Flight Control Solutions > Autopilots

VECTOR-600 Autopilot

The VECTOR-600 is UAV Navigation-Grupo Oesía's most advanced FCC (Flight Control Computer) for UAVs.

Key Features:

- **GNSS-Denied Navigation**
- **Qualified Hardware for Cross Domain Missions**
- **Fully Automatic Operation**
- **Easily Configurable**
- **DO-178C Oriented Software Development**
- **Outstanding Proprietary ADAHRS-INS**

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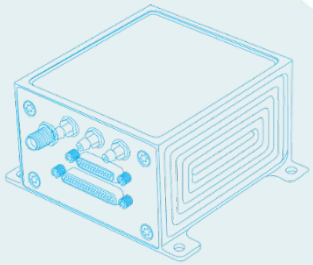
Functions:

- **Alternative Landing Sites.**
- Flown **up to 650km/h.**
- **MULTI-UAV** Operations.
- **Multi-Flight Plan** Operations.
- Custom and **automatic actions on waypoints.**
- **Camera Guided Navigation.**
- **Referenced Navigation.**
- **Geofencing allowing automatic replanning.**
- **Transponder IN for UTM (Unmanned Traffic Management).**
- **Autorotation & Stall Protection.**



Technical Specs:

MECHANICAL / ENVIRONMENTAL	
Size (mm, H x W x L)	45.0 x 68.0 x 74.5
Weight	180 g
Enclosure Material	Grade 6082 Aluminum Alloy
Environmental Qualification	MIL-STD-810
EMC/EMI Qualification	MIL-STD-461
Temperature Range	-40°C to +85°C
IP Rating	Designed to conform to IP66
Humidity	Up to 90% RH, non-condensing
Shock survival	500g 8ms 1/2 sine
Integrated RF DataLink Options	No Datalink
ESD Compliant	IEC 61.000-4-2-level 4
Main Connector	25-pin GLENAIR MWDM2L-25P-6E5-18 & 37-pin GLENAIR MWDM2L-37P-6E5-18
External Datalink Connector	-

ELECTRICAL AND I/O	
Voltage Supply	9 to 36 V DC
Power Consumption	2.5W
GPIOs	24
PWM rate	50Hz, 200Hz or 400Hz
CAN	2 (up to 1Mbps)
Serial comm	3 x RS-232 (up to 250kbps) 2 x RS-422/485 (up to 1Mbps)
Analog Input	8 ADC inputs with 12 bit resolution. Conversion extends from 0V to 3.3V
Ethernet	100 Base Tx Channel according to IEEE 802.3 standard
GNSS Antenna Connector	50 Ohm SMA Female
GNSS Antenna Power Supply	3.3V

ADAHRS	
Roll, pitch, yaw range	Continuous unrestricted
Pitch & Roll error	< 0.5º
Heading error	< 1º
Horizontal Position Accuracy	2.5 m CEP (GNSS available)
Inertial Navigation Drift (Dead-reckoning)	4% of the distance traveled
Barometric Altimeter Range	-2000 ft to +36000 ft AMSL
Barometric Altimeter Accuracy	± 3% Reading
Airspeed Ranges	15-220 kt (43-450 kt version is also available)
Gyro range	+/-300 º/s (all axes)
Accelerometers range	+/-8 g, all axis (+/-15 g under request)
Sampling Rate (IMU+Attitude)	Up to 500 Hz
Internal Magnetometer	3 axes
Magnetometer attitude compensation	Yes
Multi-constellation GNSS capability	72-channel receiver GPS, SBAS, QZSS, GLONASS, BeiDou, Galileo
Time to First Fix	Cold Start: 26s. Hot Start: 1s

REDUNDANCY AND SAFETY	
Waypoint Navigation	400 waypoints saved in autopilot
Dual IMU	Yes
Dual CPU	Yes CPU: 850MIPS CPUs (each with 16MB program flash & 256MB ram)
Online sensors diagnostics	Yes (Continuous Built-In Test, CBIT)
Dual Power Supply	Yes
Flight Termination	Deadman Output
Sensor failure tolerance	All single, several multiple

UAV Navigation
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