EquaScan FNet Coordinator

SCOPE OF DELIVERY

- Coordinator incl. wall bracket
- Installation Manual
- Fixation kit (4 Screw with fixings)
- 1 user plastic seal
- Optional:
    - GPRS quad band modem (2G/3G)
        - · Battery pack (voltage 3.0V 25Ah) (Art Nr.: A5002544 for replacement)
        - · or mains AC 110V…230 V - 50/60Hz (Mains cable ready to use)
        - · Equipped with a SIM Card supporting 2G/3G ; Data and SMS functions

GENERAL INFORMATION

The EquaScan FNet system is an innovative 2 way-radio system particularly developed to fulfil the requirements of billing service companies. The EquaScan FNet system enables any kind of metering data to be collected efficiently, quickly and securely. The EquaScan Fnet system allows to integrate all endpoints belonging to EquaScan family. An EquaScan FNet system comsists of one Coordinator and up to 19 Routers in order to build up a complete EquaScan FNet system and to cover large building installations. One EquaScan FNet system can integrate up to 2.000 endpoints.

The EquaScan FNet Coordinator serves to manage, coordinate and consolidate the data exchanged between the Routers inside the EquaScan Fnet environment, and at the same time also to collect the data from the endpoints in its own radio range.

The user-friendly architecture of EquaScan FNet radio system and the easy set up of its associated components ensure safe installation and commissioning of the FNet system with error-free operation and secure data transmission.

This product must be installed professionally and in accordance with the assembly guidelines and may therefore only be installed by qualified and trained experts. For installation in buildings with high fire protection requirements e.g. staircases, escape routes, the installation company must ensure that the local building regulations are met.

Handle carefully the package and the device inside, as it could be easily damaged if dropped or handled without care and attention. The package must be stored the right way up and keep and store out of the rain and not in damp conditions. Do not store the EquaScan FNet Device with the battery connected, as it may reduce significantly the general expected life time.

The intended use of the EquaScan FNet system is for storing and transmitting the consumption data of EquaScan measuring devices and endpoints. The EquaScan FNet devices have been designed exclusively for this purpose. Any use other than the use described above and any changes made to the EquaScan FNet devices represent an improper use. All changes are subject to special written approval by the manufacturer.

Do not install the device inside metallic enclosures, behind metallic doors or any other electrically polluted places, as it may influence significantly the Device radio performances.

Install the EquaScan FNet devices under the final site conditions to avoid any later disruption of the system and revise every time the EquaScan FNet system after any construction change inside the building.

REPLACING LITHIUM BATTERIES

Batteries may only be replaced or exchanged by qualified staff. It is mandatory to follow the manufacturer procedure assisted with the LCD display as described in the EquaScan FNet manuals. The connector only fits in one position in order to guarantee installation with correct polarity. For this reason, no excessive force may be used when inserting the connector.

Caution: Risk of explosion if the batteries are not replaced properly. Replacement only by the same battery type and recommended by the manufacturer. Note: Used batteries must NOT be disposed of with household waste.

NOTE ON DISPOSAL

Used electronic devices and their batteries must not be disposed of with normal household waste. We take all our products back after use, free of charge, and dispose them accordingly. Do not expose to temperature outside of specifications. Do not try to re-charge the lithium battery.

Characteristics	
Wired Interface	Inductive Interface (Itron proprietary- ICP). Baud rate 19200
Operating ambient temperature	Between 0°C and +55°C
Storage temperature	+0°C to +55°C < 1 year. Recommended below 30°C
Transport temperature	Between -20°C and 70°C < 72 hours continuous Temperature variation max. ±20°C/hour
Protection Class	IP43 (housing mounted) Safety class 2 for mains AC 110V…230 V - 50/60Hz (double/protective insulation)

External dimensions of the FNet Coordinator	
Dimension	(W x H x D) 214 x 257 x 65 mm
Material / Color	RAL 9016
Weight	1440 g (incl. package)

Radio specifications related to the endpoints	
Protocol	EN 13757-3/-4 wireless M-BUS
Operating mode	C2 Mode
Frequency Band	868 MHz Band
Transmitted power	Max < 25mW

| Radio specifications of the FNet Coordinator	
GPRS-Modem	Quad Band for 2G/3G functions (optional for Coordinator Devices only)
Protocol	Itron proprietary protocol
Modulation	GFSK-scheme(Gaussian Frequency Shift Keying)
Frequency Band	433/868 MHz Band (between Coordinator and Router Devices)
Transmitted power	433 MHz Transmitter power max 10mW 868 MHz Transmitter power max 25mW

Normative specifications		
Electromagnetic compatibility	Interference Immunity :	ETSI EN 301 489-1-V1.9.2 (2011-09)
		ETSI EN 301 489-3-V1.6.1
		ETSI EN 301 489-17-V2.2.1
		EN 61000-3-2 (2006+A1 / 2009+A2 / 2009)
		EN 61000-3-3 (2008)
	Emitted Interference :	ETSI EN 300 220-1 (V2.4.1)
		ETSI EN 300 220-2 (V2.4.1)
Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields.		EN 62311 (2008)
Information technology safety		EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

PUSH BUTTON FUNCTIONS

By default the display of the FNet Coordinator is OFF. An action on any push button switches the display ON. The 2 push buttons allow the navigation in the following way:

- Up/Down: Short pressing allows to navigate up and down inside the list of the menu list.

- ESC/Enter: Long pressing allows to go back to the previous menu or to enter to the next menu.

Pairing Router/s
Scan Router link
Install MIU

● ESC   ● ←|
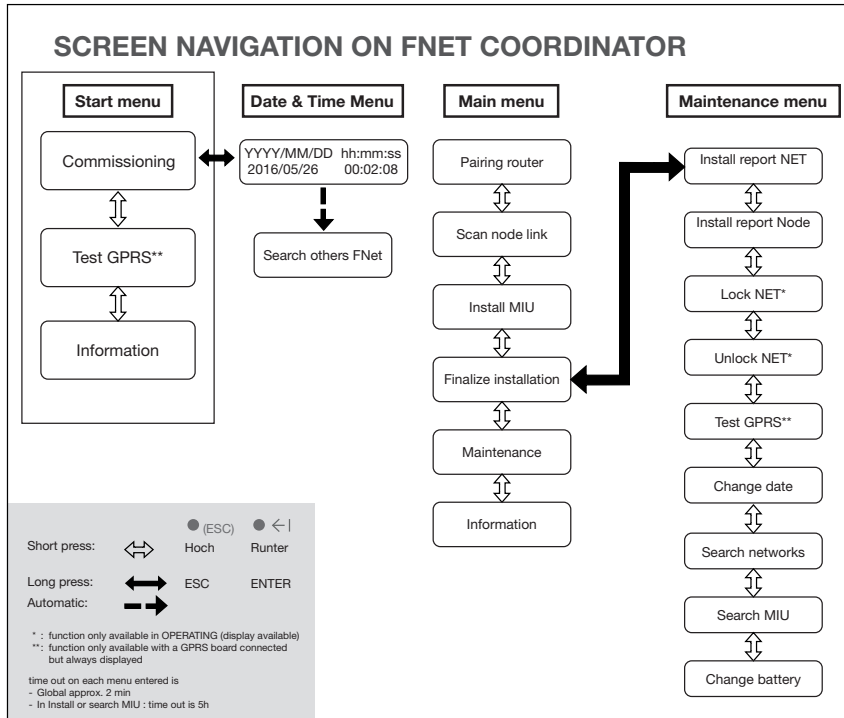Up   Down
ESC   ENTER
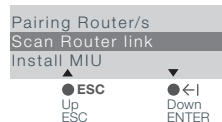
MULTIFUNCTIONAL LCD AND NAVIGATION

The LCD dispose of max three display lines and is regrouped in 3 different menus to ensure the best compromise between simplest use for the deployment, installation and configuration process. The different menus give access to all data required for monitoring and maintenance of the FNet system.

- FNet Coordinator is actually in installation process and at least one endpoint has already been installed in the Network. It indicates that the installation process has not been finished and still needs to run the procedure of « Build/Sychronize the Network »

- It indicates the last GPRS signal level and will be actualized after each GPRS connection. If the GPRS connection failed due to missing signal, the icon disappears. One blinking bar represents a very poor GRPRS signal. One bar is low GPRS signal and 3 bars is high.

- Coordinator is equipped with GPRS-Modem option

- Coordinator is not equipped with AC 110V…230 V - 50/60Hz

- Coordinator is processing a task in the corresponding menu.

The following diagram describes the Display sequences and the navigation inside the different menus.

SCREEN NAVIGATION ON FNET COORDINATOR

Start menu	Date & Time Menu	Main menu	Maintenance menu

Start menu:
Commissioning ⇕ Test GPRS** ⇕ Information

Date & Time Menu:
YYYY/MM/DD hh:mm:ss
2016/05/26   00:02:08
↓
Search others FNet

Main menu:
Pairing router ⇕ Scan node link ⇕ Install MIU ⇕ Finalize installation ⇕ Maintenance ⇕ Information

Maintenance menu:
Install report NET ⇕ Install report Node ⇕ Lock NET* ⇕ Unlock NET* ⇕ Test GPRS** ⇕ Change date ⇕ Search networks ⇕ Search MIU ⇕ Change battery

Short press: ⇔   ● (ESC) Hoch   ● ←| Runter
Long press: ⬌   ESC   ENTER
Automatic: ➡

* : function only available in OPERATING (display available)
** : function only available with a GPRS board connected but always displayed

time out on each menu entered is
- Global approx. 2 min
- In Install or search MIU : time out is 5h

MOUNTING OF FNET COORDINATOR ON THE WALL

For installing the EquaScan Fnet Coordinator on the wall, please use the wall bracket respecting the TOP side and use the delivered screws and plastic fixings.

Please respect the minimum distance of the wall bracket of 20 mm to the ceiling and any perpendicular wall.

For fixing the FNet coordinator Device on the wall bracket please open the front cover by sliding it to the top. After alignment of the noses of wall bracket and Coordinator holes slide the device down as indicated in Pic A.

Pic A

BATTERY CONNECTION

Please insert the battery connector as shown in the picture B. The connector only fits in one position, in order to guarantee its installation with the correct polarity. For this reason, no excessive force may be used when inserting the connector.
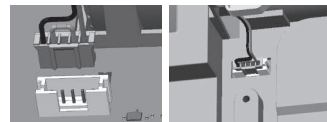
Pic B

QUICK INSTALLATION INSTRUCTIONS

It is recommended to run the following set-up instructions step by step inside the building where the EquaScan FNet system will be installed.

Step 0:
Open the cover of the FNet Coordinator as explained in Pic A

Step 1 Option:
Insert the SIM Card inside the slot if option is not delivered and installed by manufactures.

Caution:
The SIM Card may be blocked if PIN code of FNet Coordinator does not correspond to the SIM Card PIN code. The default value inside the FNet Coordinator is "0000". The PIN Code of the SIM card could also be pre-configured as "deactivated". Please configure the FNet Coordinator with the corresponding SIM Card PIN code (refer to the EquaScan FNet Maintenance Software Manuals).
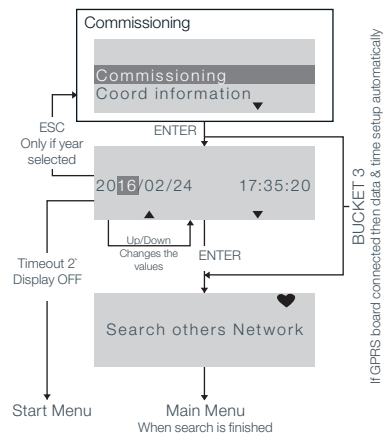
Step 3:
Activate the LCD by short pressing of any push button
Press "Enter" to start the commissioning process (Start Menu).
Initialize the date and time of the device:

- "Up" and "Down" for changing the values

- "Enter" to move to next field (YYYY to MM to DD ….etc).

Once the commissioning process is finished the product enters automatically into the Main Menu. Only in this stage: If the battery has been disconnected (or option: disconnect the mains) the product will be reinitialized back to storage mode and Step 3 must be repeated.
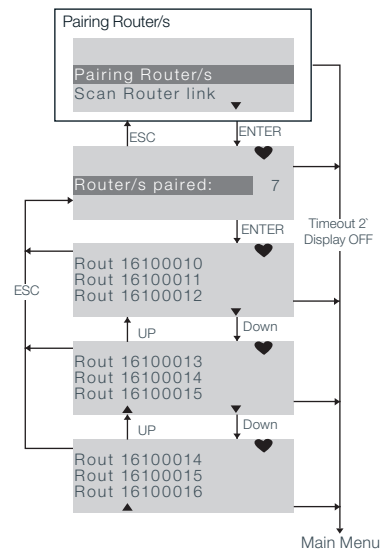
Commissioning

Commissioning
Coord information ▼

ESC
Only if year selected

ENTER

20 16 /02/24   17:35:20
▲   ▼

Up/Down
Changes the values   ENTER

Timeout 2'
Display OFF

♥
Search others Network

Start Menu

Main Menu
When search is finished

BUCKET 3
If GPRS board connected then data & time setup automatically

Step 4:
Press "Enter" to start the pairing process of the required Routers with the Coordinator (Main Menu).

Secondly, at the same time start the pairing process on the FNet Routers. Refer to the Router technical manual.

By pressing "Enter" you may list the FNet Routers paired to the FNet Coordinator.

When all required FNet Routers are paired, press "ESC" to return to the main menu.

Pairing Router/s

Pairing Router/s
Scan Router link ▼

ESC   ENTER
♥

Router/s paired: 7

ENTER
♥

Rout 16100010
Rout 16100011
Rout 16100012

ESC   UP   Down

Rout 16100013
Rout 16100014
Rout 16100015

UP   Down

Rout 16100014
Rout 16100015
Rout 16100016
▲

Timeout 2'
Display OFF

Step 5:
Fix the FNet Coordinator on its wall bracket (see picture A).
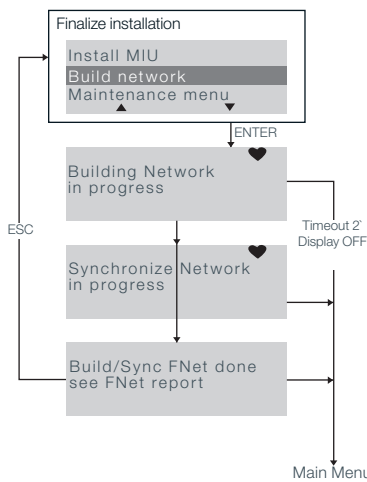
Main Menu

Step 6:

Press "Enter" to start the installation process of the endpoints (Main Menu).

By pressing "Enter" you may list the endpoints detected and installed in the radio range of the FNet Coordinator.

Remark: In case that you miss any endpoint in the FNet Coordinator we recommend to deploy a FNet Router. Please refer to the Router technical manual.

MIU detected displays all MIU from which an installation frame got received by the coordinator. To ensure a stable system, several confirmation frames are exchanged, before MIU is displayed as "MIU installed" (may take up to 10 Min.).

When all required endpoints are detected and/or installed, press "ESC" to return back to the main menu.

```
Install MIU
  Scan Routers link ⚠
  Install MIU
  Build network          ▼
```
ESC   ENTER

⚠ ♥
```
  MIU detected:          5
  MIU installed:         2
```
ENTER

⚠ ♥
ESC
```
  eHCA  15165021  00  5/5
  wMIU  15165026  01  5/5l
  hMIU  15361084  01  4/5l
```
UP   Down

⚠ ♥
```
  eHCA  15165026  00  5/5l
  wMIU  15361084  01  4/5l
  hMIU  15244195  01  4/5
```

Note:
Each time a new MIU is received, the display is updated. The MIU is added at the end of the list. The «l» is updated when the MIU is installed.

Main Menu

```
Finalize installation
  Install MIU
  Build network
  Maintenance menu
       ▲             ▼
```
ENTER ♥
```
  Building Network
  in progress
```
ESC
Timeout 2´
Display OFF
♥
```
  Synchronize Network
  in progress
```
```
  Build/Sync FNet done
  see FNet report
```
Main Menu

Step 7:

Press "Enter" to start the installation of the network on the FNet Coordinator (Main Menu).

The FNet Coordinator device will build the network environment and launch the synchronization of the paired FNet Routers and endpoints. The complete process may take some minutes depending on the size of network and nb of endpoints. Only the last message "Build/Sync FNet done" confirms the completion of the network installation.
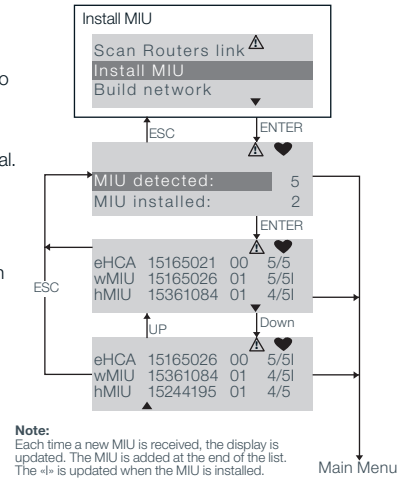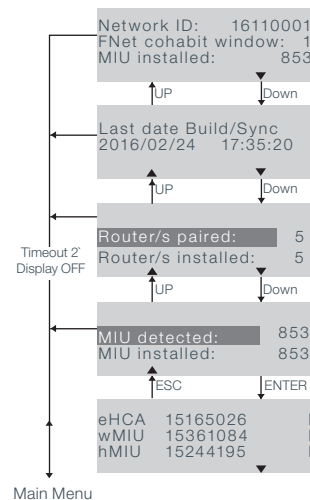
Step 8:

Press "Enter" to check and visualize the FNet installation report after having entered the Maintenance Menu.

Following Information are available :

- Network ID
- FNet cohabit window
- MIU installed
- Last date the FNet has been built/synchronized
- Router/s paired
- Router/s installed
- MIU detected (including the ID list of endpoints) after pressing "Enter"
- MIU installed

```
  Network ID:     16110001
  FNet cohabit window:   1
  MIU installed:       853
```
UP   Down
```
  Last date Build/Sync
  2016/02/24   17:35:20
```
UP   Down
Timeout 2´
Display OFF
```
  Router/s paired:       5
  Router/s installed:    5
```
UP   Down
```
  MIU detected:        853
  MIU installed:       853
```
ESC   ENTER
```
  eHCA   15165026      l
  wMIU   15361084      l
  hMIU   15244195      l
         ▼
```
Main Menu

SECURITY REMARKS

CE marking The FNet devices correspond to the applicable device-specific European guidelines.

Safety extra-low voltage only for Battery application

Components at risk through ESD The FNet devices contain components which can be damaged by electrostatic discharge.

Caution The symbol draws attention to possible hazards or property damage.

Only operate in closed rooms The FNet devices may only be operated in closed rooms.

Hazardous goods EquaScan FNet devices contain lithium cells for which transportation restrictions (ADR Class 9) apply.

Handling the package :
- package must be stored the right way up
- contents should be handled with care
- to keep out of the rain and not to store it in damp conditions.
- the product inside the packaging could be easily damaged if dropped or handled without care and attention

SAFETY NOTES FOR LITHIUM BATTERIES

All EquaScan FNet devices are supplied with voltage by a lithium battery of the type Art Nr. A5002544. These types of battery are classified as hazardous. **THE RESPECTIVELY VALID TRANSPORT REGULATIONS MUST ALWAYS BE OBSERVED!** Inspection documents for the batteries used are available on request.

Handling of lithium batteries:

- Store protected from dampness and moisture
- Do not heat to above 100°C or incinerate
- Do not open or damage

- Do not store within the reach of children
- Do not short-circuit
- Do not charge

EMERGENCY INSTR UCTIONS FOR ACCIDENTS INVOLVING LITHIUM BATTERIES
In the event of an accident, the following points must be heeded:

In the case of a leak:
- Cover with sodium carbonate or an equivalent crystal soda
- Make gases and vapours precipitate by spraying with water
- Make sure of sufficient ventilation
- Avoid any direct contact

In the event of injuries:
- If interior components of the dry element should come into contact with the eyes, rinse thoroughly with water for 15 minutes.
- In the event of contact with the skin, wash with plenty of water and take off soiled clothing.
- Move away from the accident spot following inhalation.
- Always consult a doctor.

In the event of a fire:
- Use a Lith-X or Class-D fire extinguisher.
- Never use water for extinguishing pupuses
- Do not use CO2, halogen fire extinguishers with dry substances or foam extinguishers.
- Move away from the accident spot following inhalation and ventilate the area.
- Always consult a doctor.

CE Konformitätserklärung
Declaration of Conformity

Die alleinige Verantwortung für die Ausstellung dieser Erklärung trägt der Hersteller:
This declaration is issued under the sole responsibility of the manufacturer:

ALLMESS GmbH, Am Voßberg 11, 23758 Oldenburg i.H., GERMANY

Gegenstand der Erklärung:
Object of the declaration:

Typ: *Type:*	EquaScan FNet Koordinator *EquaScan FNet Coordinator*	
Artikelnummern: *Item codes:*	8060... *8060...*	
Beschreibung: *Description:*	Funkeinheit zur stationären Datenkommunikation *Radio frequency stationary data communicator*	
QM-System-Zertifikat (ISO 9001:2008): *QM-system Certificate (ISO 9001:2008):*	468 QM08	
Kennzeichnung: *Marking:*	CE	

Der oben beschriebene Gegenstand der Erklärung erfüllt die Vorschriften der folgenden Richtlinien:
The object of the declaration as described above complies with the requirements of the following directives:

RED   2014/53/EU   RoHS   2011/65/EU

Entsprechend den folgenden Normen und Leitfäden:
In conformity with the following standards and guides:

Störfestigkeit: *Interference immunity*	ETSI EN 301 489-1-V1.9.2 (2011-09)	
	ETSI EN 301 489-3-V1.6.1	ETSI EN 301 489-17-V2.2.1
	EN 61000-3-2 (2006+A1 / 2009+A2 / 2009)	
	EN 61000-3-3 (2008)	
Störaussendung: *Emitted interference:*	ETSI EN 300 220-1 (V2.4.1)	ETSI EN 300 220-2 (V2.4.1)

Rechtsverbindliche Unterschrift: Datum: 01.09.2016
Legally binding signature: *Date:*

D. Glöe

p.p.a.
Dipl.-Ing. Dirk Glöe
Betriebsleitung   Oldenburg i.H.
Sr. Operations Manager

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