



FlightDaq

Flight Pressure Acquisition System

- **Intelligent heated pressure scanner module with engineering unit output.**
- **Compatible with DTC Scanners (0.05% FS accuracy output)**
- **Available with IEEE 1588 PTP V2.**
- **Up to 2Khz per channel measurement frequency.**
- **Output over Ethernet (100Mbit TCP / UDP), CAN and Optional EtherCAT.**
- **Optional IENA protocol interface**
- **Heated enclosure for applications down to -55°C**
- **Supplied with full software for configuration, calibration and data logging.**



The Chell FlightDaq is a development of the popular MicroDaq range which Chell have been supplying into demanding applications for the last 3 years. The FlightDaq is available with 32 or 64 channels and both units have the option of purge.

The FlightDaq builds on the MicroDaq product and offers additional functionality combined with a larger, more rugged and heated enclosure. This makes the FlightDaq suitable for the majority of flight test applications where small size, accuracy, speed and reliability are important.

Internally, the MicroDaq uses the proven MicroDAQ / MicroCAT architecture to provide up to 2KHz per channel data acquisition. This is combined with the pneumatics necessary to shift the shuttle valve within the scanner to give full control of the scanner functions including re-zero and purge. There is also an internal purge valve to control the flow of purge gas if necessary.

The enclosure features an inner case which is heated and insulated from the external case. This allows the inner case to be controlled to 20°C even when the environment is -40°C.

The FlightDaq uses the MEAS DTC scanner which provides full thermal compensation from 0 to 80°C combined with an accuracy of 0.05% of full scale (after re-zero).

External connectors are the MEAS QDCM range which feature high reliability coupled with an extremely small space envelope. The supply gas and purge connectors are Chell AS series quick disconnects which are self sealing on the male side making removal and replacement of the unit straight forward.

The flightDaq is designed for on-engine as well as airframe applications and as such is tested to the D0160F vibration standards.

The FlightDaq will output high speed engineering unit data over Ethernet (TCP/IP or UDP), CAN or the optional EtherCAT or IENA interfaces. The FlightDaq can be configured over these interfaces to control such functions as signal averaging, re-zero and acquisition speed.

FlightDaq Specifications

	FlightDaq 32	FlightDaq 64
High speed data output.	Serial, CAN and Ethernet (TCP/IP and UDP) and EtherCAT	
System accuracy (DTC scanner range \geq 5 PSI)	+/- 0.05% FS	+/- 0.05% FS
System accuracy (DTC scanner 10" water \leq range \geq 5 PSI)	+/- 0.1% FS	+/- 0.1% FS
System accuracy (DTC scanner range < 10" water)	+/- 0.15% FS	+/- 0.15% FS
Dimensions (width x depth x height in mm excluding connectors.)	180 x 116 x 46	180 x 127 x 50
Weight (with DTC scanner)	~400g	~600g
Maximum acquisition Speed (measurements / channel / second).	2000	1000
Input supply	28 VDC	28 VDC
Pressure connection (measurement lines)	1 x QDCM 36 way	2 x QDCM 36 way
Pressure connection (purge and supply lines)	2 x Chell AS fitting	
Mating electrical connector	Amphenol 2M805-001-16-C-10-13-P-A	
System resolution	16 Bit	
System timing	Hardware trigger (5v TTL), IEEE1588 PTP V2 or optional EtherCAT	
Operating temperature range.	-55 to+80°C	
Maximum relative humidity	95% at 50°C (non-condensing)	
Ethernet specification	Auto-negotiating 100Mbit TCP/IP or UDP (user configurable)	



Chell Instruments Ltd
Folgate House
Folgate Road
North Walsham
Norfolk NR28 0AJ
England

Tel.: +44 (0)1692 500555
Fax: +44 (0)1692 500088

E-mail : sales@chell.co.uk

Web site : www.chell.co.uk



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