CANdaq5

DTC Scanner Digitizer

- **Intelligent pressure scanner interface with engineering unit output.**
- **Compatible with all TE/PSI Pressure Scanners.**
- **Converts TE/PSI scanners to calibrated digital output compatible with Chell microDAQ and nanoDAQ products.**
- **Up to 0.05% FS accuracy output.**
- **Complete with IEEE 1588 PTPV2 time stamping**
- **Up to 2Khz per channel measurement frequency.**
- **Output over Ethernet (100Mbit TCP / UDP / IENA) and CAN.**
- **Rugged enclosure for on-vehicle applications.**
- **Fully configurable over Ethernet with embedded web server.**

The Candaq5 is a further development of the well established Chell MicroDaq system. The Candaq5 provides an ultra-miniature complete pressure scanning unit that outputs engineering unit data over Ethernet and CAN.

The CANdaq5 will convert an analogue ESP/HD scanner into a PTP enabled, Ethernet and CAN digital scanning solution. It shares a protocol with the Chell microDAQ3 and nanoDAQ products and can be combined with them to form a complete system.

The CANdaq5 interfaces with a TE ESP™ pressure scanner (both HD scanners and MicroScanners) and provides the user with a straight-forward digital interface. Where available, the MicroDaq takes full advantage of the DTC technology within the scanners.

The DTC scanners contain all their coefficients in an EEPROM 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 or embedded web server.

The CANdaq5 may also be used with conventional scanners and provides the user with a scanner temperature measurement so that thermal mapping of the scanner can be carried out using the supplied software.

The CANdaq5 can scan at 50kHz enabling it to produce data at more than 2KHz per channel when scanning only the first 16 channels. The data is available over Ethernet which is auto-negotiating 10 / 100Mbit. The Ethernet can be configured as TCP or UDP with IENA as a UDP option.

On-line-Calibration

The CANaq5 can now be used to create a full on-line calibration system when combined with the microDAQ-PCU and a Druck PACE™ pressure controller. Now a system using legacy ESP scanners can be put together that, with the on-line calibration provided by the PACE™, will produce data close in quality to the newer microDAQ3 scanners.

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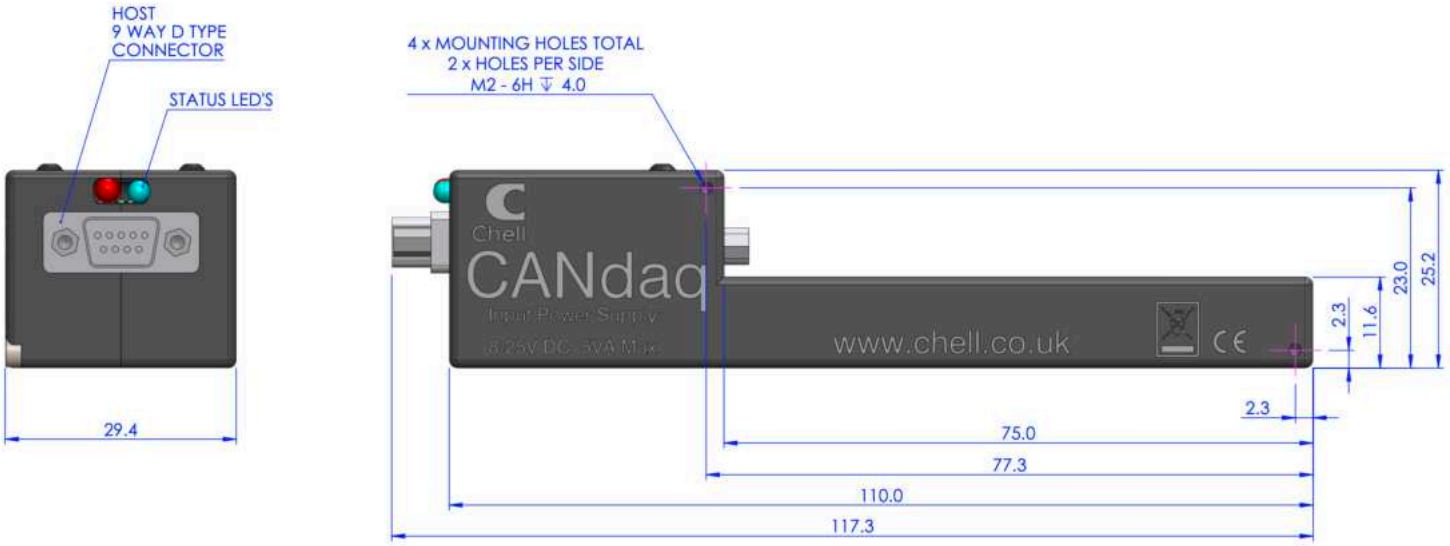
General	
System resolution	16 bit
Number of channels	16, 32 and 64
Aquisition speed - measurements per channel per second.	32 channels : 1000, 64 channels : 500
Scanner cable type	Chell SDCB - Max 45m
Data Output	
Outputs available	CAN and Ethernet (TCP/IP & UDP), IENA
Ethernet Specification	100Mbit TCP/IP or UDP (user configurable)
CAN Specification (DC Powered version only)	2.0B
Performance	
System accuracy (DTC scanner range = 4” water)	+/- 0.15% FS
System accuracy (DTC scanner 10” water ≤ range ≥ 5 PSI)	+/- 0.1% FS
System accuracy (DTC scanner range ≥ 5 PSI)	+/- 0.05% FS
System accuracy (standard scanner range ≥ 5 PSI)	+/- 0.25% FS
System accuracy (standard scanner range ≤ 5 PSI)	+/- 0.25% FS
System Resolution	24 bit
Typical noise (Standard deviation of data with 45m SDCB cable) 50kHz, no averaging	+/- 0.02% FS
Typical noise (Standard deviation of data with 45m SDCB cable) 50kHz, average of 16	+/- 0.004% FS
Mechanical	
Dimensions (width x depth x height in mm)	110 x 29 x 25
Weight	100g
Enclosure Sealing	IP54
Power Supply	
Input supply (with 32 channel DTC scanner)	8-25 VDC at 3 VA
Input supply (with 64 channel DTC scanner)	8-25 VDC at 4 VA
Consumption at 24 VDC (with 32 channel DTC scanner)	200mA
Consumption at 24 VDC (with 64 channel DTC scanner)	350mA
Mating connector	9-way micro-miniature ‘D’ type (suggested mate : Glenair MWDM2L-9PSL - solder cup version)
Environment	
Operating Temperature Range	+5 to +90°C
Storage Temperature Range	-40 to +90°C
Ambient Pressure	100mbar ABS (52,000ft) to 2.5 bar abs
Vibration	Engine standard vibration test to DO160E category S, curve W with duration of 1 hr/axis. Fan blade (20g 2kHz)
Shock	Fan blade out to DO160F section 7 (40g 11m/s)
Maximum relative humidity	95% at 50°C (non-condensing)
Timing / Data Synchronisation	
Time Stamping	IEEE 1588 PTPv2
Time Stamping Resolution	1µS
Hardware Trigger (DC powered version only)	5V TTL pulse, maximum 1000 Hz, minimum 2Hz

Dimensions



Power, Ethernet and trigger connections via 9-way micro'D'

Connection to scanner via 15-way micro'D'. Uses standard SDCB cable