GMH Engineering

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DataBRICK3 Overview

The 3rd generation of GMH Engineering's high performance data acquisition system is now available. In production since 1993, the DataBRICK line has a proven history of quality and practicality. The new DataBRICK3 builds upon this success to provide reliable data logging in a small, rugged package with improved performance and increased flexibility.

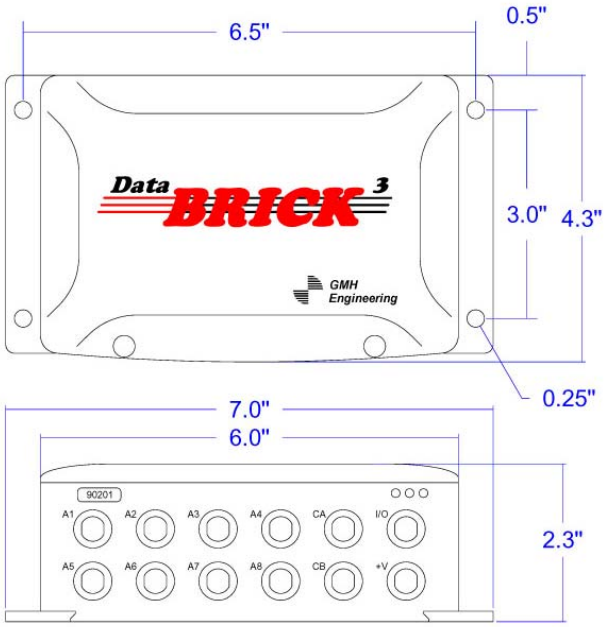
Overview

- Channels: 8 analog, 4 digital
- Memory: 4.2 million samples
- Sample rates: channel selectable to 17 KHz
- Communication: USB2
- Excitation: channel selectable 5 V or 10 V
- Channel Excitation Isolation: a shorted channel has no affect on other channels
- Gain: channel selectable, eleven steps from 1 to 2000
- Filtering: channel selectable anti-aliasing filters
- A/D resolution: 14 bits
- Channel input offset: -7.5 V to 7.5 V
- Power requirements: 10 – 17 VDC, 4.5 – 13.5 W
- Acquisition modes: 2 available
  - stand-alone logging: setup test with computer connected, autonomously acquire data, then download data to computer for display and storage
  - real-time logging: stream data to computer disk while simultaneously viewing data plots on computer display (sample rates to 2 kHz/channel)
- User software: intuitive and efficient, includes sensor database and flexible plotting
- Enclosure: rugged billet aluminum case with rear connector for rack mounting
- Connectors: Lemo precision push-pull 5 pin (size OB)
- Rugged: tested for uninterrupted operation at over 200 g

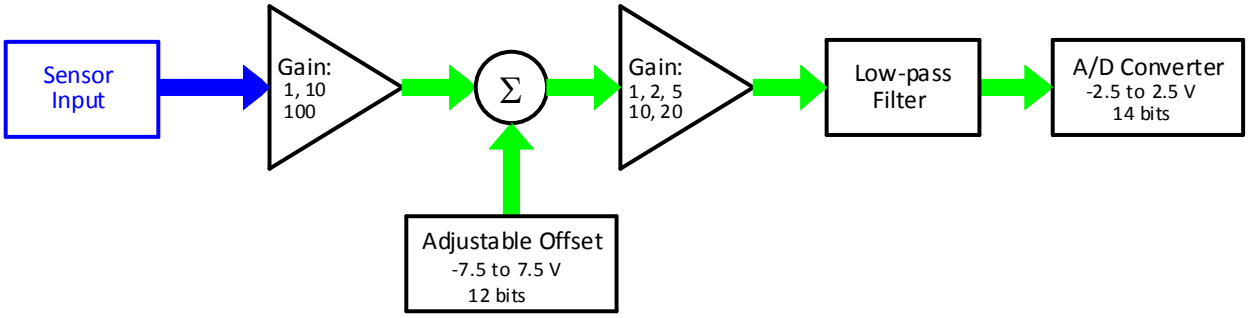
New with version 3

- Much faster communication through USB port
- 8X the memory
- Higher sample rates
- Better resolution
- More settings allow closer matching of sensor range to A/D range
- Greater channel input offset range
- External power voltage monitoring in Status dialog
- Internal battery voltage monitoring in Status dialog
- Pretrigger sampling now available in multiple event trigger mode
- More trigger options – trigger from the software or from an analog channel
- More intuitive user software with unlimited number of DataBRICK's in a test setup file
- Sensor database – enter sensor information once and use it in future test setups
- Multiple formats for sensor calibration entry eliminates need for user calculations
- More rugged enclosure with provisions for rack mounting

DataBRICK3 Dimensions



Analog Channel Block Diagram



LED Functionality

Red – External power
Yellow – Data in memory
Green – Ready to acquire (solid), Acquiring (blinking)

DataBRICK3 State	LED Status		
	Red	Yellow	Green
Powered down	Off	Off	Off
External power applied - empty memory	On	Off	Off
External power applied - data in memory	On	On	Off
Ready to acquire	On	Off	On
Acquiring data	On	Off	Blinking
Ready to acquire in multiple event mode	On	On[1]	On
Acquiring data in multiple event mode	On	On[1]	Blinking
Fault 1[2]	On	Synchronized Blinking	
Fault 2[3]	On	Alternating Blinking	

1 – After the first event is logged
2 – Memory corruption - internal battery low or hardware problem. Call GMH Engineering.
3 – Power interruption or RF interference. Remove external power and then reapply to reset DataBRICK3.