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简仪科技 JYTEK

USB-62405

4 通道 24 位 128kS/s USB2.0 动态信号采集模块

USB-62405

简介

USB-62405是一款24位高性能USB接口动态信号采集模块，提供4 个模拟输入通道，每通道同步采样频率最高可达128 kS /s。USB-62405还具有软件可选的直流或交流耦合输入配置，内置的高精度2mA激励电流源适用于测量集成电子压电（IEPE）传感器，如加速计和麦克风。

USB-62405提供高精度、直流与动态测量性能，以及极低的温度漂移。USB-62405板载24位Sigma-Delta ADC，支持抗混叠滤波，并且低通滤波截止频率可根据不同采样频率自动调整，能够更有效地抑制噪声对测量精度的影响，是高动态范围信号测量，如振动和声学应用的理想选择。

USB-62405支持外部数字和模拟触发源以及后触发、延时触发、中触发、门控触发、预触发等完整的触发模式，提供更高效灵活的数据采集，并且无需任何后续处理流程。USB-62405采用USB总线供电，并配备便于设备连接的BNC接头和可拆式弹簧端子。

特点

- USB2.0高速传输
- USB总线供电
- 24位Sigma-Delta ADC型DAC，内置抗混叠滤波器
- 4通道同步采样模拟输入，采样频率最高可达128kS/s
- 直流或交流输入耦合，可软件选择
- 模拟或数字触发
- 每个模拟输入通道都支持2mA激励电流输出，适用于IEPE传感器测试
- 全自动校准

■ 操作系统
- Windows 7/8x64/x86
- Linux
- Max OS X

订购指南

- USB-62405
  4 通道 24 位 128kS/s USB 2.0 动态信号采集模块

可选配件

■ RST-20P
一对 20- 针可拆式接头

标准配件

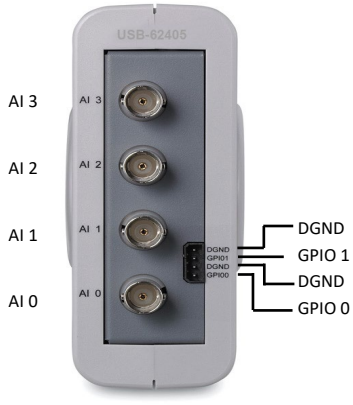
- 4 针可插拔弹簧端子

- 2 米长可锁式 Tpye A 至 mini-B USB 线缆

- 多功能底座

- 导轨安装套件

IO 接口定义



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Specifications

Analog Input	
Channels	4 (simultaneous sampling)
ADC Resolution	24 Bit
ADC type	Delta-sigma
Sampling rate	1 kS/s to 128 kS/s
Input range	±10V
FIFO buffer size	2k samples per channel
Input Configuration	Differential or pseudo-differential
Input impedance	200 kΩ (between positive input and negative input) 16.93 kΩ (Between negative input and chassis ground)
Input coupling	AC or DC, software selectable
Integrated Electronic Piezoelectric (IEPE)	Current: 2 mA or 0 mA, software selectable IEPE compliance: 24V
Over-voltage protection	±60V
Input common mode range	±10V
Trigger source	Analog or digital, software selectable
Trigger mode	Post trigger, delay trigger, middle trigger, gated trigger, pre-trigger, post or delay trigger with re-triggering
Data Transfer	Programmed I/O, continuous (bulk transfer mode)

- DC accuracy (25°C)

Offset Error (mV)	Gain Error (%)
Typical: ±0.15mV	Typical: ±0.15%
Max. ±0.3mV	Max. ±0.3%

- AC Dynamic Performance (typical, 25°C)
  - THD, THD+N (Vin = 8.9 Vpk)

Input configuration	Input Signal Frequency (fin)	THD	THD+N
Differential	20 Hz to 20 kHz	-94 dB	-91 dB
	20 Hz to 46.4 kHz	-89 dB	-88 dB
Pseudodifferential	20 Hz to 20 kHz	-92 dB	-88 dB
	20 Hz to 46.4 kHz	-85 dB	-85 dB

- CMRR

AC (20 Hz to 1 kHz)
60 dB

- Bandwidth

-3dB bandwidth	0.49 * sampling rate
AC cut-off frequency (-3dB)	0.4 Hz
AC cut-off frequency (-0.1dB)	2.4 Hz

- Flatness

Input Signal Frequency (fin)	Flatness
20 Hz to 20 kHz	±0.01 dB
20 Hz to 46.4 kHz	±0.15 dB

- Crosstalk

Input Signal Frequency (fin)	Crosstalk
1 kHz	-102 dB
46.4 kHz	-95 dB

- System noise

Mode	AI Noise
High-Resolution (< 52.734 kHz)	50μVrms
High-Speed Mode (52.734 kHz to 128 kHz)	65μVrms

- SFDR (Vin = -1 dBFS)

Input Signal Frequency (fin)	SFDR
1 kHz	104 dB

- Dynamic Range (Vin = -60 dBFS, fs=102.4kS/s)

Input Signal Frequency (fin)	Dynamic range
1 kHz	100 dB

Digital Input / Output	
Channels	2 programmable function I/O
Compatibility	3.3V / TTL (single-ended)
Initial status	Input (pull low)
Input voltage	Logic low: VIL = 0.8 V max; IIL = 0.2 mA max. Logic high: VIH = 2.0 V min.; IIH = 0.2 mA max.
Output voltage	Logic low: VOL = 0.8 V max; IIL = 0.2 mA max. Logic high: VOH = 2.0 V min.; IIH = 24 mA max.
Over-voltage rotection	-2V ~ +7V
Supporting modes	• Static digital input/output • Pulse output, max. frequency:4 MHz • Frequency/Event counter, max. frequency: 4MHz • Digital trigger IN • Synchronization sample clock IN
Data Transfer	Programmed I/O

Note: Function I/O shares the same I/O pins, such that only one of these modes can be selected at a time.

General Specifications

- I/O connector: Four BNC connectors and 4-pin removable spring terminals
- Operating temperature: 0 to 55°C (32 to 131°F)
- Storage temperature:-20 to 70°C (-4 to 158°F)
- Power requirements: 5V @ 400mA (USB bus powered)
- Dimensions (not including connectors and stand): 115mm (W) x 150 mm (D) x 40 mm (H) (4.5" x 5.91" x 1.57")
- Relative humidity: 5% to 95%, non-condensing

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