



Display Units (DU)

The display system consists of two Howell Display Units (DUs) that support fail safe operational Engine Instrument Display capability. If one display unit should happen to fail, the remaining display is configured to show all critical Engine Instruments in a compact format. These COTS displays have LED backlighting for long reliability, low brightness settings and crisp graphics. The display is fully sunlight readable, with a photo sensor for auto brightness control. The displays may be optionally ordered with NVIS compliant backlights and filters.

Howell offers multiple configurations of DU sizes and graphical layouts to satisfy customer requirements. All options will include 2 DUs of varying dimensions. Like the DAU, the Display Units are configurable to maximize adaptability, flexibility and expandability applicable to multiple aircraft types. Each DU has a personality module, which stores specific installation information. The installation information is used to configure the items displayed on the DU to the specific engine and display options without software modifications. The engine gauge layout can be changed to a different engine layout within the existing limit of the display host software modules by using the configuration file.



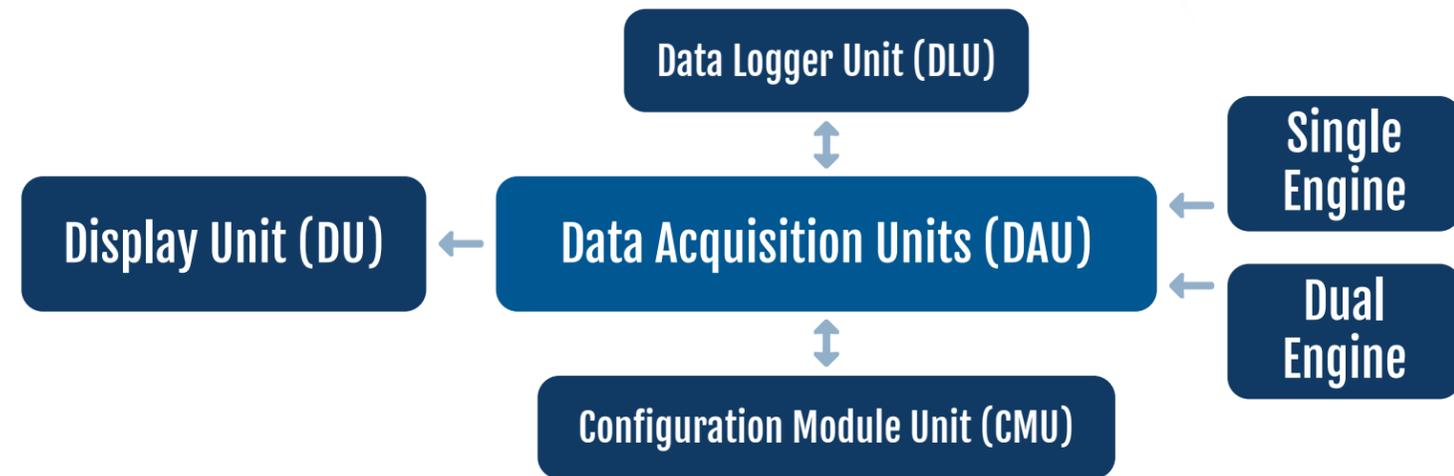
Data Acquisition System (DAS)

Howell Data Acquisition System consists of one or two Data Acquisition Units (DAU), one Configuration Module Unit (CMU), one or two Display Units (DU), and one Data Logger Unit (DLU)

AIRBORNE SYSTEMS



Single or Dual Engine



H397 Series Data Acquisition Unit (DAU)

Howell's H397 Series Data Acquisition Unit is an instrument for collecting engine sensor and aircraft system data for recording or display in the cockpit. Each DAU contains one or two Engine Interface Units (EIU) that can each act independently to read all signals and pass the converted results to the cockpit display unit (DU). It is a fully redundant system that eliminates any single point failure.



Features

1. Parameters (I/O): Limited only by the number of pins available in the connector (79)

- Frequencies 3.5 Hz to 30,000 Hz, 0.5 Vrms to 150 Vrms
- Thermocouples, ANSI Type K thermocouple from 0 °C to 1200 °C
- RTDs (2 or 3 wires)
- DC Voltages (High or Low Level)
- Synchro
- Second Harmonic
- Ratio-metric (Engine Oil Pressure, etc.)
- Capacitive Fuel Quantity
- Discrete inputs, Switch closure to ground or 28 VDC)
- Discrete outputs, current Source or Sink limited to 0.2 amp resistive load
- RS-232, RS-422
- ARINC 429, 825

2. Software Certification is to DO-178B DAL A

3. Environmental certification is to DO 160-G

4. Power: 28 VDC nominal per MIL-STD-704A. Power consumption 15 Watt Max.

5. TSO: C43c, C44c, C47a, C49b, C55a

6. Reliability substantiated to 10⁻⁹ (Catastrophic) per MIL-HDBK-217

7. Dimensions: 8.4" x 4.8" x 2.6" (inches) 8. Weight: 4.0 lbs Max

H697 Series Configuration Module Unit (CMU) - Optional

H697 Series Configuration Module Unit (CMU)

H697 Configuration Module Unit (CMU) is used to configure the DAU for a specific engine/aircraft application. It is fully redundant with separated power supplies.

Two operating modes allow for normal operation or maintenance.

Dimensions: 4.00" x 2.13" x 1.56"

Weight: 0.5 lbs

Power: 28 VDC nominal, 2 Watts Max



H884 Data Logger Unit (DLU) - Optional

H884 Data Logger records sets of specific data from the DAU or all data, from engine start to shut down, at 1 Hz. (or 10 Hz.) depending on the operator setting. Vast data recorded - depend upon the number of parameters recorded and frequency. Data can be downloaded via USB in ".csv" format.

Dimensions: 4.75" x 2.50" x 1.56"

Weight: 0.6 lbs

Power: 28 VDC nominal, 2 Watts Max

