DRAGONFLY

4/8 Channel Ultra Portable Acquisition System

- *4/8 Channels*
- *100 KHz Bandwidth*
- *>111dB SNR*
- *Ultra Portable*
- *16/24-bit ADCs Per Channel*
- *Ethernet Data / Control Link*
- *GPS, IRIG, LVDS Multi-Unit Sync Ability, IEEE1588*
- *Power Over Ethernet (POE) or 12-28V External Power*
- *1x, 10x, 100x Gain*
- *AC, DC, IEPE Input*
- *Many Optional Signal Conditioning Modules Available*

Overview

HGL Dragonfly *is a high quality modular data acquisition system intended for applications ranging from ultra-portable small channel count mobile field based needs to large scale fixed installations of hundreds of synchronous channels.*

Dragonfly is completely compatible with HGL's existing range of data acquisition, real-time monitoring, analysis and archiving systems, and due to its network based architecture can be integrated into 3rd party or customer bespoke systems with ease.

Dragonfly is small enough to fit easily in a laptop bag, and lightweight enough (at < 1kg) for easy transport to remote sites. As such it makes an ideal measurement system with a standard laptop for personal / consultancy field work.

However, the standard Dragonfly is also able to be linked with other units to create large multi-purpose systems simply by sliding it together with one or more other modules, and connecting a few simple cables (power, sync, and Ethernet).

Dragonfly can be fitted with a number of internal signal conditioning cards which further extend its capabilities and benefits to end users. Single or multiple conditioning functions can be hosted by an individual Dragonfly and cards can be swapped out by users if required.

A variety of power supply (6-30V dc, Power Over Ethernet, ac adapters) and synchronization methods (GPS, IRIG A/B, IEEE1588) further increases the range of applications that Dragonfly can be used for. The versatility of the Dragonfly system allows a truly 'one stop shop' approach to be used for your data acquisition, logging and monitoring requirements.

Dragonfly Features

The Dragonfly features two, four or eight simultaneous sampled 24-bit sigma-delta Analogue to Digital converters, which provide excellent Signal to Noise Ratio (SNR) figures of 120dB (24-bit mode, 95+dB in 16 bit mode), anti-aliasing performance of better than –110dB in a compact form factor.

With Power Over Ethernet (POE) and 6-30V External Power as standard, the Dragonfly can be used in virtually any location. An external battery module is also available allowing for untethered operation.

The Dragonfly also incorporates several methods for time synchronization between modules. An LVDS synchronization bus is included as standard on all Dragonfly units. This allows for multiple modules to be linked together, expanding the recording capability of a single setup to synchronize 100s of channels of acquisition whilst retaining < 3nS offset between modules. This equates to phase offsets of < 0.1 degrees @ 20kHz.

Optionally, GPS time synchronization allows multiple sets of Dragonfly units to be spread across large distances while maintaining < 50ns between GPS equipped modules regardless of location. IRIG-A/B synchronization is also available, which allows synchronization to be better than 100nS across multiple modules from a common IRIG A/B source. Finally Dragonfly is equipped with IEEE1588 for Ethernet only synchronization.

Dragonfly units can be closely coupled by sliding them together, or can be distributed over large distances with either wired links for data and synchronization or a combination of GPS and GPRS/3G links. Accessories for rack mount operation are also available.

The Dragonfly acquisition module forms one part of the Dragonfly family of modules, which provide ancillary functions such as CPU power, Storage via solid state or hard disk drives, Ethernet switches, battery power, specialized conditioning etc. All of these modules have a common footprint and slot together securely to form robust, flexible solutions for virtually any requirement.

Dragonfly units can be controlled by standard PCs or laptops for desktop or mobile use; they can also be controlled by the HGL Dragonfly^{CPU} module, which is a powerful PC in Dragonfly form factor, or autonomously with a built-in Atom based CPU.

A variety of User Interface options also exist including standard PC / laptop screens, the Dragonfly^{DISP} Display module and the Dragonfly Remote control module.

In the modern age flexibility is vital, and the Dragonfly family provides this for all measurement applications.

FS72209

Email: info@hgl-dynamics.com
Web: www.hgl-dynamics.com

ASAM
M E M B E R

03/2013

Signal Conditioning

The Dragonfly comes as standard with IEPE conditioning with AC/DC coupling, 1x, 10x and 100x gain. A number of other conditioning modules are available for the Dragonfly as listed below:

- Bridge Conditioning with 1/4, 1/2 and full bridge completion and constant voltage excitation, 1x, 10x, 100x, and 1000x gain.
- Dynamic Strain Conditioning with constant current excitation.
- Charge Conditioning
- Proximeter Probe Conditioning

Specification
General

Input Channels 2, 4 or 8
Output Channels 0
Input Connections BNC or 8 pin Fischer
Dimensions 100mm (W) x 44mm (H) x 100mm (D)
Host Connection Ethernet
Power POE or external 6-30V dc

Input Support

Voltage

Standard Ranges +/-10V. +/-1V, 0.1V (under software control)
Coupling AC & DC
Input Impedance >100kOhm
SNR >111dB
Sample Rate Selectable between 5kHz and 250kHz (standard) per channel. Downsampling of individual channels available through the standard software

IEPE

Current 4mA
Voltage 1-24V max
Impedance 4kOhm max

Other Inputs

IRIG-A and IRIG-B using any standard input
Audio Voice Annotation via any standard input
Tachometer Via any standard input

The Dragonfly is fully compatible with all the acquisition products in the HGL Dynamics range. It shares the same software platform, allowing users to move from small to high channel count systems without re-training.

Software

The Dragonfly is a complete measurement system and as such is supplied as standard with the HGL data acquisition and real-time monitoring software suites

Data Acquisition (Hawk) Module

Provides complete configuration, calibration and acquisition control of one or more Dragonfly modules through a simple to use Graphical User Interface (GUI). This GUI can be hosted on the Dragonfly or on a remotely connected (Ethernet) PC.

Real-Time Monitoring (HawkEye) Module

Provides a completely user configurable yet simple to use monitoring system allowing remote monitoring of all acquired data continuously. Multiple display widgets are available (FFTs, ZMODs, Oscilloscopes, Line Plots, Polar, Nth Octave, etc).

Support is provided for multiple users on multiple screens (optional additional Hawkeye PCs).
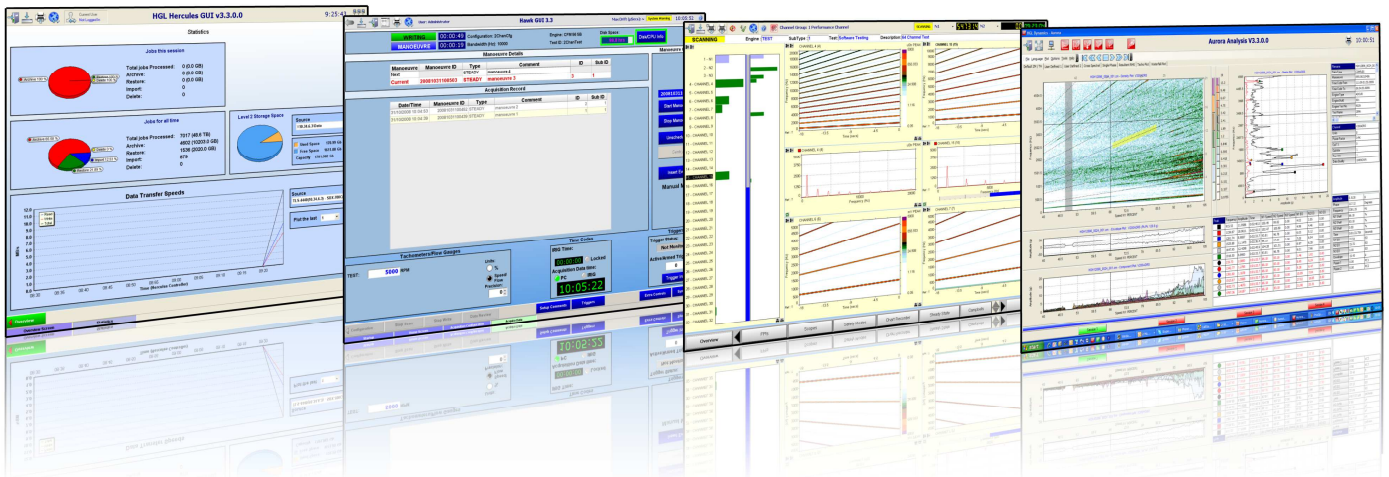
Evaluation

HGL Dynamics is so convinced that the Dragonfly will meet or exceed your ultra-portable data acquisition needs that we are launching an 'introductory offer' where we will provide a unit for up to 1 month on an evaluation basis. *(subject to qualifying criteria)*

Pricing and Availability

Dragonfly is now available for purchase or lease (with or without associated PC hardware).

Please contact HGL at the locations detailed below:

UK & International	Americas	France
HGL Dynamics Ltd	**HGL Dynamics Inc**	**HGL Dynamics France**
Hamilton Barr House	**2431 Directors Row**	**25 Rue du Mont Olivet**
Bridge Mews	**Suite G**	**78500 Sartrouville**
Godalming GU7 1HZ	**Indianapolis IN 46241**	**FRANCE**
UK	**USA**	
Tel +44 1483 415177	**Tel +1 317 782 3500**	**Tel +33 1 75 93 80 20**

Email: info@hgl-dynamics.com
Web: www.hgl-dynamics.com

FS72209

03/2013

ASAM MEMBER