



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.

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| 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

