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The ultra-compact fully enclosed chassis weighs only 1.13kg (2.5lbs), making it suitable for in-vehicle applications.

**FREE VersaDAQ
Demo Software**

APPLICATIONS

In-vehicle testing

Automotive testing

Aircraft engine testing

Motorcycle/ATV testing

Boat/Marine engine testing

Tests using low-level sensors (thermocouples, etc.)

Tests using high-level sensors (battery voltage, steering/throttle position, shock travel, etc.)

DAQ532

32 Channel Signal Conditioning System with 16-Bit ADC and Network Connectivity for In-Vehicle Testing



The DAQ532 is a complete 32-channel data acquisition system in an ultra-compact chassis.

FEATURES

- 32 Differential input analog channels with signal conditioning
- 2 Additional Frequency Measurement channels
- 10BaseT Ethernet connectivity to your PC or laptop for setup, data display and processing
- Wireless Ethernet available
- 16-bit analog-to-digital converter resolution
- Aggregate sampling rate of up to 32k samples/second (1k sample/channel/second with all channels active) via Ethernet, up to 50k samples/second to CompactFlash™
- Simple user interface allows for quick setup of data collection and storage
- Local data storage via CompactFlash™ module
- Auto-configuration on power-up for stand-alone applications
- External trigger input provided

GENERAL DESCRIPTION

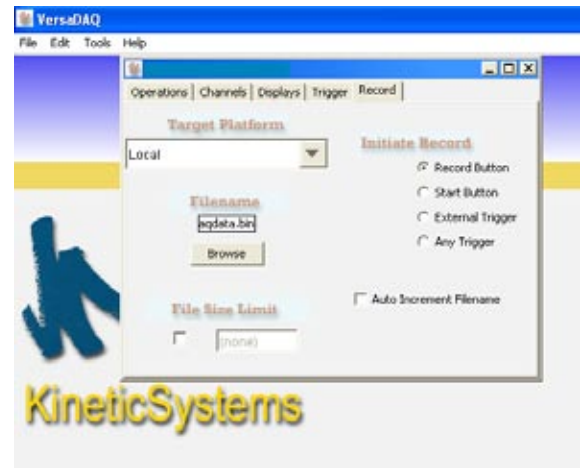
The DAQ532 is a complete 32-channel multiplexed signal conditioning system with a 16-bit resolution ADC and 10BaseT Ethernet connectivity to a PC or laptop for setup, data display and processing. The ultra-compact fully enclosed chassis weigh just 1.13kg (2.5lbs), making it suitable for in-vehicle applications. The DAQ532 chassis can be powered from DC voltage sources ranging from 10-18 volts. Power consumption is 10 watts for typical configurations, 30 watts maximum. Local data storage is available via a CompactFlash™ module. Auto configuration on power-up provides stand-alone capability and along with the simple user interface makes data collection and storage a two-mouse click process. The signal conditioning consists of 32 multiplexed differential input analog channels that can be configured with fixed 2-pole filters and fixed gains of 1/5 to 100. Filter options are available in a 1,2,5 progression from 10Hz to 1kHz. Filters and gain are configured in 8-channel groups. Input voltage ranges up to ±30 volts are supported. Channel inputs have over-voltage protection to ±35. End-to-end channel calibration is accomplished by configuring the input multiplexers via software to receive a reference voltage provided by an internal calibrator.

Two channels of frequency measurement are provided. These channels can alternately be configured as counter inputs. External trigger input is provided as well. The internal sample clock can be programmed via software for sample rates from 0.0625Hz to 50kHz. Signal conditioning channels are connected via a 44-contact "D" connector (two 44-contact "D" connectors for 32-channel option). Frequency measurement channels are connected via a 15-contact "D" connector.

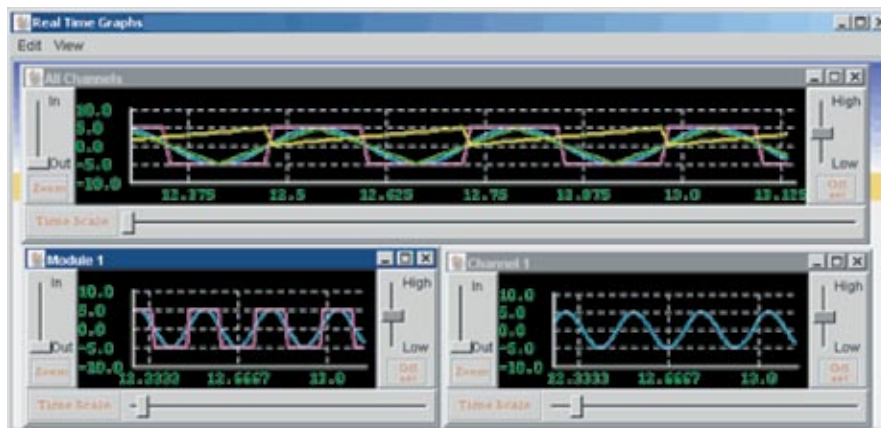
Included VersaDAQ software manages and controls DAQ532 operations including setup, data acquisition, and data recording. VersaDAQ runs on a PC/laptop and connects to a DAQ532 chassis via the 10BaseT Ethernet Connection. VersaDAQ's simple but powerful user interface configures channels, sample rate, record mode, calibration, and all other DAQ532 functionality with a few mouse clicks and pull-down menus.



Configuring DAQ532 Series Channels



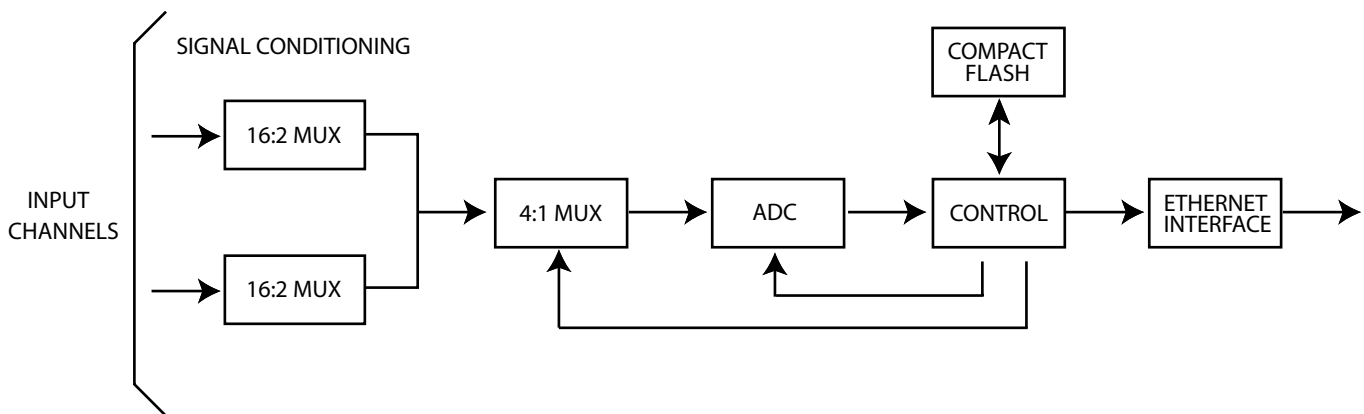
Configuring Data Record Parameters



Monitoring Live Data Real-time Graphs

Items	Specifications
Number of channels	32 differential analog input channels, 2 frequency measurement channels 31 differential analog input channels if channel 32 is configured as an isothermal reference.
Analog Inputs Input range Common mode: Differential: Input protection Input impedance	± 10.48 V standard, ± 30 V optional ± 10.48 V standard, ± 30 V optional ± 35 V $1M\Omega$
Frequency Measurement Counter frequency measurement range: External Trigger:	2 single-ended TTL-level inputs that can be used as counters. Digital input 0 can also be used as an external trigger to start a scan 0.8 Hz to 50kHz TTL-level low true pulse (1 second minimum pulse width)
Available gain ranges (fixed gain in groups of eight channels)	1/5, 1/3, 1, 2, 5, 10, 20, 50, 100
Available filter ranges (fixed cutoff in groups of eight channels)	2-pole RC, 10Hz to 1kHz in a 1,2,5 progression (Gain of 1/3 and 1/5 option is only available with 1-pole RC, 10 Hz Filter)
Aggregate Sampling Rate	32k sample/second (1k sample/ channel/ second with all channels active) via Ethernet, up to 50kHz samples/second recording to CompactFlash
Resolution	16-bit, monotonic over operating range
Accuracy, referred to input, after automatic calibration	0.025% of reading \pm 0.012% of full scale (for gains of 1 – 100) 0.025% of reading \pm 1.00% of full scale (for gain of 1/5 and 1/3)
DC Power Requirements	10-18VDC (12VDC nominal), 17 watts for typical configurations, 30 watts maximum
Chassis Dimensions	67.7mm (2.67") high, 112mm (4.41") wide, 220mm (8.66") deep
Weight	1.13kg (2.5lbs)

DAQ532 Block Diagram



The table below indicates the available signal conditioning/Mux card configurations.

Card Slot Location	Group A (8 Channels)		Group B (8 Channels)	
	Filter (Hz)	Gain	Filter (Hz)	Gain
x	Fxx	Gxx	Fxx	Gxx
1= Chan 1-16		Gain of 1/5 = .2		Gain of 1/5 = .2
2= Chan 17-24	10Hz = 11	Gain of 1/3 = .3	10Hz = 11	Gain of 1/3 = .3
	20Hz = 21	Gain of 1 = 01	20Hz = 21	Gain of 1 = 01
	50Hz = 51	Gain of 2 = 02	50Hz = 51	Gain of 2 = 02
	100Hz = 12	Gain of 5 = 05	100Hz = 12	Gain of 5 = 05
	200Hz = 22	Gain of 10 = 11	200Hz = 22	Gain of 10 = 11
	500Hz = 52	Gain of 20 = 21	500Hz = 52	Gain of 20 = 21
	1000Hz = 13	Gain of 50 = 51	1000Hz = 13	Gain of 50 = 51
	No Filter = 00	Gain of 100 = 12	No Filter = 00	Gain of 100 = 12

(Gains of 1/5 and 1/3 option is only available with 1-pole RC, 10 Hz Filter)

RELATED PRODUCTS

Model DAQ750-532
Isothermal Termination Assembly for the DAQ-532



DAQ750 shown with cover removed

The table below shows the corresponding full-scale input voltage range for each gain factor.

Gain	Full-scale Input Range
1/5	±50 volts
1/3	±30 volts
1	±10 volts
2	±5 volts
5	±2 volts
10	±1 volts
20	±0.5 volts
50	±0.2 volts
100	±0.1 volts



Part Number Examples for Signal Conditioning Channels:

1F11G12F00G01 = 16-Channel Signal Conditioning/Mux Card
(channels 1-16)
Group A channels 1-8 configured for 10Hz filter,
gain of 100
Group B channels 9-16 configured for no filter,
gain of 1

2F12G.3F21G02 = 16-Channel Signal Conditioning /Mux Card
(channels 17-32)
Group A channels 17-24 configured for 100Hz
filter, gain of 1/3
Group B channels 25-32 configured for 20Hz
filter, gain of 2

Specifications contained within this data sheet are subject to change
without notice.

ORDERING INFORMATION

DAQ532-AA11 32-Channel Signal Conditioning
Chassis with 16-Bit ADC
DAQ500-TRIG Push Button Cable Assembly for
External Trigger

Refer to available signal conditioning/Mux card
configurations in the table above.

Please contact the factory for detailed pricing information.

KineticSystems Company, LLC

900 N. State St.
Lockport, IL 60441-2200

Toll-Free (US and Canada):

phone 1-800-DATA NOW
1-800-328-2669

Direct:

phone +1-815-838-0005
fax +1-815-838-4424

Email:

mkt-info@kscorp.com

To find your local sales representative
or distributor or to learn more about
KineticSystems' products visit:

www.kscorp.com