Mission Control Computer

VECTOR-MCC

The VECTOR-MCC (Mission Control Computer) is highly suitable for projects that require extensive I/O capabilities and/or custom payload management.

Key Features:

Suitable for Certification Processes

Qualified Hardware

Freedom and Flexibility

Open to Third-Party Hardware

SDK Possibilities & Dissimilar Core

Port Expander

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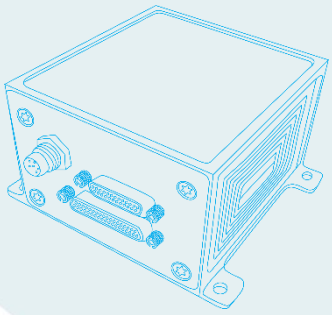
Use Case: MCC Commanding FCC

- In this example the mission control computer is a **VECTOR-MCC** which is **connected to** the flight control computer (FCC) **VECTOR-600**.
- Any guidance command can be sent from the MCC to the FCC with this configuration. Also, can be defined no fly zones, changes in the fly modes, activation of other systems (FTS), etc. Thus, the maneuver will be safety performed, regardless of the MCC developed software.
- The main advantage of this configuration is the **independence and freedom of the customer to develop its own software** to command the autopilot. Hence, the customer will be able to evolve its own solution, without sharing sensitive information with UAV Navigation-Grupo Oesía and implementing its own requirements to the solution.
- This architecture will be suitable for facing a **certification process**. The FCC will aim for a **high certification standard (DAL B/DAL C)** while the MCC will face a lower certification standard level.



Technical Specs:

MECHANICAL / ENVIRONMENTAL	
Size (mm, H x W x L)	45.0 x 68.0 x 74.5
Weight	160 g
Enclosure Material	Grade 6082 Aluminium Alloy
Environmental Qualification	MIL-STD-810
EMC/EMI Qualification	MIL-STD-461
Temperature Range	-40°C to +85°C
IP Rating	Designed to conform with IP66
Humidity	Up to 90% RH, non-condensing
Shock survival	500g 8ms 1/2 sine
Mounting Screws	4 x M4
ESD Compliant	IEC 61.000-4-2-level 4
Main Connectors	· 25-pin GLENAIR MWDM2L-25PCBR-.110 · 37-pin GLENAIR MWDM2L-37PCBR-.110
Auxiliar (serial) port	6-pin BINDER, 718 series, 0934238606
ELECTRICAL	
Voltage Supply (unregulated)	9 to 36 V DC
Power Consumption	2.5W

COMPUTING CAPABILITY	
Mission Control CPUs	2 CPUs: Twin CPUs system, based on the ARM Cortex A5 processor, achieving 536 MHz of clock speed.
Memory	· RAM: 256 Mb (each CPU) · Program FLASH: 8 Mb (each CPU · User FLASH: 2Mb (shared)
Maximum task	1000 Hz
I/O	
Total I/O Lines	62
Servo or General Purpose I/O Lines	24 (fully configurable), LVTTL: PWM, Discrete Input, Discrete Output, Pulse Counter (RPM), Simulated GPS PPS, Strobe Light Signal
PWM rate	50Hz, 200Hz or 400Hz
CAN 2.0 A and B	2 (up to 1Mbps)
Serial comm	· 3 x RS-232 (up to 250kbps) · 3 x RS-422/485 (up to 1Mbps)
Ethernet	100 Base Tx Channel according to IEEE 802.3 standard
High-speed ADC Lines	8 ADC inputs with 12 bit resolution and up to 1 MHz conversion rate. All channels from 0 to 3.3V conversion range

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