

DataBRICK3 SPECIFICATIONS

Rev1.1

GENERAL

Sample Rates (Scan rate for all active channels)

- Stand-Alone Data Logger Mode¹
 - Analog Only 0.00003 - 17,000 Hz
 - Analog + HS Counter 0.00003 - 14,600 Hz
 - Analog + LS Counters 0.00005 - 10,800 Hz
- Real-Time (Computer Tethered) Mode²
 - Store & Display Scan Rate 2 - 2,000 Hz

Time Base Accuracy ± 25 ppm @ 25°C
Internal Data Memory 4,194,296 data points
Analog Input Channels 8 (Differential Input)
Counter Input Channels 4
External Trigger Input Channels 1

Compliant with SAE J211-1 Recommended Practice

ANALOG INPUTS

Input Range and Offset Characteristics

Gain	Input Window ³ (mV)	Offset Range ⁴ (mV)
1	± 2,500	± 7,500
2	± 1,250	± 7,500
5	± 500	± 7,500
10	± 250	± 750
20	± 125	± 750
50	± 50	± 750
100	± 25	± 75
200	± 12.5	± 75
500	± 5	± 75
1,000	± 2.5	± 75
2,000	± 1.25	± 75

Analog to Digital Converter (ADC)

- Simultaneous sampling of all analog channels
- Data Resolution 14 bits (61 ppm)
- ADC Input Range ± 2.5 Volts

8th Order, Linear Phase, Low-Pass Anti-aliasing Filter

- Corner Frequency Range 0.45 - 6,500 Hz

Sensor Excitation

- Selectable per channel 5 or 10 Vdc
- Source Current⁵ 50 mA/channel
- Indefinite short circuit protection

Input Impedance (typical) 5.0 MΩ

Protected Input Range (max) ± 25.0 Volts

Analog Channel Signal-to-Noise Ratio (SNR)⁶

Gains:	1 - 200	75 dB (minimum)
	500	70 dB
	1000	65 dB
	2000	60 dB

COUNTER INPUTS

Counters are sampled without affecting the count

Counter Resolution 14 Bits
Counter Sensor Excitation 5 Vdc
Sensor Excitation Drive⁷ (max) 75 mA
High Speed Counters⁸ 2
Low Speed Counters⁹ 2
Positive Going Threshold (max) 3.85 Volts
Negative Going Threshold (min) 1.65 Volts
Protected Input Range (max) ± 25.0 Volts

EXTERNAL TRIGGER CHANNEL

Trigger Modes:

- Edge Sensitive: Single or Multiple Event, pre-trigger and post-trigger data
- State Sensitive: Single or Multiple Event, post-trigger data only
- Software Command: Single Event, post-trigger data only

Programmable Trigger State NO or NC
Positive Going Threshold (max) 3.85 Volts
Negative Going Threshold (min) 1.65 Volts
Protected Input Range (max) ± 25.0 Volts

REAL TIME CLOCK

Month, Date, Year, Hours, Minutes, Seconds

± 5 minutes/month accuracy

Date and time stamp for each triggered event

HOST COMPUTER COMMUNICATION PORT

USB2.0 compliant

POWER SUPPLY

Protected against input voltage transients

Indefinite reverse polarity protection (0 to -25 Vdc)

Input Voltage Range 10.0 - 17.0 Vdc

Input Clamp Voltage ± 25 Volts

Input/Output Isolation (continuous) 500 Volts

Power Requirements (Watts @ 25°C)

4.5 W + (15 x Transducer Excitation Load [Amps]) W

HOST COMPUTER SOFTWARE

Windows® 7, Vista, XP & 2000 compliant

Features include:

- Data Acquisition Configuration
- Channel Offset Functions
- Simultaneous Data Viewing & Data Logging
- System Status Display
- Data Display
- Sensor Database
- Ascii Data File Export
- Full-speed USB2.0 Communication

PHYSICAL

Billet aluminum enclosure

6.0" x 4.3" x 2.3" (15.2 cm x 10.9 cm x 5.8 cm)¹⁰

2.88 lb. (1.3 kg), w/o battery

High reliability latching connectors

Splash resistant enclosure and connectors

ENVIRONMENTAL

Operating temperature range 32 - 140°F (0 - 60°C)

Operating humidity range 0 - 95 %, non-cond.

Operating shock loading 200 g's, 20 msec¹¹

Notes:

1. Three simultaneous scan rates can be specified. Channels are individually assigned to one of the three specified scan rates.
2. All active analog channels are scanned at the Real-Time primary scan rate. High and low speed counter channels may be scanned at a lower rate.
3. Analog channel input voltage range, at the input jack.
4. Analog channel offset range, at the input jack.
5. Maximum of 300 mA total for all analog channels.
6. Bandwidth: 0 - 2 kHz. Both inputs shorted to - Excitation.
7. Total for both counter input jacks.
8. Usable with primary scan rates at or below 14.6 kHz.
9. Usable with primary scan rates at or below 10.8 kHz.
10. Excluding the mounting flange.
11. Half-sine equivalent - any orientation.

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