1x Software Manual

Release 6.8

Embention

2023-09-22

CONTENTS

1	Softv	vare applications for Veronte Autopilot 1x	3
	1.1	Veronte Link	3
	1.2	1x PDI Builder	3
	1.3	Veronte Ops	3
	1.4	Veronte HIL	4
	1.5	Veronte Updater	4
	1.6	1x PDI Calibration	4
	1.7	Veronte FDR	5
	1.8	Veronte VSA	5
	1.9	1x PDI Tuning	5
2	Nom	enclature	7
	2.1	Reference directions	7
	2.2	Axes	8
3	Lists	of variables	9
	3.1	Activation System Error bits	9
	3.2		10
	3.3		17
	3.4		52
	3.5		63
4	Softv	vare Changelog	71

In this manual the user can consult a brief description of all the applications created and designed to work together with the Veronte Autopilot 1x.

In addition, links are available to access the manuals for each of these applications.

🔯 Veronte Link × +	ny Embention user manual.	- 0
	t-veronte-link/en/6.8.27/index.html A ^N ترا ماه و ۲۵ A Home Version-6.8.27 v Languages-EN v Dow	£≌ @ ₩ wnload • ∰
	Docs » Veronte Link	
eronte Link oftware installation łow to use Veronte Link	Veronte Link	
essions	Veronte Link interconnects multiple control stations and autopilot units, so they can operate simultaneously.	
roubleshooting ntegration examples	Veronte Link supports the main Operating Systems (Windows, Linux and MacOS X). Contact Embention and we will	
OM port configuration	provide you with the software that better fits your requirements. Also, you must have updated the latest version of java.	
	Software installation	
	Once a Veronte device is delivered, a shared folder between the Customer and Embention is automatically created. The user will receive an email from the Support Team containing the information needed to access. If the email is not received within 72h, please contact with support@embention.com and our Support Team will be happy to help you.	
	Sign in	
	http://support.embention.com Your connection to this site is not private	
	Username Username	
	Password	

CHAPTER

ONE

SOFTWARE APPLICATIONS FOR VERONTE AUTOPILOT 1X

1.1 Veronte Link

Veronte Link stablishes communication between a computer and any Veronte product by creating a VCP bridge. It allows to use multiple control stations and autopilots to be interconnected, operating simultaneously. **Veronte Link** also includes a post-flight viewer, to reproduce all recorded data from previous flights and generate plots and reports.

Fore more information, visit the Veronte Link user manual.

1.2 1x PDI Builder

1x PDI Builder is the main configuration tool to adapt a **Veronte Autopilot 1x** to a specific vehicle, including userdefined commnication protocols. **1x PDI Builder** includes:

- Telemetry: real-time onboard UAV metrics, such as sensors, actuators and control states.
- Configuration: edit vehicle settings, such as servo trim, interface/port management and modes.
- Automations: actions that are automatically executed when a set of configured conditions are accomplished.
- Block Programs: Veronte Autopilot 1x can be programmed with a friendly-user programming language.

For more information, visit the 1x PDI Builder user manual.

1.3 Veronte Ops

Veronte Ops is the application employed to operate and monitor the vehicle during missions.

Veronte Terrain Provider estimates and displays the terrain height and the aircraft height, so it prevents collisions. It is executed automatically when the computer starts up, except for the first time it is used.



Fig. 1: Heights example from Veronte Ops widget

For more information about both applications, visit the Veronte Ops user manual.

1.4 Veronte HIL

Veronte HIL (Hardware In the Loop) is a simulation package for autopilots integration, development, and operator training. This software allows to extensively operate the flight system in a simulated environment, prior to executing real flight operations. Its role is to perdorm HIL simulations with the real autopilot hardware, allowing to use simulation applications like X-Plane, Microsoft Flight Simulator or simulink.

For more information, visit the Veronte HIL user manual.

1.5 Veronte Updater

Veronte Updater updates all Embention products.

For more information, visit the Veronte Updater user manual.

1.6 1x PDI Calibration

1x PDI Calibration setups calibration parameters for 1x autopilots. It allows the user to calibrate sensors, servos and configure the radio module.

For more information, visit the 1x PDI Calibration user manual.

1.7 Veronte FDR

Veronte FDR manages autopilot files, it allows to download the registers generated by the autopilot and convert them to csv files. Three types of registers can be downloaded: Onboard log, Fast log and User log.

For more information, visit the Veronte FDR user manual.

1.8 Veronte VSA

Veronte VSA (Virtual Situational Awarness) works using a flight simulator for representing the worldwide geographical scenarios: *lands, seas, mountains, cities, airfields, heliports...* In addition, an internet connection is not necessary, so it can be operated from any location without any delays in scenario loading.

Veronte VSA displays a 3D view of the aircraft which is being piloted, while it allows to use it as a 3D PFD (Primary Flight Display) when using the first person camera view. This system allows to display custom aircraft models in the virtual environment. Planemaker tool is available for creating custom models, thereby the operator can see in the interface aircraft model.

1.9 1x PDI Tuning

1x PDI Tuning allows to manage the control laws of the autopilot 1x during operation. The user can adjust each of the P (proportional) I (integral) D (derivative) gains and also the PID type (standard or parallel).

For more information, visit the 1x PDI Tuning user manual.

CHAPTER

TWO

NOMENCLATURE

This section defines the nomenclature convention employed by the software applications.

2.1 Reference directions

- Yaw is the direction where the aircraft is pointing to. It does not depend on the movement, since yaw is aligned with the longitudinal axis of the aircraft.
- **Heading** is the movement direction projected to the ground. **Heading** does not depend on wind or **yaw** direction, it just depends on the ground and the aircraft movement.

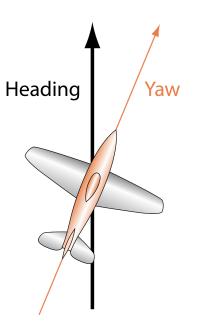


Fig. 1: Direction names

2.2 Axes

All signs are defined according to the international aeronautical axes convention: it is considered positive any deflection that generates positive rotational forces repect to the aerodynamic centre of the aircraft, except for "y" axis (elevator) where it is considered negative.

For example, an elevator going down will generate a positive pitch so the elevator is considered positive on low position. Main actuators rules:

Actuator	Positive	Negative
Elevator	Down	Up
Rudder	Right	Left
Right Aileron	Up	Down
Left Aileron	Down	Up
Tail Rotor	Right	Left

In addition, rotation names are summarized in the next figure:

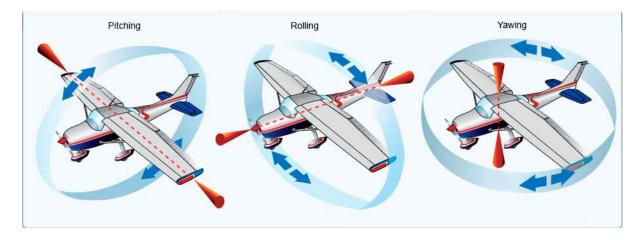


Fig. 2: Rotation names

CHAPTER

THREE

LISTS OF VARIABLES

This section shows all the variables employed by **Veronte Autopilot 1x**. All of them can be read and sent through telemetry.

Warning: Bit Variables displayed on Labels will be shown as Red/Green depending on its state. Red stands for 0 and Green for 1, changing the name displayed accordingly to the BIT value.

3.1 Activation System Error bits

The **System Error** variable is indicated by *bit number* 7. This bit checks whether the system is running properly. If one of certain malfunctions occur, the **System Error** will be set as 0 and the FTS will be activated. Othwerwise, if everything is OK, it will remain as 1.

The **System Error** is triggered and set as 0 if one of the following unwanted events happens:

- CIO low has a frequency lower than 10 Hz. This error is indicated with a 0 in *bit 400*.
- CIO high has a frequency lower than 990 Hz. This error is indicated with a 0 in *bit 402*.
- GNC is 'dead'. This event is indicated with a 0 in *bit 401*.
- GNC Realtime Error because a GNC Step has been missed. This event is indicated with a 0 in bit 404.
- Main Power supply A is in error state. This error is indicated with a 0 in *bit 117* if any of the following errors happens:
 - Input supply voltage is not between 6.5 and 36 V. This voltage is measured by *RVar 400*.
 - Voltage received by Veronte through 5V port is not between 4.75 and 5.25 V. This voltage is measured by *RVar 402*.
 - Voltage received by Veronte through 3.6V port is not between 3.42 and 3.78V. This voltage is measured by *RVar 404*.
- File system manager is in error state. This event is indicated with a 0 in *bit 6*.
- **RAM allocation** is in error state due to trying to use more memory than available. This error is indicated with a 0 in *bit* 8.
- **PDI files** are wrong configuration. This is indicated with a 0 in *bit 9*.
- Core 1 has a memory overflow allocated for local variables. This error is indicated with a 0 in *bit 16*.
- Core 2 has a memory overflow allocated for local variables. This error is indicated with a 0 in *bit 17*.
- Any user bit configured as safety bit is 0. User bits are 1200 to 1499.

3.2 BIT Variables

ID	Name	Description
0	Always fail	This signal is always fail - 0 for fail, 1 for OK
1	Always OK	This signal is CIO always OK - 0 for fail, 1 for OK
2	License check pending	License state - 0 for license check pending, 1 for license checked
3	System not ready to start	System is ready to start operating - 0 for not ready, 1 for ready
4	No writing telemetry	Telemetry is properly sending/receiving - 0 for no, 1 for yes
5	Power error	 Power supply state - It ill be 0 if any of the following conditions happens: <i>Bit 117</i> is zero (power for Veronte has a failure) <i>Bit 118</i> is zero (power for SuC has a failure)
6	File system error	System file manager - 0 for not working properly, 1 for running
7	System error	This bit checks whether the system is running properly. 0 for system error, 1 for system OK.
8	Memory Allocation	RAM allocation - 0 for trying to use more than available memory, 1 for running
9	PDI error	PDI files - 0 for wrong PDI configuration, 1 for running OK
10	CIO Low or C2 Error	CIO low or C2 failed. Bits 400 and 401 are recommended instead - 0 for CIO low or C2 failed, 1 for CIO high and C2 OK
	Warning: Deprecated variable	
12	System power up bit error	Power up - 0 for error, 1 for OK
13	Reset and write disabled	Reset and write - 0 for disabled, 1 for enabled
14	FTS-1 Feedback (>=V4.5)	Flight Termination System 1, microcontroller state for hardware version 4.7 or higher - 0 for error, 1 for running OK

	Name	Description
ID 15	FTS-2 Feedback (>=V4.5)	Flight Termination System 2,
15	115-2 Feedback (>= V4.5)	microcontroller state for hardware
		version 4.7 or higher - 0 for error, 1
16		for running OK
16	Stack core 1 usage FAIL	0 for memory overflow allocated for
		local variables of core 1, 1 for OK
17	Stack core 2 usage FAIL	0 for memory overflow allocated for
		local variables of core 2, 1 for OK
18	PDI disabled	PDI Mode - 0 for disabled, 1 for
		enabled
20-47	4xV Bit variables	For more information, check 4x
		Software Manual -> BIT
49	CPU temperature above 398.15K	CPU temperature warning - 0 for
		CPU temperature above 398.15K
		(125°C), 1 for CPU temperature
		below 398.15K (125°C)
50	Sensors error	Sensors state- 0 for error, 1 for
		running OK
		Selected sensors are not working
		or, if external sensors have been
		selected, they are not connected
51	Sensor-Main IMU	0 for disabled, 1 for enabled
52	Sensor-Secondary IMU	0 for disabled, 1 for enabled
53	Sensor-Magnetometer	Internal LIS3MDL
		magnetometer - 0 for disabled, 1
		for enabled
54	Sensor-External magnetometer	External HMR2300
	(HMR2300)	magnetometer - 0 for disabled, 1
	(11111122000)	for enabled
55	Sensor-External Magnetometer	External LISSNDL
55	Sensor-External Magnetometer	External LIS3MDL magnetometer - 0 for disabled 1
55	Sensor-External Magnetometer (LIS3MDL)	magnetometer - 0 for disabled, 1
	(LIS3MDL)	magnetometer - 0 for disabled, 1 for enabled
55 56	e	magnetometer-0for disabled,1for enabledHSC Static Pressure Sensor -0for
56	(LIS3MDL) Sensor-Static pressure (HSC)	magnetometer-0for disabled, 1for enabledHSC Static Pressure Sensor -0fordisabled, 1for enabled
	(LIS3MDL)	magnetometer-0for disabled, 1for enabledHSC Static Pressure Sensor -0fordisabled, 1for enabledMS56 Static Pressure Sensor -0for
56 57	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56)	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabled
56	(LIS3MDL) Sensor-Static pressure (HSC)	magnetometer-0for disabled, 1for enabledHSC Static Pressure Sensor -0fordisabled, 1for enabledMS56 Static Pressure Sensor -0fordisabled, 1for enabledHSC Dynamic Pressure Sensor -0
56 57 58	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC)	magnetometer-0for disabled, 1for enabledHSC Static Pressure Sensor -0fordisabled, 1for enabledMS56 Static Pressure Sensor -0fordisabled, 1for enabledHSC Dynamic Pressure Sensor -0for disabled, 1for enabled
56 57 58 59	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabled0 for disabled, 1 for enabled
56 57 58	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC)	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C from
56 57 58 59 60-64	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices Sensor-External I2C device 1-5	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C fromdevice 1 to 5
56 57 58 59	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C fromdevice 1 to 5Serial Communication Interface -
56 57 58 59 60-64 65	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices Sensor-External I2C device 1-5 SCI A Transmitting (Sara)	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C fromdevice 1 to 5Serial Communication Interface -sara transmission
56 57 58 59 60-64	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices Sensor-External I2C device 1-5	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C fromdevice 1 to 5Serial Communication Interface -sara transmissionSerial Communication Interface -
56 57 58 59 60-64 65	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices Sensor-External I2C device 1-5 SCI A Transmitting (Sara)	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C fromdevice 1 to 5Serial Communication Interface -sara transmissionSerial Communication Interface -sara reception
56 57 58 59 60-64 65	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices Sensor-External I2C device 1-5 SCI A Transmitting (Sara)	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C fromdevice 1 to 5Serial Communication Interface -sara transmissionSerial Communication Interface -
56 57 58 59 60-64 65 66	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices Sensor-External I2C device 1-5 SCI A Transmitting (Sara) SCI A Receiving (Sara)	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C fromdevice 1 to 5Serial Communication Interface -sara transmissionSerial Communication Interface -sara reception
56 57 58 59 60-64 65 66	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices Sensor-External I2C device 1-5 SCI A Transmitting (Sara) SCI B Transmitting (Radio)	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C fromdevice 1 to 5Serial Communication Interface -sara transmissionSerial Communication Interface -sara receptionSerial Communication Interface -
56 57 58 59 60-64 65 66 67	(LIS3MDL) Sensor-Static pressure (HSC) Sensor-Static pressure (MS56) Sensor-Dynamic pressure (HSC) Sensor-External I2C devices Sensor-External I2C device 1-5 SCI A Transmitting (Sara) SCI A Receiving (Sara)	magnetometer- 0 for disabled, 1for enabledHSC Static Pressure Sensor - 0 fordisabled, 1 for enabledMS56 Static Pressure Sensor - 0 fordisabled, 1 for enabledHSC Dynamic Pressure Sensor - 0for disabled, 1 for enabled0 for disabled, 1 for enabledExternal communication I2C fromdevice 1 to 5Serial Communication Interface -sara transmissionSerial Communication Interface -sara receptionSerial Communication Interface -radio transmission

Table	1 – continued from	previous page
-------	--------------------	---------------

		•
ID	Name	Description
69	SCI C Transmitting (RS485)	Serial Communication Interface -
		RS485 transmission
70	SCI C Receiving (RS485)	Serial Communication Interface -
		RS485 reception
71	SCI D Transmitting (RS232)	Serial Communication Interface -
		RS232 transmission
72	SCI D Receiving (RS232)	Serial Communication Interface -
		RS232 reception
73	CAN A ERROR	CAN A state - 0 for error, 1 for OK
74	CAN B ERROR	CAN B state - 0 for error, 1 for OK
75	CAN A warning	CAN A state - 0 for warning, 1 for
		OK
76	CAN B warning	CAN B state - 0 for warning, 1 for
		OK
77	Vectornav GPS Fix	0 for error, 1 for OK
78	Vectornav IMU error	0 for error, 1 for OK
79	Vectornav Mag/Press error	0 for error, 1 for OK
80	Vectornav GPS error	0 for error, 1 for OK
81	Vectornav navigation error	Navigation state - 0 for error, 1 for
01	vectorinav navigation error	OK
82	Sensor-External Magnetometer	External HSCDTD008A
02	(HSCDTD008A)	magnetometer - 0 for error, 1
	(IISCD ID000A)	for OK
83	Sensor 3rd IMU BMI088	0 for error, 1 for OK
84	Sensor-static pressure 2 (DPS310)	0 for error, 1 for OK
85	Magnetometer 4 (MMC5883MA)	Internal MMC5883MA
0.5	Magnetonieter 4 (MiNC 3885MA)	magnetometer - 0 for error, 1
		for OK
86	Magnetometer 5 (External	External MMC5883MA
80	MMC5883MA)	
	MINC 3885NIA)	magnetometer - 0 for error, 1 for OK
07		
87	U-Blox 1	GPS module 1 state - 0 for error, 1
00		for OK
88	U-Blox 2	GPS module 2 state - 0 for error, 1
00		for OK
89	Magnetometer 6 (External	External RM3100 magnetometer -
	RM3100)	0 for error, 1 for OK
90	IMU3 ADIS16505-3 (MCBSP)	0 for error, 1 for OK
91	Magnetometer 7 (Internal RM3100)	Internal RM3100 magnetometer -
		0 for error, 1 for OK
92	Magnetometer reserved	0 for error, 1 for OK
96-99	SCI A-D receiving error	SCI A to D - 0 for error, 1 for OK
100	Position not Fixed	GNSS data reception - 0 for not
		receiving, 1 for receiving (Psotition
		fixed)
101	No valid SRTM at UAV position	0 for not valid, 1 for valid
102-103	CAN A-B receiving	CAN A to B communication - 0 for
	_	not receiving, 1 for receiving
104-105	Stick PPM 1-2 not detected	Stick PPM 1 to 2 - 0 for not
		detecting, 1 for detecting
L	I	continues on next page

Table 1 – continued from previous page	ae
--	----

	Table 1 – continued from previous	
ID	Name	Description
106	Magnetic field out of bounds	0 for magnetic field out of bounds, 1
		for OK
107	INS navigation OFF	0 for INS navigation OFF, 1 for INS
		navigation ON
108-109	Stick PPM 3-4 not detected	Stick PPM 3 to 4 - 0 for not
		detecting, 1 for detecting
110	Stick not detected	Stick detection - 0 for not detected,
		1 for detected
111-112	CAN A-B transmitting	CAN signals A to B - 0 for not
		transmitting, 1 for transmitting
113	Iridium ready	Iridium ready state -0 for not ready,
		1 for ready
114	No valid geoid at UAV position	0 for not no valid geoid at UAV
		position, 1 for valid geoid at UAV
		position
115	EKF: Condition Number Error	Extended Kalman Filter state – 0 for
		error, 1 for running
116	Radar altimeter CAN-RX error	Radar Altimeter State – 0 for error,
		1 for running
117	Main power error	Main power supply A. It will be 0
		(indicating error state) if any of the
		following errors happens:
		• Input supply voltage is not
		between 6.5 and 36 V. This
		voltage is measured by RVar
		400
		• Voltage received by Veronte
		through 5V port is not
		between 4.75 and 5.25 V.
		This voltage is measured by
		RVar 402
		• Voltage received by Veronte
		through 3.6V port is not
		between 3.42 and 3.78V. This
		voltage is measured by <i>RVar</i> 404
		404
110	SUC norman array	Downer overheiter
118	SUC power error	Power supply for system on
		microchip. It ill be 0 (indicating
		error state) if any of the following
		errors happens:
		• Voltage received by Veronte
		through 3.3V port is out
		of range. This voltage is
		measured by RVar 401
		• Voltage received by Veronte
		SUC is out of range. This
		voltage is measured by <i>RVar</i>
		403

Table	1 - continued from previous page	è
-------	----------------------------------	---

ID	Name	ge Description
		•
119	Not hovering guidance	Hovering guidance state - for
		hovering guidance disabled, 1 for
100,100	D.1. 1.4	enabled
120-123	Pulse 1-4 not detected	Pulse 1 to 4 detection - 0 for pulse
		not detected, 1 for detected
124-129	4xV Bit variables	For more information, check 4x
		Software Manual -> BIT
130	EFK navigation state	Extended Kalman Filter navigation
		state - 0 for error, 1 for running
150	External VCP state	External VCP state - 0 for error, 1 for
		OK
160	External var Navigation Error	External Navigation state - 0 for
		error, 1 for running
180	Attitude	Kind of attitude calculation – 0 for
		external, 1 for internal
182	FTS Activation (>=V4.5)	Flight Termination System
		activation, for version 4.5 or
		higher - 0 for not activated, 1 for
		activated
188	BIT for static pressure sensors Error	0 for static pressure sensors error, 1
		for OK
189	BIT for magnetometer sensors Error	0 for magnetometer sensors error, 1
		for OK
190	Internest ultrasound position status	0 for internest ultrasound position
	error	error, 1 for OK
191	Internest ultrasound angle status	0 for internest ultrasound angle
	error	error, 1 for OK
200	GNSS1 navigation down	0 for GNSS navigation OFF, 1 for
200	Gr (BST havigation down	GNSS navigation ON
201	DGNSS1 input Off	0 for GNSS compass or RTK not
201		activated, 1 for one of them activated
202	DGNSS1 navigation Off	0 for GNSS compass or RTK not
202		activated, 1 for one of them activated
203	GNSS1 survey in Off	GNSS compass survey or RTK OFF,
203		1 for one of them ON
204	No DGNSS1 float solution	0 for no DGNSS1 float solution nor
204		
		RTK, 1 for DGNSS1 float solution
205		or RTK
205	No DGNSS1 fixed solution	0 for no DGNSS1 fixed solution nor
		RTK, 1 for DGNSS1 fixed solution
206		or RTK
206	DGNSS1 relative position invalid	0 for invalid navigation position, 1
		for valid navigation position
207	DGNSS1 not moving baseline mode	0 for not moving baseline mode, 1
		for moving baseline mode
230-293	4xV Bit variables	For more information, check 4x
		Software Manual -> BIT
300	GNSS2 navigation down	0 for GNSS navigation OFF, 1 for
	-	GNSS navigation ON
		continues on next page

Table 1 – continued from previou	ls page
----------------------------------	---------

ID	Name	Description
301	DGNSS2 input Off	0 for GNSS compass or RTK not
	I	activated, 1 for one of them activated
302	DGNSS2 navigation Off	0 for GNSS compass or RTK not
		activated, 1 for one of them activated
303	GNSS2 survey in Off	GNSS compass survey or RTK OFF,
2002		1 for one of them ON
304	No DGNSS2 float solution	0 for no DGNSS1 float solution nor
501		RTK, 1 for DGNSS1 float solution
		or RTK
305	No DGNSS2 fixed solution	0 for no DGNSS1 fixed solution nor
		RTK, 1 for DGNSS1 fixed solution
		or RTK
306	DGNSS2 relative position invalid	0 for invalid navigation position, 1
		for valid navigation position
307	DGNSS2 not moving baseline mode	0 for not moving baseline mode, 1
		for moving baseline mode
329	3.3V power source	0 for error, 1 for OK
330	Jetibox COMM Error	Jetibox is communicating properly -
		0 for error, 1 for OK
370-371	Smart Can Isolator A-B Domain	0 for error, 1 for OK
	Error	,
400	C1 Low Frequency	0 for error (it has a frequency < 10
		Hz), 1 for OK (it has a frequency >
		10 Hz)
401	GNC fail	0 for error ('dead'), 1 for ok ('alive')
402	Acquisition Step Missed	0 for Acquisition step missed (it
		has a frequency < 990 Hz), 1
		for Acquisition Task OK (it has a
402		frequency > 990 Hz)
403	CIO Hi Overload warning	0 for Acquisition Task overload,
		1 for CPU1 high Usage Ok
40.4		(Acquisition Task OK)
404	GNC Realtime Error	0 GNC Step Missed, 1 for GNC Task
405	Descenced	OK
405	Reserved	0 for error, 1 for OK
480	VMC stepper direction output	0 for error, 1 for OK
481	VMC brushless driver fault	0 for error, 1 for OK
482	VMC Hall Sensor error	0 for error, 1 for OK
483	VMC Sin/Cos Sensor error	0 for error, 1 for OK
484	MC general health error	0 for health error, 1 for status OK
500	Ground effect compensation	0 for disabled, 1 for enabled
501	variance disabled	0 for disabled 1 for angle 1
501	Ground effect compensation	0 for disabled, 1 for enabled
502	measurement disabled	0 for No ODTM Jota 1 Con ODTM
502	No SRTM data	0 for No SRTM data, 1 for SRTM
600	Wind Estimation Off	data OK
600 700-731	Wind Estimation Off Servo 1-32 Satured	0 for disabled, 1 for enabled 0 for satured, 1 for OK
/00-/31	Servo 1-52 Satureu	continues on next page

Table 1 – continued from previous page	je
--	----

ID	Name	5
800-815	PWM 1-16 GPIO Off	Description PWM GPIO 1-16 communication
800-815	PWM 1-16 GPIO OII	Sate - 0 for Off, 1 for On
816-819	EQEP_A-I (GPIO 17-20) Off	Input/Output State - 0 for Off, 1 for
810-819	EQEF_A-I (GFIO 17-20) OII	On
820-822	RSSI LED 1-3 Off	Received Signal Strength Indicator
820-822	KSSI LED 1-3 OII	led state - 0 for Off, 1 for On
900-931	Virtual GPIO 1-32 Off	0 for Off, 1 for On
1000-1009	Simulation BIT 1-10 Error	0 for error, 1 for OK
1010-1113	Custom msg 1-104 Rx Error	Custom message timeout - 0 for
1010-1115		error, 1 for OK
1120-1121	Entrance EKF GNSS 1-2 Off	GNSS 1-2 information considered
		in EKF Navigation - 0 for entrance
		EKF GNSS OFF, 1 for ON
		EKF GNSS OFF may be because
		Position not fixed \rightarrow EKF
		deactivated \rightarrow INSS activated
1122	Entrance EKF GNSS EXT Off	External GNSS information
		considered in EKF Navigation - 0
		for entrance EKF GNSS EXT OFF,
		1 for ON
1123	Entrance EKF internest Off	Internest information considered in
		EKF Navigation - 0 for entrance
		EKF internest OFF, 1 for ON
1124	Entrance EKF GPSCOMPASS Off	GNSS Compass information
		considered in EKF Navigation - 0
		for entrance EKF GPSCOMPASS
		OFF, 1 for ON
1125	Entrance EKF Magnetometer Off	Magnetometer information
		considered in EKF Navigation
		- 0 for entrance EKF magnetometer
1126	Entropes EVE stations of	OFF, 1 for ON
1126	Entrance EKF static press Off	Static Pressure sensor information
		considered in EKF Navigation - 0 for
		entrance EKF static pressure OFF, 1
1127	Entrance EKF altimeter press Off	for ON Altimeter information considered in
1121	Enuance EKF anneter press On	EKF Navigation - 0 for entrance
		EKF Navigation - 0 for entrance EKF altimeter OFF, 1 for ON
1128	Entrance EKF radar-altimeter press	Radar Altimeter information
1120	Off	considered in EKF Navigation - 0
		for entrance EKF radar-altimeter
		OFF, 1 for ON
1129	Entrance EKF DEM press Off	DEM information considered in
1127	Enuance EKI DEWI PIESS OII	EKF Navigation - 0 for entrance
		EKF DEM OFF, 1 for ON
1180-1181	Sniffer msg 1-2 Rx Error	Sniffer receiver message - 0 for error,
1100-1101	Similer msg 1-2 KX EHOI	1 for OK
1200-1499	User BIT 01-300 error	User bit 1 to 300 - 0 for error, 1 for
1200-1477		OSET DIT I TO 500 - 0 TOF EITOF, I TOF OK
		continues on next page

Table 1	- continued from previous page
---------	--------------------------------

Table 1 – continued from previous page	ge
Name	Description

ID	Name	Description
2200	BIT Dummy Error	Bit for configurable checks - 0 for
		error, 1 for OK

3.3 Real Variables (RVar) - 32 Bits

ID	Name	Units/Values	Description
0	IAS (Indicated Air Speed)	m/s	Pitot-static measurement speed
1	TAS (True Air Speed)	m/s	Speed relative to the airmass in which the vehicle is moving (IAS measurement corrected with Standard Atmosphere data)
2	GS (Ground Speed)	m/s	Horizontal speed, relative to the ground
3	Heading	rad	Direction in which the vehicle velocity vector is pointing
4	Flight Path Angle	rad	Angle between velocity vector and local horizontal line
5	Bank	rad	Velocity vector lateral component
6	Yaw	rad	Angle around the Vertical axis of the vehicle
7	Pitch	rad	Angle around the Transverse axis of the vehicle
8	Roll	rad	Angle around the Longitudinal axis of the vehicle
9	Route-guidance tangential deviation	m	Tangencial distance to the desired position (guidance)
10	Route-guidance horizontal deviation	m	Horizontal distance to the desired position (guidance)
11	Route-guidance perpendicular deviation	m	Perpendicular distance to the desired position (guidance)
12	p (Angular Velocity - X Body Axis)	rad/s	Angular velocity around longitudinal axis
13	q (Angular Velocity - Y Body Axis)	rad/s	Angular velocity around lateral axis
14	r (Angular Velocity - Z Body Axis)	rad/s	Angular velocity around vertical axis

Forward Acceleration – X Body Axis Right Acceleration – Y Body Axis	m/s ²	Acceleration in the X-axis
	m/s ²	
		Acceleration in the Y-axis
Bottom Acceleration – Z Body Axis	m/s ²	Acceleration in the Z-axis
RPM	rad/s (RDS)	Revolutions per minute configurable for external sensor
Front Ground Velocity	m/s	GV vector X component
Lateral Ground Velocity	m/s	GV vector Y component
Velocity	m/s	Velocity vector module
Forward Load Factor – X Body Axis	customType	G-force in X body axis
Right Load Factor – Y Body Axis	customType	G-force in Y body axis
Bottom Load Factor – Z Body Axis	customType	G-force in Z body axis
Tangential Acceleration	m/s ²	Absolute acceleration for tangential direction
Co-yaw	rad	Acrobatic Yaw with Body Z' axis pointing to X
Co-pitch	rad	Acrobatic Pitch with Body X' axis pointing to -Z
Co-roll	rad	Acrobatic Roll with Y' keeping same as Y
Angular Acceleration - X Body Axis	rad/s ²	Acceleration around the longitudinal axis
Angular Acceleration - Y Body Axis	rad/s ²	Acceleration around the lateral axis
Angular Acceleration - Z Body Axis	rad/s ²	Acceleration around the vertical axis
Body to NED quaternion qs	customType	First component of body to NED orientation quaternion
Body to NED quaternion qi	customType	Second component of body to NED orientation quaternion
Body to NED quaternion qj	customType	Third component of body to NED orientation quaternion
Body to NED quaternion qk	customType	Fourth component of body to NED orientation quaternion continues on next page
	Body AxisRPMFront Ground VelocityLateral Ground VelocityVelocityForward Load Factor - X Body AxisBody AxisRight Load Factor - Y Body AxisBottom Load Factor - Z Body AxisCo-yawCo-pitchCo-rollAngular Acceleration - X Body AxisBody to NED quaternion qiBody to NED quaternionqiBody to NED quaternionQiBody to NED quaternionQiBody to NED quaternionQi	Body Axisrad/s (RDS)RPMrad/s (RDS)Front Ground Velocitym/sLateral Ground Velocitym/sVelocitym/sForward Load Factor – X Body AxiscustomTypeBody AxiscustomTypeBottom Load Factor – Z Body AxiscustomTypeBottom Load Factor – Z Body AxiscustomTypeCo-yawradCo-pitchradCo-rollradAngular Acceleration - X Body Axisrad/s²Body Axisrad/s²Body Axisrad/s²Body Axisrad/s²Body Axisrad/s²Body Axisrad/s²Body Axisrad/s²Body to NED quaternion qicustomTypeBody to NED quaternion qjcustomTypeBody to NED quaternion qjcustomType

Table 2 – continued from previous

ID	Name	Units/Values	Description
40	RSSI	percentage	Received Signal Strength Indicator
		Warning: Deprecated variable	
42	SCI-A Rx rate (4G)	bytes/s	4G link reception byte rate
43	SCI-A Tx rate (4G)	bytes/s	4G link transmission byte rate
44	SCI-B Rx rate (LOS)	bytes/s	Radio link reception byte rate
45	SCI-B Tx rate (LOS)	bytes/s	Radio link transmission byte rate
46	SCI-C Rx rate (RS485)	bytes/s	RS485 communication reception byte rate
47	SCI-C Tx rate (RS485)	bytes/s	RS485 communication transmission byte rate
48	SCI-D Rx rate (RS232)	bytes/s	RS232 communication reception byte rate
49	SCI-D Tx rate (RS232)	bytes/s	RS232 communication transmission byte rate
50	CAN-A Tx rate	pkts/s	CAN-A transmission packet rate
51	CAN-B Tx rate	pkts/s	CAN-B transmission packet rate
52	CAN-A Tx skip rate	pkts/s	CAN-A messages delayed because no mailbox is available for sending
53	CAN-B Tx skip rate	pkts/s	CAN-B messages delayed because no mailbox is available for sending
56	Yaw rate	rad/s	Rate of change of the yaw angle
57	Pitch rate	rad/s	Rate of change of the pitch angle
58	Roll rate	rad/s	Rate of change of the roll angle
59-64	COM 1-6 Parse Error Rate	messages	Each COM discard packages with these frequencies. Messages might be discarded because the calculated and the received CRC are different
65	GNSS Absolute Time Of Week Milliseconds	customType	Time of the weekexpressedwithmilliseconds
66	GNSS Hours in the Current Day	customType	Elapsed hours in the current day

Table 2 – continued from previous page

	I from previous page	Decerintian
		Description
	custom Type	Elapsed minutes in the current hour
	custom Type	Elapsed seconds in the current minute
	mo d/a	
Estimated gyro bias x	rad/s	5
Estimated auro bios y	rad/a	during IMU calibration Gyro bias estimated
Estimated gyro bias y	Tau/S	during IMU calibration
Estimated auro bias z	rad/s	Gyro bias estimated
Estimated gyro blas z	140/5	during IMU calibration
Estimated accelerometer	m/s ²	Accelerometer bias
	1143	estimated during IMU
olas x		calibration
Estimated accelerometer	m/s ²	Accelerometer bias
	114.5	estimated during IMU
		calibration
Estimated accelerometer	m/s ²	Accelerometer bias
		estimated during IMU
		calibration
Desired IAS (Indicated	m/s	Commanded IAS from
		guidance
	m/s	Commanded TAS from
		guidance
1	m/s	Commanded GS from
Speed)		guidance
Desired Heading	rad	Commanded Heading
		from guidance
Desired Flight Path Angle	rad	Commanded Flight Path
		Angle from guidance
Desired Bank	rad	Commanded Bank from
		guidance
Desired Yaw	rad	Commanded Yaw from
		guidance
Desired Pitch	rad	Commanded Pitch from
		guidance
Desired Roll	rad	Commanded Roll from
		guidance
1	rad/s	Commanded angular
Velocity - X Body Axis)		velocity around
		longitudinal axis
	rad/s	Commanded angular
Velocity - Y Body Axis)		velocity around lateral
		axis
	rad/s	Commanded angular
Velocity - Z Body Axis)		velocity around vertical
		axis
	m/s ²	Commanded Forward
-		Acceleration from
AXIS		guidance continues on next page
	Speed)Desired HeadingDesired Flight Path AngleDesired BankDesired YawDesired YawDesired PitchDesired RollDesired RollDesired p (Angular Velocity - X Body Axis)Desired q (Angular Velocity - Y Body Axis)	GNSS Minutes in the Current HourcustomTypeGNSS Seconds in the Current MinutecustomTypeEstimated gyro bias xrad/sEstimated gyro bias yrad/sEstimated gyro bias zrad/sEstimated gyro bias zrad/sEstimated accelerometer bias xm/s²Estimated accelerometer bias zm/s²Desired IAS (Indicated Air Speed)m/sDesired GS (Ground Speed)m/sDesired HeadingradDesired Flight Path Angle Desired Flight Path AngleradDesired PitchradDesired RollradDesired PitchradDesired PitchradDesired PitchradDesired PitchradDesired PitchradDesired PitchradDesired PitchradDesired PitchradDesired PitchradDesired Pitchrad/sDesired Pitchrad/sDesired Pitchrad/sDesired Pitchrad/sDesired P (Angular Velocity - X Body Axis)rad/sDesired r (Angular Velocity - Z Body Axis)rad/s

Table	2 – continued from previous page
Table	

AccelerationZ Body AxisAcceleration guidance118Desired RPMrad/sCommanded RPM guidance119Desired Front Ground Velocitym/sCommanded RPM guidance120Desired Lateral Ground Velocitym/sCommanded Late from guidance121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor - X Body AxiscustomTypeCommanded Righ Factor rom guidance123Desired Right Load Factor - Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Right Load Factor - Y Body AxiscustomTypeCommanded Righ Factor from guidance125Desired Right Load Factor - Z Body AxiscustomTypeCommanded Tat Acceleration guidance126Energy Rate Error Rate of change of th System EnergyCommanded Co-yaw guidance128Desired co-yawrad Commanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	Right from
Acceleration - Y Body AxisAcceleration guidance117DesiredBottom Acceleration - Z Body 	
Axisguidance117DesiredBottom Acceleration – Zm/s²Commanded Acceleration guidance118Desired RPMrad/sCommanded RPM guidance119Desired FrontGround Velocitym/sCommanded Fro from guidance120Desired LateralGround Velocitym/sCommanded Late from guidance121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor – X Body AxiscustomTypeCommanded M from guidance123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Tip guidance124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Tap commanded Tap factor – Z Body Axis125Desired Right Load Factor – Y Body Axism/s²Commanded Tap Acceleration guidance126Energy Rate ErrorcustomTypeRate of change of tap System Energy127Energy Rate ErrorcustomTypeDistribution of energy between k and geopotential et and geo	from
117 Desired Bottom m/s² Commanded 118 Desired RPM rad/s Commanded RPM 118 Desired Front Ground m/s Commanded RPM 119 Desired Front Ground m/s Commanded RPM 120 Desired Lateral Ground m/s Commanded Late 121 Desired Velocity m/s Commanded M 122 Desired Forward Load customType Commanded For 123 Desired Right Load Factor customType Commanded Righ 124 Desired Bottom Load customType Commanded Tate 125 Desired Tangential m/s² Commanded Tate 126 Energy Rate Error customType Rate of change of ta 127 Energy Rate Error customType Distribution of 128 Desired co-yaw rad Commanded co-ya 129 Desired co-pitch rad Commanded co-ya	
AccelerationZ Body AxisAcceleration guidance118Desired RPMrad/sCommanded RPM guidance119Desired Front Ground Velocitym/sCommanded RPM guidance120Desired Lateral Ground Velocitym/sCommanded Late from guidance121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor - X Body AxiscustomTypeCommanded M from guidance123Desired Right Load Factor - Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Right Load Factor - Z Body AxiscustomTypeCommanded Righ Factor from guidance125Desired Right Load Factor - Z Body Axism/s²Commanded Tat Acceleration126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential e128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya	
Axisguidance118Desired RPMrad/sCommanded RPM119Desired Front Ground Velocitym/sCommanded Fro from guidance120Desired Lateral Ground Velocitym/sCommanded Late from guidance121Desired Velocitym/sCommanded A from guidance122Desired Forward Load Factor – X Body AxiscustomTypeCommanded Righ Factor – X Body Axis123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Tate Gommanded Tate Acceleration125Desired Tangential Accelerationm/s²Commanded Tate Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential et and	Bottom
118Desired RPMrad/sCommanded RPM guidance119Desired Front Ground Velocitym/sCommanded Front from guidance120Desired Lateral Ground Velocitym/sCommanded Late from guidance121Desired Velocitym/sCommanded Front from guidance122Desired Velocitym/sCommanded Front from guidance123Desired Forward Load Factor – X Body AxiscustomTypeCommanded Righ Factor guidance124Desired Bittom Load Factor – Z Body AxiscustomTypeCommanded Tate Commanded Tate Acceleration125Desired Tangential Accelerationm/s²Commanded Tate Acceleration126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of the System Energy127Energy Distribution Error Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en And geopotential en energy between k and geopotential en and g	from
Image: 119Desired Front Ground Velocitym/sCommanded From from guidance120Desired Lateral Ground Velocitym/sCommanded Later from guidance121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor – X Body AxiscustomTypeCommanded Right Load Factor guidance123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Right Factor – Z Body Axis124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Tata Acceleration guidance125Desired Tangential Accelerationm/s²Commanded Tata Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of the System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en and geopotential en energy between k and geopotential en and geopotential en energy between k and geopotential en and geopotential en energy between k and geopotential en energy between k <br< td=""><td></td></br<>	
119Desired Front Ground Velocitym/sCommanded Fro from guidance120Desired Lateral Ground Velocitym/sCommanded Late from guidance121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor – X Body AxiscustomTypeCommanded Righ guidance123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Tat Acceleration guidance125Desired Tangential Accelerationm/s²Commanded Tat Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error guidancecustomTypeDistribution of energy between k and geopotential energy128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	f from
Velocityfrom guidance120Desired Lateral Ground Velocitym/sCommanded Late from guidance121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor – X Body AxiscustomTypeCommanded M from guidance123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Tat Acceleration guidance125Desired Tangential Accelerationm/s²Commanded Tat Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en and geopotential en en en and geopotential en and geopotential en en and geopotential en and geopo	
120Desired Lateral Ground Velocitym/sCommanded Late from guidance121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor – X Body AxiscustomTypeCommanded M from guidance123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Load Factor from guidance125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en and geopotential en rad128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	nt GV
120Desired Lateral Ground Velocitym/sCommanded Late from guidance121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor – X Body AxiscustomTypeCommanded M from guidance123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Load Factor from guidance125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en and geopotential en rad128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	
121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor - X Body AxiscustomTypeCommanded F Load Factor guidance123Desired Right Load Factor - Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Bottom Load Factor - Z Body AxiscustomTypeCommanded Load Factor from guidance125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en 2000128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya	ral GV
121Desired Velocitym/sCommanded M from guidance122Desired Forward Load Factor - X Body AxiscustomTypeCommanded F Load Factor guidance123Desired Right Load Factor - Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Bottom Load Factor - Z Body AxiscustomTypeCommanded Load Factor from guidance125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en and geopotential en customType128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya	
122Desired Forward Load Factor - X Body AxiscustomTypeCommanded F Load guidance123Desired Right Load Factor - Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Bottom Load Factor - Z Body AxiscustomTypeCommanded Factor from guidance125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en guidance128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	elocity
122Desired Forward Load Factor – X Body AxiscustomTypeCommanded Load guidance123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Righ Factor from guidance124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Load Factor from guidance125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en and geopotential en and geopotential en128Desired co-pitchradCommanded co-ya guidance	
Factor - X Body AxisLoad Factor guidance123Desired Right Load Factor - Y Body AxiscustomTypeCommanded Right Factor from guidant124Desired Bottom Load Factor - Z Body AxiscustomTypeCommanded Load Facto from g125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en Idad co-ya guidance128Desired co-pitchradCommanded co-ya guidance	orward
123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Righ Factor from guidar124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Load Facto from guidar125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error und geopotential en customTypeDistribution of energy between k and geopotential en customType128Desired co-pitchradCommanded co-ya guidance	from
123Desired Right Load Factor – Y Body AxiscustomTypeCommanded Right Factor from guidar124Desired Bottom Load Factor – Z Body AxiscustomTypeCommanded Load Facto from guidar125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en guidance128Desired co-yaw guidanceradCommanded co-ya guidance129Desired co-pitchradCommanded co-manded	nom
- Y Body AxisFactor from guidar124Desired Bottom Load Factor - Z Body AxiscustomTypeCommanded Load Facto from guidar125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential er128Desired co-yaw Desired co-pitchradCommanded co-ya guidance	4 T a a d
124Desired Factor - Z Body AxisCustomTypeCommanded Load Facto from g125Desired AccelerationTangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential er128Desired co-yaw energyradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	
Factor – Z Body AxisLoad Facto from g125Desired Tangential Accelerationm/s²Commanded Tan Acceleration guidance126Energy Rate Error Energy Distribution ErrorcustomTypeRate of change of th System Energy127Energy Distribution Error energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en128Desired co-yaw energyradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	
125Desired AccelerationTangential M/s2m/s2Commanded Acceleration guidance126Energy Rate ErrorcustomTypeRate of change of th System Energy127Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya	Bottom
AccelerationAcceleration126Energy Rate ErrorcustomTypeRate of change of th System Energy127Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	
126Energy Rate ErrorcustomTypeRate of change of th System Energy127Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-pitch	ngential
126Energy Rate ErrorcustomTypeRate of change of the System Energy127Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential energy128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	from
127Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential er128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded of	
127Energy Distribution ErrorcustomTypeDistribution of energy between k and geopotential en128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	ie Total
Image: Constraint of the second sec	
128 Desired co-yaw rad and geopotential en 129 Desired co-pitch rad Commanded co-ya	system
128Desired co-yawradCommanded co-ya guidance129Desired co-pitchradCommanded co-ya guidance	inetical
guidance 129 Desired co-pitch rad Commanded or	iergy
129 Desired co-pitch rad Commanded c	w from
1	
-	o-pitch
from guidance	1
130Desired co-rollradCommanded co-roll	11 from
guidance	
140 Climbing Initial Heading rad Heading in	imbing
phase (start of the	-
	-
	proach
phase (end of the r	-
142 Headwind Direction rad Wind direction esti	
143Tailwind DirectionradAngle of the vector	or that
would correspond	
opposite of the He	to the
vector	to the
144 Runway Direction rad Runway angle	to the

Table	2 – continued	from	previous	page
-------	---------------	------	----------	------

ID	Name	Units/Values	Description
145	Value used when invalid	rad	•
	ID is tried		
	v	Varning:	
		eprecated	
		ariable	
146	Track direction	rad	Angle of the vector
140	Track direction	Tau	tangent to the curve at
			the current point on the
			route where the aircraft is
			located
200	Desired North Ground	m/s	Commanded North (NED
200	Velocity		Coordinates system) GV
			from guidance
201	Desired East Ground	m/s	Commanded East (NED
	Velocity		Coordinates system) GV
			from guidance
202	Desired Down Ground	m/s	Commanded Down (NED
	Velocity		Coordinates system) GV
			from guidance
203	Desired 2D MSL (Heigh	m	Commanded MSL from
	Above Mean Sea Level)		guidance in 2D height
			mode
204	Desired 2D AGL (Above	m	Commanded AGL from
	Ground Level) – Height		guidance in 2D height
205			mode
205	Desired 2D WGS84	m	Commanded WGS84
	Elevation (Height Over		Elevation from guidance
206	The Ellipsoid)	rad	in 2D height mode
200	Desired Longitude	rau	Commanded Longitude from guidance
207	Desired Latitude	rad	Commanded Latitude
207	Desired Latitude	lau	from guidance
208	Desired WGS84 Elevation	m	Commanded WGS84
200	(Height Over The		Elevation from guidance
	Ellipsoid)		Lievenon nom garanee
209	Desired MSL (Height	m	Commanded MSL
	Above Mean Sea Level) –		Altitude from guidance
	Altitude		C C
210	Desired AGL (Above	m	Commanded AGL
	Ground Level) – Height		Altitude from guidance
250	Guidance north position	m	Difference from Desired
	error		and actual north position
251	Guidance east position	m	Difference from Desired
	error		and actual east position
252	Guidance down position	m	Difference from Desired
252	error		and actual down position
253	Guidance PID north	m/s	Difference from Desired
	desired velocity		and actual PID north
			velocity
			continues on next page

Table 2	2 – continued	from previous	page
---------	---------------	---------------	------

ID	Name	Units/Values	Description
254	Guidance PID east desired	m/s	Difference from Desired
	velocity		and actual PID east
			velocity
255	Guidance PID down	m/s	Difference from Desired
	desired velocity		and actual PID down
			velocity
256	Desired velocity X body	m/s	Commanded velocity in
	axis		X-axis from guidance
257	Desired velocity Y body	m/s	Commanded velocity in
	axis		Y-axis from guidance
258	Desired velocity Z body	m/s	Commanded velocity in
200	axis	111/5	Z-axis from guidance
259	External yaw	rad	Yaw from external
239	External yaw	Tau	
2(0		1	navigation source
260	External pitch	rad	Pitch from external
			navigation source
261	External roll	rad	Roll from external
			navigation source
262	External Roll Rate	rad/s	Roll rate from external
			navigation source
263	External Pitch Rate	rad/s	Pitch rate from external
			navigation source
264	External Yaw Rate	rad/s	Yaw rate from external
			navigation source
265	External Velocity North	m/s	Velocity North from
205		110.5	external navigation source
266	External Velocity East	m/s	Velocity East from
200	External velocity East	111/8	external navigation source
267	Esternal Valesita Deser		<u> </u>
207	External Velocity Down	m/s	Velocity Down from
2(0			external navigation source
268	External acceleration x	m/s ²	Acceleration x body axis
	body axis		from external navigation
			source
269	External acceleration y	m/s ²	Acceleration y body axis
	body axis		from external navigation
			source
270	External acceleration z	m/s ²	Acceleration z body axis
	body axis		from external navigation
			source
271	External GPS Time of	S	GNSS Time of week from
-/ 1	Week		external navigation source
300	Time since Hardware	S	Time spent since power-on
500		0	of the system
201	Start-Up	hysta	
301	Used Memory Space	byte	SD used memory space
302	Free Memory Space	byte	SD free memory space
303	Dynamic Pressure	Pa	Physical measurement
			from Pitot (dynamic
			preassure)
	· · · · · · · · · · · · · · · · · · ·		continues on next name

ID	Name Units/Values	
304	Static Pressure Pa	Physical measurement from Pitot (static preassure)
	Warning: Deprecated variable	
305	Internal Temperature K	Physical measurement from internal sensors
306	External Temperature K	Physical measurement from Veronte sensors
307	Accelerometer – X Body m/s ² Axis	Accelerometer measurement for X axis
308	Accelerometer – Y Body m/s ² Axis	Accelerometer measurement for Y axis
309	Accelerometer – Z Body m/s ² Axis	Accelerometer measurement for Z axis
310	Gyroscope – X Body Axis rad/s	Gyroscope measurement for X axis
311	Gyroscope – Y Body Axis rad/s	Gyroscope measurement for Y axis
312	Gyroscope – Z Body Axis rad/s	Gyroscope measurement for Z axis
313	Magnetometer – X Body T Axis	Magnetometer measurement for X axis
	Warning: Deprecated variable	
314	Magnetometer – Y Body T Axis	Magnetometer measurement for Y axis
	Warning: Deprecated variable	
		continues on next page

Table 2 – continued from previous page

ID	Name	Units/Values	Description
315	Magnetometer – Z Body	T	Magnetometer
515	Axis	1	measurement for Z axis
	D	/arning: eprecated ariable	
322	Internal magnetometer raw X in SI	Т	Internal LIS3MDL Magnetometer raw measurement for X axis raw
323	Internal magnetometer raw Y in SI	Т	InternalLIS3MDLMagnetometerrawmeasurement for Y axis
324	Internal magnetometer raw Z in SI	Т	InternalLIS3MDLMagnetometerrawmeasurement for Z axis
325	Internal magnetometer temperature	K	Internal LIS3MDL Magnetometer temperature
326	External LIS3MDL magnetometer raw X in SI	Т	External LIS3MDL Magnetometer raw measurement for X axis
327	External LIS3MDL magnetometer raw Y in SI	Т	External LIS3MDL Magnetometer raw measurement for Y axis
328	External LIS3MDL magnetometer raw Z in SI	Т	External LIS3MDL Magnetometer raw measurement for Z axis
329	External LIS3MDL magnetometer temperature	K	External LIS3MDL Magnetometer temperature
330	IMU 1 raw accelerometer x measurement	m/s ²	Main IMU raw accelerometer x measurement x
331	IMU 1 raw accelerometer y measurement	m/s ²	MainIMUrawaccelerometerymeasurement
332	IMU 1 raw accelerometer z measurement	m/s ²	MainIMUrawaccelerometerzmeasurement
333	IMU 1 raw gyroscope x measurement	rad/s	Main IMU raw gyroscope x measurement
334	IMU 1 raw gyroscope y measurement	rad/s	Main IMU raw gyroscope y measurement
335	IMU 1 raw gyroscope z measurement	rad/s	Main IMU raw gyroscope z measurement
336	IMU 1 temperature measurement	К	Main IMU temperature measurement

Table	2 –	 continued 	from	previous page
-------	-----	-------------------------------	------	---------------

ID	Name	Units/Values	Description
337	IMU 2 raw accelerometer	m/s ²	Secondary IMU
	x measurement		raw accelerometer x
			measurement
338	IMU 2 raw accelerometer	m/s ²	Secondary IMU
	y measurement		raw accelerometer y
			measurement
339	IMU 2 raw accelerometer	m/s ²	Secondary IMU
	z measurement		raw accelerometer z
			measurement
340	IMU 2 raw gyroscope x	rad/s	Secondary IMU raw
	measurement		gyroscope x measurement
341	IMU 2 raw gyroscope y	rad/s	Secondary IMU raw
	measurement		gyroscope y measurement
342	IMU 2 raw gyroscope z	rad/s	Secondary IMU raw
	measurement		gyroscope z measurement
343	IMU 2 temperature	K	Secondary IMU
0.10	measurement		temperature measurement
344	Static pressure sensor	Pa	Static pressure sensor
544	(MS56) raw measurement	1 0	MS56 raw measurement
345	Static pressure sensor	K	Static pressure sensor
5-5	(MS56) temperature	IX	MS56 temperature
346	Dynamic pressure sensor	Pa	Dynamic pressure sensor
510	raw measurement	1 u	raw measurement
347	Dynamic pressure sensor	K	Dynamic pressure sensor
547	temperature	IX	temperature
348	Static pressure sensor	Pa	Static pressure sensor 0
540	(HSC) raw measurement	1 0	raw measurement
349	Static pressure sensor	K	Static pressure sensor 0
547	(HSC) temperature	IX	temperature
350	Vectornav Message	Hz	External navigation
550	Frequency		source VectorNav sends
	requency		messages with this
			frequency
351	Vectornav Raw Acc x	m/s ²	Raw accelerometer
551	measurement	11/5	X measurement from
	incustrement		external navigation source
			VectorNav
352	Vectornav Raw Acc y	m/s ²	Raw accelerometer
	measurement		Y measurement from
	measurement		external navigation source
			VectorNav
353	Vectornav Raw Acc z	m/s ²	Raw accelerometer
	measurement		Z measurement from
			external navigation source
			VectorNav
354	Vectornav Raw Gyr x	rad/s	Raw gyroscope X
	measurement		measurement from
			external navigation source
			VectorNav
	I	1	continues on next page

Table 2 – continued from previous page

ID			
ID	Name	Units/Values	Description
355	Vectornav Raw Gyr y measurement	rad/s	Raw gyroscope Y measurement from external navigation source VectorNav
356	Vectornav Raw Gyr z measurement	rad/s	Raw gyroscope Z measurement from external navigation source VectorNav
357	External HSC magnetometer raw X in SI	Т	External HSCDTD008A Magnetometer raw measurement for X axis
358	External HSC magnetometer raw Y in SI	Т	External HSCDTD008A Magnetometer raw measurement for Y axis
359	External HSC magnetometer raw Z in SI	Т	External HSCDTD008AMagnetometerrawmeasurement for Z axis
360	External HSC magnetometer temperature	K	External HSCDTD008A Magnetometer temperature
361	IMU 3 raw accelerometer x measurement	m/s ²	BMI088 IMU raw accelerometer x measurement
362	IMU 3 raw accelerometer y measurement	m/s ²	BMI088 IMU raw accelerometer y measurement
363	IMU 3 raw accelerometer z measurement	m/s ²	BMI088 IMU raw accelerometer z measurement
364	IMU 3 raw gyroscope x measurement	rad/s	BMI088 IMU raw gyroscope x measurement
365	IMU 3 raw gyroscope y measurement	rad/s	BMI088 IMU raw gyroscope y measurement
366	IMU 3 raw gyroscope z measurement	rad/s	BMI088 IMU raw gyroscope z measurement
367	IMU 3 temperature measurement	K	BMI088IMUtemperature measurement
368	Static pressure sensor (DPS310) raw measurement	Pa	Static pressure sensor DPS310 raw measurement
369	Static pressure sensor (DPS310) temperature	К	Static pressure sensor DPS310 temperature
370	Magnetometer 5 raw measure X converted to SI	Τ	Internal MMC5883MAMagnetometerrawmeasurement for X axisconverted to SI
371	Magnetometer 5 raw measure Y converted to SI	Т	Internal MMC5883MA Magnetometer raw measurement for Y axis converted to SI

Table	2 – continued	from	previous	page
-------	---------------	------	----------	------

ID	Name	Units/Values	Description
372	Magnetometer 5 raw	Т	Internal MMC5883MA
	measure Z converted to SI		Magnetometer raw
			measurement for Z axis
			converted to SI
373	Magnetometer 5	K	Internal MMC5883MA
	temperature		Magnetometer
			temperature
374	Magnetometer 6 raw	Т	External MMC5883MA
	measure X converted to SI		Magnetometer raw
			measurement for X axis
			converted to SI
375	Magnetometer 6 raw	Т	External MMC5883MA
	measure Y converted to SI		Magnetometer raw
			measurement for Y axis
			converted to SI
376	Magnetometer 6 raw	Т	External MMC5883MA
	measure Z converted to SI		Magnetometer raw
			measurement for Z axis
255			converted to SI
377	Magnetometer 6	K	External MMC5883MA
	temperature		Magnetometer
270			temperature
378	Magnetometer 7 raw	Т	External RM3100
	measure X converted to SI		Magnetometer raw
			measurement for X axis converted to SI
379	Magnetometer 7 raw	Т	External RM3100
519	measure Y converted to SI		Magnetometer raw
	incasure i converted to si		measurement for Y axis
			converted to SI
380	Magnetometer 7 raw	Т	External RM3100
500	measure Z converted to SI		Magnetometer raw
			measurement for Z axis
			converted to SI
381	Magnetometer 7	K	External RM3100
	temperature		Magnetometer
			temperature
382	External HMR2300 raw	Т	External HMR2300
	measure X converted to SI		Magnetometer raw
			measurement for X axis
			converted to SI
383	External HMR2300 raw	Т	External HMR2300
	measure Y converted to SI		Magnetometer raw
			measurement for Y axis
			converted to SI
384	External HMR2300 raw	Т	External HMR2300
	measure Z converted to SI		Magnetometer raw
			measurement for Z axis
			converted to SI
			continues on next page

Table	2 – continued	from previous page
-------	---------------	--------------------

ID	Name	Units/Values	Description
385	External HMR2300	К	External HMR2300
	temperature		Magnetometer
	I I I I I I I I I I I I I I I I I I I		temperature
386	IMU 4 raw accelerometer	m/s ²	ADIS16505-3 IMU
200	x measurement		raw accelerometer x
	A mousurement		measurement
387	IMU 4 raw accelerometer	m/s ²	ADIS16505-3 IMU
507	y measurement	111/5	raw accelerometer y
	y mousurement		measurement
388	IMU 4 raw accelerometer	m/s ²	ADIS16505-3 IMU
500	z measurement		raw accelerometer z
	Zineasurement		measurement
389	IMU 4 raw gyroscope x	rad/s	ADIS16505-3 IMU raw
509	measurement	140/5	
390		rad/s	gyroscope x measurement ADIS16505-3 IMU raw
390	IMU 4 raw gyroscope y	180/8	
201	measurement		gyroscope y measurement ADIS16505-3 IMU raw
391	IMU 4 raw gyroscope z	rad/s	
202	measurement	17	gyroscope z measurement
392	IMU 4 temperature	K	ADIS16505-3 IMU
- 202	measurement		temperature measurement
393	Magnetometer 8 raw	Т	Internal RM3100
	measure X converted to SI		Magnetometer raw
			measurement for X axis
			converted to SI
394	Magnetometer 8 raw	Т	Internal RM3100
	measure Y converted to SI		Magnetometer raw
			measurement for Y axis
			converted to SI
395	Magnetometer 8 raw	Т	Internal RM3100
	measure Z converted to SI		Magnetometer raw
			measurement for Z axis
			converted to SI
396	Magnetometer 8	K	Internal RM3100
	temperature		Magnetometer
			temperature
400	Power Input	V	Voltage received by
			Veronte
401	Power Comicro 3.3V	V	Voltage received by
			Veronte through 3.3V port
402	Power 5V	V	Voltage received by
			Veronte through 5V port
403	SUC Power Input	V	Voltage received by
	L. L		Veronte SUC
404	Power 3.6V	V	Voltage received by
			Veronte through 3.6V port
405	CPU Temperature	K	Internal computer
			temperature
500	Longitude	rad	East-West geographic
200	Donghuad		coordinate
			continues on next page

Table	2 – continued	from previous page	
-------	---------------	--------------------	--

ID	Name	Units/Values	Description	
501	Latitude	rad	North-South geographic coordinate	
502	WGS84 Elevation (Height Over the Ellipsoid)	m	Elevation over WGS84 reference frame	
503	MSL (Height Above Mean Sea Level) – Altitude	m	Altitude over the Mean Sea Level	
504	AGL (Above Ground Level) – Height	m	Height Above Ground Level – Dependent on external sensors or own models with considerable error	
505	North Ground Velocity	m/s	Ground Velocity component in the North direction (NED Coordinates system)	
506	East Ground Velocity	m/s	Ground Velocity component in the East direction (NED Coordinates system)	
507	Down Ground Velocity	m/s	Ground Velocity component in the resultant axis from North-East (NED Coordinates system)	
508	Sensor IAS (Indicated Air Speed)	m/s	Pitot-static measurement speed	
509	Angle of Attack – AoA	rad	Angle between reference body line and flow direction vector	
510	Sideslip	rad	Angle between the flow direction vector and the longitudinal axis of the vehicle	
511	GNSS1 MSL	m	Mean sea level (MSL) measurement provided by GPS 1	
512	GNSS1 AGL	m	Above ground level (AGLevel) measurement provided by GPS 1	
513	GNSS2 MSL	m	Mean sea level (MSL) measurement provided by GPS 2	
514	GNSS2 AGL	m	Above ground level (AGLevel) measurement provided by GPS 2 continues on next page	

Table 2	2 – continued f	from previous	page
---------	-----------------	---------------	------

ID	Name Units/Values	Description
551	Sagetech MXS - degree Longitude decimal part	Sagetech variable, used by block to parse variables for GPS Navigation Data Message
	Warning: Variable for internal use	
552	Sagetech MXS - degree Longitude fractional part	Sagetech variable, used by block to parse variables for GPS Navigation Data Message
	Warning: Variable for internal use	
553	Sagetech MXS - Latitude degree decimal part	Sagetech variable, used by block to parse variables for GPS Navigation Data Message
	Warning: Variable for internal use	
554	Sagetech MXS - Latitude degree fractional part	Sagetech variable, used by block to parse variables for GPS Navigation Data Message
	Warning: Variable for internal use	
		continues on next page

Table 2 – continued from previous page	Э
--	---

ID	Name Units/Va	
555	Sagetech MXS - Ground m/s speed	Sagetech variable, used by block to parse variables for GPS Navigation Data Message
	Warning: Variable for internal use	
556	Sagetech MXS - Ground degree track	Sagetech variable, used by block to parse variables for GPS Navigation Data Message
	Warning: Variable for internal use	
600-603	Temperature 1-4 K	Variables to be configured with external temperature sensors
	Warning: DEPRECA VARIABLE	
610	North Position EKF m ² Variance	North position Extended Kalman Filter variance
611	East Position EKF m ² Variance	East position Extended Kalman Filter variance
612	Down Position EKF m ² Variance	Position variance component in the resultant axis from North-East
613	North Velocity EKF m ² /s ² Variance	North velocity Extended Kalman Filter variance
614	East velocity EKF m ² /s ² Variance	East velocity Extended Kalman Filter variance
	variance	
615	Down Velocity EKF m ² /s ² Variance	Velocity variance component in the resultant axis from North-East
615	Down Velocity EKF m ² /s ²	Velocity variance component in the resultant axis from North-East ype Yaw sent to the gimbal

Table	2 – continued	from	previous pa	age
-------	---------------	------	-------------	-----

	Units/Values	Description
Name Gimbal Stick Yaw		Yaw received from the
Simour Stick Tutt	customrype	joystick controlling the
		gimbal
Gimbal Stick Pitch	customType	Pitch received from the
Gimbal Stick I ten	customrype	joystick controlling the
		gimbal
Cimbal Ditch Correction 1	customType	Correction calculated by
Ginibal Fitch Correction 1	customrype	the gimbal for the pitch
		control 1
Circh al Ditab Course stion 2	an at a m True a	
Gimbal Pitch Correction 2	custom Type	Correction calculated by
		the gimbal for the pitch
		control 2
Gimbal Old Joint 1	customType	Auxiliar variable 1
		for Gimbal control
		configuration
Gimbal Old Joint 2	customType	Auxiliar variable 2
		for Gimbal control
		configuration
Cos (Gimbal Yaw)	customType	Auxiliar variable 1
		for Gimbal control
		configuration
Sin (Gimbal Yaw)	customType	Auxiliar variable 2
		for Gimbal control
		configuration
Gimbal Yaw Radian	customType	Auxiliar variable
	51	for Gimbal control
		configuration
Veronte Gimbal Yaw	customType	Yaw value the gimbal is
		sending as output
-	customType	Pitch value the gimbal is
		sending as output
-	customType	Auxiliar variable phi
Gimbar I m(2)	customrype	for Gimbal control
		configuration
Gimbal Thata(y)	customType	Auxiliar variable theta
Gimbar Theta(y)	customrype	for Gimbal control
		configuration
Cimbal Dai(y)	austamTuna	
Gimbal Psi(x)	custom Type	1
		for Gimbal control
		configuration
	customType	Roll value the gimbal is
		sending as output
RPM 1-6	rad/s	Angular speed associated
		to pulse captured 1-6
	8	PID selected time step
Step		
	customType	PID selected derivative
Derivative Filtered Error		filtered error
Selected Controller	customType	PID selected proportional
Selected Controller		1 1
	Gimbal Yaw Radian Veronte Gimbal Yaw Output Veronte Gimbal Pitch Output Gimbal Phi(z) Gimbal Theta(y) Gimbal Theta(y) Veronte Gimbal Roll Output (Degrees) RPM 1-6 Selected Controller Time Step Selected Controller Time Step	Gimbal Stick PitchcustomTypeGimbal Pitch Correction 1customTypeGimbal Pitch Correction 2customTypeGimbal Old Joint 1customTypeGimbal Old Joint 2customTypeCos (Gimbal Yaw)customTypeSin (Gimbal Yaw)customTypeGimbal Yaw RadiancustomTypeVeronte Gimbal YawcustomTypeVeronte Gimbal PitchcustomTypeGimbal Theta(y)customTypeGimbal Phi(z)customTypeGimbal Phi(z)customTypeGimbal Phi(z)customTypeGimbal Phi(z)customTypeGimbal Phi(z)customTypeGimbal Phi(z)customTypeGimbal Phi(z)customTypeRPM 1-6rad/sSelected Controller Time StepsSelected Controller Time Derivative Filtered ErrorcustomType

Table	2 – continued	from previous	page
-------	---------------	---------------	------

		from previous page	
ID	Name	Units/Values	Description
753	Selected Controller	customType	PID selected derivative
	Derivative Action		action
754	Selected Controller	customType	PID selected integral input
	Integral Input		
755	Selected Controller	customType	PID selected integral
	Integral Action		action
756	Selected Controller Anti-	customType	PID selected anti-windup
	windup Input		input
757	Selected Controller	customType	PID selected derivative
	Derivative Error	JI JI	error
800-815	PWM 1-16	customType	Pulse Width Modulation
000 010			signal 1 to 16
900-915	Stick Input r1 - r16	customType	Raw stick measurement
J00 J15	Stick input II 110	customrype	from r1 to r16
950-981	Stick Input s1 - s32	customType	
950-981	Stick Input SI - S52	custom rype	
		1	
		Varning:	
		EPRECATED	
	N N	ARIABLES	
1000-1031	Stick Input y1 - y32	customType	Servo position
1000-1031	Stick input yr - y52	customrype	commanded from stick y1
			to y32
1050 1060	Control Output vil 20		Commanded control
1050-1069	Control Output u1-20	customType	
	Before Servo Saturation		output before saturation
1100 1101			correction
1100-1104	Lidar 1-5 Distance	m	Variable configurable for
			Lidar distances 1 to 5
1105-1109	External Range Sensor 1-	m	Variable configurable for
	5 Measure		external range sensors
1200	Route-Guidance Distance	m	Shortest distance
			to desired path
			(perpendicular distance)
1201	Radar AGL (Above	m	Radar altimeter measure
	Ground Level) – Height		
1202	Radar Speed Down	m/s	Radar speed
1203	External Rotation for	rad	Relative vector rotation
	Follow Route		when using Follow Route
1204	Time to Impact with	s	Time calculated with
	Obstacles		Distance to Obstacle and
			travel speed
1300-1309	Clock 1-10	s	Configurable timers for
			automations – So clock 1
			corresponds to timer 1
1320-1321	ADC 3.3V Input 1-2	V	CEX ADC 3.3 V inputs 1
1520 1521	710C 5.5 V Input 1-2		and 2
1322-1323	ADC 5.0V Input 1-2	V	CEX ADC 5.0 V inputs 1
1322-1323	ADC 5.0 v Input 1-2	v	and 2
			continues on next page

Table 2 – continued from previous page	ıe
--	----

ID	Name	Units/Values	Description
			Description
1324-1325	ADC 12.0V Input 1-2	V	CEX ADC 12.0 V inputs 1 and 2
1326-1327	ADC 36.0V Input 1-2	V	CEX ADC 36.0 V inputs 1 and 2
1328-1329	ADC vIn 1-2	V	CEX External power supplies 1 and 2
1330	PCB Temperature	K	CEX PCB Temperature (from ADC input)
1331	ADC HW Version	V	Hardware version of CEX ADC
1350-1369	4xV Real variables	-	For more information, check 4x Software Manual -> 32 VAR
1400	Velocity - X Body Axis	m/s	Velocity on X-axis
1401	Velocity - Y Body Axis	m/s	Velocity on Y-axis
1402	Velocity - Z Body Axis	m/s	Velocity on Z-axis
1403	Estimated Dynamic Pressure	Ра	Dynamic pressure sensor raw measurement
1404	Barometric Pressure at	Pa	Introduced value for QNH
1404	Sea Level (QNH)	1 0	
1450-1453	Captured Pulse 1-4	customType	Input values from pulses
1490	Internest Raw X Distance	m	Raw measurements for X-
			axis internest distance
1491	Internest Raw Y Distance	m	Raw measurements for Y- axis internest distance
1492	Internest Raw Z Distance	m	Raw measurements for Z-
1492	Internest Raw Z Distance	m	axis internest distance
1493	Internest raw angle	rad	Raw measurements for internest angle
1494	Internest raw xy standard deviation	m	Raw measurements for XY axis internest standard deviation
1495	Internest raw z standard deviation	m	Raw measurements for Z-axis internest standard deviation
1496	Internest raw angle standard deviation	rad	Raw measurements for internest angle standard deviation
1497	Internest position update frequency	Hz	Frequency to update internest position
1500	GNSS1 Absolute Time of Week	S	Data from GNSS1 module: Time of week
1501	GNSS1 ECEF Position X	m	Data from GNSS1 module: ECEF (Earth- Centered Earth-Fixed coordinate system) X position

Table	2 – continued from previous page
rabio	E contantaca nom providao pago

ID	Name	Units/Values	Description
1502	GNSS1 ECEF Position Y	m	Data from GNSS1
			module: ECEF (Earth-
			Centered Earth-Fixed
			coordinate system) Y
			position
1503	GNSS1 ECEF Position Z	m	Data from GNSS1
1505			module: ECEF (Earth-
			Centered Earth-Fixed
			coordinate system) Z
			5,
1504		1	position
1504	GNSS1 Longitude	rad	Data from GNSS1
			module: Longitude
1505	GNSS1 Latitude	rad	Data from GNSS1
			module: Latitude
1506	GNSS1 Height Above	m	Data from GNSS1
	Ellipsoid (WGS84)		module: Height Above
			Ellipsoid (WGS84)
1509	GNSS1 PDOP (Dilution	customType	Data from GNSS1
	of Precision of Position)	-Jr-	module: PDOP – Relation
			between user position
			error and satellite position
			-
1510			error
1510	GNSS1 Accuracy	m	Data from GNSS1
			module: Accuracy
1511	GNSS1 Horizontal	m	Data from GNSS1
	Accuracy Estimate		module: Horizontal
			accuracy
1512	GNSS1 Vertical Accuracy	m	Data from GNSS1
	Estimate		module: Vertical accuracy
1513	GNSS1 Velocity North	m/s	Data from GNSS1
			module: Velocity in
			North direction (NED
			Coordinates system)
1514	GNSS1 Velocity East	m/s	Data from GNSS1
1,517		111/0	
			5
			East direction (NED
1515	CN001 V 1 V D		Coordinates system)
1515	GNSS1 Velocity Down	m/s	Data from GNSS1
			module: Velocity in
			Down direction (NED
			Coordinates system)
1516	GNSS1 Speed Accuracy	m/s	Data from GNSS1
	Estimate		module: Speed accuracy
1517	GNSS1 Related Base	rad	Data from GNSS1
	Longitude		module: RTK Base
			longitude
1518	GNSS1 Related Base	rad	Data from GNSS1
1.510	Latitude	144	module: RTK Base
			latitude
			continues on next page

Table	2 – continued	from	previous page	
-------	---------------	------	---------------	--

ID	Name	Units/Values	Description
1519	GNSS1 Related Base	m	Data from GNSS1
	WGS84 Altitude		module: RTK Base
			WGS84 altitude
1520	GNSS1 Related Base to	rad	Data from GNSS1
	Rover Azimuth		module: RTK Base-Rover
			vector azimuth (Spherical
			coordinates system)
1521	GNSS1 Related Base to	rad	Data from GNSS1
	Rover Elevation		module: RTK Base-
			Rover vector elevation
			(Spherical coordinates
			system)
1522	GNSS1 Related Base to	m	Data from GNSS1
	Rover Distance		module: RTK Base-Rover
			vector distance (Spherical
			coordinates system)
1523	GNSS1 Related Base to	m	Data from GNSS1
	Rover Accuracy		module: RTK Base-Rover
			vector accuracy
1524	GNSS1 Survey in	m	Data from GNSS1
	Accuracy		module: RTK Base
			accuracy when base
			knows it is fixed in a
1525			particular position/td>
1525	GNSS1 Related Base to	m	Data from GNSS1
	Rover North		module: RTK Base-
			Rover vector North (NED
1526	GNSS1 Related Base to		Coordinate system) Data from GNSS1
1320	Rover East	m	module: RTK Base-
	Rovel East		Rover vector East (NED
1527	GNSS1 Related Base to	m	Coordinate system) Data from GNSS1
1.5.2.1	Rover Down	111	module: RTK Base-
	Rover Down		Rover vector Down (NED
			Coordinate system)
1528	GNSS1 Position	Hz	Data from GNSS1
1520	Frequency		module: Position
	riequency		frequency
1529	GNSS1 Jamming	90	Jaming indicator from U-
	Indicator		Blox device 1 for GNSS
1600	GNSS2 Absolute Time of	S	Data from GNSS2
	Week		module: Time of week
1601	GNSS2 ECEF Position X	m	Data from GNSS2
			module: ECEF (Earth-
			Centered Earth-Fixed
			coordinate system) X
			position
L	1	1	aontinuos on novt nago

Table	2 – continued	from previous page
-------	---------------	--------------------

ID	Name	Units/Values	Description
1602	GNSS2 ECEF Position Y	m	Data from GNSS2
			module: ECEF (Earth-
			Centered Earth-Fixed
			coordinate system) Y
			position
1603	GNSS2 ECEF Position Z	m	Data from GNSS2
1005			module: ECEF (Earth-
			Centered Earth-Fixed
			coordinate system) Z
			5
1604		1	position
1604	GNSS2 Longitude	rad	Data from GNSS2
			module: Longitude
1605	GNSS2 Latitude	rad	Data from GNSS2
			module: Latitude
1606	GNSS2 Height Above	m	Data from GNSS2
	Ellipsoid (WGS84)		module: Height Above
	1		Ellipsoid (WGS84)
1609	GNSS2 PDOP (Dilution	customType	Data from GNSS2
1009	of Precision of Position)	customrype	module: PDOP – Relation
	of Treeision of Tosition)		between user position
			error and satellite position
			error
1610	GNSS2 Accuracy	m	Data from GNSS2
			module: Accuracy
1611	GNSS2 Horizontal	m	Data from GNSS2
	Accuracy Estimate		module: Horizontal
			accuracy
1612	GNSS2 Vertical Accuracy	m	Data from GNSS2
	Estimate		module: Vertical accuracy
1613	GNSS2 Velocity North	m/s	Data from GNSS2
			module: Velocity in
			North direction (NED
			Coordinates system)
1614	CNSS2 Valarity Front	mla	-
1014	GNSS2 Velocity East	m/s	
			module: Velocity in
			East direction (NED
			Coordinates system)
1615	GNSS2 Velocity Down	m/s	Data from GNSS2
			module: Velocity in
			Down direction (NED
			Coordinates system)
1616	GNSS2 Speed Accuracy	m/s	Data from GNSS2
	Estimate		module: Speed accuracy
1617	GNSS2 Related Base	rad	Data from GNSS2
1017	Longitude	144	module: RTK Base
	Longnude		
1610			longitude
1618	GNSS2 Related Base	rad	Data from GNSS2
	Latitude		module: RTK Base
			latitude
			continues on next page

Table	2 – continued	from	previous page	
-------	---------------	------	---------------	--

ID	Name	Units/Values	Description
1619	GNSS2 Related Base	m	Data from GNSS2
	WGS84 Altitude		module: RTK Base
			WGS84 Altitude
1620	GNSS2 Related Base to	rad	Data from GNSS2
	Rover Azimuth		module: RTK Base-Rover
			vector azimuth (Spherical
			COordinates system)
1621	GNSS2 Related Base to	rad	Data from GNSS2
	Rover Elevation		module: RTK Base-
			Rover vector elevation
			(Spherical COordinates
			system)
1622	GNSS2 Related Base to	m	Data from GNSS2
	Rover Distance		module: RTK Base-Rover
			vector distance (Spherical
			COordinates system)
1623	GNSS2 Related Base to	m	Data from GNSS2
	Rover Accuracy		module: RTK Base-Rover
			vector accuracy
1624	GNSS2 Survey in	m	Data from GNSS2
	Accuracy		module: RTK Base
			accuracy when base
			knows it is fixed in a
			particular position/td>
1625	GNSS2 Related Base to	m	Data from GNSS2
	Rover North		module: RTK Base-
			Rover vector North (NED
			Coordinate system)
1626	GNSS2 Related Base to	m	Data from GNSS2
	Rover East		module: RTK Base-
			Rover vector East (NED
			Coordinate system)
1627	GNSS2 Related Base to	m	Data from GNSS2
	Rover Down		module: RTK Base-
			Rover vector Down (NED
			Coordinate system)
1628	GNSS2 Position	Н	Data from GNSS2
	Frequency		module: Position
			frequency
1629	GNSS2 Jamming	0%	Jaming indicator from U-
	Indicator		Blox device 2 for GNSS
1700-1731	Actuator Output s1 - s32	customType	Configurable variable
	_		from actuator outputs to
			be transformed by the
			system
1800	Distance to Object of	m	Spherical coordinate
	Interest 1		to object of interest 1:
			distance
		1	continuos on novt nago

Table	2 - continued	from previous page
-------	---------------	--------------------

			Description
ID	Name	Units/Values	Description
1801	Azimuth to Object of	rad	Spherical coordinate
	Interest 1		to object of interest 1:
			azimuth
1802	Elevation to Object of	rad	Spherical coordinate
	Interest 1		to object of interest 1:
			elevation
1803	Distance to Object of	m	Spherical coordinate
	Interest 2		to object of interest 2:
			distance
1804	Azimuth to Object of	rad	Spherical coordinate
	Interest 2		to object of interest 2:
			azimuth
1805	Elevation to Object of	rad	Spherical coordinate
1005	Interest 2	Ind	to object of interest 2:
	Interest 2		elevation
1806	Distance to Object of		
1000	Distance to Object of	m	1
	Interest 3		to object of interest 3:
1007			distance
1807	Azimuth to Object of	rad	Spherical coordinate
	Interest 3		to object of interest 3:
			azimuth
1808	Elevation to Object of	rad	Spherical coordinate
	Interest 3		to object of interest 3:
			elevation
1809	Distance to Object of	m	Spherical coordinate
	Interest 4		to object of interest 4:
			distance
1810	Azimuth to Object of	rad	Spherical coordinate
	Interest 4		to object of interest 4:
			azimuth
1811	Elevation to Object of	rad	Spherical coordinate
	Interest 4		to object of interest 4:
			elevation
1812	Distance to Object of	m	Spherical coordinate
1012	Interest 5		to object of interest 5:
	interest 5		distance
1813	Azimuth to Object of	rad	Spherical coordinate
1015	Interest 5	Tau	
	interest 3		to object of interest 5: azimuth
1014			
1814	Elevation to Object of	rad	Spherical coordinate
	Interest 5		to object of interest 5:
			elevation
1815	Distance to Object of	m	Spherical coordinate
	Interest 6		to object of interest 6:
			distance
1816	Azimuth to Object of	rad	Spherical coordinate
	Interest 6		to object of interest 6:
			azimuth
	1		continues on next page

Table	2 – continued	from previous page
-------	---------------	--------------------

ID	Name	Units/Values	Description
1817	Elevation to Object of	rad	Spherical coordinate
	Interest 6		to object of interest 6:
			elevation
1818	Distance to Object of	m	Spherical coordinate
	Interest 7		to object of interest 7:
			distance
1819	Azimuth to Object of	rad	Spherical coordinate
1017	Interest 7	140	to object of interest 7:
	interest /		azimuth
1820	Elevation to Object of	rad	Spherical coordinate
1620	Interest 7	Idu	
	Interest 7		to object of interest 7:
			elevation
1821	Distance to Object of	m	Spherical coordinate
	Interest 8		to object of interest 8:
			distance
1822	Azimuth to Object of	rad	Spherical coordinate
	Interest 8		to object of interest 8:
			azimuth
1823	Elevation to Object of	rad	Spherical coordinate
	Interest 8		to object of interest 8:
			elevation
1824	Distance to Object of	m	Spherical coordinate
1021	Interest 9	111	to object of interest 9:
	interest y		distance
1825	Azimuth to Object of	rad	Spherical coordinate
1623		Tau	1
	Interest 9		to object of interest 9:
100.0			azimuth
1826	Elevation to Object of	rad	Spherical coordinate
	Interest 9		to object of interest 9:
			elevation
1827	Distance to Object of	m	Spherical coordinate to
	Interest 10		object of interest 10:
			distance
1828	Azimuth to Object of	rad	Spherical coordinate to
	Interest 10		object of interest 10:
			azimuth
1829	Elevation to Object of	rad	Spherical coordinate to
	Interest 10		object of interest 10:
	interest 10		elevation
1830	Distance to Object of	m	Spherical coordinate to
1000	Interest 11	***	object of interest 11:
			distance
1021			
1831	Azimuth to Object of	rad	Spherical coordinate to
	Interest 11		object of interest 11:
			azimuth
1832	Elevation to Object of	rad	Spherical coordinate to
	Interest 11		object of interest 11:
			elevation
		1	continues on next nade

Table	2 – continued	from previous page	
-------	---------------	--------------------	--

ID		Units/Values	Description
	Name		Description
1833	Distance to Object of	m	Spherical coordinate to
	Interest 12		object of interest 12:
			distance
1834	Azimuth to Object of	rad	Spherical coordinate to
	Interest 12		object of interest 12:
			azimuth
1835	Elevation to Object of	rad	Spherical coordinate to
	Interest 12		object of interest 12:
			elevation
1836	Distance to Object of	m	Spherical coordinate to
1000	Interest 13		object of interest 13:
			distance
1027	A -investigation of the set of		
1837	Azimuth to Object of	rad	Spherical coordinate to
	Interest 13		object of interest 13:
			azimuth
1838	Elevation to Object of	rad	Spherical coordinate to
	Interest 13		object of interest 13:
			elevation
1839	Distance to Object of	m	Spherical coordinate to
	Interest 14		object of interest 14:
			distance
1840	Azimuth to Object of	rad	Spherical coordinate to
1040	Interest 14	100	object of interest 14:
	Interest 14		azimuth
1041			
1841	Elevation to Object of	rad	Spherical coordinate to
	Interest 14		object of interest 14:
			elevation
1842	Distance to Object of	m	Spherical coordinate to
	Interest 15		object of interest 15:
			distance
1843	Azimuth to Object of	rad	Spherical coordinate to
	Interest 15		object of interest 15:
			azimuth
1844	Elevation to Object of	rad	Spherical coordinate to
	Interest 15		object of interest 15:
	interest 15		elevation
1845	Distance to Object of	m	Spherical coordinate to
1043		m	
	Interest 16		object of interest 16:
1016			distance
1846	Azimuth to Object of	rad	Spherical coordinate to
	Interest 16		object of interest 16:
			azimuth
1847	Elevation to Object of	rad	Spherical coordinate to
	Interest 16		object of interest 16:
			elevation
1848	Distance to Object of	m	Spherical coordinate to
-0.0	Interest 17		object of interest 17:
			distance
			continues on next page

Table	2 – continued	from previous page
-------	---------------	--------------------

			Description
ID	Name	Units/Values	Description
1849	Azimuth to Object of	rad	Spherical coordinate to
	Interest 17		object of interest 17:
			azimuth
1850	Elevation to Object of	rad	Spherical coordinate to
	Interest 17		object of interest 17:
			elevation
1051	Distance to Object of		
1851	Distance to Object of	m	Spherical coordinate to
	Interest 18		object of interest 18:
			distance
1852	Azimuth to Object of	rad	Spherical coordinate to
	Interest 18		object of interest 18:
			azimuth
1853	Elevation to Object of	rad	Spherical coordinate to
	Interest 18		object of interest 18:
	interest 10		elevation
1854	Distance to Object of	m	Spherical coordinate to
1634	Distance to Object of Interest 19	m	
	Interest 19		object of interest 19:
			distance
1855	Azimuth to Object of	rad	Spherical coordinate to
	Interest 19		object of interest 19:
			azimuth
1856	Elevation to Object of	rad	Spherical coordinate to
	Interest 19		object of interest 19:
			elevation
1857	Distance to Object of	m	Spherical coordinate to
10.57	-		
	Interest 20		object of interest 20:
			distance
1858	Azimuth to Object of	rad	Spherical coordinate to
	Interest 20		object of interest 20:
			azimuth
1859	Elevation to Object of	rad	Spherical coordinate to
	Interest 20		object of interest 20:
			elevation
1860	Distance to Object of	m	Spherical coordinate to
1000	Interest 21		object of interest 21:
	Interest 21		
10/1		1	distance
1861	Azimuth to Object of	rad	Spherical coordinate to
	Interest 21		object of interest 21:
			azimuth
1862	Elevation to Object of	rad	Spherical coordinate to
	Interest 21		object of interest 21:
			elevation
1863	Distance to Object of	m	Spherical coordinate to
	Interest 22		object of interest 22:
			distance
10(4			
1864	Azimuth to Object of	rad	Spherical coordinate to
	Interest 22		object of interest 22:
			azimuth
	1	1	continues on next page

		i irom previous page	D 1 1
ID	Name	Units/Values	Description
1865	Elevation to Object of	rad	Spherical coordinate to
	Interest 22		object of interest 22:
			elevation
1866	Distance to Object of	m	Spherical coordinate to
	Interest 23		object of interest 23:
			distance
1867	Azimuth to Object of	ra	Spherical coordinate to
1007	Interest 23	1u	object of interest 23:
	Interest 25		azimuth
1868	Elevation to Object of	mod	
1808	Elevation to Object of	rad	Spherical coordinate to
	Interest 23		object of interest 23:
			elevation
1869	Distance to Object of	m	Spherical coordinate to
	Interest 24		object of interest 24:
			distance
1870	Azimuth to Object of	rad	Spherical coordinate to
	Interest 24		object of interest 24:
			azimuth
1871	Elevation to Object of	rad	Spherical coordinate to
10/1	Interest 24	140	object of interest 24:
	Interest 24		elevation
1872	Distance to Object of		Spherical coordinate to
18/2	Distance to Object of	m	
	Interest 25		object of interest 25:
		-	distance
1873	Azimuth to Object of	rad	Spherical coordinate to
	Interest 25		object of interest 25:
			azimuth
1874	Elevation to Object of	rad	Spherical coordinate to
	Interest 25		object of interest 25:
			elevation
1875	Distance to Object of	m	Spherical coordinate to
	Interest 26		object of interest 26:
			distance
1876	Azimuth to Object of	rad	Spherical coordinate to
1070	Interest 26	Tau	object of interest 26:
	Interest 20		
1877	Elevetien to Object of	mod	azimuth
18//	Elevation to Object of	rad	Spherical coordinate to
	Interest 26		object of interest 26:
			elevation
1878	Distance to Object of	m	Spherical coordinate to
	Interest 27		object of interest 27:
			distance
1879	Azimuth to Object of	rad	Spherical coordinate to
	Interest 27		object of interest 27:
			azimuth
1880	Elevation to Object of	rad	Spherical coordinate to
1000	Interest 27		object of interest 27:
			elevation
			continues on next page

Table	2 - continued	from previous page	
-------	---------------	--------------------	--

חו			Description
ID 1001	Name	Units/Values	Description
1881	Distance to Object of	m	Spherical coordinate to
	Interest 28		object of interest 28:
			distance
1882	Azimuth to Object of	rad	Spherical coordinate to
	Interest 28		object of interest 28:
			azimuth
1883	Elevation to Object of	rad	Spherical coordinate to
	Interest 28		object of interest 28:
			elevation
1884	Distance to Object of	m	Spherical coordinate to
	Interest 29		object of interest 29:
	Interest 29		distance
1885	Azimuth to Object of	rad	Spherical coordinate to
1005	Interest 29	Tau	object of interest 29:
	Interest 29		
1006		1	azimuth
1886	Elevation to Object of	rad	Spherical coordinate to
	Interest 29		object of interest 29:
			elevation
1887	Distance to Object of	m	Spherical coordinate to
	Interest 30		object of interest 30:
			distance
1888	Azimuth to Object of	rad	Spherical coordinate to
	Interest 30		object of interest 30:
			azimuth
1889	Elevation to Object of	rad	Spherical coordinate to
1009	Interest 30	Tuu	object of interest 30:
	interest 50		elevation
1890	Distance to Object of	m	Spherical coordinate to
1690	Interest 31		object of interest 31:
	Interest 51		distance
1001			
1891	Azimuth to Object of	rad	Spherical coordinate to
	Interest 31		object of interest 31:
			azimuth
1892	Elevation to Object of	rad	Spherical coordinate to
	Interest 31		object of interest 31:
			elevation
1893	Distance to Object of	m	Spherical coordinate to
	Interest 32		object of interest 32:
			distance
1894	Azimuth to Object of	rad	Spherical coordinate to
	Interest 32	-	object of interest 32:
			azimuth
1895	Elevation to Object of	rad	Spherical coordinate to
	Interest 32	144	-
	interest 52		object of interest 32:
2000			elevation
2000	RX Packet Error Rate (on	decimal	Value rating RX packets
	board)		and expected RX packets,
			given as % error
			continues on next nage

Table	2 - continued	from previous	page
-------	---------------	---------------	------

ID	Name	Units/Values	Description
2001	TX Packet Error Rate (on	decimal	Value rating TX packets
2001	board)	deemia	and expected TX packets,
	boundy		given as % error
2002	Computed RX pkt/s used	messages	Packages per second
2002	for RX PER	messages	received to the
	IOI KA FEK		
			UAV configured in
2002			communication statistics
2003	Remote RX pkt/s used for	messages	RX packages per second
	TX PER		received and computed
			through communications
2004	Computed TX pkt/s used	messages	Packages per second
	for TX PER		transmitted to the
			UAV configured in
			communication statistics
2005	Remote TX pkt/s used for	messages	TX packages per second
	RX PER		received and computed
			through communications
2019	Stick RX Rate	Hz	Number of stick messages
			received per second
2020	Position Fix Time	s	Time spend with GNSS
2020		5	without losing fix
2040-2042	Tunnel Producer Receive	Hz	Tunnel producer 1-3
2040-2042	Frequency 1-3	112	receives data at this
	riequency 1-5		frequency
2043-2045	Tunnel Consumer Send	11_	
2043-2045		Hz	
	Frequency 1-3		receives data at this
20.46			frequency
2046	Max Duration of Step in	S	Longest time duration
	CIO		from a step in CIO
2047	Acquisition Task	S	Average period to execute
	Timestep		the acquisition task
2048	Acquisition Task	S	Maximum period to
	Maximum Timestep		execute the acquisition
			task
2049	Cross Core Message	percentage	% of time of CPU that
	Queue CPU Ratio		CIO waits for inter-core
			communications queue to
			be emptied
2050	Acquisition Task Average	percentage	Average % of CPU time of
	CPU Ratio		the acquisition task
2051	Acquisition Task	percentage	Maximum % of CPU time
	Maximum CPU Ratio	r stroninge	of the acquisition task
2052	Acquisition Task Average	S	Average time for
2052	Time	0	acquisition task
2053		6	
2035	Acquisition Task	S	
2054	Maximum Time		acquisition task
2054	CIO Max Time	s	Maximum acquisition
			time from Core
			Input/Output
			continues on next page

ID	Name	Units/Values	Description
2055	CIO Average Time	s	Average acquisition time
2033	CIO Average Time	5	from Core Input/Output
2056	Cross-Core Message	9/0	1 1
2030	e	~/0	8
	Queue Usage		communication
			employed between both
			microprocessors
2057	CIO Running Frequency	Hz	C1 low frequency
2094	GNC Task Average CPU	percentage	Average % of CPU time of
	Ratio		GNC task
2095	GNC Task Maximum	percentage	Maximum % of CPU time
	CPU Ratio		of GNC task
2096	GNC Task Average Time	S	Average time spent on
	C		GNC task
2097	GNC Task Maximum	S	Maximum time spent on
	Time		GNC task
2098	GNC Task Maximum	S	Maximum execution
2000	Timestep	5	period for GNC task
2099	Max Duration of Step in	S	Maximum duration of one
2099	GNC	3	step in GNC
2100		rad/s	1
2100	· · ·	rad/s	Gyroscope measurements
	Accelerometer – X Body		obtained from
	Axis		accelerometer X-axis
			data
2101	Gyroscope Based on	rad/s	Gyroscope measurements
	Accelerometer – Y Body		obtained from
	Axis		accelerometer Y-axis
			data
2102	Gyroscope Based on	rad/s	Gyroscope measurements
	Accelerometer – Z Body		obtained from
	Axis		accelerometer Z-axis
			data
2103	Acceleration North	m/s ²	Acceleration in the
			North direction (NED
			Coordinates System)
2104	Acceleration East	m/s ²	Acceleration in the
			East direction (NED
			Coordinates System)
2105	Acceleration Down	m/s ²	Acceleration in the
2105		111/3	Down direction (NED
			<pre>x</pre>
2112	Estimate 1 Days		Coordinates System)
2112	Estimated Dem	m	Altitude given by
			the estimated Digital
			Elevation Model
2200	Curve Length Covered	m	Total distance from
			current mission length
			covered
2201	Curve Length	m	Total distance from
			current mission length
L	I		continues on next nage

Table	2 – continued	from previous page
-------	---------------	--------------------

ID	Name	Units/Values	Description
2202	Curve Length Pending	m	Total distance from
			current mission length not
			covered yet
2203	Curve Parameter Covered	customType	Total length covered from
			current mission according
			to parameter selected
2204	Curve Parameter Range	customType	Total length from current
-		51	mission according to
			parameter selected
2205	Curve Parameter Pending	customType	Total length from current
	6	51	mission to be covered
			according to parameter
			selected yet
2250-2259	Reserved 1-10	customType	System reserved variables
2300-2302	Joint 1-3 of Gimbal 1	rad	Variables for Gimbal 1
2300 2302		144	configuration – Angles
			sent to gimbal as Yaw (1),
			Pitch (2) and Roll (3)
2303-2305	Joint 1-3 of Gimbal 2	rad	Variables for Gimbal 2
2000 2000			configuration – Angles
			sent to gimbal as Yaw (1),
			Pitch (2) and Roll (3)
2330	VMC Control Loop	S	MC01 control loop period
2000	Period	5	incor control toop period
2331	VMC Control Loop	S	MC01 maximum control
2001	Maximum Period		loop period
2332	VMC Control Loop	S	MC01 control loop
	Duration		average execution time
2333	VMC Control Loop	8	MC01 control loop
	Maximum Duration		maximum average
			execution time
2334	VMC Control Loop CPU	%	MC01 CPU usage ratio
	Usage Ratio		
2335	VMC Control Loop	%	MC01 maximum CPU
	Maximum CPU Usage		usage ratio
	Ratio		
2336-2338	VMC U-V-W Phase	customType	MC01 U-V-W phase
	Current		current
2339	VMC Electrical Angle	rad	MC01 electrical angle
2340	VMC Mechanical Angle	rad	MC01 mechanical angle
2341	VMC Mechanical	rad/s	MC01 mechanical angular
	Angular Speed		speed
2342	VMC Desired Mechanical	rad	MC01 desired mechanical
	Angle		angle
2343	VMC Position Controller	rad/s	MC01 position PDI output
	Output		
2344	VMC Desired Mechanical	rad/s	MC01 desired mechanical
	Angular Speed		angular speed
L		1	continues on next page

Table 2 – continued from previous page
--

	1		Description
ID	Name	Units/Values	Description
2345	VMC Desired Mechanical	rad/s	MC01 desired mechanical
	Angular Speed After		angular speed after speed
	Speed Limiter		limiter
2346	VMC Speed Controller	customType	MC01 speed PDI output
	Output		
2347-2348	VMC Clarke Alpha-Beta	customType	MC01 alpha and beta
	Current		current after Clarke
			transformation
2349-2350	VMC Park Direct-	customType	MC01 currents after park
2019 2000	Quadrature Current	customrype	transformation
2351-2352	VMC Desired Park	customType	MC01 desired park
2331-2332		customrype	1
	Direct-Quadrature		currents
2222 2251	Current		
2353-2354	VMC Park Direct-	customType	MC01 current PIDs
	Quadrature Current		outputs
	Controller Output		
2355-2356	VMC Clarke Alpha-	customType	MC01 Clarke alpha-
	Beta Current from Park		beta currents from park
	Controller Output		controller output
2357-2358	VMC Desired Clarke	customType	MC01 desired Clarke
	Alpha-Beta current		currents
2359-2361	VMC U-V-W Phase Space	customType	MC01 phase time
2007 2001	Vector Generator Output		constants
2362-2364	VMC U-V-W Phase PWM	percentage	MC01 PWM outputs
2302-2304	output	percentage	WEOT I WWW outputs
2365	VMC Encoder Raw Angle	rad	MC01 encoder raw
	e		measured angle
2366	VMC Stepper Output	Hz	MC01 stepper output
	Frequency		frequency
2367	VMC Mechanical Angle	rad	MC01 mechanical angle
2507	Error	iuu	error
2368-2370	VMC U-V-W Phase	V	MC01 U-V-W phase
2308-2370	BEMF	v	1
0071			electromechanical force
2371	VMC Input Current	A	DC bus current estimation
2372	VMC Input Command	customType	Speed input rate from
	Value		source (CAN or PWM)
2373-2374	VMC ADC in 1-2	V	System reserved variables
	(MC110)		
2375	Board Temperature	K	Board temperature
	(MC110)		
2376	Power Module	К	IGBT filtered temperature
- • •	Temperature (MC110)		
2377	External Temperature	K	Motor temperature
2311	(MC110)	11	
2378	Input Power (MC110)	V	DC bus voltage
		•	
2379-2380	U-V Phase Hall current sensor (MC110)	customType	System reserved variables
		1	

Table	2 – continued from previous page
rabic	

ID	Name	Units/Values	Description
2381	Virtual and estimator angle difference	rad	Angle offset value from estimated and commanded angle to close control loop.
2400-2419	Control Output u1-20	customType	Control output 1 to 20 after servo saturation
2500-2519	Stick Input u1-u20	customType	Intermediate values from stick used for arcade mode
2600-2619	Stick Input d1-d20	customType	Intermediate values from stick used for arcade mode - delta values
2700-2739	Operation Guidance 1-40	customType	Configurable values used in different guidances – Position or values or vectors
2800	Wind Velocity North	m/s	Wind velocity vector pointing North direction (NED Coordinate system)
2801	Wind Velocity East	m/s	Wind velocity vector pointing East direction (NED Coordinate system)
2802	Wind Velocity Down	m/s	Wind velocity vector pointing Down direction (NED Coordinate system)
2803	Wind Velocity North Estimation Covariance	m/s	Wind velocity vector pointing North direction (NED Coordinate system) estimation covariance
2804	Cross North-East Wind Velocity Estimation Covariance	m/s	WindvelocityvectorpointingcrossNorth-Eastdirection(NED)Coordinatesystem)estimationcovariance
2805	Wind Velocity Estimation Uncertainty (Element 2-0)	m/s	2-0 element from covariance matrix in wind estimation
2806	Wind Velocity Estimation Uncertainty (Element 0-1)	m/s	0-1 element from covariance matrix in wind estimation
2807	Wind Velocity Estimation Uncertainty (Element 1-1)	m/s	1-1 element from covariance matrix in wind estimation
2808	Wind Velocity Estimation Uncertainty (Element 2-1)	m/s	2-1 element from covariance matrix in wind estimation
2809	Wind Velocity Estimation Uncertainty (Element 0-2)	m/s	0-2 element from covariance matrix in wind estimation continues on next page

Table 2 – continued from previous page

		a from previous page	
ID	Name	Units/Values	Description
2810	Wind Velocity Estimation	m/s	1-2 element from
	Uncertainty (Element 1-2)		covariance matrix in
			wind estimation
2811	Wind Velocity Estimation	m/s	2-2 element from
	Uncertainty (Element 2-2)		covariance matrix in
			wind estimation
2812	Wind Azimuth Angle	degree	Wind estimated azimuth
2813	Wind Velocity in North-	m/s	Horizontal wind velocity
2013	East plane	111/5	Tionizoniai wina veroenty
2900	MSL Right from Actual	m	Mean Sea Level obtained
2900	QNH and Pressure		from Actual QNH
	Measurement		and current Pressure
	Weasurement		Measurement
2001			
2901	MSL for ISA and Pressure	m	Mean Sea Level calculated
	Measurement		for ISO International
			Standard Atmosphere and
			Pressure Measurement
2902	Time Since Entering	s	Time-lapse considered
	Current Phase		since entering the current
			phase
2903	GNC Timestep	S	Task execution period
	_		from GNC
2904	Total Flight Time	S	Time-lapse since the
			vehicle finished Standby
			5
] Varning:	
		eprecated	
		ariable	
2905	Total Flight Distance	m	Distance covered by the
_,			vehicle in all mission
			length
			length
		7 •	
		Varning:	
		eprecated	
	v	ariable	
2906	Pacantion Fraguency of	Hz	Frequency at which
2900	Reception Frequency of Simulated Navigation	112	1 5
	0		the system receives
	Data		Simulation Navigation
2007			Data
2907	Reception Frequency of	Hz	Frequency at which the
	External Navigation Data		system receives External
			Navigation Data
2908-2927	Time in Phase 1-20	S	Time-lapse spent by the
2908-2927	Time in Phase 1-20	S	Time-lapse spent by the vehicle in phase 1 to 20
2908-2927 3000-3031	Time in Phase 1-20 Simulation Variable 1-32		
		s customType	vehicle in phase 1 to 20

Table	2 - continued	from previous page
-------	---------------	--------------------

		1 1 0	
ID	Name	Units/Values	Description
3100-3399	User Variable 01-300	customType	Free variables for the user
	(Real - 32 Bits)		to use
4100	Zero	customType	Constant value 0
4101	Rvar Disabled	customType	Disabled variable

Table	2 – continued	from	previous	page
-------	---------------	------	----------	------

3.4 Integer Variables (UVar) - 16 Bits

ID	Name	Description	
0	Actuator Mode	Index pointing to the flight mode in	
		use	
1	Phase Identifier	Index pointing to the active phase	
2	Internal ADC 1	Internal ADC pin 1	
	Warning: Variable for internal use		
3-7	ADC 1-5	Direct reading of ADC pin 1-5	
8-18	Internal ADC 7-17	Internal ADC pin 7-17	
	Warning: Variable for internal use		
19	Current envelope	Index pointing to the used envelope	
20	Counter for C2 system BIT	Index for number of cycles from Core 2	
21	Total memory for blocks allocation	Total words available for blocks	
		Note: 1 word = 2 bytes	
22	Memory used for blocks allocation	Words used for blocks in allocator	
		Note: 1 word = 2 bytes	
23	SRTM source at UAV's position	Index for the SRTM source type	
50	PDI Error Source	Index for PDI error source	
		identification	
51	Operation error source	Index for operation error source identification	
		continues on port page	

ID	Name	Description
54-75	4xV Integer variables	For more information, check 4x Software Manual -> 16 VAR
80	Detour calculation identifier	Index for a route change
81	Approach calculation identifier	Index for the approach calculation route
82	Climb calculation identifier	Index for the climb calculation route
83	Cruise calculation identifier	Index for the cruise calculation route
84	Rendezvous calculation identifier	Index for the rendezvous calculation route
85	Taxi calculation identifier	Index for the taxi calculation route
86	VTOL calculation identifier	Index for the VTOL calculation route
90	Version Major	Major software version
91	Version Minor	Minor software version
92	Version Revision	Revision software version
95	UAV Address	UAV address
96	File system status	State error for DFS2 FS
97	Number of registered partitions on DFS2 File System	Number of registered partitions on DFS2 File System
100	GNSS1 Number of Satellites Used in Solution	Number of satellites used in solution
101-102	GNSS1 rejected-accepted RTCM 1005	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1005
103-104	GNSS1 rejected-accepted RTCM 1077	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1077
105-106	GNSS1 rejected-accepted RTCM 1087	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1087
107-108	GNSS1 rejected-accepted RTCM 1127	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1127
109-110	GNSS1 rejected-accepted RTCM 1230	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1230
111-112	GNSS1 rejected-accepted RTCM 4072	Number of RTCM rejected by wrong CRC - correctly received by Ublox 4072
113	GNSS1 rejected RTCM unknown type	Number of RTCM unknown rejected by wrong CRC
114	GNSS1 week	GNSS1 week

ID	Name	0
ID 115	GNSS1 Jamming Status	Description Output from GPS 1 jamming/interference monitor • 0 = unknown or feature disabled • 1 = ok ⇒ no significant jamming • 1 = ok ⇒ no significant jamming • 2 = warning ⇒ interference visible but fix Ok
150	GNSS2 Number of Satellites Used in Solution	 3 = critical ⇒ interference visible and no fix Number of Satellites Used in Solution
151-152	GNSS2 rejected-accepted RTCM 1005	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1005
153-154	GNSS2 rejected-accepted RTCM 1077	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1077
155-156	GNSS2 rejected-accepted RTCM 1087	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1087
157-158	GNSS2 rejected-accepted RTCM 1127	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1127
159-160	GNSS2 rejected-accepted RTCM 1230	Number of RTCM rejected by wrong CRC - correctly received by Ublox 1230
161-162	GNSS2 rejected-accepted RTCM 4072	Number of RTCM rejected by wrong CRC - correctly received by Ublox 4072
163	GNSS2 rejected RTCM unknown type	Number of RTCM unknown rejected by wrong CRC
164 165	GNSS2 week GNSS2 Jamming Status	 GNSS2 week Output from GPS 2 jamming/interference monitor 0 = unknown or feature disabled 1 = ok ⇒ no significant jamming 2 = warning ⇒ interference visible but fix Ok 3 = critical ⇒ interference visible and no fix
200 201	Radar Altimeter State Current Section	Index for the radar altimeter state
201 202	Last Achieved Section	Index showing section Index showing sections achieved
203	Track Stage	Index showed when a route change happens

ID	Name	Description	
204	Current patchset ID	Index showing the patchset	
303-305	HMR2300 Magnetometer Raw	External HMR2300 magnetometer	
505-505	Measurement X-Y-Z	raw measurements	
310-311	Iridium sent-received	Number of packets succesfully	
510-511	Indiani sent-received	sent/received	
398	VectorNav Mode	Index showing external source	
570	vectorivav iviode	VectorNav mode	
399	Identifier of max duration step in	Identifier of maximum duration step	
577	acquisition	in acquisition	
400	Internest raw status	Internest raw status	
401	Navigation source	Index pointing to the primary	
	Gui tranti	navigation source	
402	Raw position source identifier	GPS identifier selected as main	
403	Selected static pressure sensor	Static pressure sensor selection	
	Warning: Deprecated variable		
404	Selected dynamic pressure sensor	Dynamic pressure sensor selection	
405	Selected dynamic pressure sensor Selected primary accelerometer	Primary accelerometer selection	
406	Selected primary gyroscope	Primary gyroscope selection	
409	Selected magnetometer	Magnetometer selection	
	Warning: Deprecated variable		
	Variable		
410		Stick priority table selection	
410	Selected stick priority table	Stick priority table selection	
410 425		Stick priority table selection Step with maximum duration	
	Selected stick priority table Identifier of max duration step in	Step with maximum duration Index pointing to the selected list of safety bits .	
425	Selected stick priority table Identifier of max duration step in GNC	Step with maximum duration Index pointing to the selected list of safety bits . This is the group of user bits selected to be computed with system CBIT	
425 426	Selected stick priority table Identifier of max duration step in GNC Group of user bits selected for CBIT	Step with maximum duration Index pointing to the selected list of safety bits . This is the group of user bits selected to be computed with system CBIT CAN A communication errors in	
425 426 450	Selected stick priority table Identifier of max duration step in GNC Group of user bits selected for CBIT CAN-A Tx errors	Step with maximum duration Index pointing to the selected list of safety bits . This is the group of user bits selected to be computed with system CBIT CAN A communication errors in transmission CAN A communication errors in	
425 426 450 451	Selected stick priority table Identifier of max duration step in GNC Group of user bits selected for CBIT CAN-A Tx errors CAN-A Rx errors	Step with maximum duration Index pointing to the selected list of safety bits . This is the group of user bits selected to be computed with system CBIT CAN A communication errors in transmission CAN A communication errors in reception CAN B communication errors in transmission	
425 426 450 451 452	Selected stick priority table Identifier of max duration step in GNC Group of user bits selected for CBIT CAN-A Tx errors CAN-A Rx errors CAN-B Tx errors	Step with maximum durationIndex pointing to the selected list of safety bits.This is the group of user bits selected to be computed with system CBITCAN A communication errors in transmissionCAN A communication errors in receptionCAN B communication errors in transmissionCAN B communication errors in receptionLost messages during CAN to Serial	
425 426 450 451 452 453 454-456	Selected stick priority table Identifier of max duration step in GNC Group of user bits selected for CBIT CAN-A Tx errors CAN-A Rx errors CAN-B Tx errors CAN-B Rx errors CAN-B Rx errors CAN to Serial 1-3 frames dropped	Step with maximum duration Index pointing to the selected list of safety bits . This is the group of user bits selected to be computed with system CBIT CAN A communication errors in transmission CAN A communication errors in reception CAN B communication errors in transmission CAN B communication errors in reception Lost messages during CAN to Serial transformations	
425 426 450 451 452 453 454-456 460-461	Selected stick priority table Identifier of max duration step in GNC Group of user bits selected for CBIT CAN-A Tx errors CAN-A Rx errors CAN-B Tx errors CAN-B Tx errors CAN-B Rx errors CAN-B Rx errors CAN to Serial 1-3 frames dropped First-Last file Periodic log	Step with maximum duration Index pointing to the selected list of safety bits . This is the group of user bits selected to be computed with system CBIT CAN A communication errors in transmission CAN A communication errors in reception CAN B communication errors in transmission CAN B communication errors in reception Lost messages during CAN to Serial transformations First-Last file of the periodic log	
425 426 450 451 452 453 454-456	Selected stick priority table Identifier of max duration step in GNC Group of user bits selected for CBIT CAN-A Tx errors CAN-A Rx errors CAN-B Tx errors CAN-B Rx errors CAN-B Rx errors CAN to Serial 1-3 frames dropped	Step with maximum duration Index pointing to the selected list of safety bits . This is the group of user bits selected to be computed with system CBIT CAN A communication errors in transmission CAN A communication errors in reception CAN B communication errors in transmission CAN B communication errors in reception Lost messages during CAN to Serial transformations	

ID	Name	Description
490	Number of moving objects detected	Number of moving objects detected
490 491-492	Veronte static cfg CRC(no	Veronte static cfg CRC (no Op.) of
	Operation) of files (Higher-Lower	files
	16 bits)	
493-494	Veronte static cfg CRC(no	Veronte static cfg CRC (no Op.) of
	Operation) of memory (Higher-	memory
	Lower 16 bits)	
495-496	Global configuration state (crc) of	Global configuration state (crc) of
	files (Higher-Lower 16 bits)	files
497	Config manager status (flash / sd /	Configuration manager status
	maintenance mode)	
498-499	Global configuration state (crc) of	Global configuration state (crc) of
	files-memory	files and memory
501	System reserved 1	4x veronte selected
	Warning: DEPRECATED VARIABLE on v6.2	
550-557	Reserved 1-8	System reserved variables for Gimbal
600-615	PPM channel 1-16 output	CEX PPM channel outputs
620	Jetibox max successfully parsed	
	message	
		Note: CEX variable

	able 3 – continued from previous pa		
ID	Name		Description
710	ADS-B OUT - Squawk Code		ADS-B Squak code, 4 digits that
			allow the operator to inform about its
			status
			This variable is closely related to
			the management of communications
			between transponders and Veronte
			Autopilot 1x.
			F
	Γ	Wanning	
		Warning:	
		• Variable	
		for internal	
		use	
		(custom	
		message	
		for	
		transpoder)	
		•	
		If	
		the	
		user	
		modifies	
		this	
		variable,	
		it	
		is	
		not	
		guaranteed	
		that	
		the	
		transponder	
		will	
		continue	
		to	
		function	
		correctly	
		_	

Table	3 –	continued	from	previous	page
-------	-----	-----------	------	----------	------

ID	Name	Description
711	ADS-B OUT - ICAO	ADS-B ICAO, 4 ASCII characters
		assigned by aircraft authority as an
		identifier
		This variable is closely related to
		the management of communications
		between transponders and Veronte
		Autopilot 1x.
	Warning:	
	•	,,
	Vari	able
	for	
	inter	nal
	use	
	(cust	
	mess	age
	for	
	trans	poder)
	If	
	the	
	user	
	mod	ifies
	this	
	varia	ble
	it	
	is	
	not	
		anteed
	that	
	the	
		nondan
		ponder
	will	
	cont	inue
	to	
	func	
	corre	ectly

Table 3 – continued from previous page	Table	3 – continued	from previous	page
--	-------	---------------	---------------	------

		ied from previous pa	
ID	Name		Description
712	ADS-B OUT -	Ident	Index indicating whether the
			identification is enabled or disabled.
			This is the identification of the UAV
			at the request of ATC
			This variable is closely related to
			the management of communications
			between transponders and Veronte
			Autopilot 1x.
	l r	_	
		Warning:	
		Variable	
		for	
		internal	
		use	
		(custom	
		message	
		for	
		transpoder)	
		•	
		If	
		the	
		user	
		modifies	
		this	
		variable,	
		it	
		is	
		not	
		guaranteed	
		that	
		the	
		transponder	
		will	
		continue	
		to function	
		function	
		correctly	
	1		

Table	3 –	continued	from	previous	page
-------	-----	-----------	------	----------	------

ID	Name	Description
713	ADS-B OUT - Mode	Index of ADS-B mode: <i>IN</i> , <i>OUT</i> or <i>BOTH</i> This variable is closely related to the management of communications between transponders and Veronte Autopilot 1x.
	Warning: • Variable for internal use (custom message for transpoder) • If the user modifies this variable, it is not guaranteed that the transponder will continue to function correctly	

Table 3 – continued from previous page	Table	3 – continued	from previous	page
--	-------	---------------	---------------	------

ID	Name	Description
714-721	ADS-B OUT - Call sign 1-8	ADS-B Call sign, 9 ASCII characters used by operator to be identified during communication These variables are closely related to the management of communications between transponders and Veronte Autopilot 1x.
	Variable for internal use (custom message for transpoder)	

Table	3 - continued	from	previous	page
-------	---------------	------	----------	------

ID	Name	Description	
730	Ping1090 - Sequence number		
	Variable for internal use (dustom message for Ping1090 transpoder)		
741	Sagetech MXS - Hemisphere data status	Sagetech variable, used by block to parse variables for GPS Navigation Data Message	
	Warning: Variable for internal use		
742	Sagetech MXS - Ground track	Sagetech variable, used by block to parse variables for GPS Navigation Data Message	
	Warning: Variable for internal use		
743	Sagetech MXS - Air speed	Sagetech variable, used by block to parse variables for GPS Navigation Data Message	
	Warning: Variable for internal use		
800	VMC Fault Id	Index of the VMC error	
801	VMC Control Mode	Index of the VMC control mode: 0 fail_safe, 1 PPM, 2 CAN	
900-909	Simulation variable 1-10	Variables used for simulation data	

ID	Name	Description	
1000-1299	User Variable 1-300 (Unsigned	Free variables for user	
	Integer - 16 bits)		
2000	Uvar Disabled	Disabled variable	
2001	Zero	Variable with constant 0 value	

Table	3 – continued	from	previous	page
-------	---------------	------	----------	------

3.5 List of PDI errors

The following table explains the list of possible errors from Veronte applications.

pdi_ok0No errors detectedpdi_odt_pool_sz1GPIOs function configurationpdi_odt_pool_sz2Incorrect pool size in on-demand telemetrypdi_telemetry_alloc3Could not allocate new telemetry vectorpdi_talemetry_alloc3Could not allocate new telemetry vectorpdi_talemetry_alloc3Could not allocate new telemetry vectorpdi_talemetry_alloc3Could not allocate new telemetry vectorpdi_talemetry_alloc3Arcade axis set of optionspdi_tarcx23Arcade axis set of optionspdi_arcx23Arcade axis set of optionspdi_arcx23Arcade axis set of optionspdi_arcs5Stick configuration modespdi_arcs45GNSS constellations configuration (more than allowed)pdi_ars_blocks45GNSS constellations configuration (more than allowed)pdi_arms48Range sensorspdi_fimset50Custom message setpdi_sniffer_read_only64Read-only variable selected in snifferpdi_sniffer_read_only65Read-only variable selected in certal message consumerpdi_obstacle68Incorrect type of obstaclepdi_marks71Incorrect type of onstpdi_fimsg.p.p74Custom message producers msg id oorpdi_fimsg.gr.a_c75Custom message roors proces parser oorpdi_fimsg.gr.a_c76CAN usiom message consumer msg id oorpdi_fimsg.gr.a_c75Custom message roors process parser oor	Code	Nº	Explanation
pdi_gpio 1 GPIOs function configuration pdi_dc_pool_sz 2 Incorrect pool size in on-demand telemetry pdi_dchamelmgr 3 Could not allocate new telemetry vector pdi_channelmgr 10 Channel manager configuration pdi_stara 15 SARA sim type oor pdi_strex 23 Arcade axis set of options pdi_modes 27 Stick configuration modes pdi_modes 27 Stick configuration incore than allowed pdi_ansuite_gpio 47 CAN suite gpio pdi_sensite_gpio 47 CAN suite gpio pdi_mreg 48 Range sensors pdi_mref 63 Sniffer wires configuration pdi_sniffer 63 Sniffer wires configuration pdi_sniffer_read_only 64 Read-only variable selected in serial message consumer pdi_fings_read_only 65 Read-only variable selected in CAN message consumer pdi_fings_read_only 66 Read-only variable selected in CAN message consumer pdi_fings_read_only 67 Read-only veref variable pdi_fing			
pdi_odt_pool_sz 2 Incorrect pool size in on-demand telemetry pdi_cleannelmgr 3 Could not allocate new telemetry vector pdi_stanelmgr 10 Channel manager configuration pdi_sara 15 SARA sim type oor pdi_star 15 SARA sim type oor pdi_sara 15 SARA sim type oor pdi_stara 23 Arcade axis set of options pdi_modes 27 Stick configuration modes pdi_modes 27 Stick configuration modes pdi_sasplocks 45 GNSS constellations configuration (more than allowed) pdi_cansuite_gpio 47 CAN suite gpio pdi_rmset 50 Custom message set pdi_pwm 54 Pwm configuration pdi_sniffer_read_only 65 Read-only variable selected in serial message consumer pdi_sniffer_read_only 66 Read-only variable selected in CAN message consumer pdi_stacle 68 Incorrect type of obstacle pdi_sniffer_p_p 74 Custom message producers msg id oor pdi_fmsg_p 74	<u> </u>		
pdi_lelemetry_alloc3Could not allocate new telemetry vectorpdi_channelmgr10Channel manager configurationpdi_sran15SARA sin type oopdi_vblk_senstrim16Block for SRTM sensorpdi_nodes27Stick configuration modespdi_indes27Stick configuration modespdi_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_arca47CAN suite gpiopdi_rong48Range sensorspdi_firset50Custom message setpdi_sniffer63Sniffer wires configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in serial message consumerpdi_sniffer_read_only66Read-only variable selected in GNMpdi_obstacle68Incorrect type of obstaclepdi_obstacle69Obstacle sensing mode or type oorpdi_finsg_c_act_only74Custom message consumer space spac		-	e
pdi_channelmgr10Channel manager configurationpdi_sara15SARA sim type orpdi_vblk_sensrtm16Block for SRTM sensorpdi_modes27Stick configuration modespdi_modes27Stick configuration modespdi_bkkfstp41Static pressure to EKF adapter blockpdi_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_cansuite_gpio47CAN suite gpiopd_rmg48Range sensorspdi_fmset50Custom message setpdi_sniffer63Sniffer wires configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in serial message consumerpdi_canmsgc_read_only65Read-only variable selected in serial message consumerpdi_obstacle68Incorrect type of bataclepdi_marks71Incorrect type of markpdi_fmsg_c75Custom message consumer sig d oorpdi_fmsg_c76CAN custom message consumer sprocess parser oorpdi_fmsg_c75Custom message consumer sprocess parser oorpdi_fmsg_c81SCI config errorpdi_actions83Actmgr - List of actionspdi_actions83Actmgr - List of actionspdi_actions83Actmgr - List of actionspdi_funsg_a_c81SCI config errorpdi_funsg_b76CAN custom messages output filters size okpdi_evact84Actmgr - List of frelated e			
pdi_sara15SARA sim type oorpdi_vblk_senstim16Block for SRTM sensorpdi_arcx23Arcade axis set of optionspdi_nodes27Stick configuration modespdi_modes27Stick configuration modespdi_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_gns_blocks45GNS constellations configuration (more than allowed)pdi_gnss_blocks47CAN suite gpiopdi_mrag48Range sensorspdi_fmset50Custom message setpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in snifferpdi_sniffer_read_only65Read-only variable selected in CAN message consumerpdi_vref_read_only67Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_obstacle68Incorrect type oorpdi_marks71Incorrect type of markpdi_fmsg_c75Custom message roducers msg id oorpdi_finsg_a_c76CAN custom msg consumer msg id oorpdi_sci81SCI config errorpdi_sci81SCI config errorpdi_sci81SCI config errorpdi_sci83Actmgr - List of actionspdi_actions83Actmgr - List of actionspdi_actions83Actmgr - List of felated events and actions			
pdi_vblk_sensrtm16Block for SRTM sensorpdi_arcx23Arcade axis set of optionspdi_modes27Stick configuration modespdi_blkekfstp41Static pressure to EKF adapter blockpdi_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_cansuite_gpio47CAN suite gpiopdi_rng48Range sensorspdi_fnset50Custom message setpdi_pwm54Pwm configurationpdi_sniffer_read_only64Read-only variable selected in snifferpdi_sniffer_read_only65Read-only variable selected in serial message consumerpdi_cannse_read_only66Read-only variable selected in CAN message consumerpdi_over_read_only67Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_marks71Incorrect type of markpdi_finsg_p74Custom message rouser process parser oorpdi_finsg_c_75Custom message consumer spid oorpdi_finsg_c_a_c76CAN custom mes consumer msg id oorpdi_finsg_ca_c81SCI config errorpdi_events82Invalid eventpdi_events83Actmgr - List of actionspdi_actions83Actmgr - List of actionspdi_events84Actmgr - List of actionspdi_events84Actmgr - List of actionspdi_spc_can_in87XPC for CAN messages output filters size okpdi_spc_can_ser <t< td=""><td>1 = 0</td><td></td><td></td></t<>	1 = 0		
pdi_arcx23Arcade axis set of optionspdi_modes27Stick configuration modespdi_blkekfstp41Static pressure to EKF adapter blockpdi_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_cansuite_gpio47CAN suite gpiopdi_trng48Range sensorspdi_finset50Custom message setpdi_sniffer63Sniffer wires configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in snifferpdi_sniffer_read_only65Read-only variable selected in serial message consumerpdi_di_nsmgc_read_only66Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_obstacle68Incorrect type of markpdi_finsg_p74Custom message consumer mg id oorpdi_finsg_c75Custom message consumer mg id oorpdi_finsg_ca_c76CAN custom message consumer mg id oorpdi_di_events82Invalid eventpdi_events82Invalid eventpdi_events83Actmgr - List of related events and actionspdi_water_not_not_allowed85Commands not allowedpdi_tspc_can_in87XPC for CAN messages output filters size okpdi_di_pc_can_gpio90XPC for CAN message serial actions size okpdi_di_pc_can_gpio90XPC for CAN messages serial coal size ok			
pdi_modes27Stick configuration modespdi_blkek/stp41Static pressure to EKF adapter blockpdi_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_gnss_blocks47CAN suite gpiopdi_yrng48Range sensorspdi_finset50Custom message setpdi_pymm54Pwm configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in snifferpdi_finsgc_read_only65Read-only variable selected in cAN message consumerpdi_cannsgc_read_only66Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_obstacle69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_p74Custom message producers msg id oorpdi_fmsg_c75Custom message consumer sprocess parser oorpdi_fmsg_c182Invalid eventpdi_events82Invalid eventpdi_events83Actmgr - List of actionspdi_events83Actmgr - List of related events and actionspdi_went84Actmgr - List of related event and actionspdi_evact84Actmgr - List of related event size okpdi_xpc_can_in87XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages			
Image41Static pressure to EKF adapter blockpdi_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_cansuite_gpio47CAN suite gpiopdi_vrng48Range sensorspdi_fnset50Custom message setpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in serial message consumerpdi_sniffer_read_only65Read-only variable selected in serial message consumerpdi_sniffer_read_only66Read-only variable selected in CAN message consumerpdi_vref_read_only67Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_marks71Incorrect type of markpdi_fnsg_c75Custom message producers msg id oorpdi_fnsg_c76CAN custom message consumer msg id oorpdi_fnsg_c81SCI config errorpdi_sci81SCI config errorpdi_events82Invalid eventpdi_events83Actmgr - List of actionspdi_event84Actmgr - List of actionspdi_sci_non_and85Commands not allowedpdi_xpc_can_in87XPC for CAN messages output filters size okpdi_sc_can_ser89XPC for CAN messages virtual gpios size ok	I —		
di_gnss_blocks45GNSS constellations configuration (more than allowed)pdi_cansuite_gpio47CAN suite gpiopdi_vrng48Range sensorspdi_fmset50Custom message setpdi_pwm54Pwm configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in serial message consumerpdi_canmsgc_read_only65Read-only variable selected in serial message consumerpdi_canmsgc_read_only66Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_obstacle69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_c75Custom message producers msg id oorpdi_fmsg_an_c76CAN custom mess onsumer msg id oorpdi_finsg_can_c76CAN custom mess consumer msg id oorpdi_sci81SCI config errorpdi_events82Invalid eventpdi_evact84Actmgr - List of related events and actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages singut filters size okpdi_xpc_can_ser89XPC for CAN messages sire virtual gpios size ok	1 —		e
pdi_cansuite_gpio47CAN suite gpiopdi_vrng48Range sensorspdi_fmset50Custom message setpdi_pwm54Pwm configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in serial message consumerpdi_fmsgc_read_only65Read-only variable selected in CAN message consumerpdi_canmsgc_read_only66Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_obstacle69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_c75Custom message producers msg id oorpdi_fmsg_c75Custom message consumers process parser oorpdi_fmsg_c81SCI config errorpdi_sci81SCI config errorpdi_events82Invalid eventpdi_events83Actmgr - List of related events and actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages singut filters size okpdi_xpc_can_ser89XPC for CAN messages singut filters size okpdi_xpc_can_gpio90XPC for CAN messages singut size ok	I I		
pdi_vrng48Range sensorspdi_fmset50Custom message setpdi_pwm54Pwm configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in snifferpdi_fnsgc_read_only65Read-only variable selected in serial message consumerpdi_canmsgc_read_only66Read-only variable selected in CAN message consumerpdi_vref_read_only67Read-only veriablepdi_obstacle68Incorrect type of obstaclepdi_obstacle69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_p74Custom message consumer spicess parser oorpdi_fmsg_c75Custom message consumer msg id oorpdi_telem77Telemetry configurationpdi_sci81SCI config errorpdi_exect82Invalid eventpdi_events82Invalid eventpdi_evact84Actmgr - List of actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_ser89XPC for CAN messages virtual gpios size ok			
pdi_fmset50Custom message setpdi_pwm54Pwm configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in snifferpdi_fmsgc_read_only65Read-only variable selected in serial message consumerpdi_camsgc_read_only66Read-only variable selected in CAN message consumerpdi_veref_read_only67Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_obstacle69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_p74Custom message producers msg id oorpdi_fmsg_c75Custom message consumer sprocess parser oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_sci81SCI config errorpdi_sci82Invalid eventpdi_events82Invalid eventpdi_evact84Actmgr - List of related events and actionspdi_xpc_can_in87XPC for CAN messages output filters size okpdi_xpc_can_spio90XPC for CAN messages serialtocan size ok			
pdi_pwm54Pwm configurationpdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in snifferpdi_fmsgc_read_only65Read-only variable selected in serial message consumerpdi_canmsgc_read_only66Read-only variable selected in CAN message consumerpdi_vref_read_only67Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_obstacle69Obstacle sensing mode or type oorpdi_marks71Incorrect type of obstaclepdi_fmsg_p74Custom message producers msg id oorpdi_fmsgcan_c75Custom message consumer spicess parser oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_sci81SCI config errorpdi_events82Invalid eventpdi_events83Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_marks77XPC for CAN messages output filters size okpdi_xpc_can_in87XPC for CAN messages eviluat filters size okpdi_spc_can_spio90XPC for CAN messages virtual gpios size ok			e
pdi_sniffer63Sniffer wires configurationpdi_sniffer_read_only64Read-only variable selected in snifferpdi_canmsgc_read_only65Read-only variable selected in serial message consumerpdi_canmsgc_read_only66Read-only variable selected in CAN message consumerpdi_vref_read_only67Read-only variable selected in CAN message consumerpdi_obstacle68Incorrect type of obstaclepdi_marks71Incorrect type of markpdi_fmsg_p74Custom message consumer spocess parser oorpdi_fmsg_c75Custom message consumer msg id oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_telem77Telemetry configurationpdi_events82Invalid eventpdi_events83Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_marks87XPC for CAN messages output filters size okpdi_prc_can_out88XPC for CAN messages output filters size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	I —	54	
pdi_sniffer_read_only64Read-only variable selected in snifferpdi_fmsgc_read_only65Read-only variable selected in serial message consumerpdi_canmsgc_read_only66Read-only variable selected in CAN message consumerpdi_vref_read_only67Read-only verf variablepdi_obstacle68Incorrect type of obstaclepdi_obsense69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_p74Custom message consumer spices parser oorpdi_fmsg_c75Custom message consumer msg id oorpdi_telem77Telemetry configurationpdi_sci81SCI config errorpdi_events82Invalid eventpdi_evact84Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_sci_an_in87XPC for CAN messages output filters size okpdi_xpc_can_in88XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages virtual gpios size ok		63	
pdi_fmsgc_read_only65Read-only variable selected in serial message consumerpdi_canmsgc_read_only66Read-only variable selected in CAN message consumerpdi_vref_read_only67Read-only verf variablepdi_obstacle68Incorrect type of obstaclepdi_obsense69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_p74Custom message producers msg id oorpdi_fmsg_c75Custom message consumers process parser oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_sci81SCI config errorpdi_events82Invalid eventpdi_evact84Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_marks77XPC for CAN messages input filters size okpdi_xpc_can_in87XPC for CAN messages serialtocan size okpdi_xpc_can_ser89XPC for CAN messages virtual gpios size ok	1 —		e
pdi_canmsgc_read_only66Read-only variable selected in CAN message consumerpdi_vref_read_only67Read-only vref variablepdi_obstacle68Incorrect type of obstaclepdi_obsense69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_p74Custom message producers msg id oorpdi_fmsg_c75Custom message consumers process parser oorpdi_fmsg_can_c76CAN custom msg consumer msg id oorpdi_sci81SCI config errorpdi_events82Invalid eventpdi_evact84Actmgr - List of actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages output filters size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok			
pdi_vref_read_only67Read-only vref variablepdi_obstacle68Incorrect type of obstaclepdi_obsense69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_p74Custom message producers msg id oorpdi_fmsg_c75Custom message consumers process parser oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_telem77Telemetry configurationpdi_events82Invalid eventpdi_events83Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_xpc_can_in87XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages virtual gpios size ok	pdi_canmsgc_read_only	66	
pdi_obstacle68Incorrect type of obstaclepdi_obsense69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_p74Custom message producers msg id oorpdi_fmsg_cc75Custom message consumers process parser oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_telem77Telemetry configurationpdi_events81SCI config errorpdi_events82Invalid eventpdi_evact84Actmgr - List of actionspdi_end_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	pdi_vref_read_only	67	
pdi_obsense69Obstacle sensing mode or type oorpdi_marks71Incorrect type of markpdi_fmsg_p74Custom message producers msg id oorpdi_fmsg_c75Custom message consumers process parser oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_telem77Telemetry configurationpdi_events81SCI config errorpdi_actions83Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_xpc_can_in87XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages virtual gpios size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok		68	Incorrect type of obstacle
pdi_marks71Incorrect type of markpdi_fmsg_p74Custom message producers msg id oorpdi_fmsg_c75Custom message consumers process parser oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_telem77Telemetry configurationpdi_sci81SCI config errorpdi_events82Invalid eventpdi_evact84Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_sci_an_in87XPC for CAN messages input filters size okpdi_xpc_can_in87XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages virtual gpios size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok			Obstacle sensing mode or type oor
pdi_fmsg_p74Custom message producers msg id oorpdi_fmsg_c75Custom message consumers process parser oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_telem77Telemetry configurationpdi_sci81SCI config errorpdi_events82Invalid eventpdi_evact84Actmgr - List of actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages virtual gpios size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	pdi_marks	71	Incorrect type of mark
pdi_fmsg_c75Custom message consumers process parser oorpdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_telem77Telemetry configurationpdi_sci81SCI config errorpdi_events82Invalid eventpdi_actions83Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_ser89XPC for CAN messages virtual gpios size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	pdi_fmsg_p	74	
pdi_fmsgcan_c76CAN custom msg consumer msg id oorpdi_telem77Telemetry configurationpdi_sci81SCI config errorpdi_events82Invalid eventpdi_actions83Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	pdi_fmsg_c	75	Custom message consumers process parser oor
pdi_telem77Telemetry configurationpdi_sci81SCI config errorpdi_events82Invalid eventpdi_actions83Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	pdi_fmsgcan_c	76	CAN custom msg consumer msg id oor
pdi_events82Invalid eventpdi_actions83Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_out88XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok		77	
pdi_events82Invalid eventpdi_actions83Actmgr - List of actionspdi_evact84Actmgr - List of related events and actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_out88XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	pdi_sci	81	SCI config error
pdi_evact84Actmgr - List of related events and actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_out88XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	pdi_events	82	
pdi_evact84Actmgr - List of related events and actionspdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_out88XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	pdi_actions		
pdi_cmd_not_allowed85Commands not allowedpdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_out88XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok		84	Actmgr - List of related events and actions
pdi_xpc_can_in87XPC for CAN messages input filters size okpdi_xpc_can_out88XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok	pdi_cmd_not_allowed	85	
pdi_xpc_can_out88XPC for CAN messages output filters size okpdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok		87	XPC for CAN messages input filters size ok
pdi_xpc_can_ser89XPC for CAN messages serialtocan size okpdi_xpc_can_gpio90XPC for CAN messages virtual gpios size ok		88	XPC for CAN messages output filters size ok
pdi_xpc_can_gpio 90 XPC for CAN messages virtual gpios size ok	1 1	89	
	1 1	90	
		91	

		Table 4 – continued from previous page
Code	Nº	Explanation
pdi_xpc_u8_map	92	XPC for u8 messages and check their priority and connections
pdi_internest	93	Internest version in rage
pdi_internest1	94	Internest max_range_vbase in rage
pdi_internest2	95	Internest max_range_vexplore in rage
pdi_ecap	101	Capture
pdi_cappulse	116	ECAP pulse consumers
pdi_i2cdevs	117	I2C external devices
pdi_lossy_resize	120	Lossy resize error
pdi_rvector_resize	121	Rvector resize error
pdi_asciiparser	122	ASCII parser invalid configuration
pdi_telemetry_exceeded	123	Telemetry size exceeded
pdi_cmd_rdvzset	176	Rendezvous command base_yaw oor
pdi_cmd_taxiget	183	Taxi guidance request command
pdi_cmd_gtrack1	188	Invalid detour command
pdi_cmd_gtrack2	189	Invalid guidance block configuration
pdi_cmd_speed	192	Cruise speed command
pdi_cmd_gtrack	193	Invalid detour command
pdi_cmd_gtrkset	194	Track request command
pdi_cmd_stksrcr	208	Get stick raw channels from selected source
pdi_cmd_vtolset	212	VTOL request command
pdi_ini_nok	213	Cannot change to a phase different from INI with System BIT not OK and out of PDI mod
pdi_cmd_nav	215	Navigation command
pdi_cmd_gpio	218	GPIO command
pdi_cmd_gpio1	219	GPIO command
pdi_cmd_gpio2	220	GPIO command
pdi_cmd_gpio2	220	GPIO command
pdi_cmd_phase	222	Commanded phase is out of range
pdi_cmd_gimbal1	222	Gimbal commands
pdi_cmd_gimbal	225	Gimbal commands
pdi_cmd_var	235	Variable set command
pdi_reset	239	Reset CPU IRX
pdi_acc2filt	257	Bosch IMU BMI088 (IMU2) Accelerometer filter
pdi_imu3_filter	258	ADIS16505 IMU filter not in range [0,6]
pdi_imu3_filter_bw	259	ADIS16505 INU filter not compatible with Bandwidth limit
pdi_mus_mer_ow	288	
pdi_cansuite_out	289	CAN suite producer for veronte CAN suite consumer for veronte
-	289	CAN sume consumer for verone
pdi_cfg_can pdi_resize_can_cex	290	CAN cig CEX CAN cfg
-	291 292	COMMEX CAN cfg
pdi_resize_can_commex		6
pdi_jeti_and_lift	293	Trying to configure jeti and lift (not enough memory)
pdi_jid	501	Invalid feature
pdi_canid	502	Invalid CAN id
pdi_cfgid_mode0	503	Invalid Cfgid PDI (number of PDIs does not match)
pdi_cfgid_mode1	504	Invalid Cfgid PDI mode
pdi_cmd_mgr	505	Expected command size does not match
pdi_cmd_mgr1	506	Expected command size does not match
pdi_cancfg	507	Invalid CAN configuration
pdi_decimator	508	Invalid decimator
pdi_sci_cfg	509	Invalid SCI configuration

Code	Nº	Explanation
pdi_field1	510	Maximum ID of real variable exceeded
pdi_field2	511	Maximum ID of user variable exceeded
pdi_field3	512	Maximum ID of bit variable exceeded
pdi_field4	513	Maximum number of decimals for real variable exceeded
pdi_field5	514	Overflow for real variable detected
pdi_field6	515	Incorrect CRC field
pdi_field7	516	Field matcher number of bits outside range
pdi_field8	517	Field maximum skippable bits exceeded
pdi_field9	518	Maximum ID of real variable saved as string exceeded
pdi_field10	519	Field type out of range
pdi_flogic	520	Invalid event composition (Flogic)
pdi_flogic1	520	Invalid event composition (Flogic)
pdi_flogic2	522	Invalid event composition (riogic)
pdi_fref	523	Invalid type of position reference
pdi_irxtable	525	Invalid 3Dtable mode or vector is non-decreasing
pdi limit	525	Invalid limit event type
pdi_lsm6ds3_cfg	526	Accelerometer/Gyroscope settings outside range
pdi_pdi_ver	520	Incompatible PDI version, there are some PDI files in Veronte from a different version. T
pdi_pdi_ver	528	Id for Rvar out of range for Rvarsensor
pdi_stickrawtrans0	528	K value in stick outside range [-100]100] or 0
pdi_stickrawtrans1	530	Maximum value read from stick for Configured range exceeded [4095]
pdi_stickrawtrans2	531	Maximum value read from stick for Raw stick trim exceeded [4095]
pdi_stickrawtrans3	532	Invalid transformation type for stick
pdi_stickcfg3	536	Invalid distornation type for stick
pdi_tllhcompressed	537	Longitude/Latitude outside range [-pi,pi]/[-0.5pi,0.5pi]
pdi_tunpatchset0	538	Patch selected as first has not been enabled
pdi_tunpatchset1	539	Patch selected as mist has not been enabled
pdi_tunpatchset2	540	
pdi_tunpatchset3	540	Patchtype point has not been enabled Patchtype line has not been enabled
pdi_tunpatchset4	542	Patchtype orthodrome has not been enabled
pdi_tunpatchset5	543	Patchtype orthodrome has not been enabled Patchtype arc has not been enabled
	545	
pdi_tunpatchset6	546	Patchtype ellipse has not been enabled
pdi_tunpatchset8	540	No patchtype has been enabled
pdi_Ubxcfgnav5 pdi_Ubxcfgnavx5	548	Dynmodel out of range or incorrect UTC time
<u> </u>		Maximum acceptable AssistNow Autonomous orbit error outside range [5, 1000]
pdi_Ubxcfgport	549	Port (for Ubx?) is neither SPI nor SCI
pdi_Ubxcfgrate	550	Invalid Ublox configuration rate
pdi_Ubxcfgsbas	551	Maximum number of SBAS prioritized tracking channels exceeded [3]
pdi_atunarray0	552	Invalid Tunarray index
pdi_atunarray1	553	Invalid Tunarray size
pdi_Ubxcfgtmode3	554	Error in receiver mode, neither enabled nor disabled
pdi_Uclk	555	Invalid chrono event
pdi_Uvarsensor	556	Id for Uvar out of range for Uvarsensor
pdi_Uclkmgr	557	Maximum number of event user chronos exceeded
pdi_varinit0	558	Maximum array size exceeded on initial values for user variables
pdi_varinit1	559	Initialized variable is unwritable
pdi_vref0	560	Maximum ID of Rvar variable exceeded in Vref
pdi_vref1	561	Maximum ID of Uvar variable exceeded in Vref
pdi_vref2	562	Maximum ID of Bvar variable exceeded in Vref

N⁰

Explanation

Code

Code	IN-	Explanation
pdi_vref3	563	Invalid type of variable in Vref
pdi_xclkcfg0	564	Period time non positive in event
pdi_xclkcfg1	565	Invalid period mode
pdi_xclkcfg2	566	Chrono position direction not correctly normalized
pdi_xclkcfg3	567	Invalid type of chrono
pdi_blk_batch	570	Maximum allowed block nesting depth exceeded [6] or incorrect number of inputs/output
pdi_blk_ifelse	571	Error in the connections for block if/else
pdi_blk_switch	572	Error in the connections for block switch
pdi_blk_switch0	573	Invalid switch/ifelse/phase block configuration
pdi_blkmgr	574	Invalid block manager configuration
pdi_pinmux	576	Invalid switch/ifelse/phase block output configuration
pdi_blk_switchmap	577	Invalid mapping to cases in switch/phase block
pdi_accellimit	578	Invalid type of desired velocity smoothing
pdi_accellimit1	579	Maximum permitted falling acceleration per axis is less than the minimum allowed accele
pdi_accellimit2	580	Maximum permitted rising acceleration per axis is less than the minimum allowed accele
pdi_accellimit3	581	Maximum permitted falling jerk per axis is less than the minimum allowed jerk in each a:
pdi_accellimit4	582	Maximum permitted rising jerk per axis is less than the minimum allowed jerk in each at Maximum permitted rising jerk per axis is less than the minimum allowed jerk in each ax
pdi_circle	583	Circle radius is less than or equal to 0
pdi_height	584	Height type is neither relative nor absolute
pdi_heightabs	585	Invalid absolute height type
	586	Invalid runway preferred type
pdi_rwy	588	
pdi_driver		Problem in Driver block configuration
pdi_mwk	592	Gyroscope measurement error
pdi_opinctrl	593	Invalid PID controller input type
pdi_pid	594	Invalid PID integral configuration (tau must be > 0)
pdi_prediction	595	Error in the Model Prediction Control algorithm. Prediction Horizon out of range or zero
pdi_sysid	596	Incorrect system identification block configuration
pdi_tsched	597	Empty table scheduler PID
pdi_iir	599	Invalid cutoff frequencies for IIR2 filter in sensor
pdi_iir3	600	Invalid cutoff frequencies for 3D IIR2 filter in sensor
pdi_usre2	601	User configured variance less than minimum variance allowed if in device mode
pdi_ubxcfgtp5	603	Ublox time pulse configuration
pdi_cfgmgr_load_secure	604	Error loading secure mode
pdi_cfgmgr_finit	605	Error PDI files
pdi_cfgmgr_timeout	606	Error; timeout while loading PDIs
pdi_invalidrotmat	607	Invalid rotation matrix (cannot be inverted)
pdi_apsel	608	Number of autopilots for redundancy less than 3
pdi_vblk_apsel	609	Invalid block AP selection configuration channel exceeds maximum number
pdi_vblk_arcade_bounce	610	Error in the connections for block Arcade Bounce
pdi_vblk_arcade_extend	611	Error in the connections for block Arcade Extend
pdi_vblk_btor	612	Error in the connections for bool to real block
pdi_vblk_bound	613	Error in the connections for block Bound
pdi_rldcfg0	614	Invalid dynamic pressure EKF entrance configuration
pdi_smoothvar	615	Smoother error
pdi_ubx_tout0	616	Could not receive ACKs from UBlox
pdi_ubx_tout1	617	Could not receive polling from Ublox
pdi_ubx_nack	618	A Ublox configuration message was rejected by a Ublox device (GNSS)
ndi guid nid	610	The second strange of a second s

Invalid type of guidance controller

Guidance uses an invalid runway or site

Table 4 - continued from previous page

pdi_guid_pid

pdi_cmd_leg

619

620

Code Nº Explanation pdi_mixarray 622 Error in mixarray construction (possibly there is not enough RAM memory to store all th pdi_sturate 623 Invalid number of entries for XrTable pdi_sturate 624 Block trying to resize an array out of its maximum size pdi_suite 625 Error trying to resize an array out of its maximum size pdi_suite 626 Selected sensor (accelerometer, gyroscope or dynamic pressure) is not valid in this hardw pdi_supmap 627 Invalid block: array of less than 2 elements cannot be split pdi_blk_array 629 Bundle block error, it must have more than one input and the input sizes must be one pdi_vblk_addvec 631 Error in the connections for block Add pdi_vblk_addvec 635 Error in the connections for block azel -> xyz pdi_vblk_azeld 636 Error in the connections for block azel -> xyz pdi_vblk_razeld 637 Error in the connections for block size or invalid conversion factor from spece pdi_vblk_rarr1 639 Error in the connections for block size or invalid conversion factor from spece pdi_vblk_rarr1 639 Error in the connections for block si or invalid subfunction for the block
pdi_xtable623Invalid number of entries for X/Tablepdi_blk_varset624Block trying to write in an invalid variable, possibly the selected variable is write-onlypdi_tuntrait625Error trying to resize an array out of its maximum sizepdi_asuite626Selected sensor (accelerometer, gyroscope or dynamic pressure) is not valid in this hardwpdi_strapsplit628Invalid producer/consumer in I/O connectionspdi_blk_array629Bundle block error, it must have more than one input and the input sizes must be onepdi_vblk_addvec631Error in the connections for block Addpdi_vblk_addvec633Invalid D for block Read Realpdi_vblk_addvec633Error in the connections for block Addpdi_vblk_azeld634Error in the connections for block Addpdi_vblk_azeld635Error in the connections for block Addpdi_vblk_azeld636Error in the connections for block Xu-y- zareldpdi_vblk_nblk_ateld637Error in the connections for block Xu-y- zareldpdi_vblk_nblk_nbl638Error in the connections for block X0-ND/ORpdi_vblk_nblk_r1xr1639Error in the connections for block X-ND/ORpdi_vblk_r1xr1640Error in the connections for block X-MID/ORpdi_vblk_rnxr1641Error in the connections for block X-Malupdi_vblk_rnxr1642Error in the connections for block X-MID/Ad Elements/Norm or invalid subfunctionpdi_vblk_rnxr1642Error in the connections for block Manual or invalid subfunction for the blockpdi_vblk_rnxr1
pdi_blk_varset624Block trying to write in an invalid variable, possibly the selected variable is write-onlypdi_untrait625Error trying to resize an array out of its maximum sizepdi_spermap626Selected sensor (accelerometer, gyroscope or dynamic pressure) is not valid in this hardwpdi_spermap627Invalid producer/consumer in I/O connectionspdi_blk_arraysplit628Invalid block: array of less than 2 elements cannot be splitpdi_blk_array629Bundle block error, it mus thave more than one input and the input sizes must be onepdi_vblk_addvec631Error in the connections for block Addpdi_autotune633Invalid ID for block Read Realpdi_autotune633Invalid animum duration of autotuning process or invalid number of stages for FFTpdi_vblk_azeld1634Error in the connections for block azeld -> xyzpdi_vblk_acetd1635Error in the connections for block xzel -> xyzpdi_vblk_acetd1636Error in the connections for block (s) AND/ORpdi_vblk_rlxr1639Error in the connections for block (s) AND/ORpdi_vblk_rlxr1640Error in the connections for block (s) AMIbity/Add Elements/Norm or invalid subfunctionpdi_vblk_irt2xr1640Error in the connections for block (scalepdi_vblk_irt1642Error in the connections for block (scalepdi_vblk_irt1642Error in the connections for block (scalepdi_vblk_irt2xr1640Error in the connections for block (scalepdi_vblk_irt1642Error in the connections for block (scale
pdi_tuntrait625Error trying to resize an array out of its maximum sizepdi_asuite626Selected sensor (accelerometer, gyroscope or dynamic pressure) is not valid in this hardwpdi_xpemap627Invalid producer/consumer in I/O connectionspdi_blk_arraysplit628Invalid block: array of less than 2 elements cannot be splitpdi_blk_arraysplit629Bundle block error, it must have more than one input and the input sizes must be onepdi_vblk_warget630Invalid ID for block Read Realpdi_vblk_warget631Error in the connections for block Addpdi_vblk_azeld1634Error in the connections for block Azeld -> xyzpdi_vblk_azeld1634Error in the connections for block Azeld -> xyzpdi_vblk_azeld635Error in the connections for block Read Realpdi_vblk_nett1637Error in the connections for block Nazel -> xyzpdi_vblk_nett1638Error in the connections for block Renergy Control or invalid conversion factor from speedpdi_vblk_r1xr1639Error in the connections for block Nationation for the blockpdi_vblk_r1xr1640Error in the connections for block Nationation for the blockpdi_vblk_irmxr1641Error in the connections for block Scalepdi_vblk_minmax645Error in the connections for block Manual or invalid parameters for the transfer functionpdi_vblk_minmax645Error in the connections for block MIX or invalidpdi_vblk_inminmax645Error in the connections for block MIX or invalid parameters for the transfer functionpdi_vblk_
pdi_asuite626Selected sensor (accelerometer, gyroscope or dynamic pressure) is not valid in this hardwpdi_stxpcmap627Invalid producer/consumer in I/O connectionspdi_blk_arraysplit628Invalid block: array of less than 2 elements cannot be splitpdi_blk_array629Bundle block error, it must have more than one input and the input sizes must be onepdi_vblk_varget630Invalid ID for block Read Realpdi_vblk_advec631Error in the connections for block Addpdi_vblk_azeld1634Error in the connections for block xizel -> xyzpdi_vblk_azeld1634Error in the connections for block Xizel -> xyzpdi_vblk_aceld635Error in the connections for block Dot Productpdi_vblk_dot636Error in the connections for block Not Productpdi_vblk_bnxb1638Error in the connections for block X vor invalid subfunction for the blockpdi_vblk_r1xr1639Error in the connections for block X vor invalid subfunction for the blockpdi_vblk_r1xr1641Error in the connections for block X, vor invalid subfunction for the blockpdi_vblk_mir642Error in the connections for block Manual or invalid parameters for the transfer functionpdi_vblk_mir644Error in the connections for block Manual or invalid subfunctionpdi_vblk_minx646Error in the connections for block MIX for invalid maxpdi_vblk_minx646Error in the connections for block Manual or invalid stick control channelpdi_vblk_minx646Error in the connections for block MIX for invalid mix control chann
pdi_xpcmap 627 Invalid producer/consumer in I/O connections pdi_blk_arraysplit 628 Invalid block: array of less than 2 elements cannot be split pdi_blk_array 629 Bundle block error, it must have more than one input and the input sizes must be one pdi_vblk_array 630 Invalid ID for block Read Real pdi_vblk_array 631 Error in the connections for block Add pdi_vblk_azeld1 633 Invalid maximum duration of autotuning process or invalid number of stages for FFT pdi_vblk_azeld1 634 Error in the connections for block azeld -> xyz pdi_vblk_act 636 Error in the connections for block Carefy Conduct pdi_vblk_nentrl 637 Error in the connections for block X or invalid subfunction for the block pdi_vblk_nentrl 637 Error in the connections for block X or invalid subfunction for the block pdi_vblk_rlxr1 639 Error in the connections for block X or invalid subfunction for the block pdi_vblk_rnxr1 641 Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunction pdi_vblk_minar 643 Error in the connections for block (S) Multiply/Add Elements/Norm or invalid subfunction pdi_vb
pdi_blk_arraysplit628Invalid block: array of less than 2 elements cannot be splitpdi_blk_array629Bundle block error, it must have more than one input and the input sizes must be onepdi_vblk_varget630Invalid ID for block Read Realpdi_vblk_addvec631Error in the connections for block Addpdi_vblk_addvec633Invalid maximum duration of autotuning process or invalid number of stages for FFTpdi_vblk_azeld634Error in the connections for block Azeld -> xyzpdi_vblk_azeld635Error in the connections for block Nazel -> xyzpdi_vblk_azeld636Error in the connections for block Nazel -> xyzpdi_vblk_extld637Error in the connections for block Nazel -> xyzpdi_vblk_bnxbl638Error in the connections for block Not Productpdi_vblk_rlxr1639Error in the connections for block (s) AND/ORpdi_vblk_rlxr1640Error in the connections for block (s) AND/ORpdi_vblk_rlxr1641Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctiorpdi_vblk_mxn1641Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_minmax645Error in the connections for block Napdi_vblk_minmax646Error in the connections for block (s) Min/Maxpdi_vblk_minmax646Error in the connections for block (s) Min/Maxpdi_vblk_movern647Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block MIX or invalid mix control channe
pdi_blk_array629Bundle block error, it must have more than one input and the input sizes must be onepdi_vblk_varget630Invalid ID for block Read Realpdi_vblk_addvec631Error in the connections for block Addpdi_autotune633Invalid maximum duration of autotuning process or invalid number of stages for FFTpdi_vblk_azeld1634Error in the connections for block azeld -> xyzpdi_vblk_azeld1635Error in the connections for block bazel -> xyzpdi_vblk_dot636Error in the connections for block Dock DV Productpdi_vblk_dot637Error in the connections for block NAD/ORpdi_vblk_rlxr1638Error in the connections for block x or invalid subfunction for the blockpdi_vblk_rlxr1640Error in the connections for block x+y or invalid subfunction for the blockpdi_vblk_rlxr1641Error in the connections for block Scalepdi_vblk_irir642Error in the connections for block Mautiply/Add Elements/Norm or invalid subfunctionpdi_vblk_manual644Error in the connections for block Maual or invalid subfunction for the blockpdi_vblk_minmax645Error in the connections for block Maual or invalid max control channelpdi_vblk_not648Error in the connections for block Maual or invalid max control channelpdi_vblk_not648Error in the connections for block MIX Movepdi_vblk_minmax645Error in the connections for block MIX Movepdi_vblk_not648Error in the connections for block NOTpdi_vblk_not649Default case doe
pdi_vblk_varget630Invalid ID for block Read Realpdi_vblk_addvec631Error in the connections for block Addpdi_autotune633Invalid maximum duration of autotuning process or invalid number of stages for FFTpdi_vblk_azeld1634Error in the connections for block azeld -> xyzpdi_vblk_azeld635Error in the connections for block Xyz -> azeldpdi_vblk_enctrl637Error in the connections for block Energy Control or invalid conversion factor from speecpdi_vblk_bnxb1638Error in the connections for block (s) AND/ORpdi_vblk_pnxtl639Error in the connections for block (s) AND/ORpdi_vblk_r1xr1639Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_r1xr1640Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_manual642Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_manual644Error in the connections for block (s) Min/Maxpdi_vblk_minmax645Error in the connections for block MIX or invalid mix control channelpdi_vblk_min646Error in the connections for block MIX Movepdi_vblk_movern647Error in the connections for block MIX Movepdi_vblk_not653Error in the connections for block MIX Movepdi_vblk_not648Error in the connections for block MIX Movepdi_vblk_pid651Error in the connections for block MIX Movepdi_vblk_pid652Invalid configuration or con
pdi_vblk_addvec631Error in the connections for block Addpdi_autotune633Invalid maximum duration of autotuning process or invalid number of stages for FFTpdi_vblk_azeld1634Error in the connections for block azeld -> xyzpdi_vblk_azeld1635Error in the connections for block xyz -> azeldpdi_vblk_azeld636Error in the connections for block xyz -> azeldpdi_vblk_enctf1637Error in the connections for block Xyz -> azeldpdi_vblk_penctf1638Error in the connections for block (s) AND/ORpdi_vblk_rlxr1639Error in the connections for block x or invalid subfunction for the blockpdi_vblk_rlxr1640Error in the connections for block X-y or invalid subfunction for the blockpdi_vblk_rnxr1641Error in the connections for block Scalepdi_vblk_imultvec643Error in the connections for block Manual or invalid parameters for the transfer functionpdi_vblk_manual644Error in the connections for block MiX or invalid max control channelpdi_vblk_minimax645Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern647Error in the connections for block NIXpdi_vblk_movern647Error in the connections for block NIXpdi_vblk_ph
pdi_autotune633Invalid maximum duration of autotuning process or invalid number of stages for FFTpdi_vblk_azeld1634Error in the connections for block xyz -> xyzpdi_vblk_azeld635Error in the connections for block Xyz -> azeldpdi_vblk_act636Error in the connections for block Dot Productpdi_vblk_enctrl637Error in the connections for block NDV Productpdi_vblk_ptsht638Error in the connections for block NDV/ORpdi_vblk_rlxrl639Error in the connections for block x+y or invalid subfunction for the blockpdi_vblk_rlxrl640Error in the connections for block x+y or invalid subfunction for the blockpdi_vblk_rrxrl641Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctiorpdi_vblk_rmxrl642Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_mmanual644Error in the connections for block (s) Min/Maxpdi_vblk_minmax645Error in the connections for block (S) Min/Maxpdi_vblk_mix646Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block NOTpdi_vblk_phase651Error in the connections for block Notpdi_vblk_predictive653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_phase649Default case does not exist for block NOTpdi_vblk_prodi653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655<
pdi_vblk_azeld1634Error in the connections for block azeld -> xyzpdi_vblk_azeld635Error in the connections for block xyz -> azeldpdi_vblk_dot636Error in the connections for block xyz -> azeldpdi_vblk_entrl637Error in the connections for block Energy Control or invalid conversion factor from speedpdi_vblk_bnxb1638Error in the connections for block (s) AND/ORpdi_vblk_r1xr1639Error in the connections for block (s) AND/ORpdi_vblk_r2xr1640Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_rnxr1641Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_imir642Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_imultwec643Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_imanual644Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_manual644Error in the connections for block (MIX or invalid inx control channelpdi_vblk_mix646Error in the connections for block NIX or invalid mix control channelpdi_vblk_phase649Default case does not exist for block NIX movepdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_poly653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_proly653Error in the connections for block NOTpdi_vblk_poly<
pdi_vblk_azeld635Error in the connections for block xyz -> azeldpdi_vblk_dot636Error in the connections for block Dot Productpdi_vblk_entrl637Error in the connections for block Energy Control or invalid conversion factor from speecpdi_vblk_ntxrl638Error in the connections for block X or invalid subfunction for the blockpdi_vblk_rlxrl639Error in the connections for block x or invalid subfunction for the blockpdi_vblk_rlxrl640Error in the connections for block x+y or invalid subfunction for the blockpdi_vblk_rlxrl641Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctiorpdi_vblk_manual642Error in the connections for block Scalepdi_vblk_manual644Error in the connections for block MIX or invalid stick control channelpdi_vblk_manual645Error in the connections for block MIX or invalid mix control channelpdi_vblk_minmax646Error in the connections for block MIX or invalid mix control channelpdi_vblk_phase649Default case does not exist for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_poly653Error in the connections for block Vie Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block NOTpdi_vblk_poly653Error in the connections for block NOTpdi_vblk_predictive655Error in the connections for block Playmonialpdi_vblk_predictive655Error in the connections for block Playmonial
pdi_vblk_dot636Error in the connections for block Dot Productpdi_vblk_enctrl637Error in the connections for block Energy Control or invalid conversion factor from speedpdi_vblk_bnxb1638Error in the connections for block (s) AND/ORpdi_vblk_r1xr1639Error in the connections for block x or invalid subfunction for the blockpdi_vblk_r1xr1640Error in the connections for block x or invalid subfunction for the blockpdi_vblk_rnxr1641Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_irm642Error in the connections for block Scalepdi_vblk_manual644Error in the connections for block (s) Minimaxpdi_vblk_manual645Error in the connections for block (s) Minimaxpdi_vblk_manual646Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern647Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern648Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_phid652Invalid configuration or connection of a PID blockpdi_vblk_ppid653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_ramp656Error in the connections for block III are rame/settling time less than (or equal to) (pdi_vblk_ratbel3d658Error in the connections for
pdi_vblk_enctrl637Error in the connections for block Energy Control or invalid conversion factor from speecpdi_vblk_bnxb1638Error in the connections for block (s) AND/ORpdi_vblk_r1xr1639Error in the connections for block x or invalid subfunction for the blockpdi_vblk_r2xr1640Error in the connections for block x+y or invalid subfunction for the blockpdi_vblk_rrxr1641Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_rinr642Error in the connections for block Scalepdi_vblk_manual644Error in the connections for block MIX or invalid stick control channelpdi_vblk_minmax645Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern647Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern647Error in the connections for block MIX Movepdi_vblk_movern647Error in the connections for block Phase Switchpdi_vblk_phase649Default case does not exist for block Polynomialpdi_vblk_pid651Error in the connections for block Polynomialpdi_vblk_poly653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_predictive656Error in the connections for block Arapp or rise time/settling time less than (or equal to) (pdi_vblk_rtable3d658Error in the connections for block Arapp or rise time/settling time less than (or equal
pdi_vblk_bnxb1638Error in the connections for block(s) AND/ORpdi_vblk_r1xr1639Error in the connections for block x or invalid subfunction for the blockpdi_vblk_r2xr1640Error in the connections for block x+y or invalid subfunction for the blockpdi_vblk_r2xr1641Error in the connections for block x+y or invalid subfunction for the blockpdi_vblk_irrx1641Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_irr642Error in the connections for block Scalepdi_vblk_manual644Error in the connections for block MIX or invalid stick control channelpdi_vblk_minmax645Error in the connections for block MIX or invalid mix control channelpdi_vblk_mix646Error in the connections for block MIX Movepdi_vblk_movern647Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block T-Sched PIDpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_predictive653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/setting time less than (or equal to) (pdi_vblk_ramppdi_vblk_predictive655Error in the connections for block Ramp or rise time/setting time less than (or equal to) (pdi_vblk_ramppdi_vblk_predictive655Error in the connections for block Ramp or rise time/setting time less than (or equal to) (pdi_vblk_ramppdi_vblk_roto658Error in the connections for
pdi_vblk_r1xr1639Error in the connections for block x or invalid subfunction for the blockpdi_vblk_r2xr1640Error in the connections for block x+y or invalid subfunction for the blockpdi_vblk_rnxr1641Error in the connections for block (s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_iir642Error in the connections for block IIR Filter or invalid parameters for the transfer functionpdi_vblk_kmultvec643Error in the connections for block Manual or invalid stick control channelpdi_vblk_minmax644Error in the connections for block Manual or invalid stick control channelpdi_vblk_minmax645Error in the connections for block MIX or invalid mix control channelpdi_vblk_mix646Error in the connections for block NOTpdi_vblk_not647Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_ramp656Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Rea
pdi_vblk_r2xr1640Error in the connections for block x+y or invalid subfunction for the blockpdi_vblk_rnxr1641Error in the connections for block(s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_iir642Error in the connections for block IIR Filter or invalid parameters for the transfer functionpdi_vblk_kmultvec643Error in the connections for block Scalepdi_vblk_mnanal644Error in the connections for block Manual or invalid stick control channelpdi_vblk_minmax645Error in the connections for block MIX or invalid mix control channelpdi_vblk_mix646Error in the connections for block MIX or invalid mix control channelpdi_vblk_novern647Error in the connections for block NOTpdi_vblk_not648Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_pid652Invalid configuration or connections for block Wite Feature or Fid is not user writablepdi_vblk_poset654Error in the connections for block Ramp or rise time/settling time less than (or equal to) (0pdi_vblk_predictive655Error in the connections for block Wate Feature or Fid is not user writablepdi_vblk_ratuped656Error in the connections for block Ramp or rise time/settling time less than (or equal to) (0pdi_vblk_ratuped657Error in the connections for block Ramp or rise time/settling time less than (or equal to) (0pdi_vblk_ratuped658Error in the connections for block Ramp or rise time/settling time less than (or equal to) (0pdi_vb
pdi_vblk_rnxr1641Error in the connections for block(s) Multiply/Add Elements/Norm or invalid subfunctionpdi_vblk_iir642Error in the connections for block IIR Filter or invalid parameters for the transfer functionpdi_vblk_kmultvec643Error in the connections for block Scalepdi_vblk_manual644Error in the connections for block Manual or invalid stick control channelpdi_vblk_minmax645Error in the connections for block MIX or invalid mix control channelpdi_vblk_mix646Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern647Error in the connections for block MIX Movepdi_vblk_not648Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_pid651Error in the connections for block Plasepdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_popset654Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_rtable3d658Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_rtable3d658Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_rtable3d658Error in the connections for block Ramp
pdi_vblk_iir642Error in the connections for block IIR Filter or invalid parameters for the transfer functionpdi_vblk_kmultvec643Error in the connections for block Scalepdi_vblk_manual644Error in the connections for block Manual or invalid stick control channelpdi_vblk_minmax645Error in the connections for block (s) Min/Maxpdi_vblk_mix646Error in the connections for block MIX or invalid mix control channelpdi_vblk_mix646Error in the connections for block MIX Movepdi_vblk_movern647Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block NOTpdi_vblk_brid651Error in the connections for block T-Sched PIDpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_posset654Error in the connections for block Realtre or Fid is not user writablepdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_ramppdi_vblk_ratable3d658Error in the connections for block AD redictive Control or matrix size unmatched to thepdi_vblk_rtable3d659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_kmultvec643Error in the connections for block Scalepdi_vblk_manual644Error in the connections for block Manual or invalid stick control channelpdi_vblk_minmax645Error in the connections for block(s) Min/Maxpdi_vblk_mix646Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern647Error in the connections for block MIX Movepdi_vblk_not648Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_pid651Error in the connections for block T-Sched PIDpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_ramp656Error in the connections for block Xamp or rise time/settling time less than (or equal to) (pdi_vblk_rtable3d658Error in the connections for block Xamp or rise time/settling time less than (or equal to) (pdi_vblk_rtable3d659Error in the connections for block Xamp or rise time/settling time less than (or equal to) (pdi_vblk_rtob659Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_rtob659Error in the connections for block Raal to Boolpdi_vblk_rtob659Error in the connections for block Real to Bool
pdi_vblk_manual644Error in the connections for block Manual or invalid stick control channelpdi_vblk_minmax645Error in the connections for block(s) Min/Maxpdi_vblk_mix646Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern647Error in the connections for block MIX Movepdi_vblk_not648Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_pid651Error in the connections for block T-Sched PIDpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_ramp656Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block Real to Boolpdi_vblk_rtob659Error in the connections for block Real to Integer
pdi_vblk_minmax645Error in the connections for block(s) Min/Maxpdi_vblk_mix646Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern647Error in the connections for block MIX Movepdi_vblk_not648Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_phase651Error in the connections for block T-Sched PIDpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_matvec657Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_rtable3d659Error in the connections for block AD Table Interpolationpdi_vblk_rtob659Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtob659Error in the connections for block Ram to block AD Table Interpolation
pdi_vblk_mix646Error in the connections for block MIX or invalid mix control channelpdi_vblk_movern647Error in the connections for block MIX Movepdi_vblk_not648Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_tsched651Error in the connections for block T-Sched PIDpdi_vblk_phase652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Polynomialpdi_vblk_predictive654Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_ramp656Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_movern647Error in the connections for block MIX Movepdi_vblk_not648Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_tsched651Error in the connections for block T-Sched PIDpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/settling time less than (or equal to) 0pdi_vblk_ramp656Error in the connections for block Integrpdi_vblk_rtable3d658Error in the connections for block SD Table Interpolationpdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_not648Error in the connections for block NOTpdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_tsched651Error in the connections for block T-Sched PIDpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Polynomialpdi_vblk_posset654Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Ramp or rise time/settling time less than (or equal to) 0pdi_vblk_matvec657Error in the connections for block 3D Table Interpolationpdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_phase649Default case does not exist for block Phase Switchpdi_vblk_tsched651Error in the connections for block T-Sched PIDpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Polynomialpdi_vblk_posset654Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Predictive Control or number of elements for numeratopdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) 0pdi_vblk_rtable3d658Error in the connections for block 3D Table Interpolationpdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_tsched651Error in the connections for block T-Sched PIDpdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Polynomialpdi_vblk_posset654Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Predictive Control or number of elements for numeratopdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) 0pdi_vblk_rtable3d658Error in the connections for block 3D Table Interpolationpdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_pid652Invalid configuration or connection of a PID blockpdi_vblk_poly653Error in the connections for block Polynomialpdi_vblk_posset654Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Predictive Control or number of elements for numeratopdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_matvec657Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_poly653Error in the connections for block Polynomialpdi_vblk_posset654Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Predictive Control or number of elements for numeratopdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_matvec657Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_posset654Error in the connections for block Write Feature or Fid is not user writablepdi_vblk_predictive655Error in the connections for block Predictive Control or number of elements for numeratopdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) 0pdi_vblk_matvec657Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block 3D Table Interpolationpdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_predictive655Error in the connections for block Predictive Control or number of elements for numeratopdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) (0pdi_vblk_matvec657Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block 3D Table Interpolationpdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_ramp656Error in the connections for block Ramp or rise time/settling time less than (or equal to) (pdi_vblk_matvec657Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block 3D Table Interpolationpdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_matvec657Error in the connections for block Linear Transformation or matrix size unmatched to thepdi_vblk_rtable3d658Error in the connections for block 3D Table Interpolationpdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_rtable3d658Error in the connections for block 3D Table Interpolationpdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_rtob659Error in the connections for block Real to Boolpdi_vblk_rtou660Error in the connections for block Real to Integer
pdi_vblk_rtou 660 Error in the connections for block Real to Integer
par tork ranning 001 Error in the connections for brock ["ph.ph] Unwrap
pdi_vblk_utor 662 Error in the connections for block Integer to Real
pdi_vblk_relthis 663 Error in the connections for block Relative Vector
pdi_cancfg1 664 Number of mailboxes dedicated to rx exceeds maximum [32] or the filter applied to mailb
pdi_stickvar_cfg 665 Decimate time is higher than the minimum period or number of stick virtual inputs exceed
pdi_stler oos Definite that is higher than the infinite of block of hence of steel (from hence) of steel (from
pdi_vblk_hysteresis 667 Error in the connections for block Hysteresis
pdi_vblk_arctrim 668 Error in the connections for block Arc Trim or control vector unmatched to expected size
pdi_blockprog 669 Incomplete set of LSB bits or with bit holes for execution mask or slot is not within the m
pdi_blockprog600Error in the connections for block NED to Body/Body to NED
pdi_vblk_pwm671Error in the connections for block PWM or PWM id exceeds maximumpdi_vblk_stick672Error in stick block, connections, dimensions of matrices or stick sources could be wrong

Table	4 – continued	from	previous	page
-------	---------------	------	----------	------

		Table 4 – continued from previous page
Code	N⁰	Explanation
pdi_vblk_u2s	673	Error in actuator block, connections or dimensions of matrices could be wrong
pdi_vblk_interp	674	Error in vector interpolation block, connections or sizes could be wrong, also the points i
pdi_vblk_ratelim	678	Error in the connections for block Rate limiter
pdi_vblk_clock	679	Unable to reset the clock timer in block Clock
pdi_vblk_mult_varget	680	Unable to initialize output vector or invalid variable id in block Read Multiple Reals
pdi_vblk_mult_varset	681	Error in the connections for block Write Multiple Bits/Write Multiple Reals or input vect
pdi_vblk_pid_static	682	Unable to subscribe autotune in block PID
pdi_vblk_quatctrl	683	Set of configurable variables cannot be 0 or outside their range in block Quaternion Cont
pdi_vblk_senstp	685	Error in pressure sensor block, could be that the selected pressure sensor in invalid in the
pdi_vblk_sengnss	686	Error for block GNSS sensor
pdi_vblk_ekfpos	687	Error for block EKF position
pdi_vblk_ekfvel	688	Error for block EKF Velocity
pdi_vblk_ekfmis	689	Error for block EKF Misalignment
pdi_vblk_drnmis	690	Error for block EKF GNSS compass
pdi_vblk_senrel	691	Error for block Relative position (Sensors)
pdi_vblk_ekfdem	692	Error for block EKF Terrain Height.
pdi_vblk_senmag	693	Error in magnetometer sensor block, the selected might be invalid in your current hardwa
pdi_mdg_gain	694	Error for block Madgwick Gain Computer
pdi_vblk_senalt	696	Error for block Altimeter
pdi_vblk_ekfalt	697	Error for block EKF Altitude
pdi_vblk_ekfvdn	698	Error for block EKF Velocity Down
pdi_vblk_nav	699	Error for block Navigation
pdi_e2acc	700	Error for variance increment due to high acceleration
pdi_vblk_ekfsplit	701	Error for block EKF Split
pdi_vblk_fft	703	Error ID for block FFT
pdi_vblk_ecu	705	Error ID for block ECU control
pdi_vblk_fuzzy	706	Error ID for block Fuzzy Logic Controller
pdi_vblk_guidance	707	Input of guidance block could not be connected
pdi_vblk_sysid	709	Error ID for block System Identification
pdi_cex_pwm	710	Error ID for CEX pwm arbitration, src ID greater than pulses array
pdi_cex_esc_tm	711	Error ID for CEX ESC period
pdi_cex_mcu_tm	712	Error ID for CEX MCU period
pdi_vblk_climb	713	Incorrect climb block operation
pdi_vblk_leg	714	Incorrect leg block operation
pdi_flyto	715	Incorrect fly to command (non-existing patch)
pdi_vblk_approach	716	Incorrect approach block operation
pdi_vblk_yawing	717	Incorrect yawing block configuration
pdi_vblk_siggen	718	Incorrect signal genaration configuration
pdi_vblk_pnav	719	Incorrect PNAV guidance configuration
pdi_vblk_genex	720	Incorrect GENEX guidance configuration
pdi_vblk_modpnav	721	Incorrect ModPNAV guidance configuration
pdi_blk_lib	722	Incorrect library
pdi_vblk_ewma	723	Incorrect EWMA block configuration
pdi_uarray_resize	724	Incorrect uarray resize
pdi_oprvar	725	Incorrect operation/setup rvar configuration
pdi_block_const	726	Error in block const
pdi_block_posget	727	Error in block posguet
pdi_block_pnavbase	728	Error in block pnav base
pdi_block_arcade0	729	Error in block arcade
	1	

Code	Nº	Explanation
pdi_unescape	730	Error in escape itport
pdi_initial_alignment	731	The internal AHRS or EKF navigation estimation algorithm could not compute an initial
pdi_fft_block_disable	732	The FFT block is temporarily disabled in this version
pdi_arbitration	10000	Error ID for Arbitration cfg
pdi_arbitration_can	10001	Error ID for Arbitration_can cfg
pdi_arbitration_can1	10002	Error ID for Arbitration_can cfg
pdi_arb_cfg0	10003	Error ID for Arb cfg preferred ap oor
pdi_arb_cfg1	10004	Error ID for Arb cfg method oor(out of range)
pdi_arb_cfg2	10005	Error ID for Arb cfg tmin oor
pdi_arb_cfg3	10006	Error ID for Arb cfg hysteresis oor
pdi_ap_nvars	10007	Error ID for Autopilot nvars oor
pdi_apcfg_nvars	10008	Error ID for Autopilot cfg nvars oor
pdi_jetibox	10009	Error ID for sci identifier of Jetibox cfg oor
pdi_jetibox_fmsgcmd	10010	Error ID for jetibox fmsg cmd oor
pdi_arb_init_time	10011	Error ID for Arbiter Power Init Time less than 0
pdi_arb_varcfg	10013	Incorrect arbiter variable configuration
pdi_hs_base_can_id	15000	High speed telemetry invalid Base CAN Id
pdi_hs_tm_nvars	15001	High speed telemetry number of variables too big
pdi_vmc_motor	20000	Motor cfg is not valid
pdi_vmc_control_mode	20001	Control mode is invalid
pdi_vmc_encoder_nbits	20002	Number of bits for encoder is invalid
pdi_mc_vmotor	20003	Virtual motor cfg invalid
pdi_mc_smo	20004	Slide Mode Observer cfg invalid
pdi_mc_control	20005	Control cfg invalid
pdi_cfgmr_length	32000	Unexpected size of PDI or command
pdi_check_test	0xFFFFError	ID for given pdi check.

CHAPTER

SOFTWARE CHANGELOG

This section presents the changes between the previous software version of Veronte Autopilot, **v.6.4**, and the current software version, **v.6.8**.

The main features of this new software release are described below.

Veronte Pipe has been divided into 8 Tools:

- Veronte Link: Interconnect multiple control stations and autopilot units.
- *1x PDI Builder*: Parametrize the autopilot for a specific vehicle.
- Veronte Ops: Operate and monitor the vehicle during the mission.
- Veronte HIL: Perform HIL simulations with the real autopilot hardware.
- Veronte Updater: Manage system updates.
- 1x PDI Calibration: Setup calibration parameters in the autopilot.
- 1x PDI Tuning: Tune autopilot control laws during the real flight.
- Veronte FDR: Manage autopilot files.

More Flexibility & Customization

- New control blocks
- Navigation configurable as blocks
- · Extended compatibility for external devices and sensors
- Added memory management options
- Veronte Ops Compatibility with Windows, Linux & MAC
- Large network of simultaneous vehicles and GCS

Enhanced Reliability

- · Better separation between different kinds of PDI files
- Restricted access to files by personnel role
- Dedicated tools for engineers and operators
- PDI file lock

Extended Simulation Environment

- HIL simulation using X-Plane, Microsoft Flight Simulator or Simulink
- HIL Simulation using sensors or navigation
- Dedicated HIL Simulation tool

• Updated SIL Simulator