INMARSAT-C Cover Map

da Universat

Inmarsat C is a two-way store and forward communication system that transmits messages in data packets in ship-to-shore, shore-to-ship and ship-to-ship direction.

Inmarsat C comprises of a small omnidirectional antenna, compact transceiver (transmitter and receiver), messaging unit and, if GMDSS-compliant or with a distress function, a Dedicated Distress Button to activate a Distress Alert.

Inmarsat Mini C terminals are the smallest models available, with some incorporating the antenna and transceiver in the same above deck unit and, depending on the model, supporting the same communication services as Inmarsat C terminals.

To protect crew and vessels, modern Inmarsat C and Mini C terminals include an integrated Global Navigational Satellite Services (GNSS) receiver, providing automatic terminal position updates and reporting when a distress alert is initiated. The vessel's position data (position, course and speed) is shared with reporting applications.

Safety features of Inmarsat C and Mini C

- **Distress alerting** – a mandatory service on SOLAS-compliant maritime Inmarsat C and Mini C terminals and on some non-SOLAS models too. Distress alerts are issued when a ship or crew is in grave and imminent danger. When there is no time to input information manually into the terminal, crew can simply press and hold down the Dedicated Distress Button for approximately five seconds to transmit the alert.
- **Enhanced Group Calls (ECG)** – the broadcasting of Maritime Safety Information and Search and Rescue, related information messages over Inmarsat C, Mini C and Fleet Safety terminals, through SafetyNET , SafetyNET II, RescueNET and FleetNET services.
- **Data reporting and polling** -short data reports, up to four data packets, that are sent to shore-based authorities or operational centres, such as Long Range Identification and Tracking (LRIT) of ships, as required by the IMO. Data reports consist of information such as a vessel's position report, sailing plan, or fisheries catch report – in fact any data that can be encoded into data packets and sent from ships regularly, randomly or in response to a polling command from a shore-based operational centre.

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Viale Luca Gaurico, 9/11 (3rd floor) – 00143 Roma – Italy - C.F./P.Iva 10191231009 - Tel.: +39 06 5814292 - Fax: +39 06 54834000 – info@universatitalia.it - www.universatitalia.it

I-3 to I-4 migration programme completion: all ocean regions successfully migrated

Following the successful completion of the fourth and final regional migration (IOR – Indian Ocean Region) of the Inmarsat legacy services (Inmarsat C, Classic Aero, Swift 64, Fleet 77) from the I-3 satellites to the I-4 constellation on 12 December 2018, Inmarsat is pleased to announce that the overall migration programme has now been concluded.

Ocean Region footprints (before and after the migration)

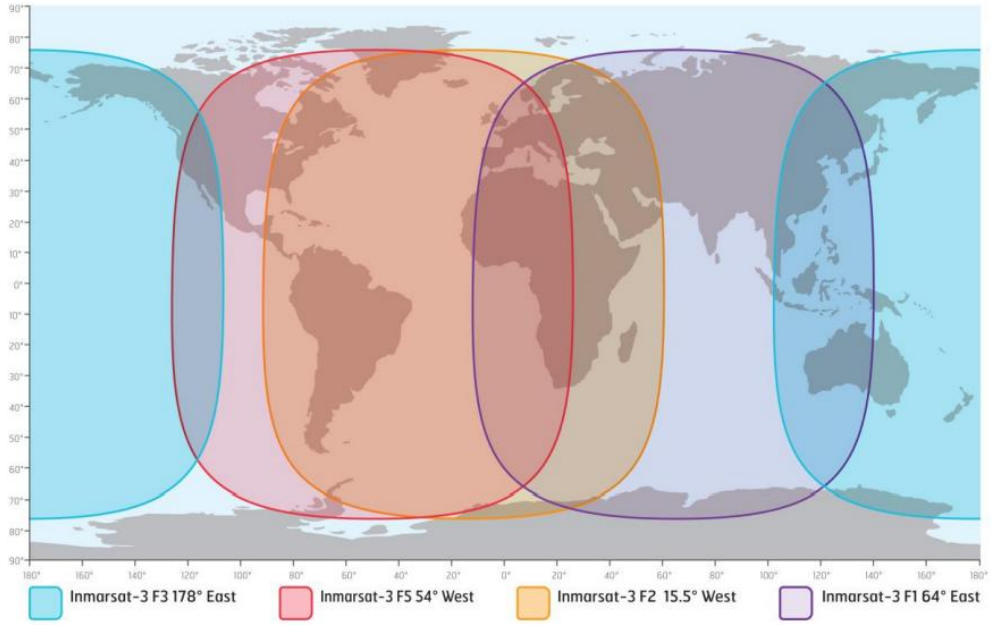

Figure 13: Ocean region footprints before the migration

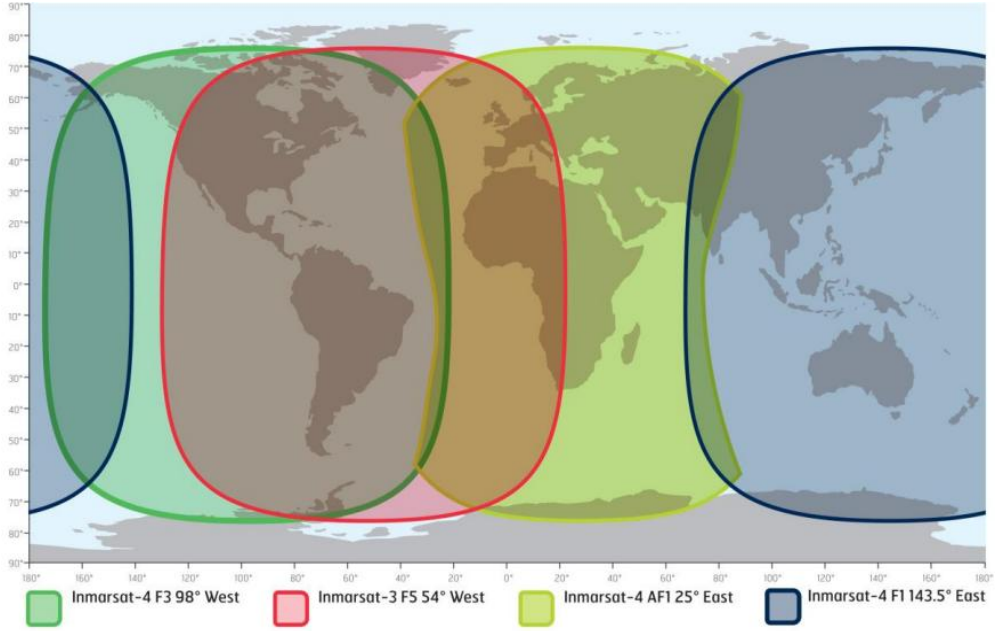

Figure 14: Ocean region footprints after the complete migration

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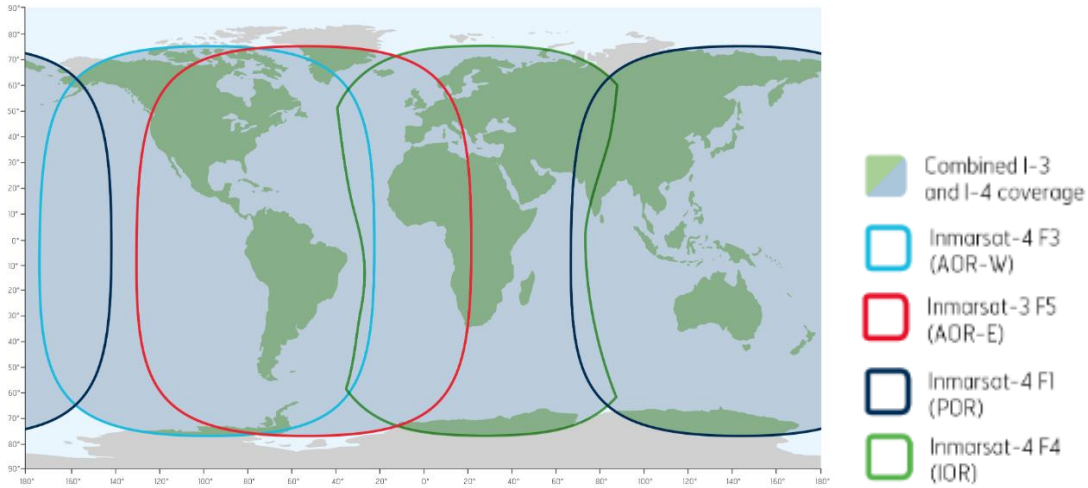
INMARSAT-C LES Access Codes

by Universat

Proceed as shown in your equipment operating instructions or Universat/Inmatsat access instructions. A wide range of additional services including the attached short codes, are available. Please contact Universat Customer.Support@universatitalia.it for more information.



Inmarsat Ocean Region	LES within 98W (AOR-W/AMER)	LES within 54W (AOR-E)	LES within 143.5E (POR/APAC)	LES within 25E (IOR/EMEA)
LESO* (from Universat)	Inmarsat Solutions	Inmarsat Solutions	Inmarsat Solutions	Inmarsat Solutions
LES** (Burum, Nederland)	002 or 012 (Burum)**	102 or 112 (Burum)**	202 or 212 (Burum)**	302 or 312 (Burum)**

(*)Land Earth Station Operator (LESO), operating in global coverage
(**) Land Earth Station (LES), Burum –NL, operating in global coverage

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Standard Shortcode Listing

FACILITY	SERVICE	CODE
Telex Store and Forward^	Inmarsat-C	21
Medical Advice*	Inmarsat-C	32
Technical Support	Inmarsat-C	33
Medical Assistance *	Inmarsat-C	38
Maritime Assistance *	Inmarsat-C	39
Reports to Met Office^ (VOF ships only)	Inmarsat-C	41
Navigational Hazards *^	Inmarsat-C	42
AMVER Reports *^	Inmarsat-C	43
Satmail	Inmarsat-C	67

Universat Value Added Services

FACILITY	SERVICE	CODE
Inmarsat-C Internet e-mail	Inmarsat-C	63
Inmarsat-C Internet e-mail	Inmarsat-C	EMAIL

^ Telex only

* Maritime terminals only

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Data Reporting & Polling Data Reporting

The Data Reporting service is an optional service of Inmarsat-C. The terminal is enabled/set-up to send small amounts of information (from either the terminal itself or another peripheral piece of equipment) to a predefined address.

In order to have the terminal providing Data Reports, a terminal needs to be part of a closed user group, identified by a Data Network Identifier or DNID. The closed user group is defined by the LES ID and the Ocean Region. As a member of the Closed User Group, each terminal in that group is assigned a member number.

The most widely used form of Data Reporting is Position Reporting services. The Positioning Reporting Service uses the Data Reporting protocols to send information about the position (latitude-longitude) together with optional information such as course, speed, time stamps, Macro Encoded Messages back to a terrestrial address. Position Reporting service is used for example by Vessel Monitoring Systems (VMS), Long Range Identification and Tracking (LRIT) and other applications.

The transmission of a Data Report can be the result of a) a single (interrogation) command, b) the result of a program to send reports at regular intervals that is stored in the terminal memory or c) the result of a particular trigger event.

In each of these cases, the terminal will construct a Data Report and transmit it to the relevant LES. Depending on the configuration in the LES, the information is either forwarded immediately or at intervals to a pre-configured destination, or stored for retrieval.

To transmit a data report, the Inmarsat-C terminal should have the Data Network ID (DNID), member number and Ocean Region downloaded using the polling command. All three are stored in the terminal's memory.

Polling

With the Polling service, commands and instructions can be sent by an authorized terrestrial user to an individual Inmarsat-C terminal, an entire closed user group (identified by the DNID) or a group of DNID members that are in a given geographical area. Polling is generally used to:

- Include a terminal in a closed user group, by downloading a DNID and member number to a terminal in an Ocean Region (Multi Ocean Region Polling allows this action for all Ocean Regions supported for a DNID by the LES; support of this feature depends on terminal make/model and software version.
- Remove a terminal from a closed user group
- Instruct a terminal or a group of terminals to send a position report immediately
- Program a terminal or a group of terminals to regularly send reports with a defined interval
- Instruct a terminal or a group of terminals to start reporting
- Instruct a terminal or a group of terminals to stop reporting For many poll commands, the originator of the Poll will have to indicate in which Ocean Region the poll needs to be transmitted.

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