CMC-e-600 CAAS Flight Data Recorder Built for the CH-47F Glass Cockpit

Built for the CH-47F CAAS program, the CMC-e-600 is the solution for flight-data recording and analysis, integrating an airborne recording unit with dataMARS powerful ground analysis software. The CMC-e-600 Recorder replaces the discontinued RCS-600. The product is based on a Flight Worthy CMC-e rugged PC with the dataMARS software. The recorder supports a 0.5 Terabyte Removable Memory Module (RMM), that stores during the flight the collected data. The CMC-e-600 package includes a Ground analysis software for data processing and post-flight analysis. During flight the unit monitors and records the entire traffic, (or selected portions) of two MIL-STD-1553 buses and the entire traffic (DATA CLASS and NDO Protocols), of two Ethernet channels. Recorded data is time tagged with reference to IRIG-B time code or internal PC clock. The Recorder has a growth potential of recording 6 ARINC-429 RX channels.

Salient Features of the CMC-e-600

- The recorder monitors the data of two independent dual-redundant MIL-STD-1553 buses and up to two Ethernet channels.
- All or selected portions of this data may be recorded continuously with options to manually or automatically start/stop recording.
- All monitored and recorded flight data can be IRIG-B time tagged to synchronize the recorder with all other units on the aircraft.
- The recorder records data onto a removable Recording Memory Module (RMM). The RMM is compatible with a USB media adapter, supplied for interfacing the RMM with a Ground PC with a USB 2.0 port.
- During a flight, the recorder can start recording automatically (unattended operation), or it may be manually controlled to start or stop recording.
- The CMC-e-600 supports the Custom "Data Class" and "NDO protocols" of the system.
- The recorder monitors data non-intrusively.
- On the ground, the recorder may be utilized for real-time data analysis, offering a familiar Windows-based graphical user interface (requires a standard LCD screen, a mouse and a keyboard).
- The CMC-e-600 runs dataMARS software on a Windows XP operating system. The dataMARS software controls monitoring, recording, and on-line analysis of data.
- DataMARS software is installed on the Recorder and in the Ground station PC. The CMC-e-600 Recorder menu and Flight Recorder browser are available in both the airborne system and the ground station PC, to provide easy access to the special functions of the CMC-e-600 system.

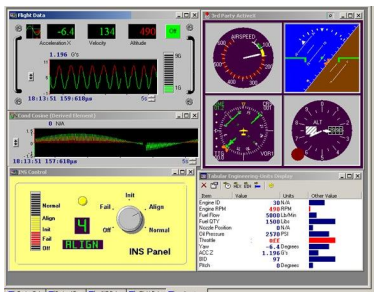
Dimensions & Weight

222x243.5x383.3 (WxHxL) [mm] including base. Weight approx. 13 Kg with base.

Power IN

The Power Supply specifications are:

- Power In:18-36VDC, (12-36VDC optional) approx. 3Amp 70Watts, per MIL 1275B, MIL-STD-704A.
- Hold-Up time minimum 100msec.



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The recorder is hooked to MIL-STD-1553 data buses, to one or more Ethernet channels, to an IRIG-B time code signal and to a DC power source. It operates autonomously and is ready for recording shortly after power is applied. Recording of flight data can be started and stopped by manually activating a switch, or automatically upon detection of events pre-defined by the user. Recorded data may optionally be compressed on-the-fly. Removable recording media enables immediate retrieval and analysis of the data.

Reliable and rugged

The CMC-e-600 withstands severe environmental conditions. Compact and easy to install, the unit is self-cooled. It operates autonomously from a 18-36VDC or 12-36VDC power source.

CMC-PC Construction

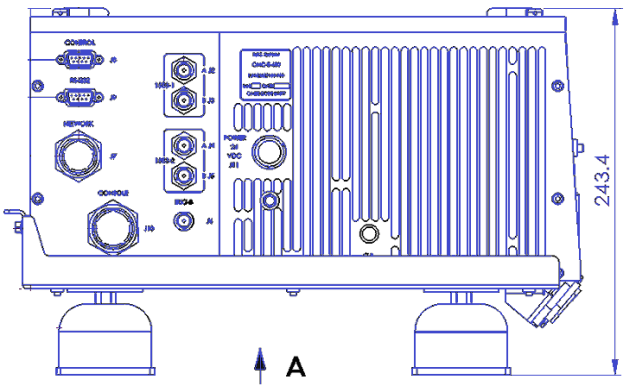
The CMC-e is designed and constructed in accordance with the general requirements of MIL-STD-454.

Thermal Design

The cooling of the components of the CPU and Power Supply is by conduction through the aluminum enclosure of the unit . The cooling of the plug in boards is by circulated air.

External Connectors

External connectors are used for interfacing with the subassemblies or equipment and are in accordance with requirement of MIL-STD-454. Connector mating bodies are keyed, and keyed locations are varied to



Environmental

Temperature range:

- Operating: 0°C to +55°C
  Option: -20°C to +60°C .
- Non-operating: -40°C to +75°C;

Relative humidity: Vibrations

Up to 95% relative humidity, non-condensing, MIL-STD-810F

Salt Fog:

5% solution per MIL-STD-810F method 509.3

Vibration:

MIL-STD-810F Method 514.5 Procedure I

Shock:

MIL-STD-810F for flight equipment 40g, 11ms saw tooth

Altitude:

- With standard hard disks up to 15,000ft (or the equivalent atmospheric pressure), operating and non-operating
- With Flash disks up to 40,000ft (or the equivalent atmospheric pressure), operating and non-operating

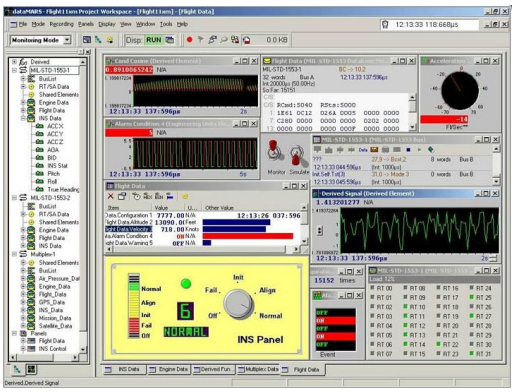
Fungus, Sand and Dust

MIL-STD-810F

EMI/RFI

Per MIL-STD-461F

- CE102, conducted emissions, power leads, 10 kHz to 10 MHz.
- RE102, radiated emissions, electric field, 100 kHz to 1.0 GHz.
- RS103, radiated susceptibility, electric field, 2 MHz to 2.0 GHz.
- CS114, conducted susceptibility, DC cable injection, 10 kHz to 400MHz.



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