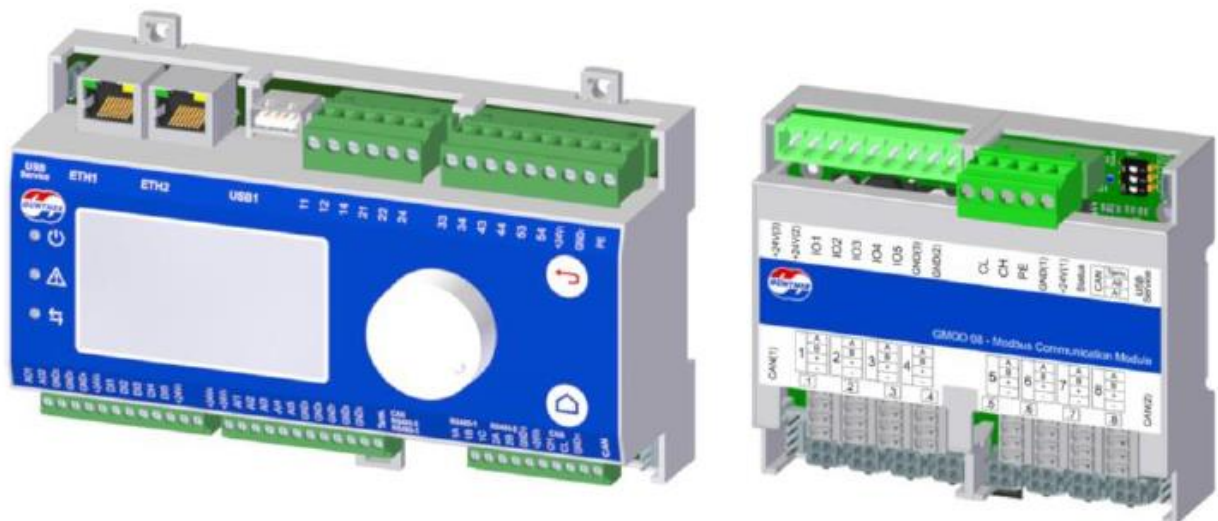


## Instructions for replacing GMM EC with GMMnext

Tools / Procedures / Settings



Product line:	Electronic controllers
Series description:	GMMNext
Series:	GVW

[guntner.com/br](http://guntner.com/br)



## 1 Purpose

Güntner has released a new controller **GMMnext** which is replacing the old model **GMM EC**. Due to the need to upgrade the equipment from version GMM EC to GMMnext, this document provides the necessary guidelines for upgrading it.

## 2 Required components

- 1 x GMMnext Rail.1 (PN 5207684);
- 1 x GMOD 08 for every eight fans (PN 5207184);
- 1 x 4-pin long cable (PN 5205009);
- 1.0 m x grounding wire;
- 0.18 m x DIN rail.

## 3 Necessary tools

- Screwdrivers;
- Small Phillips screwdriver;
- Small flathead screwdriver;
- Wire stripper;
- Wire cutter;
- Electric Screwdriver (for self-tapping screw);
- Adequate safety equipment.

## 4 Procedures

The process of upgrading from GMM EC to GMMnext is separated in the 12 main steps described below.

### 4.1 Removing connections from GMM EC:

First, locate all the points where changes will be needed.

The GMM controller display may be present at two distinct positions. It may be internally attached to its panel with the connections. But it can also be located externally in a specific panel (for condensers), similar to Figure 1.



*Figure 1: Externally located GMM EC display.*

In case the display is positioned externally, you must identify an internal panel similar to the one shown in Figure 2.



Figure 2: Internal panel without GMM display.

After locating the components to be changed, perform the following procedures:

- Take a picture of the GMM EC (display and connections) to use as a reference at the GMMnext connection;
- At the GMM EC display, go to all settings made and write down or take a picture of the values used. For example, if the equipment has RTU modbus communication, go to 'Service' – 'features' – 'ext BUS-modul', as shown in Figure 3.

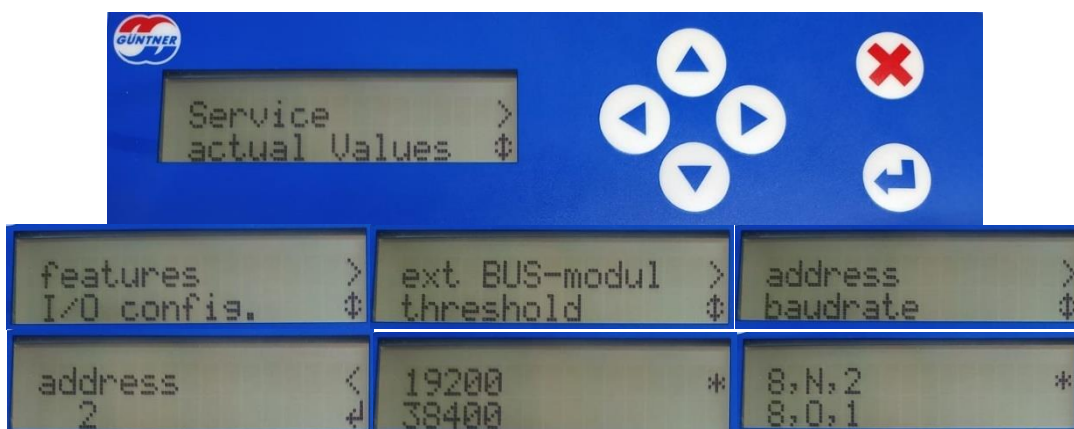


Figure 3: Modbus settings.

- Also, in 'Service' – 'features', find and save the information related to the operation mode ('operation mode') and heat exchanger type ('HE type'):

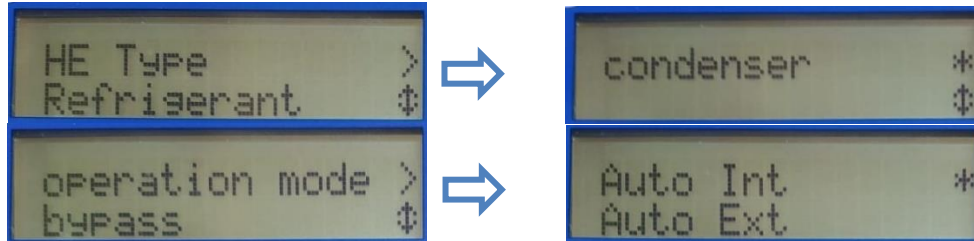


Figure 4: Operation mode settings.

- To get the information of a possible TCP/IP connection, the extra process below is required.
  - At the communication module, change the position of the DIP switch to ON

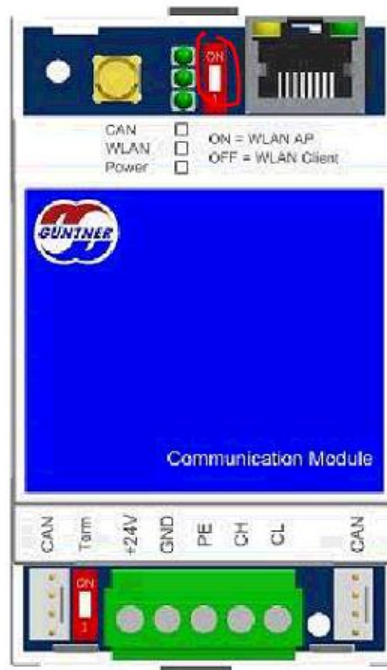


Figure 5: Enable ethernet communication.

- Connect a network cable from the communication module to a computer;
- On the computer go to the GMM WEB page through the IP 192.168.0.1 via Browser;
- When the login page appears, use the following credentials:



Figure 6: Login to GMM website.

- Go to **Settings - > LAN Settings:**

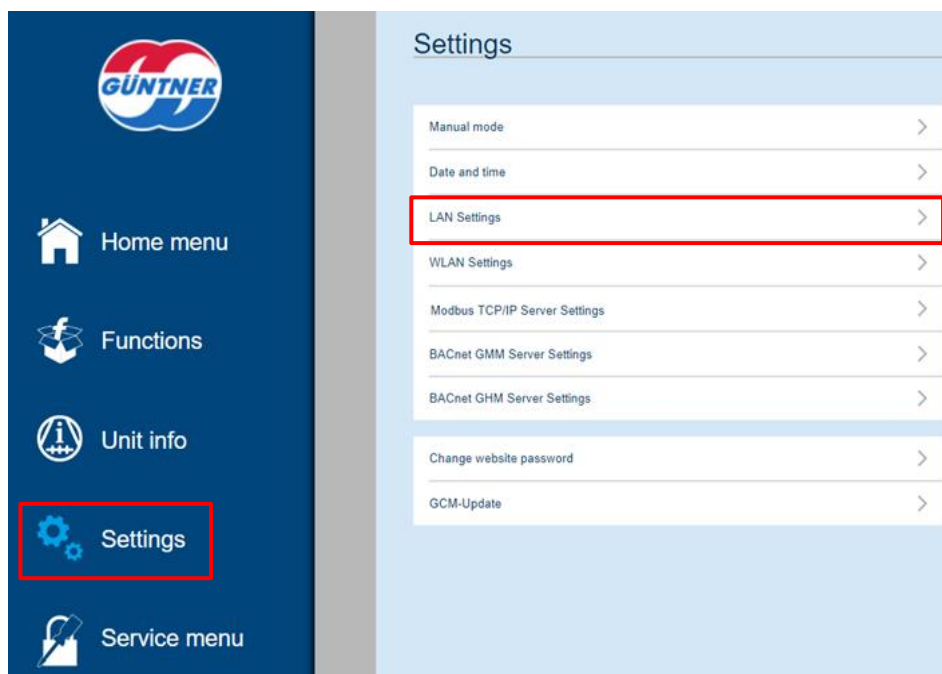


Figure 7: Access to LAN settings.

- Take note on the IP settings used




Figure 8: IP settings page.

- After obtaining all the information of the settings used, remove the power supply from the GMM EC controller by turning off the main circuit breaker of the equipment.  
**\*If you do not turn off the equipment as a whole, there is a possibility of burning the fan control module, in case of contact of the cables with improper parts.**
- Remove all connections from the GMM EC, as if to replace the entire panel. If they are not identified, identify all the cables to indicate the positions to be connected after installing the new GMMnext (Fan 1, Fan 2, DI1, AI2, etc.).

## 4.2 Removing the lower cover plate:

Use a standard Phillips screwdriver to remove the four screws that secure the lower cover plate, shown in Figure 9 .

Save this plate since it will be used later on.

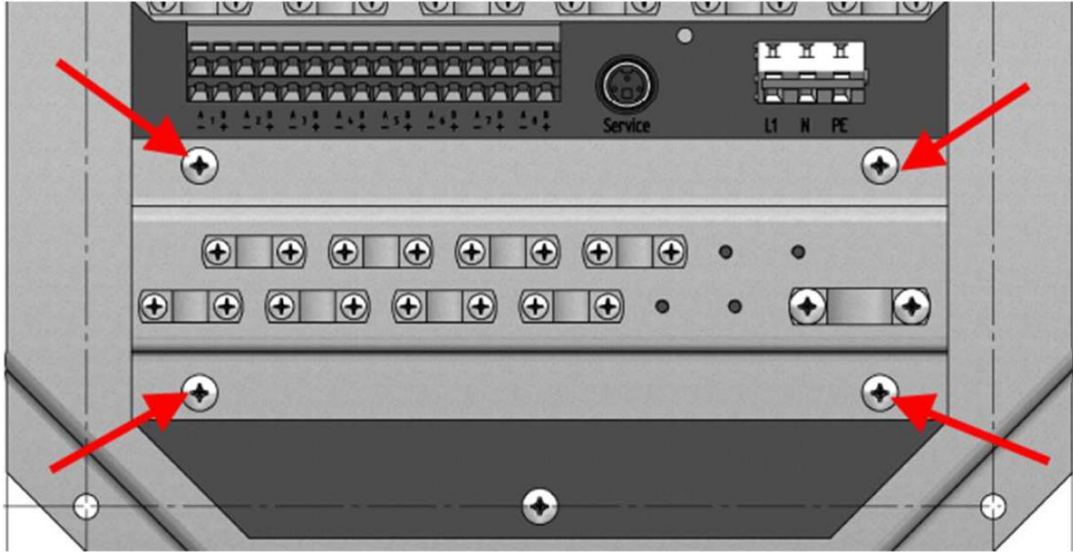


Figure 9: Removing the lower cover plate.

### 4.3 Adding a DIN rail

Use the two lower holes that secured the cover plate to attach the supplied DIN rail as shown at Figure 10.

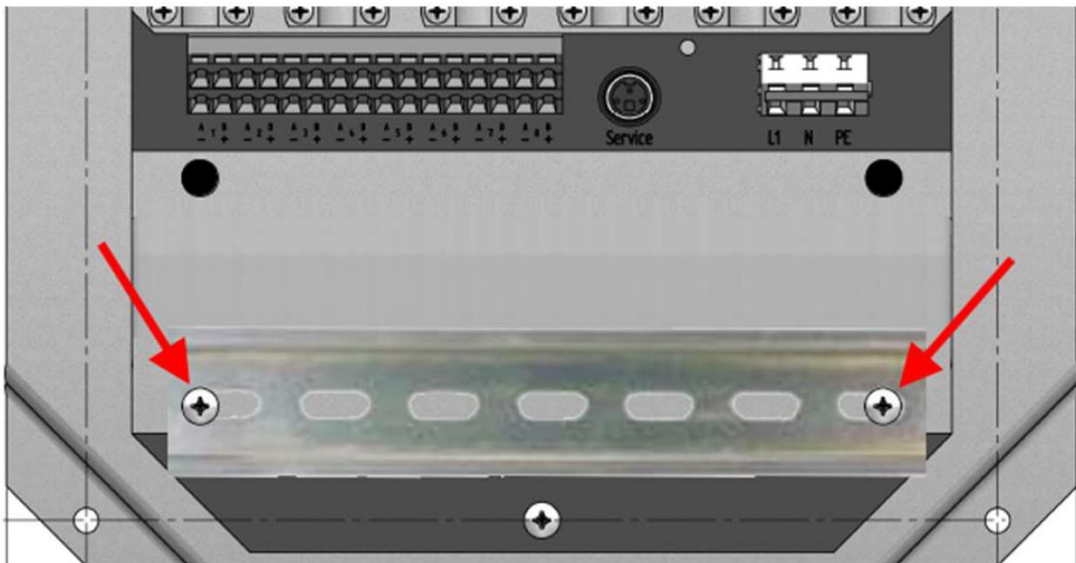


Figure 10: DIN rail attachment.



## 4.4 Attaching the GMOD component

Attach the GMOD 08 to the newly placed rail by pushing down the lower mounting clip release guide with a screwdriver.



Figure 11: Attaching the GMOD 08 Rail module.

\*If the equipment features 16 fans, two GMOD 08 must be attached side by side on the rail and the CAN addresses of each GMOD must be set by the DIP buttons as shown in Figure 12. Similarly, if the equipment features more than 16 fans, 3 GMOD 08 must be used.

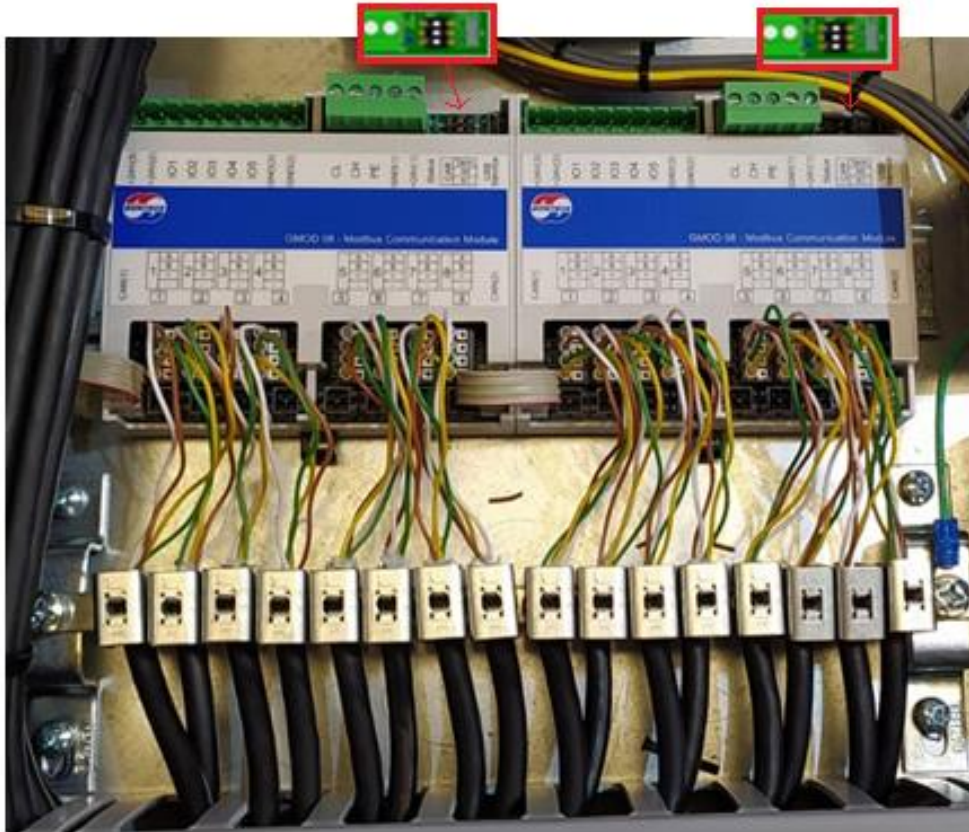


Figure 12: Connection of two GMOD 08 and setting of addresses.

#### 4.5 Reinstalling the cover plate:

Install the cover plate removed in step 2 just below the GMOD 08 rail, when possible, using self-tapping screws (see Figure 13).



Figure 13: Attaching the cover plate.

#### 4.6 Remove the GMM EC and insert the GMMnext:

- Remove the GMM EC controller using a screwdriver to release the lower mounting clip, highlighted in Figure 14;
- Connect the new GMMnext controller to the rail at the same position as the old model.

\*If your case is for use in condenser, as in Figure 1, it will be necessary to change the box where it is installed for a deeper one.

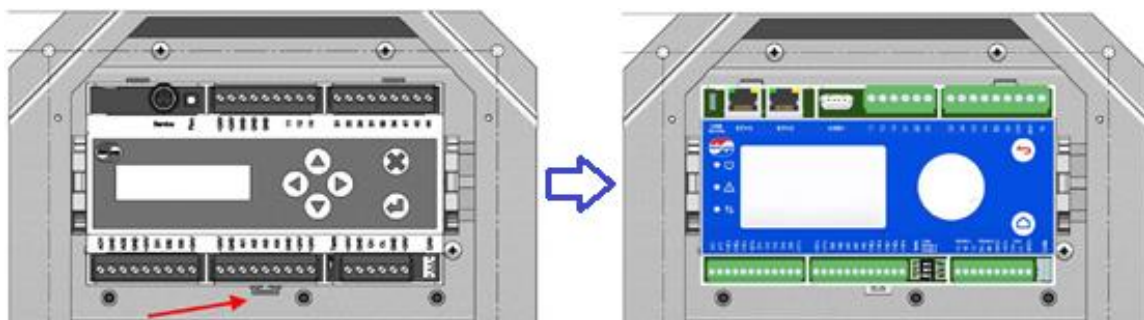


Figure 14: Upgrade from module GMM EC to GMMnext.

## 4.7 GMMnext Power Supply and Communication:

First, identify, at the white connector highlighted in Figure 15, the color of the wires associated with +24V and GND (neutral). Generally, +24V is a white wire and GND is a brown wire, but this must always be confirmed.

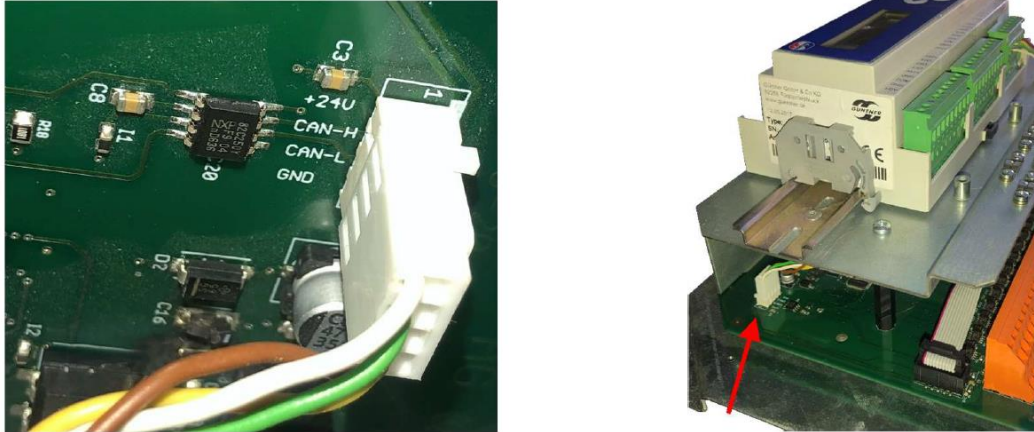


Figure 15: Rework communication connector with GMMnext.

At the other end of the wire connected to the terminal, cut the wire so as to connect only the +24V and the GND.

The middle wires (CAN-H / CAN-L) can be cut off to avoid future confusion.

**\*These wires can never be connected to the GMMnext;**

Then, the process depends on the position in which the GMMnext display is located.

### 4.7.1 INTERNAL GMMnext:

- Insert the power supply (+24V and GND of the terminal previously cut off) into the terminals present at the upper right corner, as in Figure 16;
- The supplied PE wire (Green / Yellow) can be grounded at the top **right** screw at the installation of the GMM EC and terminated at the PE terminal of the GMMnext.

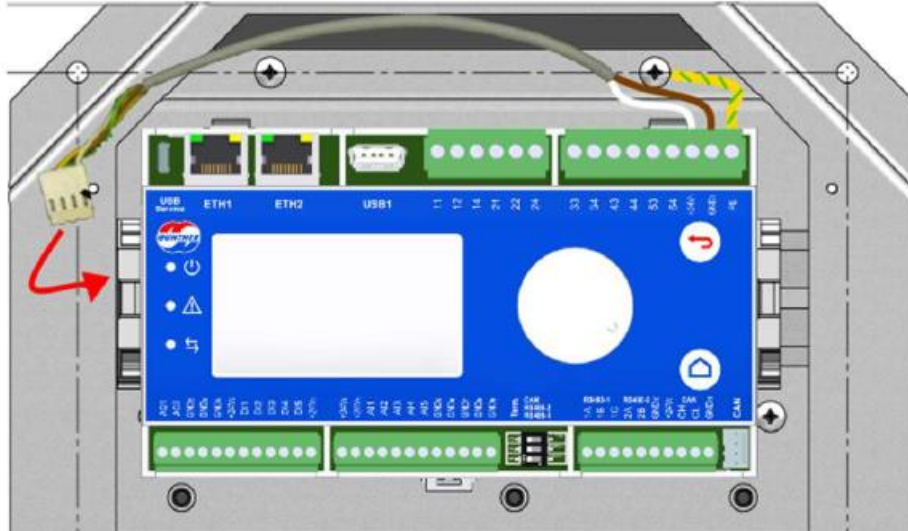


Figure 16: GMMnext power cable connection.

- To ensure the communication between the modules, use the supplied 4-pin cable to connect both devices. One end of the cable goes to the lower right side of the GMMnext and the other one is connected to the lower left side of the GMOD 08, as in Figure 17.

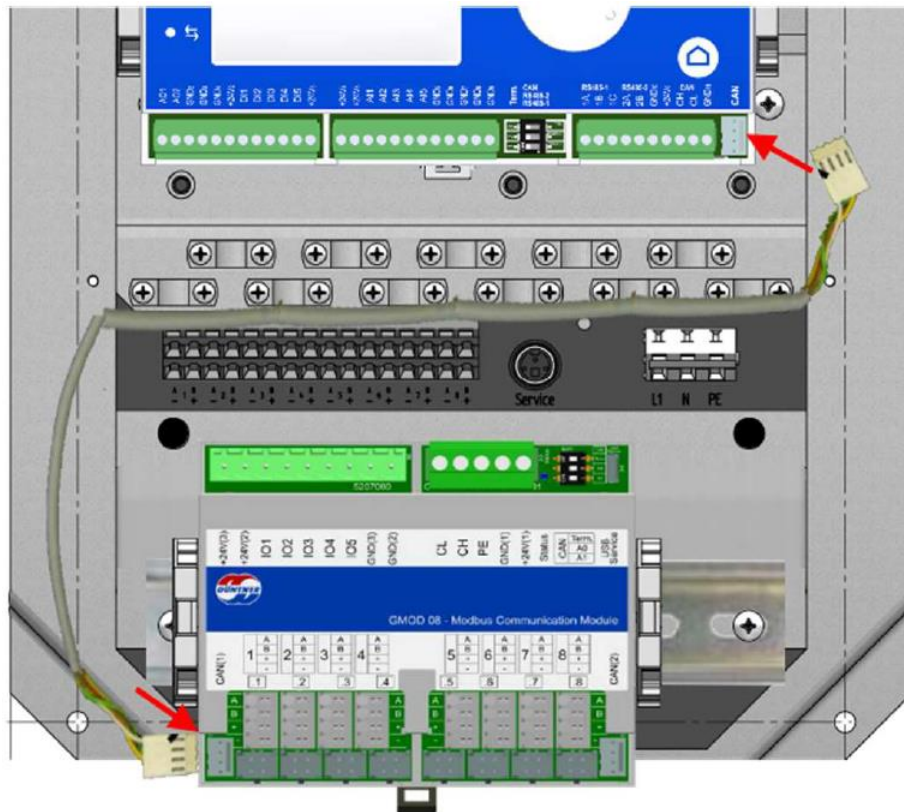


Figure 17: Connection between GMMnext and module GMOD 08.

#### 4.7.1 GMMnext WITH DISPLAY AT EXTERNAL PANEL:

In this case the connections must be made differently:

- The KK terminal connected to the communication module shown in Figure 18 must have the CAN-H and CAN-L wires cut off and then it must be connected to GMOD 08 at the lower left corner.

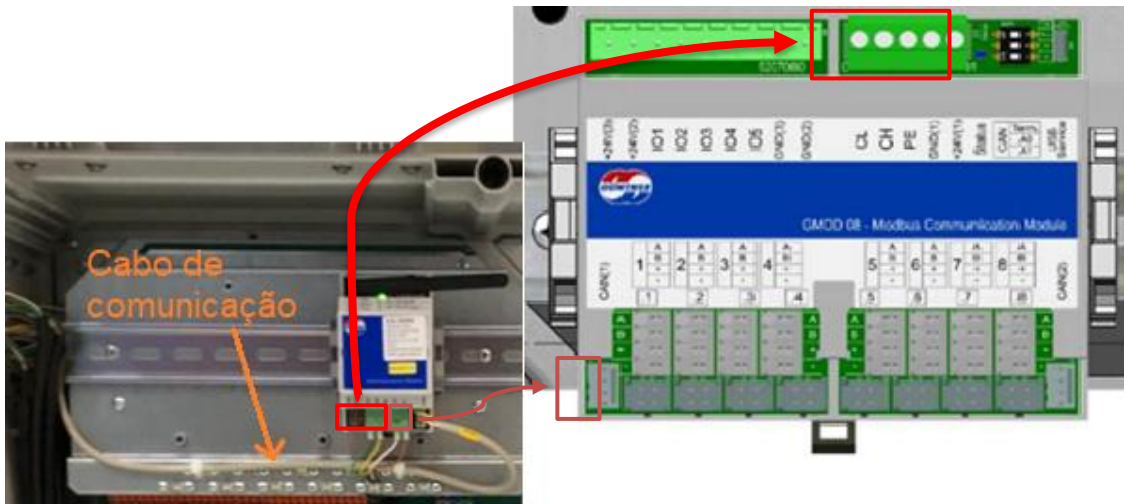


Figure 18: Connections required for the external GMMnext.

- To transmit the communication and power to the external display, remove the cables highlighted in red in Figure 18 from the communication module, and connect them to the upper terminal of GMOD 08.

**\* Take care to perform the correct connection of each pin.**

- At the external display, this cable will be connected by means of a purple cable as in Figure 19.



Figure 19: CAN communication cable.

**NOTE<sub>1</sub>:** If there is an Ethernet or RS-485 communication cable connected to the communication module, it must be remade so that it is transmitted to the externally located GMMnext.

**NOTE<sub>2</sub>:** Only the ETH1 ethernet input and/or serial communication RS-485-1 must be used, if applicable to the equipment.

## 4.8 Connecting the modbus communication with the fans

At this new model, the communication with the fans is through the GMOD 08. For each fan, connect the A/B/+/- cables from the orange terminal of the GMM EC to the GMOD 08 in positions 1 to 8 corresponding to each fan.

For this connection, Güntner uses the two cable patterns of Figure 20:

- Purple cable: Red (+) / Black (-) / White (A) / Blue (B);
- Black cable: Green (+) / Yellow (-) / White (A) / Brown (B).

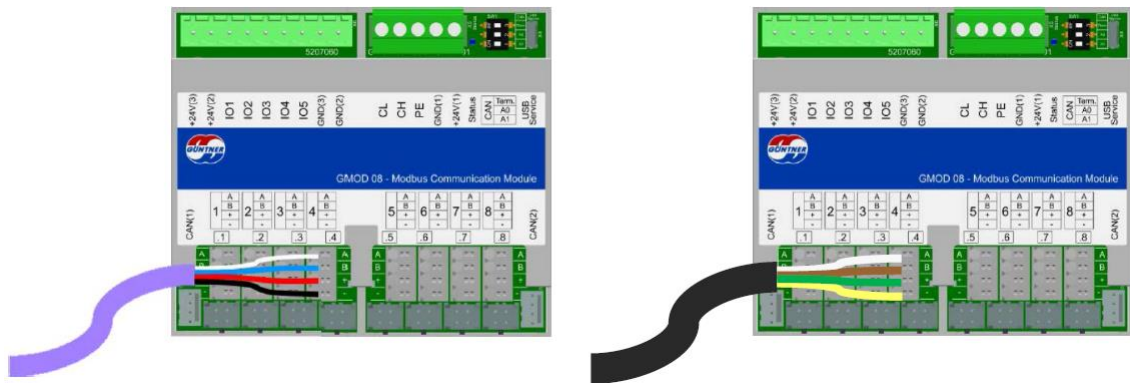


Figure 20: Connecting fans to the GMMnext.

## 4.9 Reconnecting the remaining cables:

Use the photo taken at the first step to connect the remaining cables to the GMMnext terminals.

\* The name of the terminals (DI1 / AI1 / GND) / etc.) from GMM EC to GMMnext are the same.

## 4.10 Energizing the GMMnext:





Turn on the equipment via the circuit breaker and wait for the equipment to boot (GMMnext takes around 1 minute to turn on).

When the GMMnext is turned on for the first time, it will request and receive information from the fans, and it will be necessary to perform startup step by step presented below.




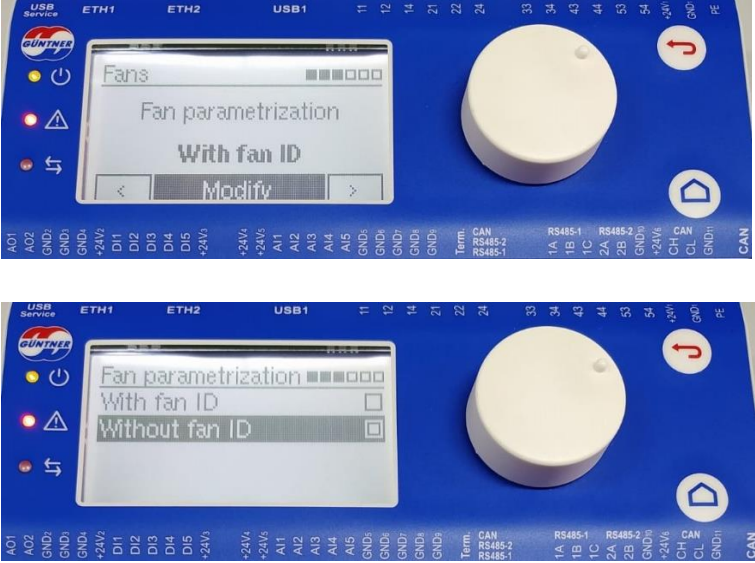
## 4.11 GMMnext startup:






When turning on the GMMnext for the first time, the equipment will open a window for settings in which several details will be requested to ensure the correct operation of the equipment. Follow the step-by-step below to perform such settings correctly.






**\*To select each setting, use the round button on the GMMnext. Rotate it to select the desired field and press it to select the option. The button with an arrow returns to the previous menu and the button with a drawing of a house returns to the home menu.**

<p>1. Select the desired language (English).</p>	
<p>2. To start the settings, select the right arrow key.</p>	
<p>3. Set the date (year – month – day) by selecting 'Modify'.</p>	
<p>4. Set the time (hour – min – sec) by selecting 'Modify'.</p> <p>*PM = before noon; *AM = after noon</p>	



	
<p>5. Select the number of fans present at the equipment.</p>	
<p>6. Just confirm the default setting by selecting the right arrow key.</p>	
<p>7. Modify the 'with fan ID' option to leave the field '<b>Without fan ID</b>' selected.</p>	
<p>8. Change the speed to the nominal value of the motors.</p>	

<p>*This value is written on the plate of each fan.</p>	 
<p>9. Just confirm the default setting.</p>	
<p>10. Set the Operating Mode as it was set at the GMM EC.</p>	
<p>11. Set the heat exchanger type (HE type) as it was set at the GMM EC.</p>	
<p>12. Just confirm the default setting.</p>	

	
<p>13. Just confirm the default setting.</p>	
<p>14. At this moment, the initial settings are finished. Select 'Finish' to proceed to the main menu.</p>	
<p>15. GMMnext main menu.</p>	
<p>16. To avoid total shutdown, it is necessary to set a minimum speed for the fans.</p> <p>At the main menu, press the round button to go to settings and then select the following options: 'Service' – 'Regulation' – 'Control value base'.</p>	

Then change the value to 10%.

Finally, press the lower right button to return to home screen.



17. NOTE: if the equipment features more than one temperature or pressure sensor, it is necessary to set the corresponding analog input.

For this, go to menu 'Service' – 'I/O Configuration' – 'Analog inputs' and select the Aix input as shown at the wiring diagram.

In this screen, in 'Profile', select the input type used (generally Current



4-20mA)



18. NOTE: if the equipment features one or more temperature sensors, it is necessary to verify whether they are set with the correct model.

The model can be accessed in 'Service' – 'Sensors' – Temperature Sensors'



## 4.12 Modbus communication setting:

Finally, it is necessary to set the RTU or TCP modbus communication as it was set at the GMM EC. For example, the following steps would be performed if an RTU modbus communication with the following characteristics was required:

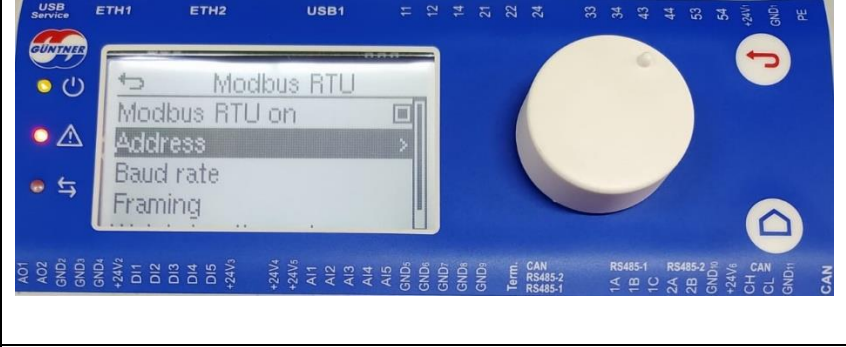

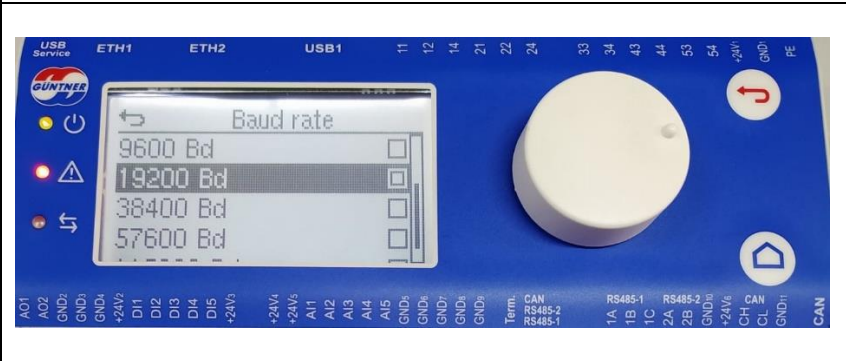

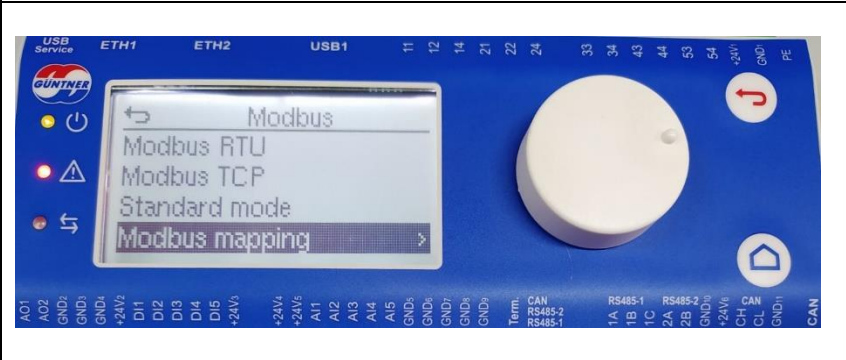
- Standard: 8-N-2;
- Baud rate: 19200;
- Address 2;

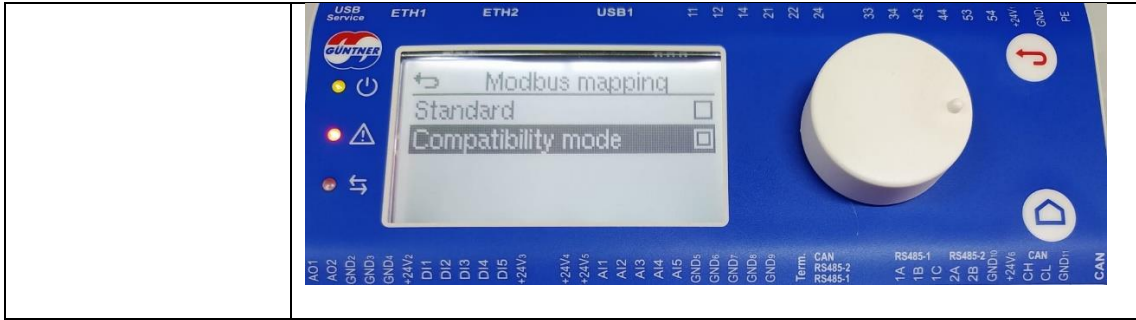
Modbus mapping: compatibility mode.

1. Go to RTU modbus settings.



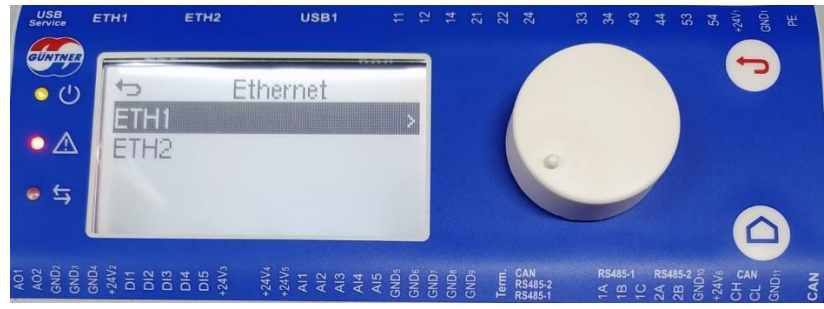
The first screenshot shows the 'Service' menu with 'Fieldbus settings' selected. The second screenshot shows the 'Fieldbus settings' menu with 'Modbus' selected. The third screenshot shows the 'Modbus' menu with 'Modbus RTU' selected.

	 <p>The screenshot shows the main menu of the device. The 'Modbus RTU' option is highlighted. Other visible options include 'Modbus TCP', 'Standard mode', and 'Modbus mapping'. The device's status bar at the top shows 'USB Service', 'ETH1', 'ETH2', 'USB1', and various pin numbers (11, 12, 14, 21, 22, 24, 33, 34, 43, 44, 53, 54).</p>
<p>2. Change the address to 2.</p>	 <p>The screenshot shows the 'Address' configuration screen. The value '2' is entered in the address field. Below the field, the range '1 (2) 247' is displayed. The device's status bar at the top shows 'USB Service', 'ETH1', 'ETH2', 'USB1', and various pin numbers.</p>
<p>3. Change the baud rate to 19200.</p>	 <p>The screenshot shows the 'Baud rate' configuration screen. The list of options includes '9600 Bd', '19200 Bd', '38400 Bd', and '57600 Bd'. The '19200 Bd' option is highlighted. The device's status bar at the top shows 'USB Service', 'ETH1', 'ETH2', 'USB1', and various pin numbers.</p>
<p>4. Change the communication standard to 8N2.</p>	 <p>The screenshot shows the 'Framing' configuration screen. The list of options includes '8N1', '8N2', '8O1', and '8E1'. The '8N2' option is highlighted. The device's status bar at the top shows 'USB Service', 'ETH1', 'ETH2', 'USB1', and various pin numbers.</p>
<p>5. In 'modbus mapping' change to compatibility mode.</p>	 <p>The screenshot shows the 'Modbus mapping' configuration screen. The list of options includes 'Modbus RTU', 'Modbus TCP', 'Standard mode', and 'Modbus mapping'. The 'Modbus mapping' option is highlighted. The device's status bar at the top shows 'USB Service', 'ETH1', 'ETH2', 'USB1', and various pin numbers.</p>




For **TCP** modbus setting, the process must be as follows:

1. In 'Service' go to 'Network settings' – 'Ethernet' – 'ETH1' – 'Manual settings' – IPv4 settings'.





	
<p>2. Change the fields 'Address', 'Prefix length' (Subnet Mask) and 'Gateway' according to the values obtained at step 1 of this manual.</p>	