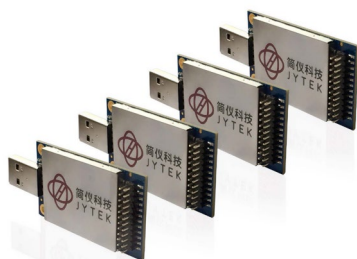


USB-101 SeeSharp 教学卡

2 通道 12 位 100 ks/s 多功能 SeeSharp 教学卡



USB-101

简介

简仪科技USB-101是一款体积小，价格便宜，使用灵活的USB2.0数据采集模块，具有2个模拟输入通道，2个模拟输出通道，4个数字输入输出通道，2个计数器输入输出通道，并可接受外部数字触发信号。

USB-101也是锐视测控平台的重要部分，结合锐视测控软件，可以灵活实现自定义功能。可掌握锐视测控平台中面向对象的MACOS软件架构编程技巧，该技巧同样适用于PXI等平台的编程。USB-101的设计以教学为目标，是基于锐视测控平台的基础教学工具，可适应数据采集，虚拟仪器，模拟电路及创新传感器应用等课程的设计。

引脚定义

USB-101

AI0-	1	2	AI0+
AI1-	3	4	AI1+
GND	5	6	GND
AO1	7	8	AO0
GND	9	10	GND
IO1	11	12	IO0
IO3	13	14	IO2
GND	15	16	GND
CLK1	17	18	CLK0
AUX1	19	20	AUX0
GATE1	21	22	GATE0
OUT1	23	24	OUT0

特点

- 尺寸: 71 x 30 mm
- USB总线供电
- 2通道±5V模拟差分输入 (100 ks/s,12位)
- 2通道±5V模拟输出 (100 ks/s,12位)
- 4通道数字输入输出
- 2通道计数器输入输出
- 数字信号触发

操作系统

- Windows 7/8 x64/x86
- Linux

标准配件

- 24 pin 杜邦线

建议配件

- Arduino 37 种传感器套件



USB-101 在线订购二维码

或访问在线订购链接:
www.jytek.com/usb101

订购指南

- USB-101
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Signal Name	Reference	Direction	Description
GND	-----	-----	Reference ground for analog input, analog output, GPIO, and GPTC
AI0+, AI0-, AI1+, AI1-	GND	Input	Analog differential Input channel
AO<0,1>	GND	Output	Analog out channel
IO<0..3>	DGND	Input/Output	Digital I/O
CLK<0, 1>	DGND	Input	Clock source of GPTC<0, 1>
GATE<0, 1>	DGND	Input	Gate of GPTC<0, 1>
OUT<0, 1>	DGND	Output	Output of GPTC<0, 1>
AUX<0, 1>	DGND	Input	Up/Down of GPTC<0, 1>

Analog Input

Channel Characteristics	
Number of channels	2
Input configurations	Differential
Input coupling	DC
ADC resolution	12-bits
ADC type	SAR
Sample rates (fs)	100 kS/s maximum
FIFO buffer size	Total 24k samples shared by both AI and AO channels
Data transfers	IO polling and Continuous mode (based on sampling rate)
Input signal range	±5V
Input Common Mode Range	±5V
Signal plus common mode voltage Range	±5V
Overvoltage protection – Differential configuration	Conditions Power on: ±12 V Power off: ±12 V
Input impedance	Differential Configuration Between (+) and GND: >10MΩ Between (-) and GND: >10MΩ Between (+) and Between (-): >10MΩ

Accuracy and Bandwidth		
Offset Error	After Calibration @ $T_{cal} \pm 5^{\circ}C$	± 5 mV
Gain Error (@ almost full scale)	After Calibration @ $T_{cal} \pm 5^{\circ}C$	± 0.1% of FSR
Bandwidth (-3dB)		0.2 MHz

Input Range	DC-Coupled CMRR (dB)
±5V	>= -50

Note: (1) <1kHz signal, (2) differential configuration

Dynamic Performance (AC Performance)	
ENOB	>=10.4 bits
SINAD	>=64 dBc
SNR	>=64 dBc
THD	<= -75 dBc

Note: Value measured with a 1 kHz 4.5Vpp sine wave input signal

General Specifications

Bus and Physical	
Bus interface	USB 2.0 Full Speed
Power requirements	USB Bus power
Physical dimension	USB Type A Male connector

Environment Requirement	
Operating environment	Temperature: 0°C ~ 55°C Relative humidity: 5% ~ 95%, non-condensing
Storage Environment	Temperature: -20°C ~ +70°C Relative humidity: 5% ~ 95%, non-condensing

Power Consumption	
Standby	5V @ 90mA
Full running	5V @ 120mA

注：保留所有权利。所有规格如有更改，恕不另行通知

Analog Output

Channel Characteristics	
Number of channels	2
Output configurations	Single-Ended
Output coupling	DC
DAC resolution	12-bits
DAC type	SAR
Update rates (fs)	100 kS/s
MAX working load	1kΩ
Short circuit protection	Indefinite protection between output and ground
FIFO buffer size	Total 24k samples shared by both AI and AO channels
Data transfers	IO polling Continuous
Output signal range	±5V

Transfer Characteristics		
Offset Error	After Calibration @ $T_{cal} \pm 5^{\circ}C$	± 10 mV
Gain Error (@ almost full scale)	After Calibration @ $T_{cal} \pm 5^{\circ}C$	± 0.5% of FSR
Slew Rate		5V/us

Triggers and Timebase

Triggers	
Trigger source	Software command, external digital trigger
Trigger mode	Post trigger

External Digital Trigger	
Sources	Pin header connector
Compatibility	3.3V/TTL
Trigger polarity	Rising or falling edge
Pulse width	200 ns minimum

Timebase	
Frequency	8 MHz
Internal Timebase Accuracy	±50 ppm, over operating temperature range