User Manual

Green RTU RX Module Programming

Communication Device

Munters

Green RTU RX Module Programming

User Manual

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Product Software: N/A

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

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Index

1 Introduction

1.1 Disclaimer

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1.2 Introduction

Congratulations on your excellent choice of purchasing a GREEN RTU RX Module!

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 device, 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: May 2020

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

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2 Installing the Hand Held Programmer's Battery
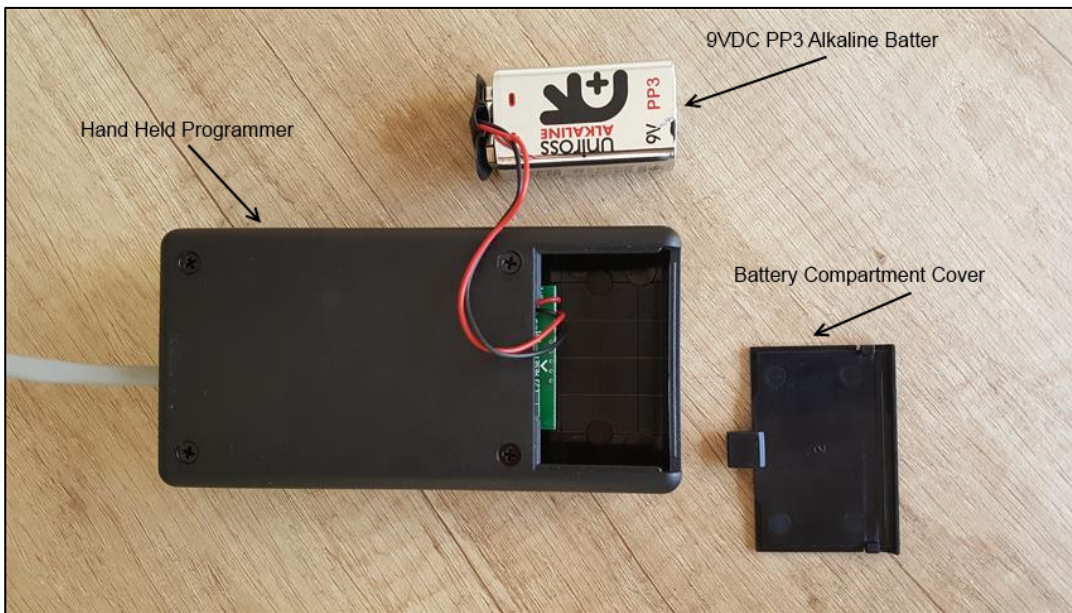
Figure 1: Programmer

- Referring to Figure 1 above, remove the battery compartment cover and extract the polarized battery connector.
- Connect a new fully charged 9VDC PP3 battery to the polarized battery connector. A clear audible beep will be heard confirming that power has been applied to the unit.
- Carefully insert the power loom and the battery into the battery compartment and replace the battery compartment cover.

2.1 Connecting the Hand Held Programmer

NOTE Referred to as the HHP to the Receiver Module

- Open the battery housing on the receiver module by removing the rubber plug from the receiver modules battery compartment (Do not use any sharp instruments to achieve this).
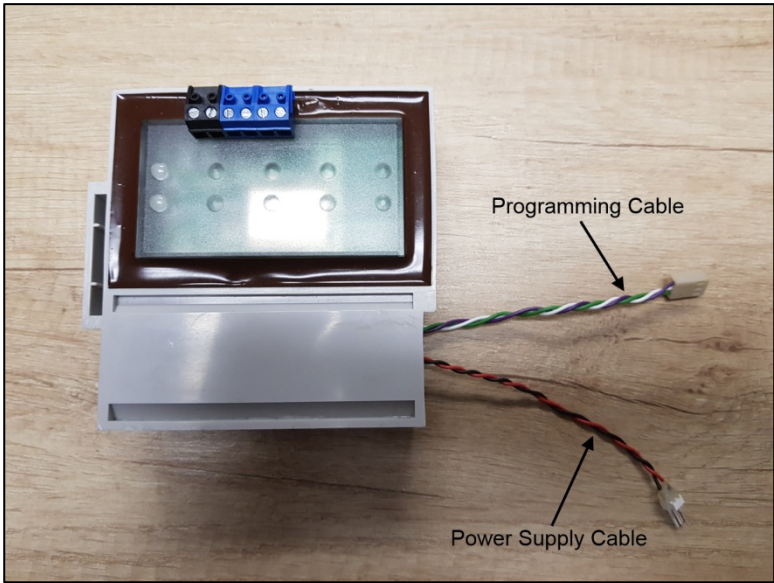
Figure 2: Programmer cables

- Referring to Figure 2 above, extract the battery, battery cable and the programming cable out of the receiver modules battery compartment.
- Disconnect the battery from the receiver module by holding the battery's socket connector firmly between your index finger and thumb in one hand and the receiver modules connector plug firmly between your index finger and thumb in the other hand. Extract the plug from the socket to disconnect the battery.
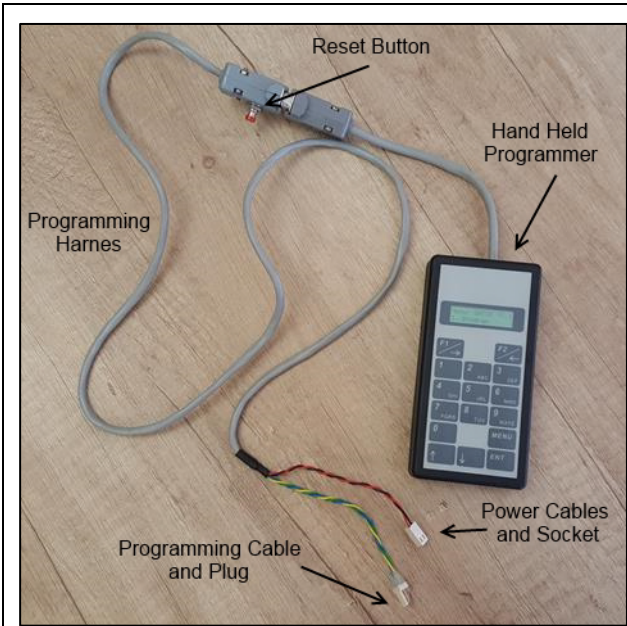
Figure 3: Programmer Setup	*Figure 4: Programmer Connected to Receiver*
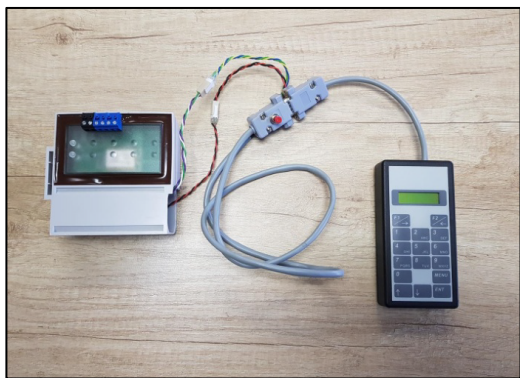
- Referring to Figure 3 and 4 above, the HHP will be equipped with an interfacing harness containing 5 wires namely Red (+), Black (–), White (Programming), Purple (Programming) and Green (Reset). The Red and Black cables are terminated in a socket connector while the Yellow, Blue and Green wires are terminated in a plug. The interfacing harness will also be equipped with a Red reset button mounted on the cover of the DB9 connector of the harness cable.

- Connect the red and black wires from the HHP to the battery connection of the Receiver module.
- Connect yellow, blue and green wires of HHP to the white, purple and green wires of Receiver module. The receiver module will be fitted with a suited connector to prevent the incorrect connection from taking place.

2.2 Resetting the Receiver Module

NOTE Perform this procedure before reading or programming the receiver module.

Once the HHP is linked to the Receiver module, press the "Red" button located on the DB9 connector's cover on the programming harness cable for a period of 2 seconds. This resets the processor in the module allowing immediate programming and or reading of the Receiver module without delay (the need for power to dissipate).

2.3 General Operation of the Hand Held Programmer

- Press the "Menu" key on the keypad. A screen shown in Figure 5 below will appear. The programmer's software version (E.g. V5.2) is noted in the upper right hand corner of the display.
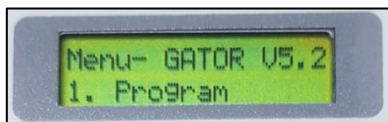
Figure 5: Screen

- The following ten functions are available under the "Menu". These functions will be fully described in this document.
    1. Program
    2. Read
    3. Valve num
    4. Valve Amount
    5. System ID
    6. Extra Sys ID
    7. Unit Type
    8. MAX Amount
    9. Upgrade to 4 (this feature is only available if prepaid upgrades are loaded on the HHP)
    10. Freq. Channel
- Use the ▲ and ▼ keys on the programmer's keypad to navigate between the different functions. The ▼ key moves between menus in ascending order (i.e. from menu 1 to menu 10). The ▲ key moves between menus in descending order (i.e. from menu 10 to menu 1)

2.4 Understanding the Settings Fields Screen on the HHP

Whenever a Receiver module is "read" or "programmed" (as explained in more detail below) the following screen will appear on the Hand Held Programmer. Figure 6 below provides an explanation of each of the setting fields that are displayed.
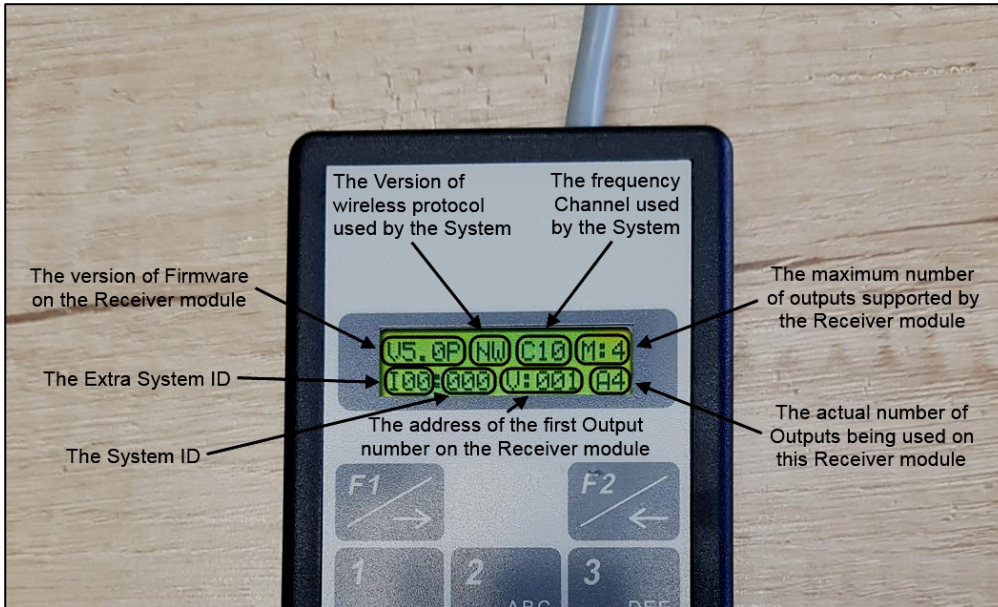
Figure 6: Screen Details

2.5   Programming the Receiver Module

- Step 1: Setting the Output Addresses on the Receiver Module.
- Step 2: Setting the Number of Outputs Required on the Receiver Module
- Step 3: Setting the Receiver Modules System I.D.
- Step 4: Setting the Receiver Modules Extra Sys I.D.
- Step 5: Setting the Receiver Modules Unit Type
- Step 6: Setting the Receiver Modules Frequency Channel
- Step 7: Programming the Receiver Module with the Various Settings

2.5.1 STEP 1: SETTING THE OUTPUT ADDRESSES ON THE RECEIVER MODULE.

1. In the programmer's main menu, use ▲ ▼ arrows to move to 3 (Valve number).

2. Press **ENT**.

3. Use ▲ ▼ arrows to select the appropriate controller output address to match the first Receiver Module output.

4. Press ENT again.

> Example: If the first radio valve in the controller Device Layout is configured to Output 17, define the first receiver module output as 17. A Receiver module with three outputs will be addressed as follows: Output 1 will be address 17, output 2 will be address 18 and output 3 will be address 19.

NOTE Avoid setting the Receiver modules first output address in a region that will cause the second, third or fourth output to overlap the output values 32 and 33, 64 and 65, or 96 and 97.

Example: If a four line receiver is set as 31, the other outputs will be 32, 33 and 34. Outputs 33 and 34 will not be functional.

The modules output addresses are now set on the HHP and require downloading to the Receiver module once all other programming is completed (See step 7).

2.5.2 STEP 2: SETTING THE NUMBER OF OUTPUTS REQUIRED ON THE RECEIVER MODULE

1. In the programmer's main menu, use ▲ ▼ arrows to move to 4 (Valve Amount.).

2. Press **ENT**.

3. Use ▲ ▼ arrows to select number of outputs that will be used on the Receiver module.

NOTE On a module that has been factory set for 2 lines only; a maximum of 2 outputs can be selected. On a module that has been factory set for 4 lines only; a maximum of 4 outputs can be selected. It is possible to select less that the factory set amounts but a minimum of 1 output must be selected.

4. Make your selection and then press ENT
   - The Receiver modules number of outputs has now been set on the HHP and require downloading to the Receiver module once all other programming is completed (See step 7).

2.5.3 STEP 3: SETTING THE RECEIVER MODULES SYSTEM I.D.

1. The System I.D. pairs the Receiver module with a transmitter device set with the same System ID.

2. In the programmer's main menu, use ▲ ▼ arrows to move to 5 (System ID).

3. Press **ENT**.

4. Use ▲ ▼ arrows to select the system I.D. The selection range is from 000 to 255.

5. Once a number corresponding with the number used by this system transmitter device is selected, press ENT again.

NOTE It is important to make sure that this system cannot interfere with another system which utilizes the same ID

   - The Receiver modules systems ID has now been set on the HHP and requires downloading to the Receiver module once all other programming is completed (See step 7).

2.5.4 STEP 4: SETTING THE RECEIVER MODULES EXTRA SYS I.D.

NOTE This feature is not supported by GREEN RTU receiver modules.

The Extra Sys(tem) ID pairs the Receiver module with a transmitter device set with the same Extra Sys ID. It works in the same manner as the System ID as explained under Step 3 above. The objective of the Extra Sys ID is to provide additional ID's to be used over and above the 256 normal System ID's.

1. In the programmer's main menu, use ▲ ▼ arrows to move to 6 (Extra Sys ID).

2. Press **ENT**.

3. Use ▲ ▼ arrows to select the Extra Sys ID. The selection range is from 0 to 7.

4. Once a number corresponding with the number used by this system transmitter device is selected, press ENT again.

NOTE It is important to make sure that this system cannot interfere with another system which utilizes the same ID

- The Receiver modules Extra Systems ID has now been set on the HHP and requires downloading to the Receiver module once all other programming is completed (See step 7).

2.5.5 STEP 5: SETTING THE RECEIVER MODULES UNIT TYPE

Unit Type refers to the version of wireless protocol being used in the system. This normally defined by the type of transmitter device but in general NEW is for the G3 or newer versions of Receiver modules and OLD is for the G2 or older versions of Receiver module

1. In the programmer's main menu, use ▲ ▼ arrows to move to 7 (Unit Type).

2. Press **ENT**.

3. Use ▲ ▼ arrows to select between OLD and NEW receiver type.

NOTE If the software version POPTX XX is available on the systems radio transmitter interface card or if the RX Module/s being used are GREEN RTU, the module should be set to the NEW type. If the software version REMTX XX is available on the systems radio transmitter interface card, the module should be set to the OLD type. All other transmitter devices will pertain to the generation of Receiver module being used.

4. Press ENT.
- The modules software version has now been set on the HHP and requires downloading to the receiver module once all other programming is completed (See step 7).

2.5.6 STEP 6: SETTING THE RECEIVER MODULES FREQUENCY CHANNEL

NOTE This feature is not supported by G4 or earlier versions of receiver modules.

Frequency Channel refers to the channel that the wireless systems TX Module has been set to operate on (Refer to the document "915_868_433MHz Transmitter Module Installation Guide.pdf" for more information). The objective of the channel setting is to allow systems that are in close proximity to each other to operate without interference by other systems in the immediate location by being set on a different channel (frequency).

1. In the programmer's main menu, use ▲ ▼ arrows to move to 1 (Unit Type).

2. Press **ENT**.

3. Use ▲ ▼ arrows to select the channel number which the wireless systems TX module has been set to operate on. (Refer to the document "915_868_433MHz Transmitter Module Installation Guide.pdf" for more information).

NOTE When using the 915MHz transmitter module a total of 15 channels (1 to 15) are available. This is restricted to a maximum of 10 channels (1 to 10) when using 868 or 433MHz transmitter modules.

4. Press **ENT**.
- The modules frequency channel has now been set on the HHP and requires downloading to the receiver module once all other programming is completed (See step 7).

2.5.7 STEP 7: PROGRAMMING THE RECEIVER MODULE WITH THE VARIOUS SETTINGS

1. In the programmer's main menu, use ▲ ▼ arrows to move to 1 (Program).

2. Observe both the green and the red LED's on the Receiver module that is about to be programmed.

3. Press **ENT**.

- ○ The Red and Green LED's should flash (for approximately 1 second) during the process of downloading the setting from the HHP to the Receiver module. Both LED will extinguish once the download process has completed.

- ○ The Green LED will flash on for a few seconds and extinguish where after the downloaded setting will now appear on the screen of the HHP as per the image below.

- ○ If the settings appear in accordance with what was selected, the Receiver module is now ready for field operation.

In the image above, the RX modules firmware version is *V5.0P*, the modules wireless communications protocol is set to *NW* (new), the modules frequency channel is set to *C10* (channel 10), the modules maximum number of outputs supported is *M:4* (4), the system extra ID is set to *I00* (0), the system ID is set to *001* (1), the first output is set to V:001 (01) and the actual number of function outputs on the module are *A4* (4) which would mean this module controls outputs 01, 02, 03 and 04.

2.6 How to Read the Receiver Module

1. Press **MENU**.

2. In the programmer's main menu, use ▲ ▼ arrows to move to 2 (Read).

3. Press **ENT**.

4. Observe the LED's on the Receiver module which is about to be read.

5. The Red and Green LED's should flash once for approximately 1 second and then extinguish.

- ○ The Green LED will flash on for a further few seconds and extinguish where after the setting relevant to this Receiver module should then appear on the screen of the HHP (as per the image below). This may take a few seconds to update.

o   If any of these settings are incorrect or need updating, repeat steps 1 to 6 under "*Programming the receiver module*" above.

2.7   Disconnecting the Receiver Module From HHP

Once programming or reading has been completed, disconnect the Receiver module form the HHP and reconnect the Receiver modules battery.

- The Receiver module will re-activate immediately once the battery is reconnected.
- The Red and green LED's should light up.
- The Green LED will turn off and the Red LED will remain on for around 5 minutes after the battery was reconnected.
- During the 5 minute period explained above, should a radio signal applicable to this receiver module (ID being the same as the transmitted signal), be received by the unit, the green LED will flash briefly.
- If data that pertains to one or more of the outputs has been received by the module, the output/s will be activated or deactivated dependent on the status requested. At this time during the 5 minute period the green LED will also flash briefly.

3 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 GREEN RTU RX Programmer, (for example cables, attenas, 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.

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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.

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