Digital Flight Data Acquisition Unit DFDAU 2233000-9X6

Teledyne Controls' enhanced Digital Flight Data Acquisition Unit (DFDAU) is an integrated system that combines the functions of Mandatory Data Acquisition and Recording with a sophisticated Aircraft Condition Monitoring System (ACMS). This comprehensive system provides aircraft operators with a standardized hardware and software solution for high-power data acquisition, management and recording in an internal PCMCIA recorder.

High-Speed Data Processing and Ethernet Connectivity

The DFDAU-9X6 is equipped with optional Ethernet capabilities for high-speed transfer of data to Ethernet-based equipment, such as wireless data communication systems. The DFDAU's ACMS software is extensively flexible, allowing users to define the parameters and reports they need for flight data monitoring, maintenance, and operational efficiency, without the artificial constraints typically imposed by other software systems.

DFDAU-9X6 Capabilities

Front Panel 16 Character Alphanumeric Display

- Multiple software part numbers displayed
- Faults are displayed in user friendly text instead of codes
- Battery backup allows viewing of software versions and fault messages even when the unit's power is off

Supports Installation on the following Aircraft Types

- B737-NG, B767, B757
- P8
- C130
- HU25
- E-6B

Input Capabilities

- Up to 64 A429 input ports available for both the mandatory and ACMS processors independently
- 57 programmable analog input ports: 3 wire (53), 4 wire (4)
- 180 discretes
- 2 1553 bus
- 3 spare slots for future functions

Output Capabilities

- Ethernet (down-load and program-load)
- ARINC 429 (MCDU, printer, DataLink, OMS)
- ARINC 717 (FDR, QAR, WQAR, OQAR, DAR)

Flight Recording Acquisition Capabilities (Mandatory Acquisition)

- Interchangeable across multiple aircraft types (up to 18 independent uploadable DFDR data frames)
- Up to 512 WPS, which meets/exceeds new regulatory agency requirements for FDR recording
- Dual processor design ensures isolation and allows full ACMS user programmability without re-certification
- Cockpit Voice Recorder (CVR) time synchronization output

ACMS Capabilities

Fully programmable ACMS software system via Teledyne's MS Windows based Application Generation Software (AGS)

MCDU/MICDU/MIDU Interface

- Reprogrammable display menus including real-time reprogrammable reports
- ARINC 429 label call up display
- Mnemonic call up display
- Stored reports directory including last flight
- Recording Start/Stop Control
- Password protection
- Report distribution changes
- Constant modification
- ADL/PDL Upload/Download Menu

External QAR/Optical WQAR Interface

- 64, 128, 256, 512, 1024 selectable output rates
- Programmable history buffer length (20 to 48 seconds with optional data compression, data logging option)

Printer Interface

- 40, 53, 64, and 80 column print formats
- ARINC 597/740/744/744A
- Reprogrammable report formats

Other Peripherals

- Interfaces for ARINC 615A (OPTION) ADL and PDL
- CMU ARINC 758, ACARS ARINC 724B
- Automatic or manual message generation for down linking
- Interfaces with Onboard Maintenance System (OMS)
- Supports uplink requests

Integrated Recording Module (PCMCIA)

- Recorder installed inside unit
- Supports recording of raw data and message (report) data
- Eliminates need for separate recorder wiring on aircraft
- Supports up to 2GB PCMCIA ATA Type II
- Supports uploading ACMS from this module

Digital Flight Data Acquisition Unit Interface Diagram

INPUTS

- ANALOGS
- DISCRETES
- AC REFERENCE
- ARINC 573/717
- ARINC 429
- AUXILIARY ARINC 429 BROADCAST and FILE TRANSFER BUS
- ETHERNET

MANDATORY SECTION

ACMS SECTION

INTERNAL RECORDER

PERIPHERALS

- ARINC 429 HIGH SPEED OUTPUT BUS
- AUDIO RECORDER
- DIGITAL FLIGHT DATA RECORDER
- QAR/OQAR/WQAR
- ADL/PDL
- DISPLAY (MCDU, MICDU)
- PRINTER
- ACARS
- DAR/OQAR/WQAR
- OMS (CMC)

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