

IUSBDAQ Specifications

The spec is for 25 °C typically.

General

Parameter	Specification
Device type	USB 2.0 full speed
Device compatibility	USB 1.1, USB 2.0
Operating Temperature range	-40 to 85°C for U120816, 0 to 70°C for U1208LOG
Dimension	3.5" x 3.375" x 1.125" (9cm x 8.5cm x 3cm)
Connector Type	Screw terminal
Power Supply	USB bus powered, min 4.5V max 5.5V

Analog Input

Parameter	Min	Typical	Max	Unit	Specification
A/D converter type					Successive approximation type
Input voltage range for linear operation	0		Vref	V	
Mode					Single ended
Number of channels					8
Resolution					12 bit
Vref Voltage	4.055	4.096	4.137	V	
Accuracy	-41	1	+41	mV	Depends on the accuracy of Vref
Maximum input voltage range	-0.6		7.6	V	
Integral Nonlinearity		+/-1.0	+/-2.0	LSB	
Differential Nonlinearity		+/-0.5	+/-1.0	LSB	No missing codes over-temperature
Offset Error		+/-1.25	+/-3	LSB	
Leakage Current		0.001	+/-1	uA	
Trigger source					Software or Trigger line
Gain Error		+/-1.25	+/-5	LSB	

Table of analog streaming throughput rate

Number Of Channels	Max Throughput (samples/s)

8	32000
7	30100
6	27000
5	25000
4	22000
3	19500
2	18400
1	13000
U1208LOG has high speed streaming mode. Below is the throughput rate for high speed mode.	
8	64000
7	57470
6	60000
5	60000
4	62520
3	61578
2	59368
1	53728

Digital input/output

Number of IOs	16 bi-directional
Digital type	CMOS output, TTL or Schmitt trigger input
Pull up	All pins pull up to Vs via 470 ohm, 1M to ground
Input high voltage	2.0V min, 5.5V absolute max
Input low voltage	-0.3V absolute min, 0.8V max
Output voltage	(Vs-0.47) V at 1mA
Output short circuit current	10.6mA at Vs=5V
Maximum output current sunk	25mA
Maximum output current sourced	25mA
Power on states	All are inputs
Input leakage current	+/-1uA

Counter

Resolution	16 bit
Maximum input frequency	1M HZ
High pulse width	0.5us min
Low pulse width	0.5us min
Input leakage current	+/-1uA
Input high voltage	4.0V min, 5.5V absolute max

Input low voltage	0.8Vmax, -0.3V absolute min
Pull up	470ohm in series, 1M ohm to ground

PWM

Resolution	10 bit
Number of channels	2
Pull up	470ohm pull up to Vs, 1M ohm to ground
Period	3us – 333us
Frequency	333kHz – 3kHz

Trigger Line

Pull up/pull down	470ohm in series, 1M ohm to ground
Input leakage current	+/-1uA
Input high voltage	2.0V min, 5.5V absolute max
Input low voltage	-0.3V absolute min, 0.8V max
Trigger mode	High state will start data acquisition if used

+5V Power

Parameter	Condition	Specification
Output voltage	Connected to self-powered hub Connected to externally powered root hub	4.5V min, 5.25V max
	Connected to bus powered hub	4.1V min, 5.25Vmax
Output current	Connected to self-powered hub Connected to externally powered root hub	450mA max
	Connected to bus powered hub	50mA max

EEPROM

Size	240 bytes
Address range	0 - 239