MICRO SYSTEMS, INC.
a KRATOS company

UVMC Data Sheet

AS9100C and ISO 9001:2008 Certified

Unmanned Vehicle Mission Computer

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Features

- Field Proven Hardware
- Modular Design
- High Performance Processing I/O
- Ruggedized Aluminum Chassis
- Qualified to MIL-STD-461E (EMI), MIL-STD-810G (Env), MIL-HDBK-781A (Reliability)
- Hi-speed Mission Data Recording
- Compatible RTOS's: MQX, Linux, Wind River, Green Hills

Applications

- Vehicle Control System
- Autopilot
- Command and Telemetry
- Vehicle Payload Interface
- Remote Data Terminal

Description

The Unmanned Vehicle Mission Computer (UVMC) is a modular, high performance system that provides maximum flexibility for easy integration into multiple platforms. It was developed with high-level mission planning capabilities and vehicle sensor integration as key feature capabilities.

The field proven UVMC is designed with an advanced parallel processing architecture that utilizes a 760 MIPS main processor for computationally intensive autopilot control algorithms and an FPGA based processing module for Input/Output signal control requirements. This unique architecture allows the core autopilot software to remain separate from the I/O software, thus offloading I/O functions from the main processor.

The UVMC includes interfaces for external GPS and IMU modules as well as RS-232/485/422, CAN, HDLC, 10Base100 Ethernet, JTAG, and ITCS. MIL-STD-1553B is also available as an optional upgrade. A removable Compact Flash module is also available to support high speed data recording requirements.

The UVMC utilizes a Common Interface Bus architecture that provides expansion capability for additional I/O, a Inertial Navigation System (INS) module, and additional communication interfaces.

Technical Specifications

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Characteristics

- **CPU Module:** Freescale MPC5200B Main Processor (760 MIPS)
- **Serial Interfaces:** RS-232/485/422, CAN, HDLC, 10Base100 Ethernet, JTAG, ITCS, MIL-STD-1553 (optional)
- **Data Recording:** Compact Flash
- **Standard I/O Module:** Xilinx Spartan 3A with MicroBlaze 32 bit processor (60 MIPS)
- **Discrete Outputs:** 10 Type 1, 28VDC/Open, 1A | 8 Type 2, GND/Open, 500ma | Type 3 Open Collection
- **Discrete Inputs:** 8 Type 1, 28VDC/Open | 6 Type 2, GND/Open | 4 Type 3, TTL
- **Proportional Inputs:** 4 Type 1, 0 to +40VDC | 3 Type 2, 0 to +10VDC | 2 Type 3, -8mV to +54mV

Available Real Time Operating Systems (RTOS) and Board Support Packages

- **Compatible with:** MQX, Linux, Wind River, Green Hills

Environmental (MIL-STD-810G) / EMI (MIL-STD-461E)

- **Temperature:** Operating: -40°C to +70°C
- **Cooling:** Passive Conductive (no moving parts)
- **Vibration:** Random, $0.4g^2$/Hz to $0.0429g^2$/Hz, 8 minutes per orthogonal axis
- **Altitude:** 50,000 ft
- **Shock:** Operating: 300G for 1ms, 3 pulses per axis
- **Humidity:** Up to 95% @ 40°C (all boards are conformal coated)
- **EMI/RFI:** CE102, RE102, CS101, CS114, CS115 and RS103

Power Requirements

- **DC Power:** 22 to 32VDC (28VDC Nominal)
- **Consumption:** 20 Watts max (standard unit)
- **Protection:** Surge, Reverse, and Over Voltage protected

Physical

- **Size:** 5.00" W x 3.50" T x 7.25" D
- **Weight:** 6 pounds
- **Connectors:** 44 and 62 pin D-Sub connectors, RJ45 connector, Compact Flash Interface
- **Finish:** Powder Coat
- **Installation:** Flange Mount Base Plate

Available Options

- I/O Expansion Module with additional Input and Output Signal Capability
- Inertial Navigation Module that includes a MEMS IMU and GPS Module
- High Capacity Compact Flash Module
- MIL-STD-1553B Interface

Contact us for custom modifications

For additional information contact:
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