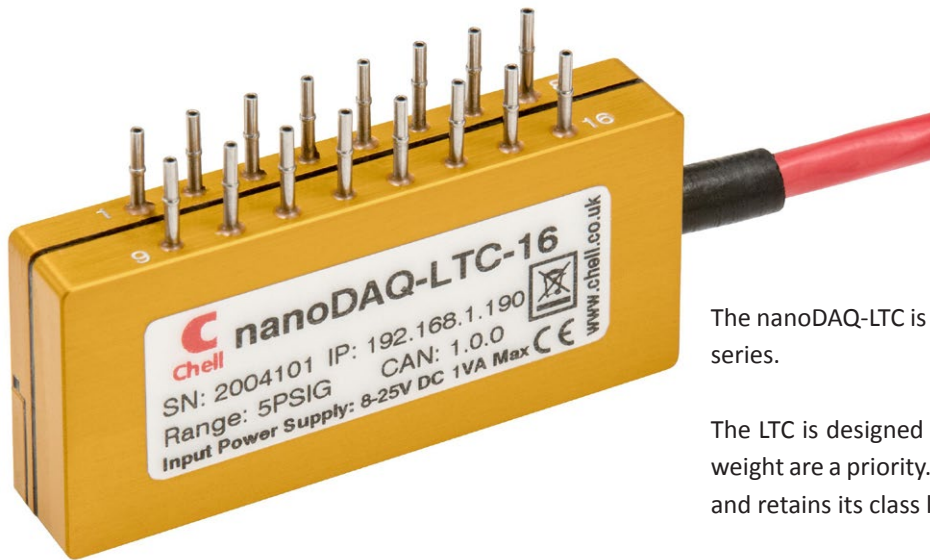




nanoDAQ-LTC-16

16 Channel Ultra Miniature Digital Pressure Scanner

- 16 channel Intelligent pressure scanner module with engineering unit output.
- User selectable absolute or differential measurement (15 channel for differential)
- Up to 0.04% FS accuracy output.
- Ultra-miniature design - smallest intelligent pressure scanner available.
- Thermally compensated from -20 to 90°C
- Light Weight - 17g.
- Full configuration and output over CAN.
- Enhanced diagnostic information over CAN.
- Rugged enclosure for on-vehicle applications. Sealed to IP67
- Fully configurable over Ethernet with embedded web server (using optional daughter board).

The nanoDAQ-LTC is a further development of the nanoDAQ-LT series.

The LTC is designed for applications where small size and light weight are a priority. The LTC doesn't sacrifice any of its features and retains its class leading performance.

The nanoDAQ-LTC is primarily a CAN device and as such, it can be fully configured over CAN. It retains the ability to add Ethernet communications (via optional daughter board) and therefore access to the inbuilt web server. This functionality is required during the in-depth calibration processes that take place during manufacture.

The nanoDAQ-LTC is a fully configurable smart pressure scanner that will output pressure data in engineering units over CAN.

The nanoDAQ-LTC makes use of 16 absolute transducers which are thermally compensated and conditioned to provide 16 absolute or 15 differential measurements relative to one (selectable) reference port.

The nanoDAQ-LTC features some advanced diagnostic information available over CAN. It will broadcast a status message every 500ms containing such information as firmware version, serial number, hardware version, detected CAN errors etc.

The nanoDAQ-LTC is contained within a miniature package which is sealed to IP67 enabling it to be used in harsh environments. It is also available with alternative packaging to suit particular applications - please contact Chell for more details.

The nanoDAQ-LTC is supplied with a flying lead containing two twisted pairs. We can terminate this in any suitable connector if required.

The transducers within the nanoDAQ-LTS have a very high proof pressure (50psig, 64.5 psia) which reduces the chances of in-field transducer damage.

General

Ranges Available	5 psi / 0 to 1310.72 mbar
Number of channels	16 (15 differential)
Maximum Acquisition Speed (measurements / channel / second)	200

Data Output

Output formats	CAN and Ethernet (via optional daughter board)
Ethernet Specification	100Mbit TCP/IP or UDP (user configurable)
CAN Specification (DC Powered version only)	2.0B

Performance

Differential Ranges	
System accuracy* (Range = 35 kPa / 5 psi)	± 0.1% Full Scale
System accuracy* (Range = 17 kPa / 2.5 psi)	± 0.2% Full Scale
System accuracy* (Range = 7 kPa / 1 psi)	± 0.5% Full Scale
Absolute Ranges	
Standard	0 to 1310.72 mbar (0.02mbar per bit) : accuracy 0.04% FS
Optional [1]	150 bar to 1150mbar : accuracy 0.04% FS
Optional [2]	130 bar to 1600mbar : accuracy 0.04% FS
Proof Pressure (all ranges)	50 psig (64.5 psia)
Output Resolution	16 bit or ±range / 65536
System Resolution	24 bit

Mechanical

Dimensions	50 x 23 x 9 excluding tubulations
Weight (16 Channel / 32 Channel)	17g (excluding cable)
Enclosure Sealing	IP67
Measurement ports	16 x 1.0 mm (0.04") bulged tubulations

Power Supply

Input supply	8-25 VDC
Power consumption	1VA Max (56 to 68mA at 12 VDC)
Electrical termination	Flying lead (Belden 887233 002100 - diameter 3.8mm), 500mm length as standard. Can be terminated in user specified connector if required.

Environment

Operating Temperature Range	-20 to +90°C
Compensated Temperature Range	20 to 90°C (optional -20 to +90°C)
Storage Temperature Range	-20 to +90°C
Ambient Pressure	100 mbar abs (52,000 ft) to 2.5 bar abs
Vibration	Engine standard vibration test to DO160E category S, curve W with duration of 1 hr/axis. Fan blade (20 g 2 kHz)
Shock	Fan blade out to DO160F section 7 (40g 11 m/s)
Maximum relative humidity	95% at 50°C (non-condensing)

* Accuracy figure includes nonlinearity, hysteresis, non-repeatability and thermal gain error over the full operating temperature range.

Dimensions

