



# nanoDaq-LTR

## 16 Channel Low Cost Miniature Smart Pressure Scanner

- **16 channel Intelligent pressure scanner module with engineering unit output.**
- **User selectable absolute or differential measurement**
- **Up to 0.04% FS accuracy output.**
- **Complete with IEEE 1588 PTPv2 time stamping**
- **Thermally compensated from -40 to 90°C**
- **Output over Ethernet (100Mbit TCP / UDP) and CAN.**
- **Rugged enclosure for on-vehicle applications. Sealed to IP67. Fitted with AS connector.**
- **Fully configurable over Ethernet with embedded web server.**



The nanoDaq-LTR is a new development by Chell Instruments utilizing the latest technology in digital transducers.

The nanoDaq-LTR is now available in 16 channel slim-line package featuring the Deutsch AS connector making it suitable for motor sport applications.

The nanoDaq-LTR is a fully configurable smart pressure scanner that will output pressure data in engineering units over Ethernet and CAN. The data output over all interfaces is identical to the nanoDaq-LTS's sister products; the nanoDaq and the MicroDaq.

The nanoDaq-LTR makes use of 17 absolute transducers which are thermally compensated and conditioned to provide 16 either absolute or differential measurements relative to one reference port.

The user can select a number of operating parameters using the embedded web server. These include; absolute or differential, TCP and UDP setup, data averaging and units, CAN setup and time stamp configuration.

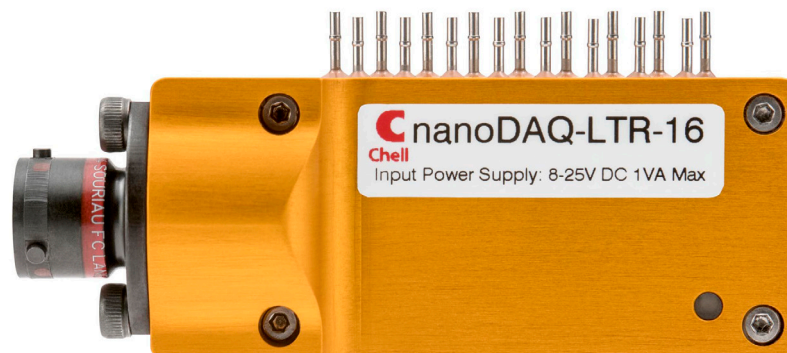
The nanoDaq-LTR features a hardware implementation of the IEEE 1588 PTPv2 time stamping protocol which allows the pressure data to be time stamped to a resolution of 1µSecond.

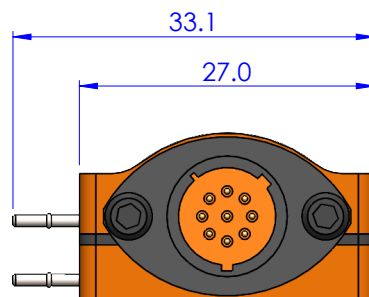
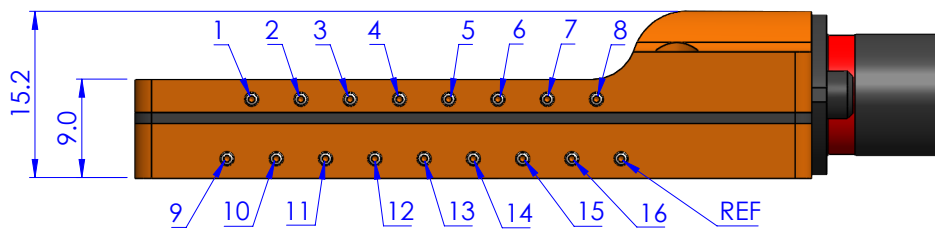
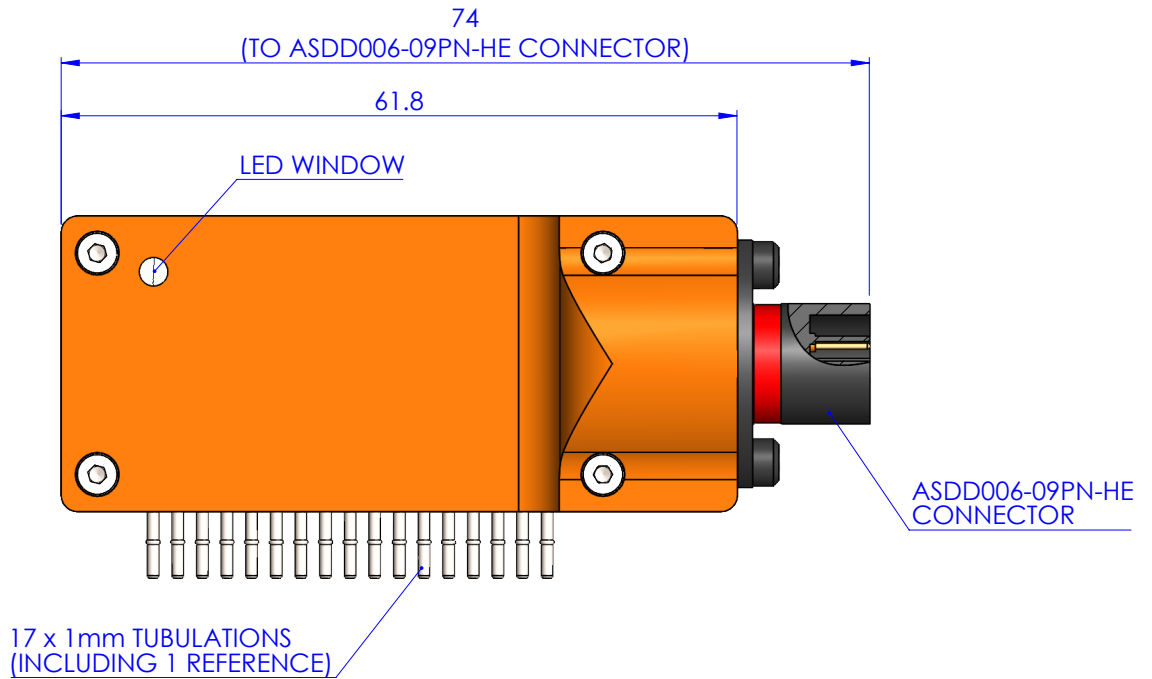
The nanoDaq-LTR also features a hardware trigger allowing the pressure acquisition to be synchronised to an external TTL pulse.

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

nanoDaq-LTR Specifications	
Number of channels	16
Data output.	CAN and Ethernet (TCP/IP and UDP)
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
System accuracy* (absolute measurement)	± 0.04% Full Scale
Resolution	16 bit or $\pm$ range / 65536
Absolute range	15,000Pa to 115,000Pa (2.2 psia to 16.8 psia)
Optional extended absolute range	13,700Pa to 152,000Pa (2 psia to 20 psia)
Proof pressure	50 psig (64.5 psia)
Dimensions (width x depth x height in mm)	74 x 27 x 15.2mm excluding tubulations
Weight (16 / 32 channel)	36g
Enclosure sealing	IP67
Maximum acquisition Speed (measurements / channel / second).	180
Input supply	8-25 VDC
Power consumption	1VA Max
System resolution	16 Bit
Operating temperature range	-40 to+90°C
Storage temperature range	-40 to+90°C
Maximum relative humidity	95% at 50°C (non-condensing)
Ethernet specification	Auto-negotiating 100Mbit TCP/IP or UDP (user configurable). Static i/p.
Time stamping	IEEE 1588 PTPv2
Time stamping resolution	1 $\mu$ S
Hardware trigger	5V TTL pulse, maximum 180 Hz
CAN specification	2.0 B
Interface connector	ASDD006-09PN-HE
Pneumatic connections	17 x 1.0mm (0.040") bulged tubulations x 6.5mm long
<b>* Accuracy figure includes nonlinearity, hysteresis, non-repeatability and thermal gain error over the full operating temperature range.</b>	





- CONNECTOR  
PIN OUT:
1. TX+
  2. RX+
  3. TRIGGER IN
  4. +8-25v SUPPLY
  5. 0v
  6. CAN H
  7. CAN L
  8. TX-
  9. RX-



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