz
I2C Data Rate				400k	Hz
CAN Data Rate (-C only)				1M	bps
ANALOG INPUT (-A only)					
Number of Channel			8		ch
Input High Voltage		9.7	10	10.3	V
Input Low Voltage		-9.7	-10	-10.3	V
Resolution			16		bit
Sampling Rate	1-ch continuous mode			20K	Hz
Input Impedance			1M		Ω
Bandwidth			100K		Hz
Signal-to-Noise Ratio (SNR)			95.5		dB
Third Harmonic Distortion (THD)			-107		dB
Integral Nonlinearity (INL)			± 0.5		LSB
Differential Nonlinearity (DNL)			± 0.5		LSB
ANALOG OUTPUT (-O only)					
Number of Channel			8		ch
Output High Voltage			5		
Output Low Voltage			0		
Resolution			16		bit
Update Rate	On-demand mode			1K	Hz
Relative Accuracy			± 8		LSB
Differential Nonlinearity (DNL)				± 1	LSB
Zero-Code Error			6	19	mV
Zero-Code Error Drift			± 2		$\mu\text{V}/^\circ\text{C}$
Gain Error				± 1	%FSR
Gain Temperature Coefficient			± 2.5		ppm
DC Crosstalk (Internal reference)			25		μV
Offset Error			± 6	± 19	mV

Parameter	Test Conditions/Comments	Min	Typ	Max	Unit
DC Output Impedance			0.5		Ω
Short-Circuit Current			30		mA
THERMOCOUPLE INPUT (-T only)					
ADC Resolution			19		bit
ADC Conversion Time	Depending on Conversion mode	90		185	ms
Temperature Range	Depending on Thermocouple type	-210		1800	$^{\circ}\text{C}$
Nominal Temperature Resolution			0.0078125		$^{\circ}\text{C}$
Thermocouple FullScale and Linearity Error			± 0.15		%
Cold-junction Accuracy			± 0.7		$^{\circ}\text{C}$
Input Voltage Protection			± 45		V
Noise Rejection Filtering	Configurable	50		60	Hz
Common-Mode Rejection			70		dB
50/60Hz Noise Rejection	Fundamental and harmonics		91		dB
RTD INPUT (-R only)					
ADC Resolution			15		bit
ADC Full-Scale Error			± 1		LSB
ADC Integral Nonlinearity			± 1		LSB
ADC Offset Error		-3		3	LSB
Nominal Temperature Resolution	Varies Due to RTD Nonlinearity		0.03125		$^{\circ}\text{C}$
Total Accuracy (FS)			0.05%		%
ADC Conversion Time	Depending on Conversion mode		20	66	ms
Input Voltage Protection			± 45		V
Bias Voltage Output Current		0.2		5.75	mA
Common-Mode Rejection			90		dB
50/60Hz Noise Rejection	Fundamental and harmonics		82		dB