

SZCZEGÓŁOWY OPIS PRZEDMIOTU ZAMÓWIENIA

Karta służąca do akwizycji danych w zewnętrznej obudowie (USB-6002) - 1 szt.
Łącze USB – kabel 2 metrowy

Specyfikacja techniczna:

Analog Input

Number of channels	
Differential	4
Single-ended	8
ADC resolution	16-bit
Maximum sample rate (aggregate)	50 kS/s
Converter type	Successive approximation
AI FIFO	2,047 samples
Trigger sources	Software, PFI 0, PFI 1
Input range.....	±10 V
Working voltage	±10 V
Overvoltage protection	
Powered-on	±30 V
Powered-off	±20 V
Input impedance	>1 GΩ
Input bias current	±200 pA
Absolute accuracy	
Typical at full scale	6 mV
Maximum over temperature, full scale	26 mV
System noise	0.4 mVrms
DNL	16-bit, no missing codes
INL	±1.8 LSB
CMRR	56 dB (DC to 5 kHz)
Bandwidth	300 kHz

Analog Output

Analog outputs.....	2
DAC resolution	16-bit
Output range	±10 V
Maximum update rate	5 kS/s simultaneous per channel, hardwared
AO FIFO	2,047 samples
Trigger sources	Software, PFI 0, PFI 1
Output current drive	±5 mA
Short circuit current	±11 mA
Slew rate	3 V/μs
Output impedance	0.2 Ω
Absolute accuracy (no load)	
Typical at full scale	8.6 mV
Maximum over temperature, full scale	32 mV
DNL.....	16-bit, no missing codes
INL.....	±4 LSB
Power-on state.....	0 V
Startup glitch.....	-7 V for 10 μs

Timebase

Timebase frequency.....	80 MHz
Timebase accuracy.....	±100ppm

Timing resolution.....12.5 ns

Digital I/O

13 digital lines

Port 0.....8 lines
Port 1.....4 lines
Port 2.....1 lines

Function

P0. <0...7>.....Static digital input/output
P1.0.....Static digital input/output
P1.1/PFI 1.....Static digital input/output, counter source or digital trigger
P1. <2...3>.....Static digital input/output
P2.0/PFI 0.....Static digital input/output, counter source or digital trigger

Direction control Each channel individually programmable as input or output

Output driver type Each channel individually programmable as open collector or active drive

Absolute maximum voltage range -0.3 V to 5.5 V with respect to D GND

Pull-down resistor 47.5 k Ω to D GND

Power-on stateInput

Digital Input

Input voltage range (powered on) 0 to 5 V

Input voltage range (powered off) 0 to 3.3 V

Input voltage protection ± 20 V on two lines per port (maximum of five lines for all ports) for up to 24 hours

Minimum V_{IH} 2.3 V

Maximum V_{IL} 0.8 V

Maximum input leakage current

At 3.3 V0.8 mA

At 5 V4.5 mA

Digital Output (Active Drive)

Maximum V_{OL} (4 mA)0.7 V

Maximum V_{OL} (1 mA)0.2 V

Minimum V_{OH} (4 mA).....2.1 V

Minimum V_{OH} (1 mA).....2.8 V

Maximum V_{OH}3.6 V

Maximum output current per line ± 4 mA

Digital Output (Open Collector)

Maximum V_{OL} (4 mA)..... 0.8 V

Maximum V_{OL} (1 mA)..... 0.2 V

Using a 1 k Ω pull-up resistor and 5 V voltage source:

Minimum V_{OH} 3.5 V

Typical V_{OH} 4.5 V

Maximum output (sinking) current per line-4 mA

Maximum pull-up voltage..... 5 V

Maximum leakage current

At 3.3 V..... 0.8 mA

At 5 V..... 4.5 mA

Counter

Number of counters1

Resolution..... 32-bit

Counter measurements.....	Edge counting, rising or falling
Counter direction.....	Count up
Counter source.....	PFI 0 or PFI 1
Maximum input frequency.....	5 MHz
Minimum high pulse width.....	100 ns
Minimum low pulse width.....	100 ns

+5 V Power Source

Output voltage.....	+5 V, $\pm 3\%$
Maximum current	150 mA
Overcurrent protection	200 mA
Short circuit current	50 mA
Overvoltage protection	± 20 V

Bus Interface

USB specification	USB Full Speed
USB bus speed	12 Mb/s