

# QUADdaq

## Pressure Scanner Acquisition System

- **Compact four scanner (256 channel) acquisition system.**
- **High speed acquisition (up to 1000 measurements per channel per second).**
- **Temperature compensated engineering unit outputs over CAN or Ethernet.**
- **Compatible with Digital Thermal Compensation (DTC) scanners.**
- **0.06% FS accuracy with DTC scanners, 0.25% with standard scanners.**
- **Hardware trigger for timing synchronisation.**
- **Rugged enclosure for on-car applications.**
- **Supplied with full software for configuration, calibration and data logging.**



The QUADdaq is a self contained 4 scanner acquisition system based on the successful Chell CANdaq. It provides a total solution to in-model acquisition acquiring accurate pressure data from the PSI pressure scanners and voltages and currents from the Chell I-Daq.

The QUADdaq takes full advantage of the DTC technology within the scanners and makes interfacing with them straightforward. The DTC scanners contain all their coefficients in an EEPROM inside the scanners and the temperature of **every** transducer is measured to calculate the compensation. The DTC scanners also contain a 3X deranging option and shuttle valve position sense and all these functions can be accessed by the supplied software.

With standard scanners, temperature compensation is also available through the single temperature output offered by the scanners.

The QUADdaq also interfaces with the optional solenoid valve control - QD-VP. This allows the user to access the pneumatic calibration valve features of the PSI pressure scanner through the QUADdaq and its software.

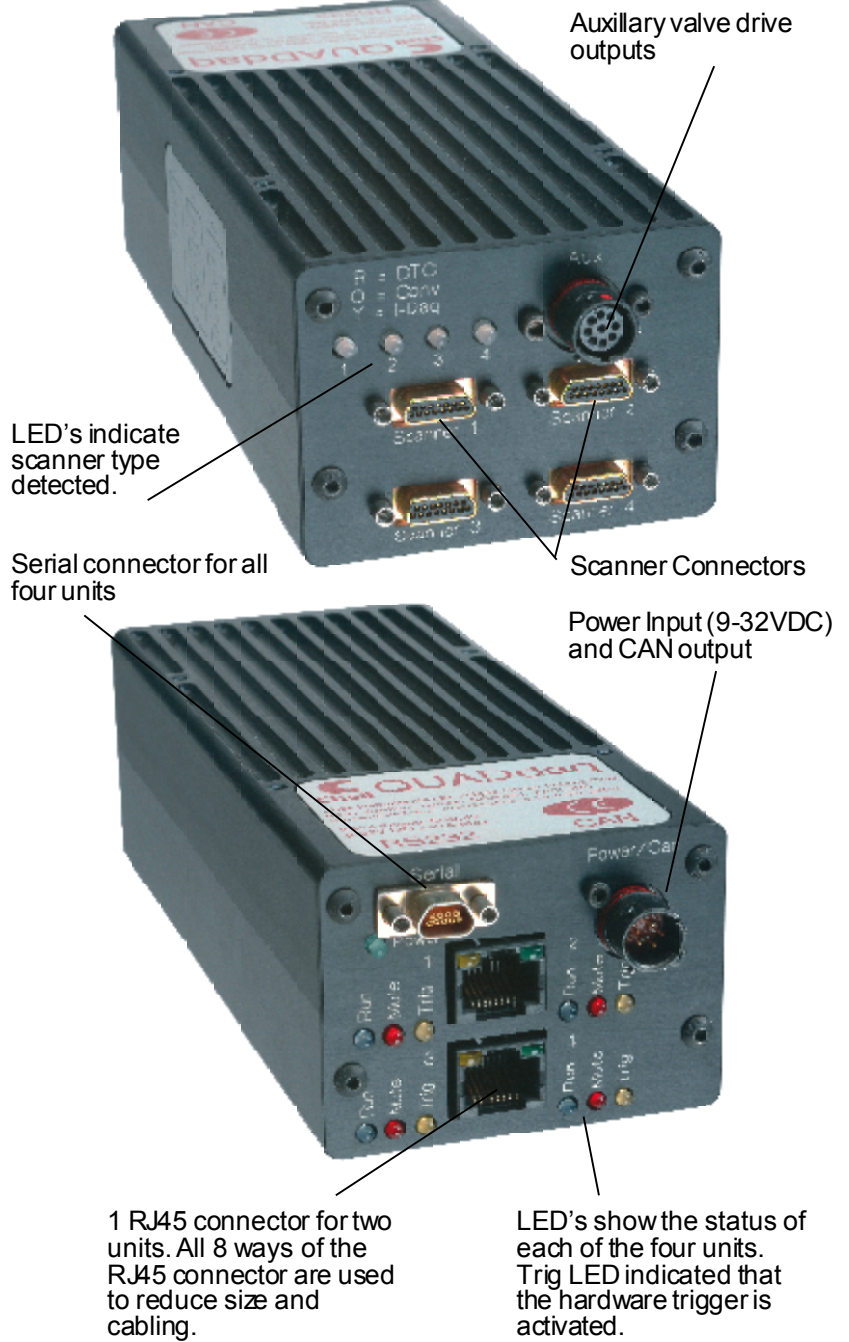
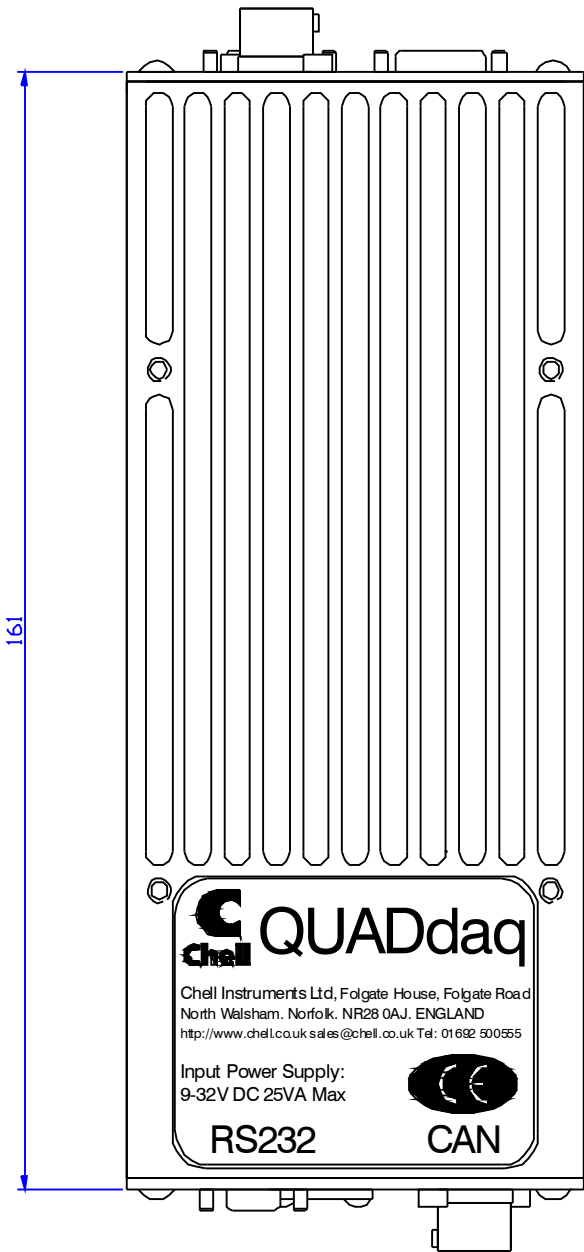
The QUADdaq also has the option of a hardware trigger. This can be used to synchronise the four units and to deduce timing information for the measurements taken.

The QUADdaq, like the CANdaq will operate a high accuracy and unparalleled high speed making it suitable for a variety of applications. These range from wind tunnels, to education and on-car race applications.

The QUADdaq senses what scanner type is connected to, either a DTC scanner, a conventional scanner or an I-Daq. The appropriate calibration coefficient and algorithms are then employed. This enables DTC scanners and I-Daq's to become 'plug and play'.

The software supplied with the CANdaq allows the user to configure the acquisition in terms of speed, averaging and thermal compensation method used. It also provides a calibration interface, real time data window and data logging facilities. The CANdaq is supplied with a DDE interface so data can be directly acquired into third party software such as Excel.

Easy to use wizards are also available to help configure the CANdaq to the application.



CAN specifications	QUADdaq
CAN type	2.0B
CAN Baudrate	Configurable (by internal switch between 1M and 100K)
Programable Variables:	
Address 0x?nn	Most significant programmable device ID
Address 0xn?n	Next most significant programmable device ID
BRP	CAN bus timing - see Infineon data sheet
TSEG1	CAN bus timing - see Infineon data sheet
TSEG2	CAN bus timing - see Infineon data sheet
SJW	CAN bus timing - see Infineon data sheet

Parameter	QUADdaq
Maximum number of scanners	4
Maximum number of channels	256
System accuracy (DTC scanner)	+/- 0.06% FS
System accuracy (standard scanner)	+/- 0.25% FS
System accuracy (I-Daq)	+/- 0.06% FS
System resolution	14 bit.
Input supply voltage	9-32 VDC @ 25VA
Dimensions	161mm x 69.8mm x 50.8mm
Operating temperature range	+5 to+50°C
Storage temperature range	-20 to+70°C
Maximum relative humidity	95% at 50°C (non-condensing)

Maximum acquisition Speed (measurements per channel per second)			
	Number of Pressure Scanner Channels		
Comms Used	16	32	64
RS232	140	70	35
Ethernet	625	625	312
CAN	1000	500	312

Valve Drive Outputs	QUADdaq
Number	3
Type	Open collector under software control (RS232, CAN or Ethernet)
Hardware Trigger	QUADdaq
Input type	5V TTL - opto-isolated
Frequency range	1-Maximum acquisition speed (see seperate table)