QUANTUM LITE

Installation guide

HARDWARE SPECIFICATIONS :

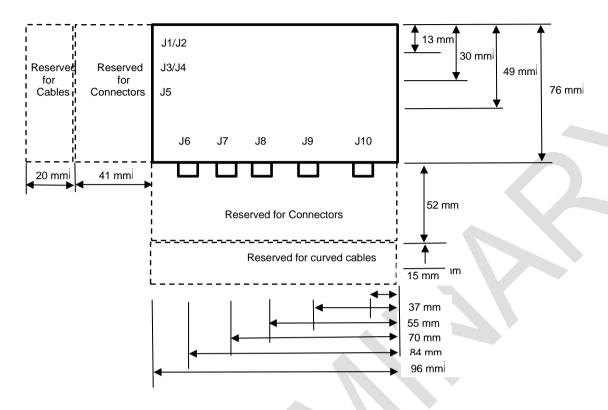|		Options
CPU Core		
CPU	ARM v8 Quad-core, 64 bits, 750Mhz	1.5Ghz (improved passive cooling) Up to 2.1Ghz with overclocking
Memory and CPU Core		
RAM	2GB LPDDR4	4GB, 8GB
Removable Internal Storage	64GB	Up to 1TB Extreme high endurance 1536 TBW Warranty : 10 years, 24h in sea water
External Storage	-	Via USB3 or Ethernet
Network		
LAN	1000Mbps Ethernet	
Wireless	WIFI 2.4/5.0 GHz, Bluetooth 5.0, BLE	Long Range Wifi, LoRa, SigFox, Zigbee, Cellullar… possible using an external USB or Ethernet expansion
I/O		
USB	2x USB2.0 ports 2x USB3.0 ports	
CANbus	1x CANbus 1Mbps	Secondary Isolated 1Mbps CANbus
Serial	-	1x RS232 port (460Kbps / 2-wire) 1x RS232 port with PPS input (3-wire) 1x isolated Multifunction RS232/422/485 port (250Kbps or 1Mbps / 4-wire)
PWM	-	2 PWM outputs
System		
RTC	Real time clock +/- 5PPM with on-board coin-cell battery	PPS Clock synclonisation
Watchdog	-	Parametrable Watchdog
Electrical Specifications		
Supply Voltage	8 to 18V	
Power Consumption	2.5 - 5W depending on system load	Up to 7W depending of configuration
Mechanical Specifications		
Dimensions	96 x 76 x 34mm	
Protection	IP20	IP67 (see Quantum Ultima product)
Enclosure Material	Anodized aluminium housing	
Cooling	Passive cooling, fanless design	
Weight	300 gram	
Compliance		
Regulatory	CE (*)	FCC (*)
Radio	Europe (Directive 2014/53/EU), US (FCC Part 15)	
Spectrum	EN 300 328, EN 301 893	
EMC	EN 55032/5, EN 61000-6-2, EN 61000-6-3 Components : EN 301 489-1 et -17, EN 55032 et EN 55024 Class B	
Safety	EN/UL/IEC 62368-1 Components : EC 60950-1:2005, EN 62311:2008, UL 2500V, CSA, VDE, DIN	

	EN 60747-5-2 (VDE 0884 Part2): 2003-01	
ROHS	Directive 2015/863/EU	
Compliance, Reliability and Environmental		
MTTF	>200 000 hours	
Warranty	2 Years	5 Years
Operation Temperature	Commercial : 0°C to 50°C	Extended : -10°C to 60°C (<=1.5Ghz)
Storage Temperature	-25°C to 85°C	-40°C to 85°C
Relative Humidity	10% to 90% (operation) 5% to 95% (storage)	

(*) In progress

MECHANICAL INSTALLATION :

Fixing : 3M Dual Lock removable adhesive tape (Delivered with the product)

ELECTRICAL INTERFACES

Sockets :

Ref	Option	Function	Type
J1/J2		USB2	Type A
J3/J4		USB3	Type A
J5		Ethernet	RJ45
J6	Yes	Isolated software configurable Multifuction RS232/RS422/RS485	Binder 720 series - 5 pins female
J7	Yes	RS232 with PPS input (Hardware option for 2 PWMs outputs)	Binder 720 series - 5 pins female
J8	Yes	RS232 (Hardware option for a PWM output)	Binder 720 series - 5 pins female
J9	Yes	Isolated CANBus	M12, 5 pins male A-coded shielded (NMEA2000 connector)
J10		CANBus and Power Input	M12, 5 pins male A-coded shielded – (NMEA2000 connector)

Pinouts :

Pin	J6 RS422/485	J6 RS232	J7 RS232	J8 RS232	J9 CANbus	J10 CANbus
5	TXD-	TXD	TXD (2)	TXD (2)	CAN-Low / Blue	CAN-Low / Blue
4	RXD-	-	PWR-OUT (3)	PWR-OUT (3)	CAN-High / White	CAN-High / White
3	RXD+	RXD	RXD	RXD	GND-CAN / Black (1)	GND / Black
2	TXD+	-	PPS-IN (4)	- (2)	- / Red	PWR-IN / Red (5)
1	GND-SER (1)	GND-SER (1)	GND	GND	Shield	Shield

(1) Isolated ports
(2) Can be a PWM out (Hardware Option)
(3) Repeat PWR-IN voltage after reverse and over voltage protections and high-side switch.
Can be use to power a low power sensor by the calculator (3A internal SMT fuse).
(4) +/- 12V tolerant
(5) The calculator is powered by the NMEA2000 (3A internal SMT fuse)