Data Sheet

BlueTraker® VMS

BlueTraker® VMS communication terminal

High performance surveillance for fisheries monitoring

The BlueTraker® VMS is the next generation of innovative and reliable marine-grade fisheries monitoring system consisting of a BlueTraker® communication terminal and a wiring cabinet - ConBox 2013. Not only does it provide a reliable and secure positional data information and bidirectional communication, but the BlueTraker® VMS brings a range of new and unique features that make it an ideal choice when compliance with the latest requirements of regulatory bodies is sought.

Unique features are :

- Double shell housing
- Hybrid communications
- Embedded geozones
- Data encryption
- eLogbook ready
- NMEA 2000
- SAE J1939
- RS485 modbus
- USB 2.0
- CAN 2.0B
- IP68 protection
- -55 to +55°C
- ConBox Alert Button
- ConBox InPort switch
- AIS protocol support
- Inmarsat & NAF protocol support
- 12V and 24V DC power supply
- 110V and 240V AC power option

Brief overview:

Fully approved and certified

The BlueTraker® VMS is fully compliant with the standards and regulations covering vessel monitoring systems for fisheries, including the IEC 60945. It complies with EU, NEAFC, NAFO and SEAFO regulations on data exchange as well as bilateral agreements commonly made between countries. The unit has been designed with a special emphasis on EU Commission Regulation 2244/2003, 1224/2009 and Commission Implementing Regulation No. 404/2011. However, it not only meets these requirements but exceeds them, offering especially tailored features that are recognized as essential by government bodies inside and outside the EU.

Inherent safety and security

BlueTraker® VMS incorporates an extensive range of mechanical, electrical and electromagnetic integrity measures designed to prevent tampering and fraud and ensure safety on-board. Alert Button (i.e. SOS button...) and InPort switch (stops transmission when in the port...) are integrated in the connection box. A unique serial number is engraved into the housing while tamper detection, antenna blockage detection, security seals and external four-colour Status LED indicators complete the picture.

Message data encryption and authentication

A strong combination of device authentication and data encryption is used to prevent unauthorized modification of data sent to the Fisheries Monitoring Centre. Built-in authentication guards against fraudulent misrepresentation of false devices.

Embedded geozones

Up to 100 geographical areas in the form of geo-fences can be remotely uploaded, edited, activated and deactivated in each and every BlueTraker® VMS terminal by using land based servers. These geographical areas can be programmed for a range of specific operational rules. The BlueTraker® VMS will send alert messages when the vessel enters or exits geozones.

Remote fishing gear monitoring

BlueTraker® VMS provides a range of connectivity and integration capabilities which means that virtually unlimited number of onboard fishing gear sensors can be connected and monitored directly from the Fisheries Monitoring Centre. These sensors provide the authority with the ability to promptly assess the fishing activity onboard every vessel in the fleet.

Advanced dual channel communication

The BlueTraker® VMS terminal automatically and effectively reduces the cost of monitoring by using two wireless communication channels for operation. In this configuration the terminal communicates via Iridium satellite network or (when close to shore) via mobile GPRS network. Each device can be configured to operate under specific reporting schemes, taking into consideration national, EU and global geographies.

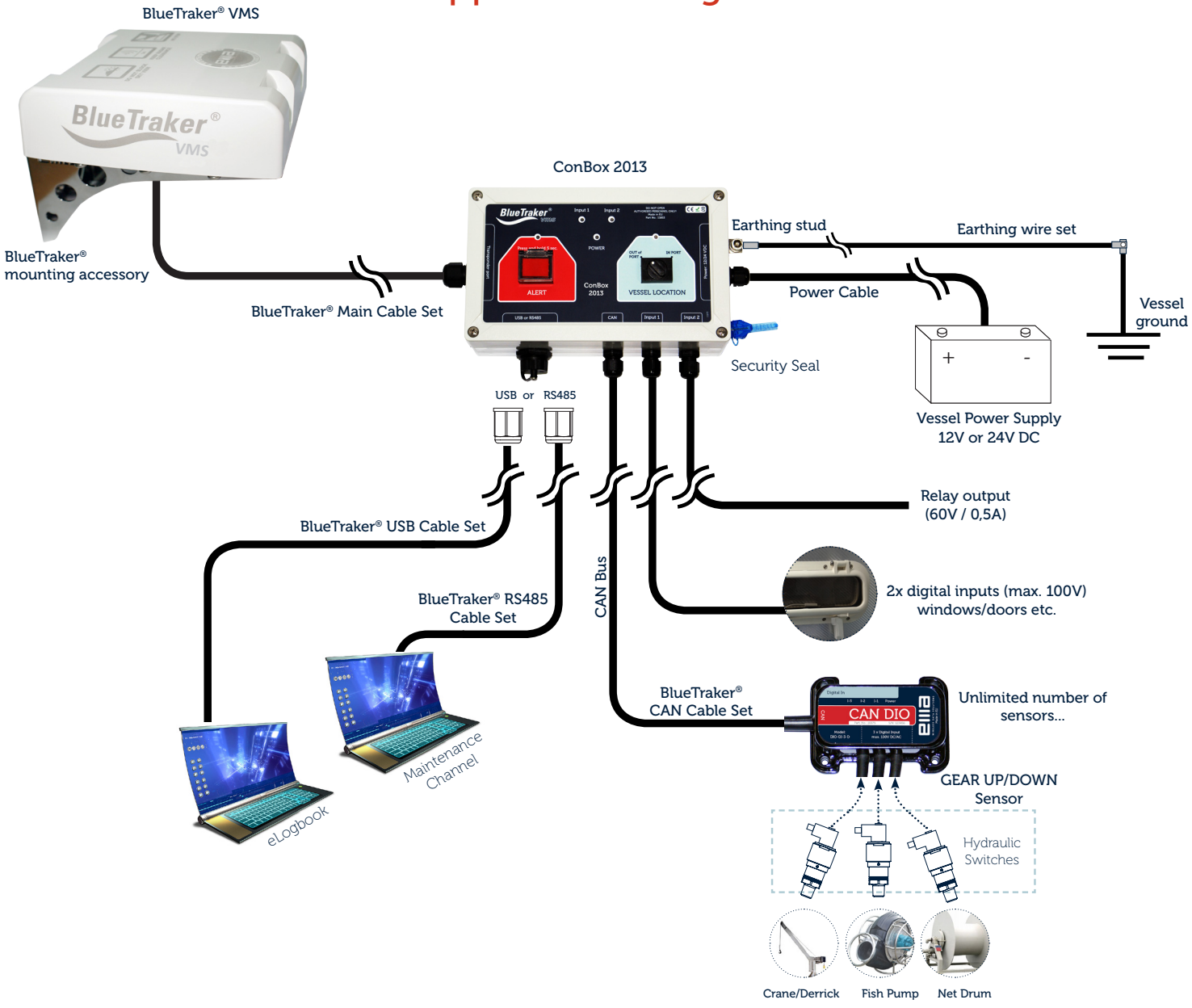
eLogbook ready

The BlueTraker® VMS endorses the worldwide eLogbook initiative to eradicate illegal, unregulated and unreported (IUU) fishing by offering an optional interface to catch reports to the monitoring center. Only type approved Electronic Reporting Systems (ERS) can be integrated with the unit because automatic authentication is required each time a catch report is sent via BlueTraker® VMS.

True global coverage

Using Iridium satellite network, the BlueTraker® VMS can report vessel positions, send alarms and transfer catch reports from anywhere on the Earth's surface, which provides an unprecedented advantage to National Fisheries who need to track globally dispersed fleets. Global coverage includes some of the world's most isolated and inhospitable regions such as Sea Area A4 including polar regions, where temperatures can dive as low as -50°C.

Application Diagram



BlueTraker VMS Technical Specification

Physical	
Outer dimensions:	198 mm (width) x 198 mm (length) x 67 mm (height)
Weight:	1,140 g (including one back-up battery)
Housing:	Double wall housing with free air circulation between walls; White color outer shell, resistant to UV solar radiation.
Environmental	
Operating temperature:	-25°C to +55°C; Arctic kit option: -55°C to +55°C
Storage temperature:	-40°C to +70°C; Arctic kit option: -55°C to +55°C
Humidity:	Up to 100% relative humidity
Dust & water ingress:	IP68 and IP69K protection class
Vibration:	IEC 60945:2002 (Chapter 8.7 - Vibration), 5 Hz – 13.2 Hz sweep sine, displacement ±1 mm ±10%, sweep rate 0.5 oct/min; 13.2 Hz – 100 Hz sweep sine, acceleration amplitude 7 m/s^2, sweep rate 0.5 oct/min
Shock (survival):	Drops from the height of 1.0 m on all sides of the device
Electrical	
Input voltage range:	8V DC to 36V DC (max. supply cable length: 50 m)
Nominal supply voltage: Optional power supply:	12V DC or 24V DC 110VAC/60Hz or 230VAC/50Hz
Power consumption @ 12 VDC:	Transmit mode: 2.4W; Tracking mode with GPS on: 0.9W; Sleep mode: 0.2W
Input protection:	Resettable fuse; Level 4 ESD protection according to ISO 61000-4-2; Over voltage protection above 36 VDC; Load Dump protection according to ISO 7637-2:2004(E) (pulse 5a); ISO16750-2:2012 (load dump)
Special feature:	Vessel power monitoring: low voltage, under voltage and over voltage
Back-up battery:	4.2V/7000 mAh (optionally 4.2V/9400 mAh)
Autonomy with back-up battery:	Up to 96 hours @ standard operating conditions and 1 hour reporting interval
Satellite data communication	
Network:	Iridium
Satellites:	Low Earth orbit, North Pole to South Pole global coverage, 66 satellites, mesh network
Frequency of operation:	1616 MHz to 1626.5 MHz
Average radiated power:	< 1W
Antenna:	Integrated, low-profile, high gain antenna
GSM/GPRS data communication	
Supported bands:	Quad Band 850/900/1800/1900 MHz
SIM card:	Global SIM, embedded in device
Communication features:	Embedded TCP/IP and UDP/IP protocol stack Embedded FTP SSL - Secure Connection
GSM antenna:	Integrated high gain, custom designed GSM antenna
GNSS positioning receiver (GPS + GLONASS as standard)	
Channels:	33 tracking / 99 acquisition
Acquisition:	Warm start: 12 s, Hot start: < 1 s, Sensitivity: -167 dBm @ tracking, -148 dBm @ cold start
Accuracy:	2.5 m CEP
Antenna:	Integrated high gain antenna
Communication interfaces and ports - see ConBox 2013 specification	

ConBox 2013 Technical Specification

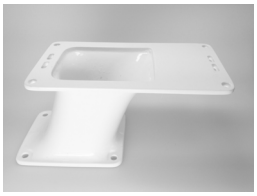
Physical	
Outer dimensions:	145 mm (width) x 250 mm (length) x 90 mm (height)
Weight:	650 g
Environmental	
Operating temperature:	-25°C to +60°C
Storage temperature:	-25°C to +60°C
Humidity:	Up to 95% relative humidity non-condensing
Dust & water ingress:	IP55 protection class
Electrical	
Input voltage range:	8V DC to 36V DC
Nominal supply voltage:	12V DC or 24V DC
Optional power supply:	110VAC/60Hz or 230VAC/50Hz
Power consumption @ 12 VDC:	0.25W
Input protection:	Resettable fuse, Level 4 ESD protection according to ISO 61000-4-2, Over voltage protection above 36 VDC, Load Dump protection according to ISO 7637-2:2004(E) (pulse 5a), ISO16750-2:2012 (load dump)
Communication interfaces and ports	
Communication interfaces:	1x USB, 1x CAN (native CAN or NMEA 2000 or J1939),
I/O ports:	2x Protected isolated digital input port with indicator (max. input 100V), 1x Protected relay output (max. 60V / 0,5A)
Features	
	Alert Button (i.e. SOS button...) with indicator, InPort switch with indicator (stops transmission when in the port...), Power supply status indicator, Separate earthing stud. Security seal.

Recommended Accessories

RailMount

UniMount

TowerMount



FlushMount Kit

Main Cable Set

Standards and certificates

- **EN60945:2002** Maritime electronic navigation and communication equipment
- **ISO 7367-2:2004** Electrical transients along supply lines (pulse 5a)
- **ISO 16750-2:2010** Electrical transients along supply lines (load dump)
- **IEC60529:2001 – IP68** water and dust ingress protection
- **CE 1304** European product safety CE mark
- **Iridium ICE** Iridium Compatible Equipment

Quality certificate

ISO9001:2008
Quality management system certificate

ISO 9001:2008
Q-463

WIRELESS DATA SOLUTIONS

iridium

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