CANdaq

Pressure Scanner Acquisition System

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

Instruments

- ***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.***
- ***0.06% FS accuracy with DTC scanners, 0.25% with standard scanners.***
- ***Hardware trigger for data synchronisation and time determination to +/- 27us.***
- ***Output for QD-VP pneumatic solenoid valve actuation.***
- ***Rugged enclosure for on-car applications.***
- ***Supplied with full software for configuration, calibration and data logging.***

The CANdaq is a self contained acquisition system that acquires data from a PSI ESP™ pressure scanner, Chell I-Daq or T-Daq and then outputs the data via Ethernet, CAN or RS232.

The CANdaq provides a complete solution for pressure, voltage and temperature scanning. The CANdaq 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 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

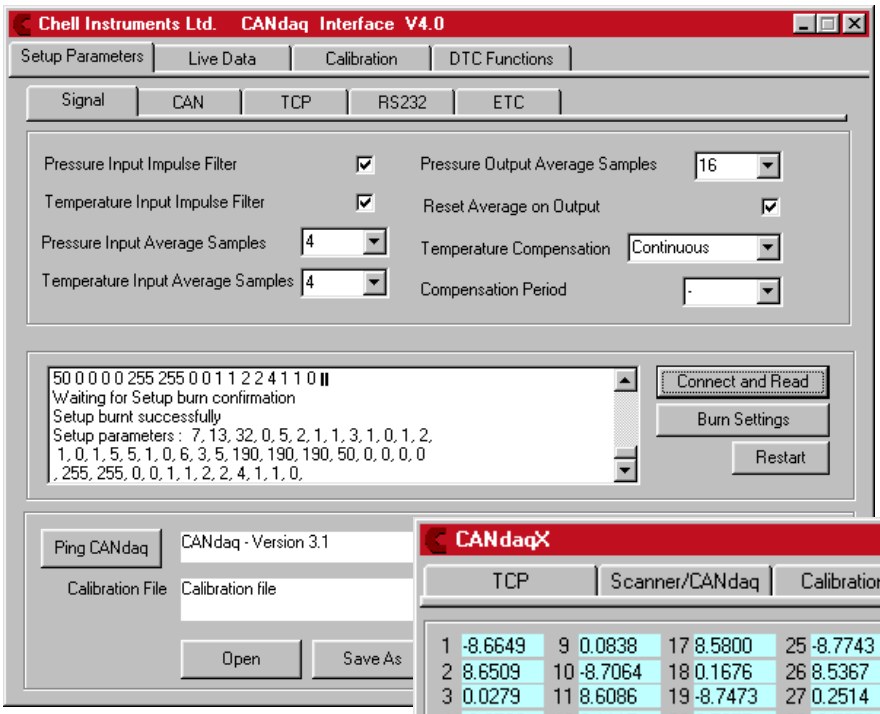
The CANdaq now features an optional hardware trigger for data synchronisation and acquisition time determination. Also now available are three software controlled valve drive outputs which can be used in conjunction with the QD-VP for actuating the pressure scanner's pneumatic valve.

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.

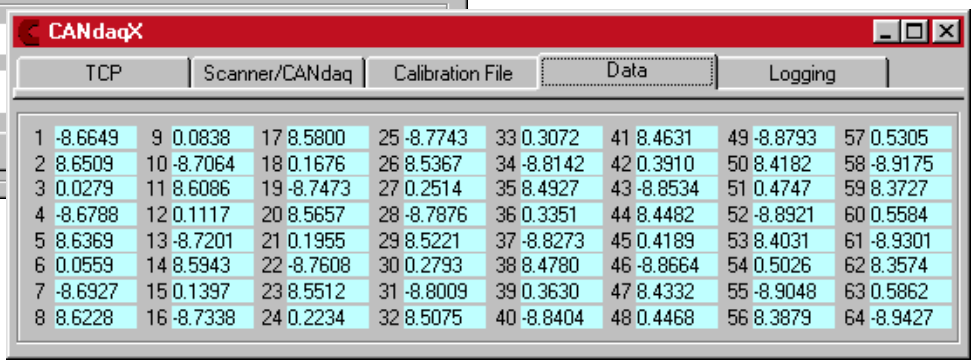
Easy to use wizards are also available to help configure the CANdaq to the application.

CANdaq Software



The CANdaq with it's 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.



1	-8.6649	9	0.0838	17	8.5800	25	-8.7743	33	0.3072	41	8.4631	49	-8.8793	57	0.5305
2	8.6509	10	-8.7064	18	0.1676	26	8.5367	34	-8.8142	42	0.3910	50	8.4182	58	-8.9175
3	0.0279	11	8.6086	19	-8.7473	27	0.2514	35	8.4927	43	-8.8534	51	0.4747	59	8.3727
4	-8.6788	12	0.1117	20	8.5657	28	-8.7876	36	0.3351	44	8.4482	52	-8.8921	60	0.5584
5	8.6369	13	-8.7201	21	0.1955	29	8.5221	37	-8.8273	45	0.4189	53	8.4031	61	-8.9301
6	0.0559	14	8.5943	22	-8.7608	30	0.2793	38	8.4780	46	-8.8664	54	0.5026	62	8.3574
7	-8.6927	15	0.1397	23	8.5512	31	-8.8009	39	0.3630	47	8.4332	55	-8.9048	63	0.5862
8	8.6228	16	-8.7338	24	0.2234	32	8.5075	40	-8.8404	48	0.4468	56	8.3879	64	-8.9427

Data can be logged to disk by the software or entered directly into third party software such as Excel.

Acquisition System Accessories

Scanner Pneumatic valve control - QD-VP

The QD-VP valve module is an accessory to the CANdaq range of acquisition devices. The module contains two solenoid valves designed to control the shuttle of Pressure System ™ ESP pressure scanners. There is also an electrical drive to allow a solenoid valve to control purge gas. The valves are controlled via three address lines and is driven directly from the auxiliary connector of the CANdaq.

Analogue Voltage Acquisition - I-daq

FEATURES:

- Acquires voltage or current.
- Available with 'D' type or Lemo® connectors.
- Compatible with any pressure scanning acquisition system.
- Complete with calibration interface so all channels can be calibrated through one port.

Temperature Acquisition - T-Daq

FEATURES:

- Acquires K and E type thermocouples
- Accurate to +/- 0.5 DegC
- Compatible with any intelligent pressure scanner acquisition system.
- On board EPROM contains calibration coefficients.

CANdaq Specifications			
Options			
System accuracy (DTC scanner)	+/- 0.06% FS		
System accuracy (standard scanner)	+/- 0.25% FS		
System accuracy (I-Daq scanner)	+/- 0.06% FS		
System resolution	14 bit.		
Input supply voltage	9-36 VDC @ 15VA		
Dimension	106mm x 70mm x 29.6mm		
Weight	240g		
Operating temperature range	+5 to+50°C		
Storage temperatire range	-20 to+70°C		
Maximum relative humidity	95% at 50°C (non-condensing)		
Maximum acquisition speed (measurements per channel per second)			
	Number of Channels		
Comms Used	16	32	64
RS232 (57600)	140	70	35
Ethernet (10baseT)	625	625	312
CAN	1000	500	312
CAN Spefications			
CAN type	2.0B		
CAN Baudrate	Configurable (by internal switch between 1M and 100K)		
Programmin variables:			
Address 0x?nn	Most significant programmable device ID		
Address 0xn?n	Next most significant programmable device ID		
BRP, TSEG1, TSEG2, SJW	CAN bus timimg - see Infineon data sheet		

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