

Comm-Box

Manual for use and maintenance



Comm-Box

Internet Access

Ag/MIS/UmGb-2595-05/18 Rev 1.0
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Comm-Box

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This manual for use and maintenance is an integral part of the apparatus together with the attached technical documentation.

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1 Introduction

1.1 Disclaimer

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1.2 Introduction

Congratulations on your excellent choice of purchasing a Comm-Box!

In order to realize the full benefit from this product it is important that it is installed, commissioned and operated correctly. Before installation or using the fan, this manual should be studied carefully. It is also recommended that it is kept safely for future reference. The manual is intended as a reference for installation, commissioning and day-to-day operation of the Munters Controllers.

1.3 Notes

Date of release: July 2010

Munters cannot guarantee to inform users about the changes or to distribute new manuals to them.

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2 Introduction to the Comm-box

Comm-Box provides complete access to your Munters controllers, including monitoring and control capabilities, from any device, anywhere. From one computer, tablet, or smartphone, you can manage an entire network.

- Cloud-based access to controllers
 - Multiple, simultaneous users have network access
- Multiple communication pathways:
 - Built-in internet and telephone connectivity
 - Cellular Connectivity
- Local communication via wired or wireless communication
- Status reports provide critical information on house functions and animal statistics
- Push notifications

In addition, Comm-Box can act as an add-on for users wanting to add web-access to legacy Communicator units.

2.1 Ordering

Each Comm-Box has one of two software packages:

- Poultry (P/N: 904-07-00016 Comm-Box-POU-EN-ROT)
- Pigs (P/N: 904-07-00017 Comm-Box-PIG-EN-ROT)

These software packages are not interchangeable and cannot be converted. In addition, connecting a Comm-Box directly to a controller requires a Junction Box. There are two options:

- RS-232 Network: 904-99-00036 COMMBOX -POU- JUNCTION BOX RS232
- RS-485 Network: 904-99-00037 COMMBOX -POU- JUNCTION BOX RS485

2.2 What Comes in the Package

- Comm-Box
- Power Supply Cables 115VAC and 230VAC
- EPROM for Communicator upgrade. When connecting Comm-box directly to Communicator, upgrade the Communicator software using the EPROM supplied.

3 Hardware Installation

This document details how to install Munters' Comm-Box unit. Installation consists of:

- Mounting the Comm-Box
- Grounding
- Connecting the Comm-Box to the Internet
- Connecting the Comm-Box to a Peripheral Device
- Connecting the Comm-Box to a Communicator
- Connecting the Comm-Box to a Controller

NOTE No software installation is required.

3.1 Mounting the Comm-Box

- Using the screws provided, mount the unit.



3.2 Grounding

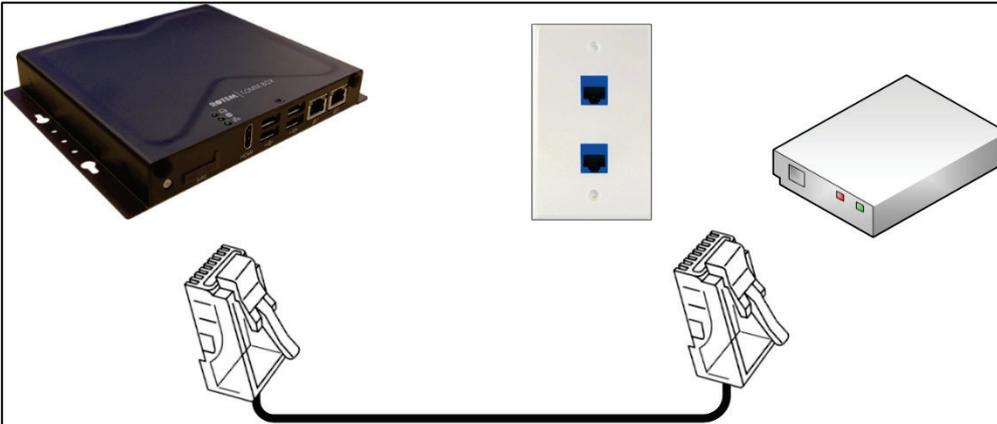
- Connect the ground cable to the dedicated ground terminal.



CAUTION *The Comm-Box must be grounded at all times!*

3.3 Connecting the Comm-Box to the Internet

- Connect the Comm-Box to your Internet connection/modem.



3.4 Connecting the Comm-Box to a Peripheral Device

- If required, connect a screen or mouse to the Comm-Box (via the USB/HDMI ports).



3.5 Connecting the Comm-Box to a Communicator

- Connect the Comm-Box to a Munters Communicator a standard USB cable (supplied with the Communicator unit).



NOTE Communicator requires the Communicator Serial Card (P/N: C-COMM-SERIAL) to support the Comm-Box. Refer to Document #112189 for details on upgrading the Communicator.

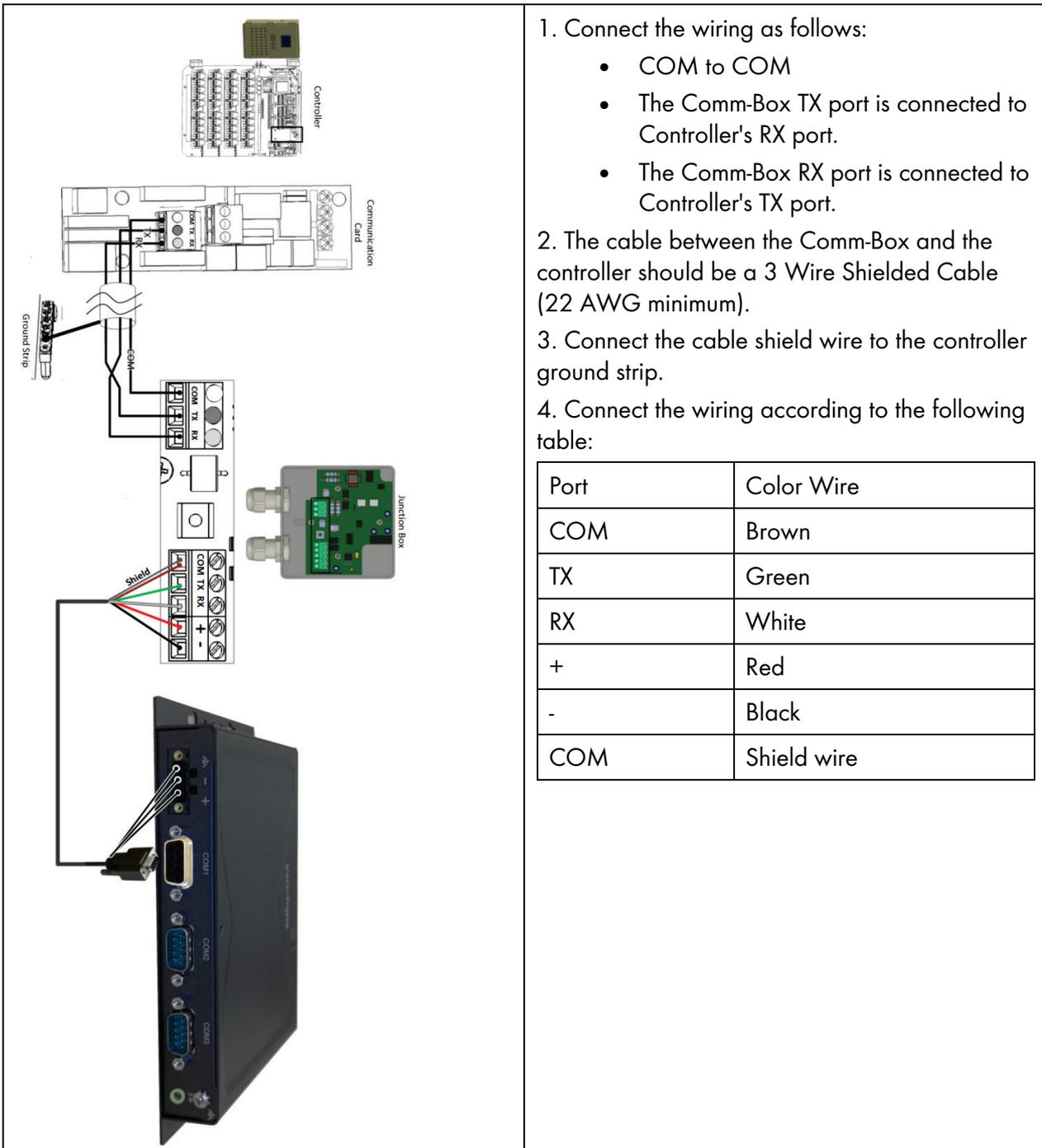
3.6 Connecting the Comm-Box to a Controller

The only step in installing a Comm-Box that requires wiring is if the Comm-Box is connected directly to a controller (instead of a Communicator). In this situation the Comm-Box must be wired to the controller communication card.

1. Disconnect the power to the controller!

WARNING! Power must be disconnected before beginning.

2. The Comm-Box's COM port connector comes pre-wired. Insert the connector into COM 1.
3. In the controller, connect the Comm-Box to the controller's communication card. Refer to the following illustrations.



1. Connect the wiring as follows:
 - COM to COM
 - The Comm-Box TX port is connected to Controller's RX port.
 - The Comm-Box RX port is connected to Controller's TX port.
2. The cable between the Comm-Box and the controller should be a 3 Wire Shielded Cable (22 AWG minimum).
3. Connect the cable shield wire to the controller ground strip.
4. Connect the wiring according to the following table:

Port	Color Wire
COM	Brown
TX	Green
RX	White
+	Red
-	Black
COM	Shield wire

Figure 1: RS-232 Wiring

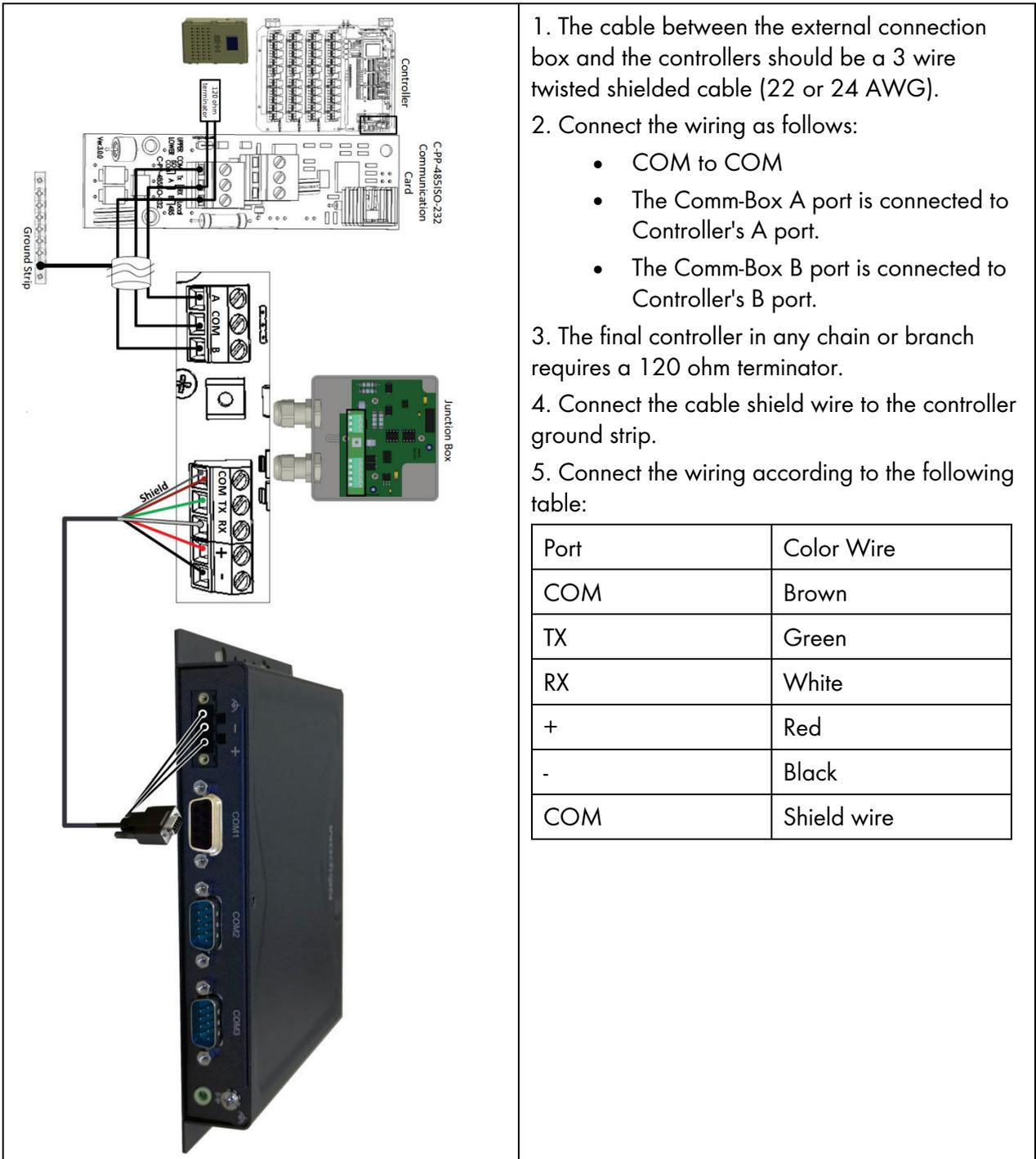


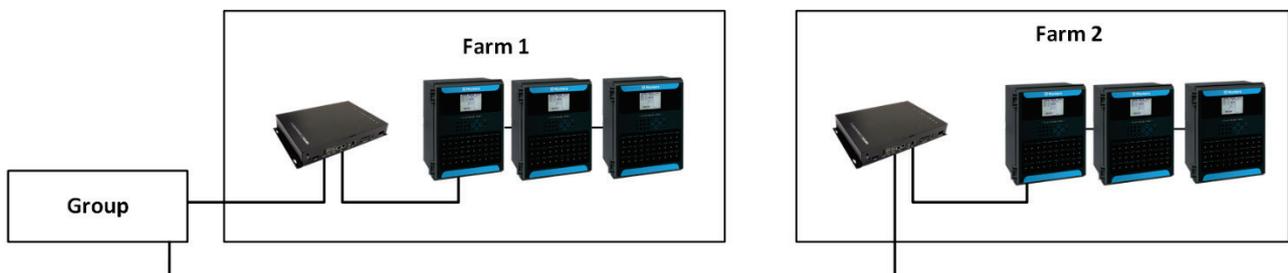
Figure 2: RS-485 Wiring

4 Group Management

When using the Comm-Box to connect to your farm(s), you must:

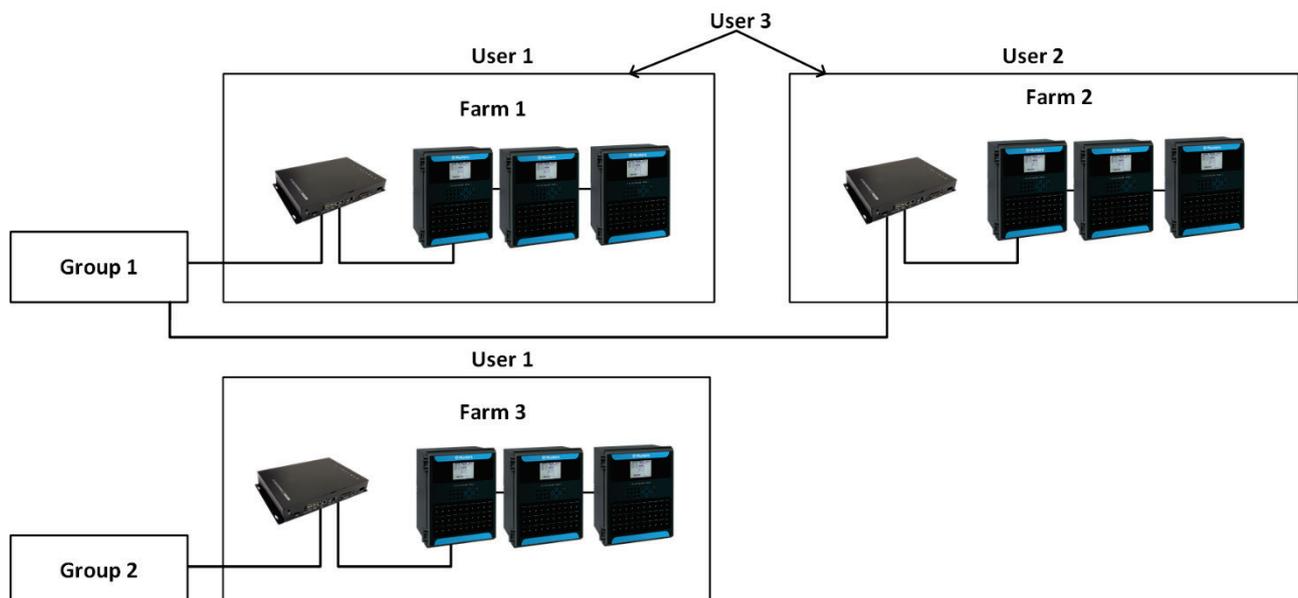
- create a group
- define user rights

NOTE An group is the virtual device used to manage your farms. Using the RotemNet Web application, the group manager defines each user's permissions (which farms he can see and what functions he can carry out).



As an example, an account manager has sent up two Groups and wants to add three different users to his account.

1. User 1 is assigned access rights to Farm 1.
2. User 2 is assigned access rights to Farm 2.
3. User 3 is assigned access rights to Farm 1 and Farm 2.
4. In addition, User 1 is also assigned access rights to Farm 3, which is in an entirely different group.

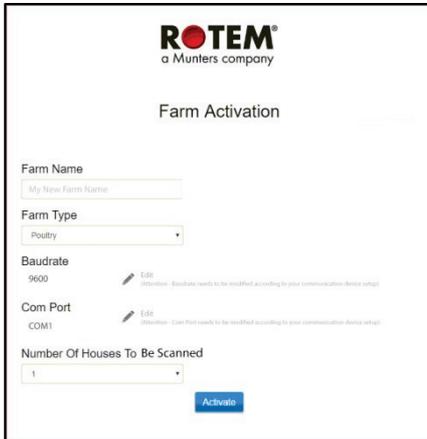


Any combination is possible.

4.1 Activating the Group

The first time that you power up a Comm-Box, you need to activate an a group.

1. Connect the Comm-Box to a screen, keyboard, and mouse. Apply power. The Farm Activation screen appears.



2. Fill in the fields:

- Name: Type in the farm name.
- Farm Type: Choose the type from the drop down list.
- Baudrate/Com Port: Comm-Box has default settings of 9600 BPS/COM Port 1, respectively. If you need to change these setting, click on the pencil and choose a setting from the drop down list.

NOTE Verify that the Comm-Box and controller baud rates are the same.

- Number of Houses: Select the number from the drop down list.

NOTE You can edit all of these settings in RotemNet Web.

3. Click Activate. A pop up appears asking if you want to scan your farm houses.

- Click Start Scan if the Comm-Box is connected to the controllers
- Click Cancel if the Comm-Box isn't connected

4. A second pop-up appears, asking if you want to connect to the Web.

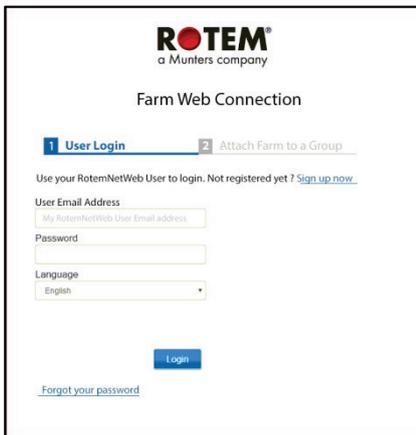
- Click on the Connect to Web to connect your Comm-Box to the web. This enables remote monitoring and control.
- If you want, you can be reminded to scan at a later time. (Alternatively, click **Don't Remind Me Later**).

NOTE If you decide not to connect now, you can always connect by clicking on the RotemNet Web Tab Farm Setting.

As the Group administrator, you can invite other people to join the group as well as define their access rights. This is done in RotemNet Web itself.

4.2 Log In

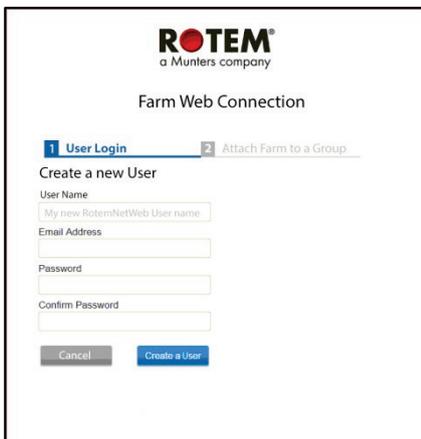
- If you have a RotemNet Web user name, log in.



The screenshot shows the 'Farm Web Connection' login page. At the top is the ROTEM logo with the tagline 'a Munters company'. Below the logo, the page title 'Farm Web Connection' is displayed. There are two progress indicators: '1 User Login' (highlighted) and '2 Attach Farm to a Group'. The main heading is 'User Login'. A message reads: 'Use your RotemNetWeb User to login. Not registered yet? [Sign up now.](#)'. Below this are input fields for 'User Email Address' (with a placeholder 'My RotemNetWeb User Email address'), 'Password', and a 'Language' dropdown menu set to 'English'. A blue 'Login' button is at the bottom, with a link for '[Forgot your password](#)' below it.

Figure 3: Login Screen

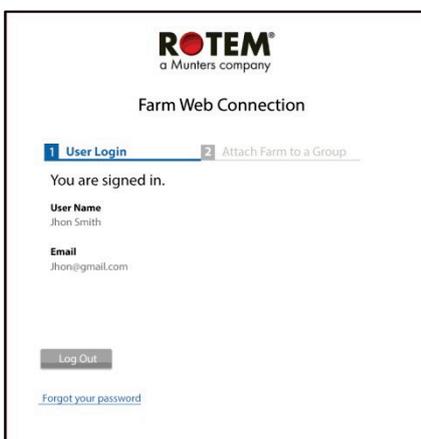
1. If you are a new user, click **Sign up now**. The following screen appears.



The screenshot shows the 'Farm Web Connection' 'Create a new User' screen. It features the ROTEM logo and 'a Munters company' tagline. The page title is 'Farm Web Connection'. Progress indicators show '1 User Login' (highlighted) and '2 Attach Farm to a Group'. The heading is 'Create a new User'. Input fields include 'User Name' (placeholder: 'My new RotemNetWeb User name'), 'Email Address', 'Password', and 'Confirm Password'. At the bottom, there are 'Cancel' and 'Create a User' buttons.

Figure 4: Create a New User Screen

2. Fill in all fields.
3. Click **Create a User**. The following screen appears.



The screenshot shows the 'Farm Web Connection' 'Sign In' screen. It features the ROTEM logo and 'a Munters company' tagline. The page title is 'Farm Web Connection'. Progress indicators show '1 User Login' (highlighted) and '2 Attach Farm to a Group'. The heading is 'You are signed in.'. Below this, the user's details are displayed: 'User Name: Jhon Smith' and 'Email: Jhon@gmail.com'. At the bottom, there is a 'Log Out' button and a link for '[Forgot your password](#)'.

Figure 5: Sign In Screen (Example)

NOTE To disconnect from the web, click the [Disconnect](#) button (refer to page 18).

4.3 Attaching the Farm to a Group

After signing in one of the following screens appears:

4.3.1 NO EXISTING GROUPS

1. If there are no existing groups for this farm, the following screen appears here:



The screenshot shows the 'ROTEM a Munters company' logo at the top. Below it is the title 'Farm Web Connection'. There are two steps: '1 User Login' and '2 Attach Farm to a Group'. The second step is active. The main heading is 'Attach this Farm to a Farm Group'. Below this is a definition: 'What is a Farm Group? A virtual unit that combines farms together and enables to manage multiple farms easily. Note: Each farm must be attached to a farm group, even if the group consists of one farm only. A farm can be attached to more than one group.' There are two input fields: 'Group Name' with the value 'User Name's Farms' and 'Owner' with the value 'Gorans'. There is a '+ Add a Group' button and an 'Attach to Group' button at the bottom.

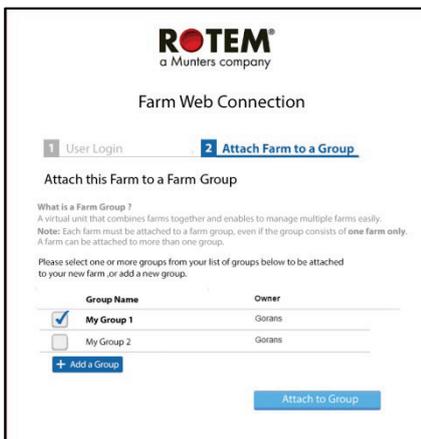
Figure 6: No Existing Group Screen

2. Write the name of the farm group that you want to create and click **Attach to Group**.

4.3.2 GROUPS EXIST

If the farm is part of a group or if the owner has created groups do one of the following:

- Check the radio box next to the group to which you want to attach your farm and click **Attach to Group**.



The screenshot shows the 'ROTEM a Munters company' logo at the top. Below it is the title 'Farm Web Connection'. There are two steps: '1 User Login' and '2 Attach Farm to a Group'. The second step is active. The main heading is 'Attach this Farm to a Farm Group'. Below this is a definition: 'What is a Farm Group? A virtual unit that combines farms together and enables to manage multiple farms easily. Note: Each farm must be attached to a farm group, even if the group consists of one farm only. A farm can be attached to more than one group.' There is a note: 'Please select one or more groups from your list of groups below to be attached to your new farm, or add a new group.' There are two input fields: 'Group Name' with the value 'My Group 1' and 'Owner' with the value 'Gorans'. There is a '+ Add a Group' button and an 'Attach to Group' button at the bottom.

Figure 7: Attach Farm to Group Screen

- To add an additional group, type in the Group Name and click **Add a Group**.

Figure 8: Add a Group Screen

4.4 Local Log In

In the event that:

- You restart your system
- Comm-Box logs off (this can happen automatically if you are not using system)
- Power goes off

you need to log on to the Comm-Box **locally**. The username and password of this login are different from the ones used when logging on to the Web.

Figure 9: Farm Settings

- Enter the user name and password. The defaults are:
 - User name: "Farm Owner"
 - Password: "admin"

NOTE The user name can not be changed. You can change the password after logging in.

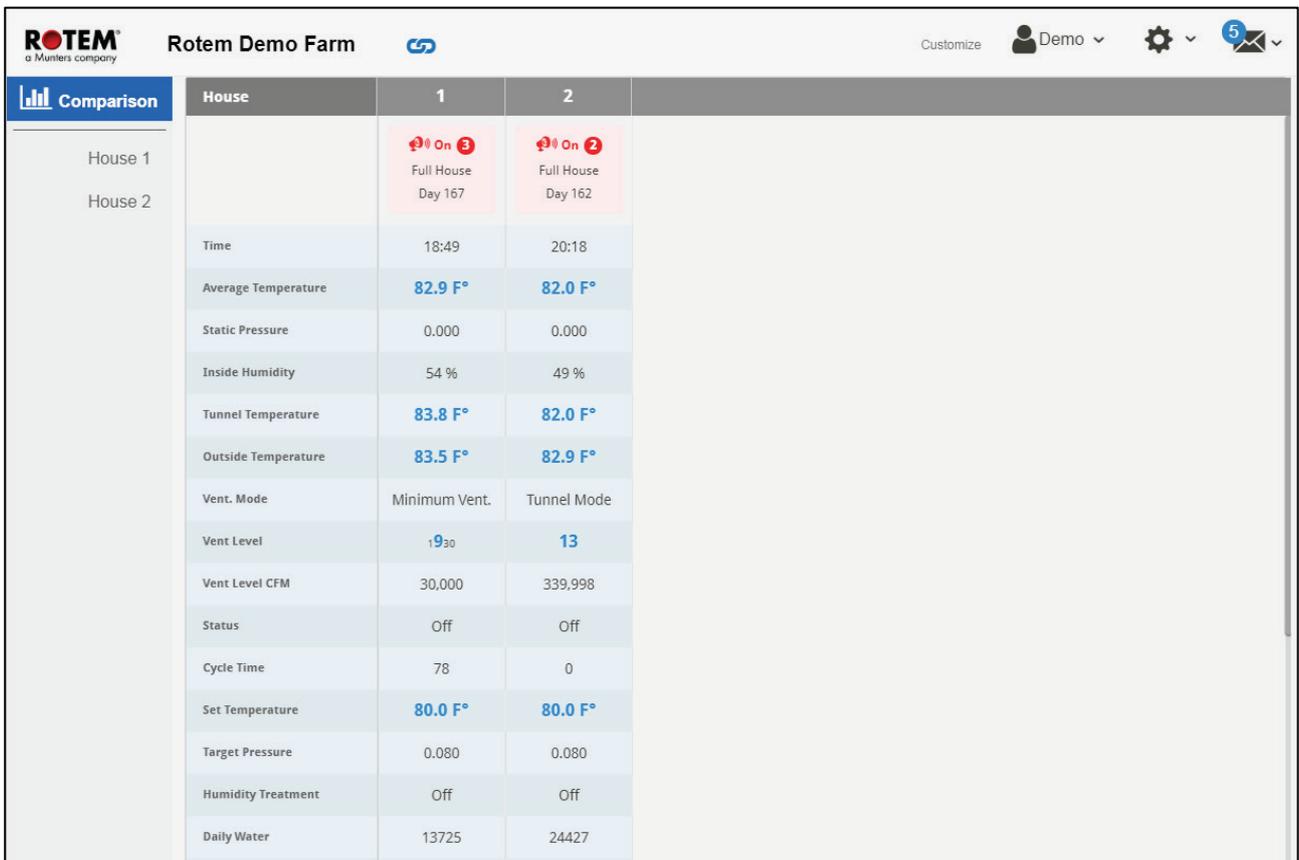
NOTE After logging in locally, you will need to log in to the Web (Log In, page 13).

5 RotemNet Web

The following sections describe how to use the RotemNet Web functions. All other functions are described in the Platinum Touch manual.

- RotemNet Web Functionality
- User Settings
- Software Upgrade

After signing in, the following screen appears:



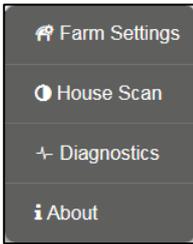
The screenshot shows the RotemNet Web interface for 'Rotem Demo Farm'. The top navigation bar includes the ROTEM logo, the farm name, a share icon, and user controls for 'Customize', 'Demo', settings, and notifications. A 'Comparison' tab is active, displaying a table with the following data:

House	1	2
House 1	Full House Day 167	Full House Day 162
Time	18:49	20:18
Average Temperature	82.9 F°	82.0 F°
Static Pressure	0.000	0.000
Inside Humidity	54 %	49 %
Tunnel Temperature	83.8 F°	82.0 F°
Outside Temperature	83.5 F°	82.9 F°
Vent. Mode	Minimum Vent.	Tunnel Mode
Vent Level	19 ₃₀	13
Vent Level CFM	30,000	339,998
Status	Off	Off
Cycle Time	78	0
Set Temperature	80.0 F°	80.0 F°
Target Pressure	0.080	0.080
Humidity Treatment	Off	Off
Daily Water	13725	24427

- Click on **House** to go to the Platinum Touch functions.
- Click on  to configure RotemNet Web functionality.
- Click on  **Farm Owner** to configure the user definitions.

5.1 RotemNet Web Functionality

The following section describes the RotemNet Web functions.



- Farm Settings Tab
- House Scan Tab
- Diagnostics Tab
- About Tab

NOTE Only the farm owner can view the Farm Settings and House Scan tabs.

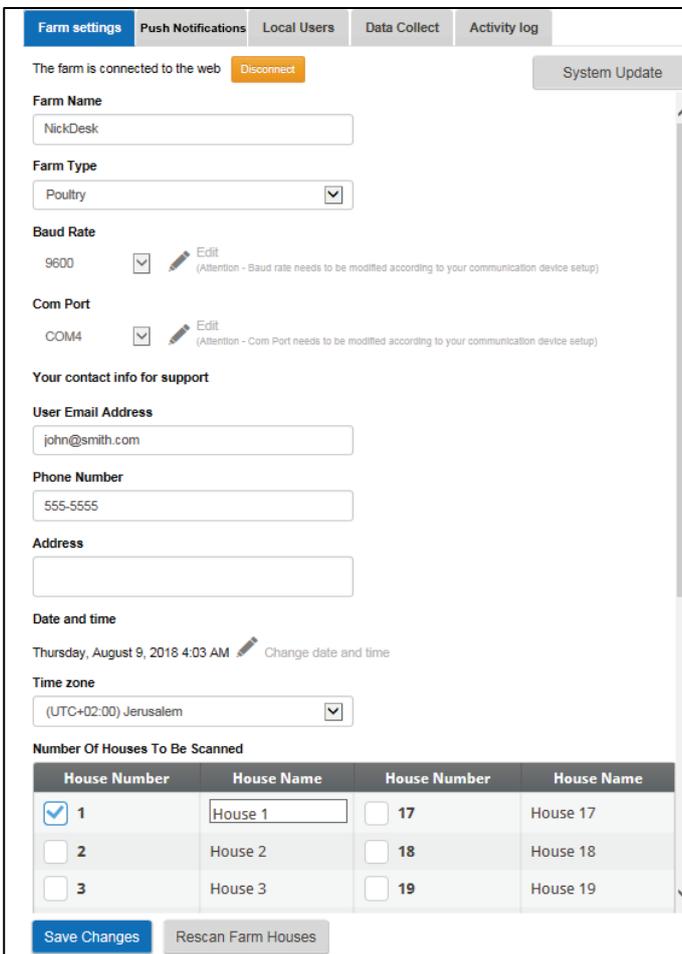
5.1.1 FARM SETTINGS TAB

- Farm Settings
- Push Notifications
- Local Users
- Data Collect
- Activity Log

NOTE The "Push Notifications" and "Local Users" tabs appear only on the computer screen connected directly to the Comm-Box

5.1.1.1 Farm Settings

Use this screen to define functions related to Comm-Box's connection to your farm.



The farm is connected to the web Disconnect System Update

Farm Name
NickDesk

Farm Type
Poultry

Baud Rate
9600 Edit
(Attention - Baud rate needs to be modified according to your communication device setup)

Com Port
COM4 Edit
(Attention - Com Port needs to be modified according to your communication device setup)

Your contact info for support

User Email Address
john@smith.com

Phone Number
555-5555

Address

Date and time
Thursday, August 9, 2018 4:03 AM Change date and time

Time zone
(UTC+02:00) Jerusalem

Number Of Houses To Be Scanned

House Number	House Name	House Number	House Name
<input checked="" type="checkbox"/> 1	House 1	<input type="checkbox"/> 17	House 17
<input type="checkbox"/> 2	House 2	<input type="checkbox"/> 18	House 18
<input type="checkbox"/> 3	House 3	<input type="checkbox"/> 19	House 19

Save Changes Rescan Farm Houses

- **Farm Name:** This is the name that appears on your screen.
- **Connect/Disconnect:** This function enables disconnect from the current farm from the internet and reconnecting it via the Log-in screen (refer to Log In, page 13).

NOTE This function only appears on screens locally connected to the Comm-Box.

- **Farm Type:** Poultry or Pigs. **Make sure that the definition matches the Comm-Box type!**
- **Baud rate:** This rate must be the same throughout the network.
- Com Port
- **Contact information (optional):** This information will be used by Munters to contact users if there is a need; for example to inform you of an update. The information will not be distributed to any outside parties what so ever.
- **Number of Houses to be Scanned:** Scanning tests communication to the houses. If you wish to scan all houses or individual houses, click the relevant house number. Click **Rescan farm houses** to complete the scan.
 - You can name the houses.
 - In units having the Comm-Box Pig Software, you can name individual rooms.
- Click **Save Changes**.
- System Update: Refer to Software Upgrade.

5.1.1.2 Push Notifications

Comm-Box can send push notifications to multiple email addresses. These emails list any current alarms.

The screenshot shows a web interface for 'Push Notifications'. At the top, there are tabs for 'Farm settings', 'Push Notifications', 'Local Users', 'Data Collect', and 'Activity log'. Below the tabs, there is a toggle switch for 'Enable Push Notifications' which is currently set to 'On'. To the right of the toggle are '+ Add' and 'Save' buttons. Below this is a table with two columns: 'Email' and 'Name'. The 'Email' column has an input field and a 'Check' button. The 'Name' column has an 'OK' button and a red trash icon.

- Enter an address, click Check, Add, and then Save.

WARNING! *The Comm-Box Push Notification system does not provide detailed alarm information. The system is indicative only. To receive real-time alarms along with the ability to configure and manage alarms, contact your dealer about an independent alarms system (for example the Communicator).*

5.1.1.3 Local Users

NOTE This tab and screen only appear when connected directly to the Comm-Box (meaning not via the web).

User Name	Password	Assigned To
Farm Owner	***	Farm Owner
User 1	***	User 1
User 2	***	User 2
User 3	***	User 3
User 4	***	User 4
User 5	***	User 5
readonly	***	Read Only

This screen lists pre-assigned user names and passwords.

- Each user name and password is the same. For example, User 1's password is User 1. User 2's password is User 2.
- The Farm Owner can edit these names, passwords, and to whom they are assigned.

5.1.1.4 Data Collect

Use this function to enable data collection to your FTP/SFTP site.

- Fill out the form with the required data and click **Save**.

Farm settings | Push Notifications | Local Users | **Data Collect** | Activity log

Data Upload Settings | Log

▼ Data Upload Settings

Farm name for collect: NickDesk

FTP | SFTP

FTP Remote Server Details

Host Address:

Port Number:

Target Folder:

User Name:

Password:

▼ Collect Preferences

Auto Collect

Activate Auto Collect

Activate can be selected only when you select houses

Select Output File Formats: xml xmlMTEch JSON

Auto Collect Intervals (Starting from 24:00): min.

Select Houses

House 1

Save

5.1.1.5 Activity Log

This screen displays the history of events connected to the Comm-Box. Under Event, Sub Event, User, and Cmd ID you can select filters to narrow down the results.

Farm settings | Push Notifications | Local Users | Data Collect | **Activity log**

Gateway Name: John Smith | From Date: 07/08/2018 00:00 | To Date: 10/08/2018 00:00 | Event: | Sub Event: | User: | Cmd ID: | Refresh

Event Date	Gateway	Event	Sub Event	User	Elapsed	House #	Cmd ID
------------	---------	-------	-----------	------	---------	---------	--------

5.1.2 HOUSE SCAN TAB

The House Scan screen:

- Shows the results of the house scan.
- Show the controller type and version used in each house.

ROTEM a Munters company **Pigs Farm** [Link](#) Farm Owner 20

House 1 **Scan Progress** Rescan farm houses

House	1	2						
Room	1	2	3	4	5	6	7	
Ping	Passed							
Analyze	Passed							
Load Controller Configuration	Passed							
Load Controller Data	Passed 50%	Passed 100%						
Controller Type	AC2000 PLUS PIG	SUPERGUARD	SUPERGUARD	SUPERGUARD	SUPERGUARD	SUPERGUARD	SUPERGUARD	
Controller Version	8.13.3	2.11.01	2.11.01	2.11.01	2.11.01	2.11.01	2.11.01	
Check to rescan	<input type="checkbox"/>							

5.1.3 DIAGNOSTICS TAB

Comm-Box includes a basic diagnostics package.

- On the Activation screen click Diagnostics. The following screen appears.

ROTEM Diagnostics Go Back

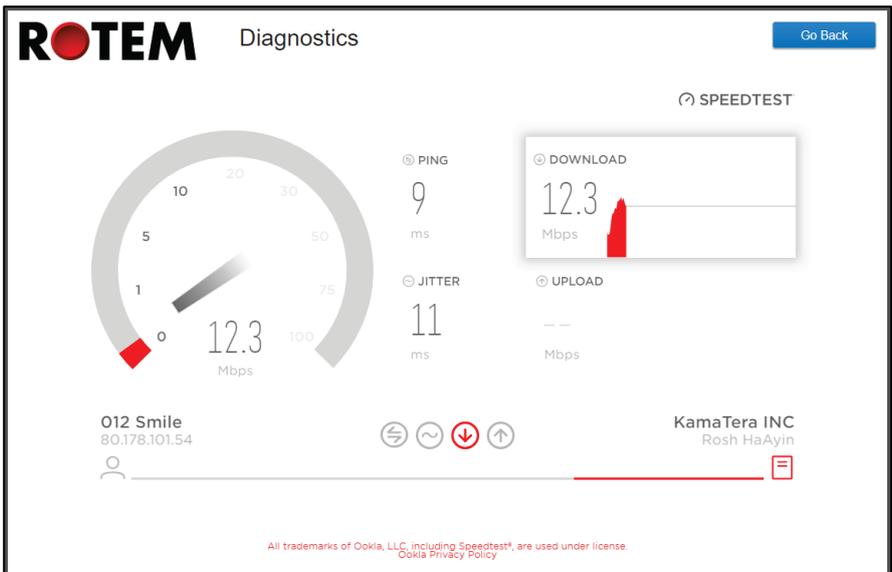
Comm-Box Details

Serial Number: Version:

Diagnostic Tests

Test Name	Test Instruction	Run Test	Pass	Fail
Internet Connection	<ul style="list-style-type: none"> On the Comm-Box, connect the LAN cable to LAN Port 1. Click Run Test. Repeat for LAN Port 2. 	<input type="button" value="Run Test"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Connection To Rotem WEB System	<ul style="list-style-type: none"> On the Comm-Box, connect the LAN cable to one of the LAN ports. Click Run Test. 	<input type="button" value="Run Test"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Latest Image Version Installed	<ul style="list-style-type: none"> This test verifies that the last released image is installed in this Comm-Box This test is performed automatically 	<input type="button" value="Run Test"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Total Results:			<input type="text" value="3"/>	<input type="text"/>

- This screen:
 - Supplies required data when speaking with technical support.
 - Enables a speed test.



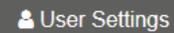
5.1.4 ABOUT TAB

This screen displays the product and software version. Send this information to technical support in the event that you require assistance. The Support ID enables remote technical support from Munters or from your dealer.

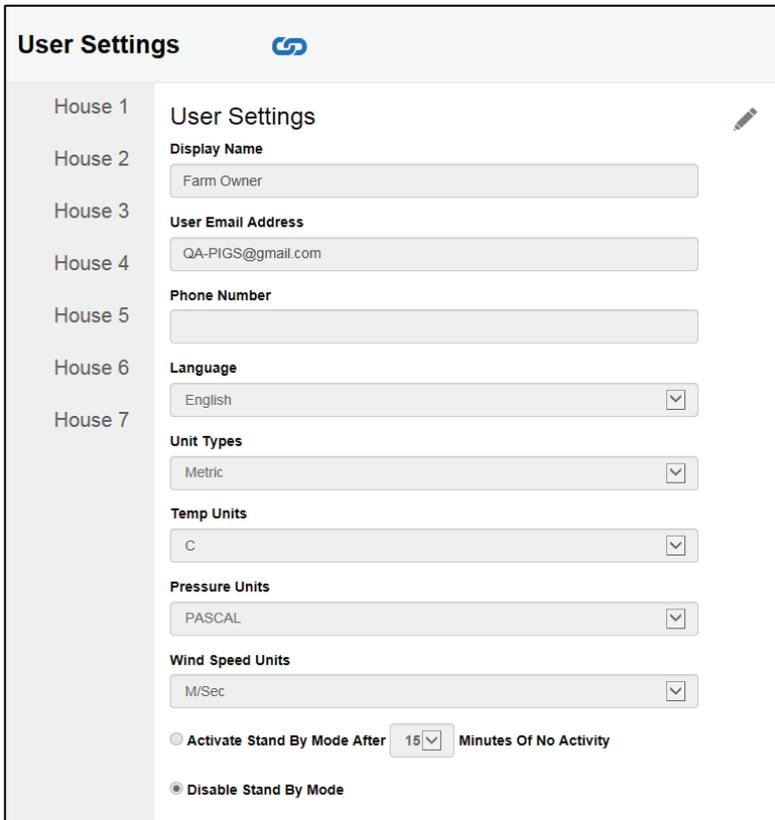


5.2 User Settings

This screen defines how information appears on the screen. In Farm Owner, select

 User Settings

The following screen appears.



User Settings 

House 1 **User Settings** 

House 2 **Display Name**
Farm Owner

House 3 **User Email Address**
QA-PIGS@gmail.com

House 4 **Phone Number**

House 5

House 6 **Language**
English

House 7 **Unit Types**
Metric

Temp Units
C

Pressure Units
PASCAL

Wind Speed Units
M/Sec

Activate Stand By Mode After 15 Minutes Of No Activity

Disable Stand By Mode

- To edit, click . Fill in the following fields as required.
 - Display name: Name that appears on the User Setting screen.
 - User email address
 - Phone number
 - Language: Chose from the drop down list
 - Unit types: Metric or English
 - Temp Units: Celsius or Fahrenheit
 - Pressure Units
 - Wind Speed Units
 - Disable or enable standby by mode (if the latter, define the amount of time that needs to pass before the mode is activated).
- Click  to save any changes.

5.3 Software Upgrade

You can upgrade certain software programs from the Web application.

- Platinum Touch software
- Web application
- Comm-Box software

NOTE The Comm-Box can only be updated locally; it cannot be updated remotely. The System Update button does not appear in remote connections.

NOTE You cannot upgrade product software! Upgrade your product software using the procedures given in the product manuals.

NOTE If you are using a disk on key start here. If you are updating your Comm-Box via the web, go to step 4.

1. Request the software upgrade from your dealer. You will be sent (via email, web transfer, etc) a UPD file.
 - a. Place the file on a disk on key/flash drive.
 - b. Place the disk on key/flash drive into the Comm-Box' USB port.
2. In the web application, click the **Farm Settings** tab. The following screen appears.

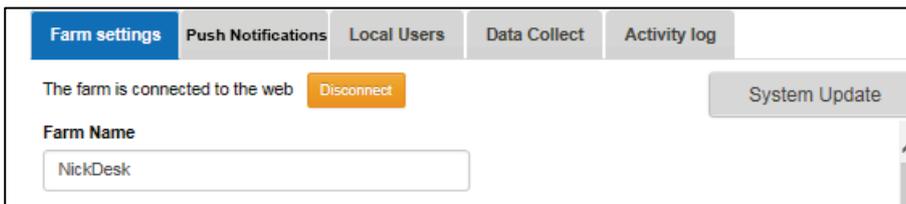
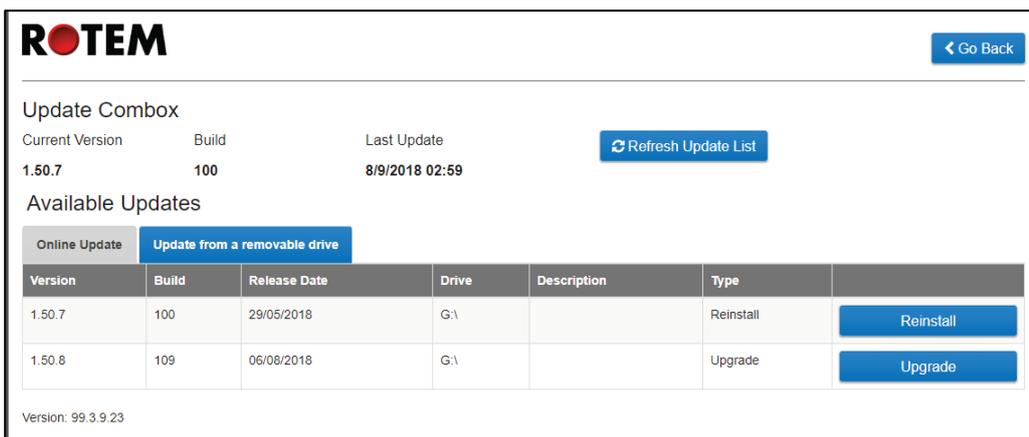


Figure 10: Farm Settings

3. Click **System Update**. The following screen appears:



- Users updating online: Click **Online Update** and choose the required software version.
- User updating using a flash drive: Click **Update from a removable drive** and choose the required software version.

NOTE If you did not place the disk on key in the USB port or if the disk does not contain a program, an error message appears.

Update Combox

Current Version	Build	Last Update
1.50.7	100	8/9/2018 02:59

[Refresh Update List](#)

Available Updates

[Online Update](#)[Update from a removable drive](#)

Update Files Not Found

Version: 99.3.9.23

6 Warranty

Warranty and technical assistance

Munters products are designed and built to provide reliable and satisfactory performance but cannot be guaranteed free of faults; although they are reliable products they can develop unforeseeable defects and the user must take this into account and arrange adequate emergency or alarm systems if failure to operate could cause damage to the articles for which the Munters plant was required: if this is not done, the user is fully responsible for the damage which they could suffer.

Munters extends this limited warranty to the first purchaser and guarantees its products to be free from defects originating in manufacture or materials for one year from the date of delivery, provided that suitable transport, storage, installation and maintenance terms are complied with. The warranty does not apply if the products have been repaired without express authorisation from Munters, or repaired in such a way that, in Munters' judgement, their performance and reliability have been impaired, or incorrectly installed, or subjected to improper use. The user accepts total responsibility for incorrect use of the products.

The warranty on products from outside suppliers fitted to Comm-Box, (for example power supplies, cables, etc.) is limited to the conditions stated by the supplier: all claims must be made in writing within eight days of the discovery of the defect and within 12 months of the delivery of the defective product. Munters has thirty days from the date of receipt in which to take action, and has the right to examine the product at the customer's premises or at its own plant (carriage cost to be borne by the customer).

Munters at its sole discretion has the option of replacing or repairing, free of charge, products which it considers defective, and will arrange for their despatch back to the customer carriage paid. In the case of faulty parts of small commercial value which are widely available (such as bolts, etc.) for urgent despatch, where the cost of carriage would exceed the value of the parts, Munters may authorise the customer exclusively to purchase the replacement parts locally; Munters will reimburse the value of the product at its cost price.

Munters will not be liable for costs incurred in demounting the defective part, or the time required to travel to site and the associated travel costs. No agent, employee or dealer is authorised to give any further guarantees or to accept any other liability on Munters' behalf in connection with other Munters products, except in writing with the signature of one of the Company's Managers.

WARNING: In the interests of improving the quality of its products and services, Munters reserves the right at any time and without prior notice to alter the specifications in this manual.

The liability of the manufacturer Munters ceases in the event of:

- dismantling the safety devices;
- use of unauthorised materials;
- inadequate maintenance;
- use of non-original spare parts and accessories.

Barring specific contractual terms, the following are directly at the user's expense:

- preparing installation sites;
- providing an electricity supply (including the protective equipotential bonding (PE) conductor, in accordance with CEI EN 60204-1, paragraph 8.2), for correctly connecting the equipment to the mains electricity supply;
- providing ancillary services appropriate to the requirements of the plant on the basis of the information supplied with regard to installation;
- tools and consumables required for fitting and installation;
- lubricants necessary for commissioning and maintenance.

It is mandatory to purchase and use only original spare parts or those recommended by the manufacturer.

Dismantling and assembly must be performed by qualified technicians and according to the manufacturer's instructions.

The use of non-original spare parts or incorrect assembly exonerates the manufacturer from all liability.

Requests for technical assistance and spare parts can be made directly to the nearest Munters office. A full list of contact details can be found on the back page of this manual.

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