Registered to AS9100D: 2016 & ISO 9001: 2015

UNMANNED VEHICLE MISSION COMPUTER

DATA SHEET & TECHNICAL SPECIFICATIONS

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

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. 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 and additional communication interfaces.

KRATOS®
UNMANNED SYSTEMS DIVISION

Approved for Public Release: DOPSR 18-S-2400

UNMANNED VEHICLE MISSION COMPUTER

DATA SHEET & TECHNICAL SPECIFICATIONS

Applications

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

Characteristics

CPU Module:	Freescale MPC5200B Main Processor (760 MIPS)
Serial Interfaces:	RS-232/485/422, CAN, HDLC, 10Base100 Ethernet, JTAG, Integrated Target Control System
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

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, 11.5g's RMS from 20Hz to 2000Hz
Altitude:	50,000 ft
Shock:	20 g's, half sine, 11milliseconds
Humidity:	Up to 95% @ 40°C (all boards are conformal coated)
EMI/RFI:	CE102, RE102, CS101, CS114, CS115 and RS103

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

Power Requirements

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

Additional Options

- I/O Expansion Module with additional Input and Output Signal Capability
- Inertial Navigation Module that includes a MEMS IMU and GPS Module

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