VMS 5: UK fishing boats satellite tracking device specification

This specification is intended to assist UK fishing vessel masters, owners and their representatives in ensuring that the satellite tracking device used on board their vessels for satellite monitoring is in accordance with the requirements laid out in Commission Implementing Regulation (EU) 404/2011 of 8 April 2011 laying down detailed rules for the implementation of Council Regulation (EC) No 1224/2009.

If you require further guidance, please contact the relevant UK fishing monitoring centre (see Annex A).

UK technical specification

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1. General requirements

1.1 All goods, wiring and connections to be built robustly with sufficiently strong materials to withstand normal conditions at sea.

1.2 All goods required to meet EU safety requirements and standards and be CE type approved as appropriate for maritime installation.

2. Satellite-tracking device – physicals

2.1 The satellite-tracking device must have an internal GPS or other automatic satellite-based position reporting system, satellite communications (satcom) antenna and transceivers. These components must be integrated in one single sealed unit.

2.2 Any part of the satellite-tracking device or antenna exposed to the elements must be marinised and waterproof to IP66 standard.

2.3 The satellite-tracking device must be approved for maritime use by the satellite service provider.

2.4 The satellite-tracking device must be able to cope with the power variations likely to be experienced on board fishing vessels over 12 metres in length.

2.5 All satellite-tracking devices are to be physically sealed before they are handed to the installer and the means provided to detect any physical interference with each unit. As a minimum, there must be a sensor in the satellite-tracking device that detects when it is opened and closed and transmits a position report with the appropriate event status code.

2.6 There must be no accessible external connectors on the satellite-tracking device other than those required for power.

2.7 Once the satellite-tracking device is sealed, any adjustments to scripts and other software functionality must only be possible either over the air or by authorised personnel opening the satellite-tracking device.

2.8 Each satellite-tracking device must have a unique serial number indelibly marked on the outer casing (possibly embossed) that must be visible after the installation is complete.

2.9 The serial number of the satellite-tracking device should be stored in its firmware in such a way that does not allow deletion or amendment.

2.10 There must be a visible external display to indicate that mains power is connected.

3. Satellite-tracking device – functionality

3.1 The satellite-tracking device must be able to support hourly reporting.

3.2 If two-hourly reporting is supported then a polling facility must be provided to enable the authorities to determine the current position of the vessel with minimal delay.
3.3 satellite-tracking device must support changes to the frequency of data transmissions that may be higher or lower than that of the regulatory requirements. Such changes must only be possible through secure mechanisms either over the satellite link or through locally authorised access.

3.4 The satellite-tracking device must be capable of providing notification to the fisheries monitoring centre of switch-off prior to arrival in port.

4. **Satellite-tracking device – back up**

4.1 battery facility must be provided to give the satellite-tracking device the capability to:

a) when primary power is lost

- transmit an appropriate status code with position report indicating change in power status
- then to transmit at the required frequency for at least 72 hours
- maintain its most recent settings throughout the period of primary power loss.

b) when battery power falls below the level required to sustain transmissions the satellite-tracking device must maintain its most recent settings

c) when primary power is restored

- recommence normal functioning with the most recent settings and not with any default factory settings
- transmit a position report immediately with an appropriate event status code.

4.2 Following a break in the satellite communications antenna link at the time a report is required to be transmitted, the report to be sent must be stored. On restoration of the link, the satellite-tracking device must be capable of:

- transmitting immediately reports that provide the current position and the last position recorded before the link was broken along with an appropriate status code to indicate there had been a broken link
- then transmitting all stored reports, earliest first.

5. **Status code list**

5.1 The following status codes must be provided in position reports:

- loss of primary power/switch to battery (when lost)
- restoration of primary power (when restored)
- loss of connection with the satellite link (when restored)
- opening the satellite-tracking device or any connected component of the satellite-tracking device
- no position fix obtained at appointed time.

6. **Satellite-tracking device – outputs**

6.1 The transmitted position report is to contain:
• fishing vessel identification
• most recent geographical position of the fishing vessel with a position error which shall be less than 500 metres, with a confidence level of 99 per cent (in whatever format delivers this accuracy) – must conform to WGS84
• date and time (in UTC) of the fixing of the said position
• speed and course of the vessel (equivalent to tenths of knots and course express in degrees).

An automatic satellite-based position system meeting the required standard (such as GPS) must be used to derive these data items.

6.2 The satellite-tracking device's unique serial number must be obtainable over the air, either from each report or from a specific poll request.

6.3 The satellite-tracking device must be able to establish a link with the satellite constellation with minimal delay after fixing the position, under the majority of conditions experienced while at sea and in port.

6.4 Mandatory regulatory position reports are to be transmitted individually from the land earth station to the UK vessel monitoring system (VMS). There is to be no batching, other than as a means for conveying reports retrospectively following a break in transmission. Any additional reports transmitted from the satellite-tracking device that do not relate to the latest position report, or to information the authority has requested, are to be removed before transmission from the land earth station to the UK VMS.

7. Satellite communication service (SCS)

7.1 The satellite-tracking device must link with a recognised commercial satellite communications service (SCS).

7.2 The satellite-tracking device must be capable of establishing a link with the SCS satellite constellation without delay for the transmission of position reports at the regulatory frequency.

8. Supply

8.1 Production must be in line with company-wide quality procedures certified to ISO standards for the work involved.

8.2 Records must be available to the authorities showing serial numbers and part numbers of the components of the satellite-tracking device links to the final serial number for the satellite-tracking device.

8.3 The UK fisheries departments' approved supplier is:

AST Marine Sciences Limited
8 White Lodge Business Park
Hall Road
Norwich
Norfolk
NR4 6DG
9. Installation

9.1 All in-satellite-tracking device mechanisms (such as scripts, account numbers and satellite-tracking device ids) for reporting and other functionality must be pre-loaded before the satellite-tracking device is sealed. The setting must be protected with a unique password for that vessel, known only to persons approved by the fisheries monitoring centre.

9.2 It must be possible to securely fit the components of the satellite-tracking device to the infrastructure of the vessel.

Annex A: Contact details for fisheries monitoring

United Kingdom

England and Wales
Marine Management Organisation
Lancaster House
Hampshire Court
Newcastle upon Tyne
NE4 7YH
Tel: +44 (0)191 376 2500
Fax: +44 (0)191 376 2501
Email: vms@marinemanagement.org.uk

Scotland
Marine Scotland (Compliance)
Area 1A North
Victoria Quay
Edinburgh
EH6 6QQ
Tel: +44 (0)131 244 4194
Fax: +44 (0)131 244 6471
Telex: 727 696
Email: mmc@scotland.gsi.gov.uk

Northern Ireland
Department of Agriculture and Rural Development NI (Fisheries Division)
Room 421
Dundonald House
Upper Newtownards Road
Belfast
BT4 3SB
Tel: +44 (0)2890 765 821
Fax: +44 (0)2890 522 394
Email: stephen.mccomiskey@dardni.gov.uk

UK contact point for submission of manual position reports
United Kingdom Fisheries Call Centre
Tel: +44 (0)131 271 9700
Fax: +44 (0)131 244 6471
Telex: 727 696
Email: ukfcc@scotland.gsi.gov.uk

For vessels administered in Channel Islands

Guernsey
Department of Fisheries
Raymond Falla House
PO Box 459
Longue Rue St Martins
Guernsey
GY1 6AF

Jersey
Department of Agriculture and Fisheries
PO Box 327
Howard David Farm
For vessels administered in the Isle of Man

Department of Environment, Food and Agriculture
Thie Sliëau Whallian
Foxdale Road
St Johns
Isle of Man
IM4 3AS
Tel: 01624 685 837
Fax: 01624 685 851
Email: fisheries@gov.im

Other member states

Belgium
Tel: (32-59) 50 89 66/51 29 94
Fax: (32-59) 51 45 57
Telex: 81075

Denmark
Tel: (45) 33 96 36 09
Fax: (45) 33 96 39 00
Telex: 16144 fm dk

Finland
Tel: (368-9) 160 29 02
Fax: (358-9) 160 22 84

France
Tel: (33 2) 97 55 35 35
Fax: (33 2) 97 55 49 34
Telex: 950 519

Germany
Tel: (30-210) 451 9901
Fax: (30-120) 419 1561

Greece
Tel: (49-40) 3 89 05-173-180
Fax: (49-40) 3 89 05-128-160
Telex: 0214/763

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Tel: (353 21) 864 830/864 831
Fax: (353 21) 378 096

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Tel: (39) 06 59 23569
Fax: (39) 06 59 22737

Netherlands
Tel: (31-45) 546 6222/(31-45) 546 6230
Fax: (31-45) 546 1011

Portugal
Tel: (351-21) 302 51 00/302 51 90
Fax: (351-21_ 302 51 01

Spain
Tel: (34) 913 47 17 50
Fax: (34) 913 47 15 44

Sweden
Tel: (46-31) 743 03 00
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Third countries

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Tel: +47 55 238 132/133
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