

# CANdaq

## Pressure Scanner Acquisition System

Self contained acquisition system and power supply for the PSI Electronic Pressure Scanners

- *Acquisition system with CAN, Ethernet and RS232 output in engineering units.*
- *High speed acquisition (up to 1000 measurements per channel per second).*
- *Compatible with Digital Thermal Compensation (DTC) scanners.*
- *0.05% FS accuracy with DTC scanners, 0.25% with standard scanners.*
- *Compact size.*
- *Supplied fully calibrated.*
- *Rugged enclosure for on-car applications.*
- *Re-zero through host control or plug in switch.*
- *Supplied with full software for configuration, calibration and data logging.*



The CANdaq is a self contained acquisition system that acquires data from a PSI pressure scanner and then outputs the data via Ethernet, CAN or RS232. The CANdaq addresses the scanner, acquires the output and applies a pressure and thermal calibration to derive the engineering units.

The CANdaq makes interfacing and taking advantage of the PSI miniature scanners straightforward without compromising any performance. The CANdaq will operate a high accuracy and high speed making it suitable for a variety of applications. These range from wind tunnels, to education and on-car race applications.

The CANdaq interfaces with the PSI digital thermal compensation (DTC scanners) which further increases the performance of the scanners.

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.

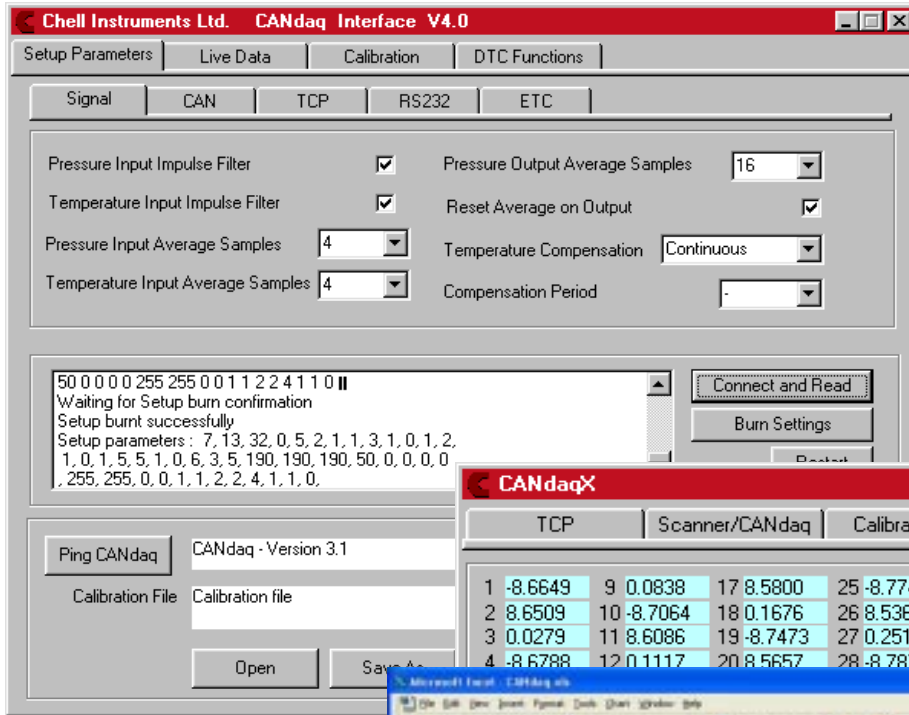
The DTC scanners also contain a 3X deranging option and shuttle valve position sense and all these functions can be accessed by the supplied software.

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

The CANdaq contains the high integrity power supplies (-12V, +12V and +5V) to power the scanner which are all powered from a single 12V rail.

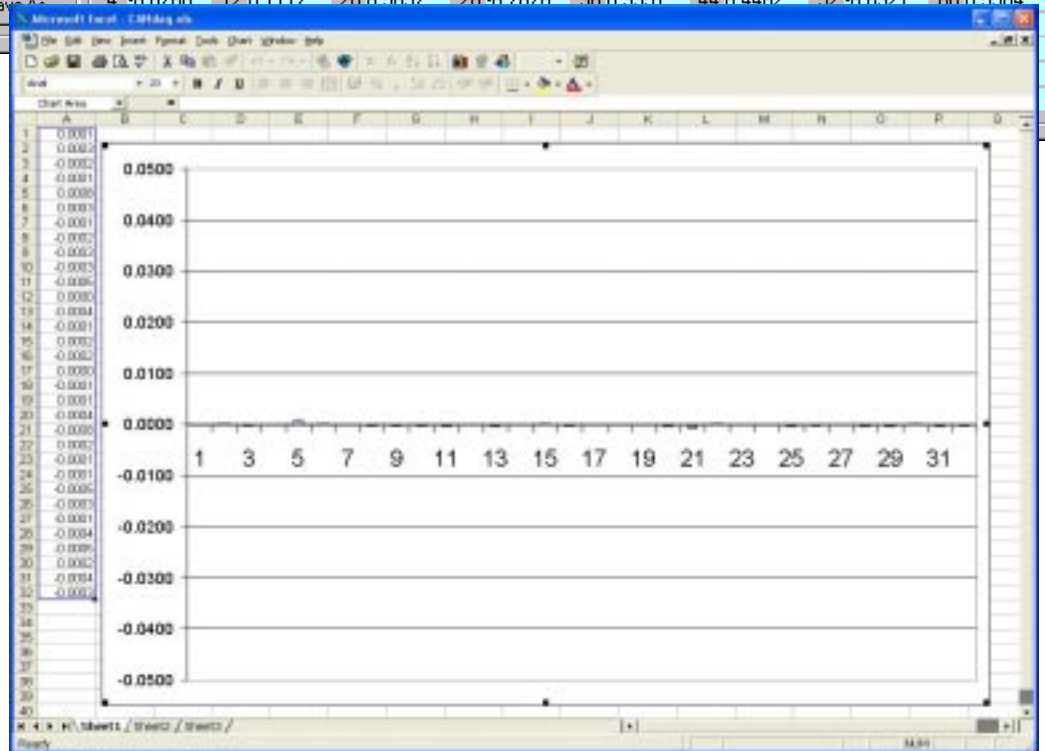
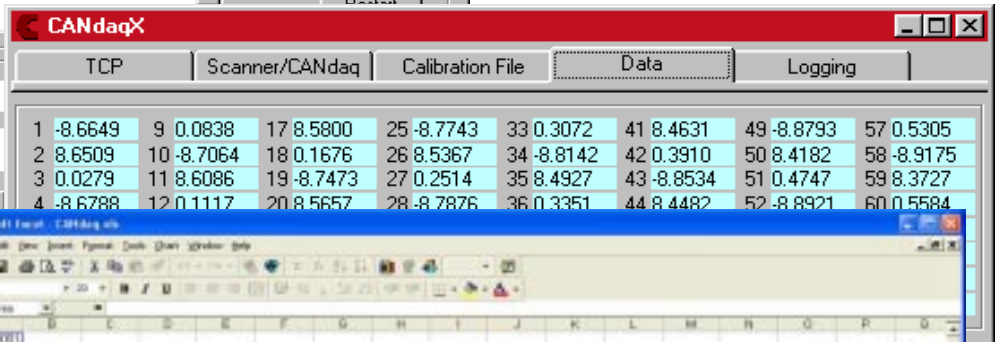
The software supplied with the CANdaq allows the user to configure the acquisition in terms of speed, averaging and thermal compensation method used. It also provides a calibration interface, real time data window and data logging facilities. The CANdaq is supplied with a DDE interface so data can be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

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



The CANdaq with its host software provides all the features of a larger acquisition system. The user can apply averaging to the signal if steady state data is required or acquire dynamic data.

All the configuration options are down-loaded into the CANdaq and saved in nonvolatile memory so that they will be recalled even if the CANdaq is powered down.



Data can be logged to disk by the software or entered directly into third party software such as Excel. Here the data can be viewed in real time and macros written to perform certain tasks.

CAN specifications	CANdaq
CAN type	2.0B
CAN Baudrate	Configurable (by internal switch between 1M and 100K)
Programmable 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

## Specifications

Parameter	CANdaq
System accuracy (DTC scanner)	+/- 0.05% FS
System accuracy (standard scanner)	+/- 0.25% FS
System resolution	14 bit.
Input supply voltage	9-36 VDC @ 15VA
Dimensions	106mm x 70mm x 29.6mm
Weight	240g
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

Output supplies	
5 Volt (+Vs) current rating	100mA
5 Volt (+Vs) ripple	<30mV
5 Volt (+Vs) load regulation	<2mV
5 Volt (+Vs) line regulation (over 9 to 36 volt input)	<2mV
5 Volt (+Vs) temperature coefficient	+/- 0.005%FS/°C
+12 Volt current rating	200mA
+12 Volt ripple	<90mV
+12 Volt load regulation	<0.1V
+12 Volt line regulation (over 9 to 36 volt input)	<20mV
+12 Volt temperature coefficient	+/- 0.0017%FS/°C
-12 Volt current rating	200mA
-12 Volt ripple	<40mV
-12 Volt load regulation	<0.2V
-12 Volt line regulation (over 9 to 36 volt input)	<20mV
-12 Volt temperature coefficient	+/- 0.0017%FS/°C



**Chell Instruments Ltd**  
 Folgate House  
 Folgate Road  
 North Walsham  
 Norfolk NR28 0AJ  
 England

Tel.: +44 (0)1692 500555  
 Fax: +44 (0)1692 500088

E-mail : sales@chell.co.uk

Web site : www.chell.co.uk