

SkanReg Vessel and Fisheries Monitoring System (VFMS)



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Safety Precautions

Please read the following MDT Usage Precautions before installation or operation.

MDT Usage Precautions

Abnormal Conditions

Should the product become hot or start to emit smoke or a strange odour, immediately turn off the power and contact your original dealer or an authorized service provider. Continued usage is dangerous and may result in fire or electric shock.

Foreign Objects

Ensure that metal or combustible objects are not inserted into the openings of the product. Insertion of such objects may result in fire or electric shock.

Should any foreign matter get into the product, turn off the power immediately and contact your original dealer or an authorized service provider.

Damage Caused by Dropping

Should you drop the product and damage it, turn off the power immediately and contact your original dealer or an authorized service provider. Continued usage is dangerous and may result in fire or electric shock.

Moisture

Keep the product away from vases, plants, cups, glasses and other liquid containers. Water and metal getting into the product creates the danger of fire and electric shock. Continued usage after water or metal have gotten into the product is dangerous and may result in fire or electric shock.

Location

Do not place the product on an unstable or uneven surface. Doing so may cause the product to fall, which may result in damage to the product and personal injury. Do not locate the product in extremely humid area or a dusty area. Doing so may result in fire or electric shock.

LCD Screen

Never apply heavy pressure on the terminal display or subject it to a strong impact. Doing so may crack the screen or LCD panel glass, which may result in personal injury. Should the LCD panel glass break, do not touch the liquid inside. Doing so may cause skin inflammation. Should liquid from the LCD panel accidentally get into a person's mouth, their mouth should immediately be washed out with water and a physician consulted. Should liquid from the LCD panel accidentally get into a person's eyes or onto their skin, the area should be rinsed immediately for at least 15 minutes with clean tap water and a physician should be consulted.

Power Supply

Do not use the products at a voltage other than specified. Doing so may result in fire or electric shock. Avoid conditions that can cause damage or breaks in the power cable. Do not place heavy objects on the power cable and keep it away from sources of heat. Any of the above may damage the power cable, which may result in fire or electric shock. Never twist, sharply bend or pull the power cable. Doing so may result in fire or electric shock.

Should the power cable become severely damaged (to the point that wires are exposed or broken), contact your original dealer or service provider about repair or replacement. Using a damaged electrical cable may result in fire or electric shock.

Keep the power cable away from sources of extreme heat. Heat may melt the covering of the power cable, which may result in fire or electric shock.

Skywave IDP690



The Skywave IDP690 is a maritime satellite reporting unit used for two way communications between the vessel and a land based centre. Utilising low-elevation angle connectivity, the IDP690 connects to the satellite services for exchanging files, sending position reports, fishing report information and messaging.

The IDP690 is supplied pre-programmed with the required geo-fence information allowing the unit to automatically set required positional reporting rates without human intervention.

The IDP690 is supplied with 4 cables that will connect the unit to power and to the Mobile Data Terminal (MDT).

The IDP690 can work independently of the MDT as long as the cables are connected to power. The IDP690 will continue to correctly report the position of the vessel in the event that the MDT becomes unserviceable during operational activities.

Cable connectivity

The IDP690 is supplied with 4 cables of varying length depending on the vessel's requirements.

Cable 1: FMS300501-nnn

This cable is used to connect the MDT and to the FMS301006 Cable connector.

The cable is provided in 3 metre or 9 metre lengths.

This cable is also the connector for the power source.



Cable 2: FMS301006 – Cable Connector:



This cable is used to connect the FMS3010225-nnn to the FMS300501-nnn cable.

Ensure that the two ends are connected securely. This will ensure connectivity and environmental protection.

Cable 3: FMS3010225-nnn Cable



This cable is used to connect the IDP690 to the FMS301006 cable.

The cable is provided in 5 metre or 15 metre or 25 metre lengths.

Cable 4: FMS300190-nnn Power Cable



This cable is used to connect the MDT to the power source and the FMS300501-nnn cable.

The separate serial connection is when an “MDT” code update is required to link it to a PC.

Equipment connection

To connect all pieces of equipment follow the steps below:

Step One

Connect the IDP690 to the FMS3010225 cable, using the diometric waterproof grease included, to seal the connection. Follow separate Skywave installation guide for detailed instructions.



Connect



To

The IDP690 should be positioned outside of the vessel with clear line of sight to the sky. Connect the cable to the IDP690 and run the cable as required into the interior of the vessel.

The FMS3010225 should be placed safely ensuring that it is kept away from physical interference as much as possible.

Ensure that the cable is connected securely.

Step Two

Connect the FMS3010225 cable to the FMS301006 cable connector.

The connection should be made within the interior of the vessel.



Connect



To

Ensure that the cables are connected securely.

Step Three

Connect the FMS300501 cable to the remaining end of the FMS301006 cable connector.

The location of the connected cable should be selected based on the preferred final location of the MDT and the power source.



Ensure that the cables are connected securely.

Step Four

Should the MDT be unavailable then continue to step seven to connect power. The IDP690 will operate successfully (for position reporting) without the MDT being operational.

Connect the provided MDT mounting arm to a secure surface so that the MDT will be easily accessible for data input of Fisheries Reporting. See detailed instructions in section **Installation Procedure with Fixed Mounting Adapter**.



Example: Supplied mounting arm maybe be different from shown.

Step Five



1. Determine the optimal positioning of the MDT to enable clear operating access.
2. Attach the base of the mounting arm to the operating surface.
3. Ensure mounting arm is securely connected to the work surface and the MDT.

Step Six



Connect the FMS300501 serial connector to the rear of the MDT.

Step Seven

Configure the power cable to suit your own power connection requirements.

Step Eight

Connect the Power Cable FMS300190 to the FMS300501



Step Nine

Connect the Power Cable FMS300190 to the vessels power source.

Step Ten

Upon connecting to power the IDP690 will immediately begin to boot-up and this process takes a few minutes.

There is no power on/off switch to the IDP690.

It is advised that during this start-up process the MDT is NOT powered on (i.e. do not press the control knob on the MDT at this time). This will avoid the MDT receiving boot-up messages from the IDP690.

Should the MDT already be in a powered up state when the IDP690 obtains power then the received messages can be deleted at the operator's convenience.

Step Eleven

First time power up.

This step can be ignored if the unit has previously been working and is being restarted due to a power outage.

- i) If this is the very first power up of the IDP690 please contact the FMC on the email address below and inform them that the unit is now powered up. Upon receipt of this email the FMC will confirm via return email that the unit is correctly reporting.
- ii) Advise skanreg@fulcrum-maritime.com by email that the IDP690 is now connected to power and that the power is switched on. The email should state the vessel name and IMO number for clarification.
- iii) The FMC will reply to the sending email address after checks have been carried to confirm the unit is working as expected.

Once the IDP690 is correctly reporting to the FMC the IDP690 will transmit positional reports once every 24 hours whilst outside of regulated waters. On entering regulated waters the IDP690 will automatically start to send at an increased frequency as required by the regulatory body until such time as the vessel exits the regulated waters when the IDP690 will automatically revert to reporting once every 24 hours.

Tip: At any time the vessel operator wishes to check that the IDP690 is reporting correctly please send an email to skanreg@fulcrum-maritime.com with the vessel name and IMO number requesting confirmation that the vessel is reporting correctly.

NOTE: Power should be maintained to the IDP690 at ALL times. In the event that power is disrupted for any length of time please inform skanreg@fulcrum-maritime.com as soon as possible that the unit will be switched off for an indicated period.

Step Twelve

After waiting for one minute for the IDP690 to start-up the MDT can be switched on. The MDT is switched on by pressing the central control knob. See “**V-FMCUserGuide**” for further instructions on operating the MDT.

Any IDP690 start-up messages that are received by the MDT can be deleted by the operator. They are not required.

In the event that the MDT is displaying “red” and “green” alternately flashing lights then the MDT needs rebooting. To reboot the MDT simultaneously press “5” “8” and “F1”.

This completes the setup of the supplied equipment.

Mobile Data Terminal

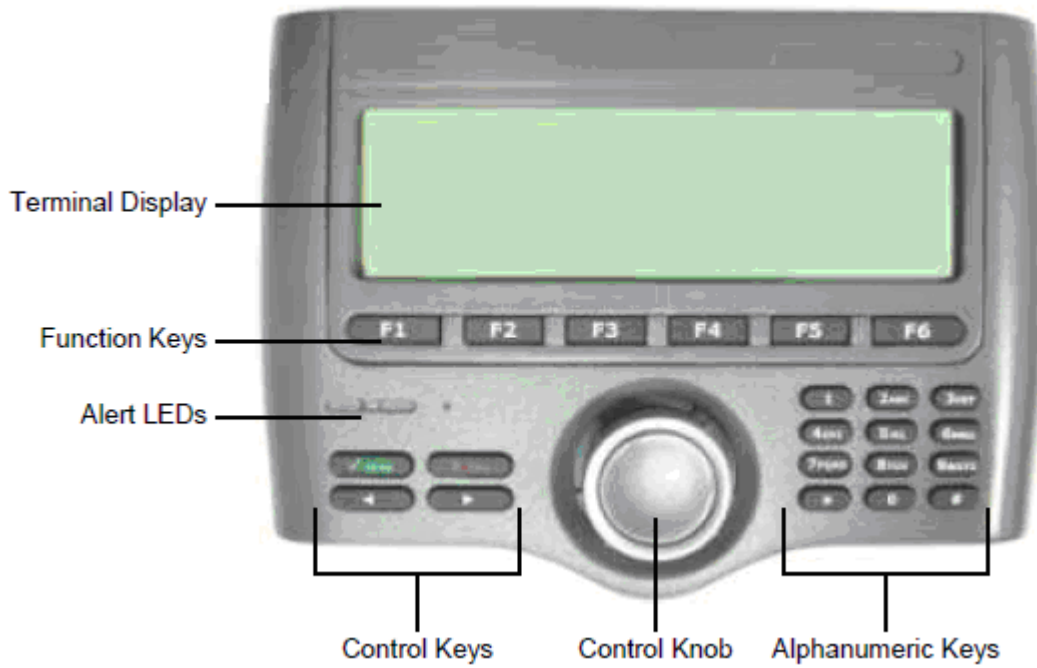
The Mobile Data Terminal (MDT) M – 201 provides an extremely cost-effective, ruggedised platform for a large variety of fleet and mobile workforce management applications. The MDT is provided with a flexible, rotating, arm-based mounting stand to provide a wide range of fixed in-cabin positioning options for maximum comfort and visibility.

The state of the art MDT displays incoming messages and initiates outgoing messages, transmitted through a Skywave IDP690 device. It provides a large graphic backlit screen, a backlit user friendly keyboard, a large multi-purpose control knob and a variety of interface ports.

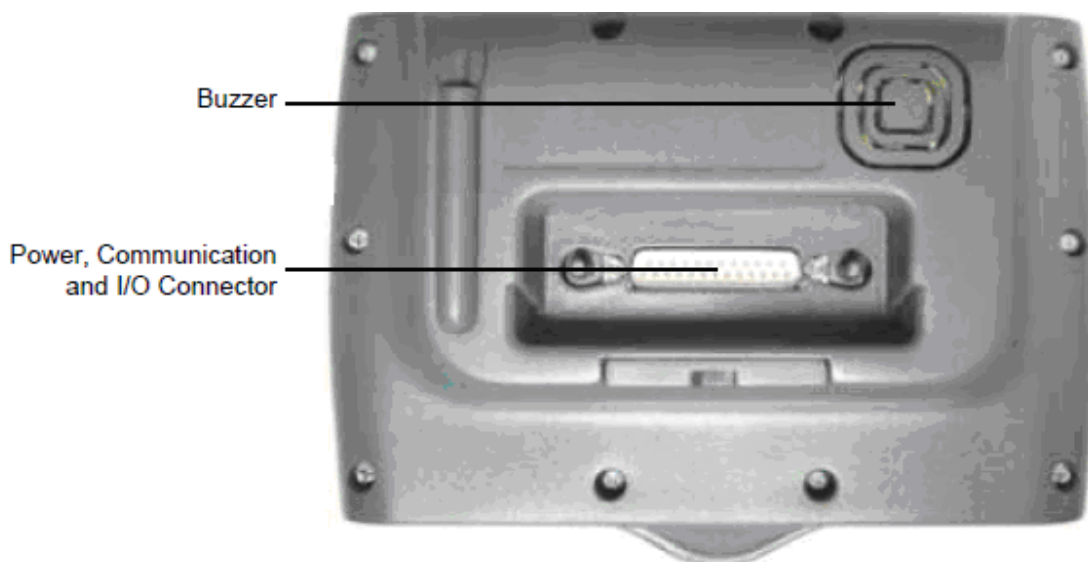
The MDT's rugged design, ergonomic user interface, full programmability and extensive expansion options, make it the ideal mobile data terminal. It is built to withstand extreme temperature range, vibrations and shock that the operating unit must endure, ensuring the high level of reliability required by a mission critical system.

The following images show the components on the front and back panels of the MDT:

Front Panel:



Back Panel:



MDT-201 Technical and Function Description

Power Overview

The MDT has no internal fuse and therefore its connection to the vessels power source line should be protected by a 10A fuse.

Additionally, a 2A fuse should be added to the power cable with an inline fuse holder for HHC/HHD blade-type fuses.

MDT Power Consumption

Power Off ~ 1mA

Idle (no active application) ~ 50mA

Run (with backlight) ~ 200mA

Pressing the control knob powers the MDT on.

Manual Reset

The MDT terminal can be reset (ie power off/on) by simultaneously pressing the “5”, “8” and “F1” keys.

NOTE: This operation should only be activated by an experienced operator. This operation should not be activated while the application is running or saving data to the FLASH storage, as it may damage FLASH sectors.

Electrical Installation

Power Protection Fuse

The MDT has no internal fuse. It should be connected to a power source protected by 10A fuse. Additionally, a 2A fuse should be added to the power cable with an inline fuse holder for HHC/HHD blade-type fuses.

The manufacturers Micronet Ltd. (Address: 27, Hametsuda st., Azor 58001, Israel. Tel: +972-(0)3-5584884.) Certify and declare that the M-Series Family (M100/200/201) was tested and found to comply with the harmonized standards EN60950-1, and therefore comply with the essential requirements of the LVD Directive and can be marked with "CE" mark. The tests were done by ITL (Product Testing) LTD. in Israel.

Appendix A

MDT M-201 Regulatory & Specification Approvals

The M – 201 Complies with the requirements of:

European Market –" CE" Marking

EMC Directive 2004/108/EC (ESD test), According to standard: IEC 61000-4-2.
LVD Directive 2006/95/EC (73/23/EEC), According to standards: EN60950-1

The M-Series Family (including the MDT M-201) Complies with the requirements imposed by the European Directive 2002/95/EC (and its amendment) of the European Parliament and of the council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

2ND level interconnect

Dispose of used according to your local regulations. Do not throw this equipment or its accessories into public garbage.

FCC Rules (class B)

CFR 47, Part 15 Subpart B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- a) Reorient or relocate the receiving antenna.
- b) Increase the separation between the equipment and receiver.
- c) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- d) Consult the dealer or an experienced radio/TV technician.

Instructions concerning human exposure to radio frequency electromagnetic fields

To comply with FCC Section 1.307 (b)(1) for human exposure to radio frequency electromagnetic fields, implement the following instruction: A distance of at least 20cm. between the equipment and all persons should be maintained during the operation of the equipment.

FCC Warning

Modifications not expressly approved by the manufacturer could void the user authority to operate the equipment under FCC Rules.

Model Name: M-Series Family (M100/200/201).
Trade Name: MDT (Mobile Data Terminal).
Responsible party: Micronet Ltd.
Address: 27, Hametsuda st., Azor, Israel.
Phone: +972-(0)3-5584884.

This device complies with Part 15 of the FCC Rules. Operating is subject to the following two conditions:

- 1) This device may not cause harmful interference, And

- 2) This device accepts any interference received. Including interference that may cause undesired operation.

The compliance tests were done by ITL (Product Testing) LTD. In Israel.

Remark: To comply with FCC rules of EMC, the product negative wire [-] must connect to the ground vehicle.

Automotive Directive in EU

e-Mark, EMC Automotive Compatibility, According to 2009/19/EC (2004/104/EC) directive. (Inclusive ISO7637-2:2004)

The compliance tests were made by TUV – SUD in Czech Republic.

The approval no. can be seen on the self declaration or on rear label on each product.

A self declaration for CE & e-Mark and FCC compliance statement is attached to each shipment.

Voltage Rating

Input: 8VDC~30VDC 0.6A(Typical) from vessel Power Source.

Voltage Stability $\pm 20\%$ of rate voltage input.

Reverse Voltage 12/24VDC.

* Was tested according to Internal MICRONET's Specifications for MDT.

Environment durability

a. Random Vibration, MIL-STD-810F (modified).

b. Mechanical Shock (Operational & crash safety), MIL-STD-810F.

c. Humidity, MIL-STD-810F 5-95% @ 40 °C (modified).

d. Temperature test (operating): -20 °C ~ 70 °C.

e. Temperature test (storage): -20 °C ~ 80 °C.

f. Thermal Shock test.

g. Flammability compliance (UL94).

h. RoHS (G6).

* Entries d to h above were tested according to Internal MICRONET's Specifications for MDT.

NOTE: In no condition, shall this compliance remain in effect upon any modification (Inclusive user self service and/or spare parts which are not confirmed) of the product and/or use against the User Guide and Installation Instructions!!

**** END ****