EMM - SINGLE PHASE ENERGY MONITOR AND EMT - THREE PHASE ENERGY MONITOR

Warnings

⚠ This instruction is an integral part of the booklet of the appliance on which is installed. Please consult this booklet for general warnings and fundamental safety rules.

⚠ For a rapid and right assembly of the components follow carefully the sequences described in the various sections.

Description

The Energy Monitor modules are electronic devices that communicate with Butler Pro or Butler Pro Touch kits via serial cable and allow you to measure the absorbed electrical energy of the heat pump.

The module **EMM - Energy Monitor Monofase** allows to measure the absorbed electrical energy of the heat pump with single-phase power supply and can be installed on 35 mm DIN rail - 2 DIN modules.

The **EMT - Energy Monitor Trifase** module allows to measure the absorbed electrical energy of the heat pump with three-phase power supply and can be installed on 35 mm DIN bar - 4 DIN modules.

Functions

The modules allow:
- analysis of electricity consumption
- the correlation between the operating states of the heat pump and the electrical absorption so as to be able to optimize consumption

Coding

EP0642II: EMM - Single Phase Energy Monitor

EP0643II: EMT - Three Phase Energy Monitor

Standard supply

The EMM - Energy Monitor Monofase or EMT - Energy Monitor Trifase module can be ordered:
- together with a product with a factory-installed Butler Pro or Butler Pro Touch kit
- together with a product without a factory-installed Butler Pro or Butler Pro Touch kit
- separately

When ordered together with a product with a factory-installed Butler Pro or Butler Pro Touch kit:
- the accessory is installed at the factory and all electrical connections are already made

When ordered together with a product without a factory-installed Butler Pro or Butler Pro Touch kit:
- the accessory is installed at the factory
- the connection to a separately ordered Butler Pro or Butler Pro Touch kit is the responsibility of the installer

**In case of separate order:**
- installation of the accessory is the responsibility of the installer, to be carried out in an electrical panel separate from the main one of the heat pump
- the connection to any pre-assembled or separately ordered Butler Pro or Butler Pro Touch kit is the installer's responsibility

Electric connection
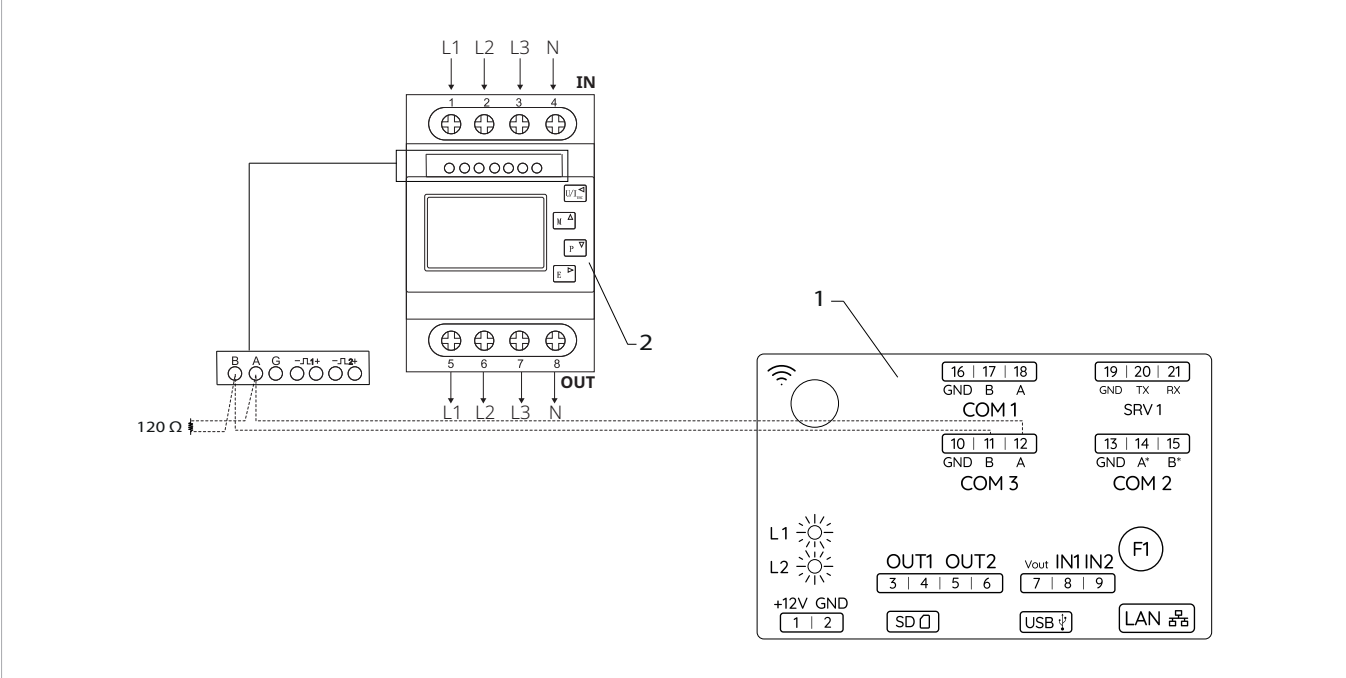
Wiring diagram with Buter Pro

EMM - Single Phase Energy Monitor

1.	Butler Pro
2.	EMM - Energy Monitor Monofase
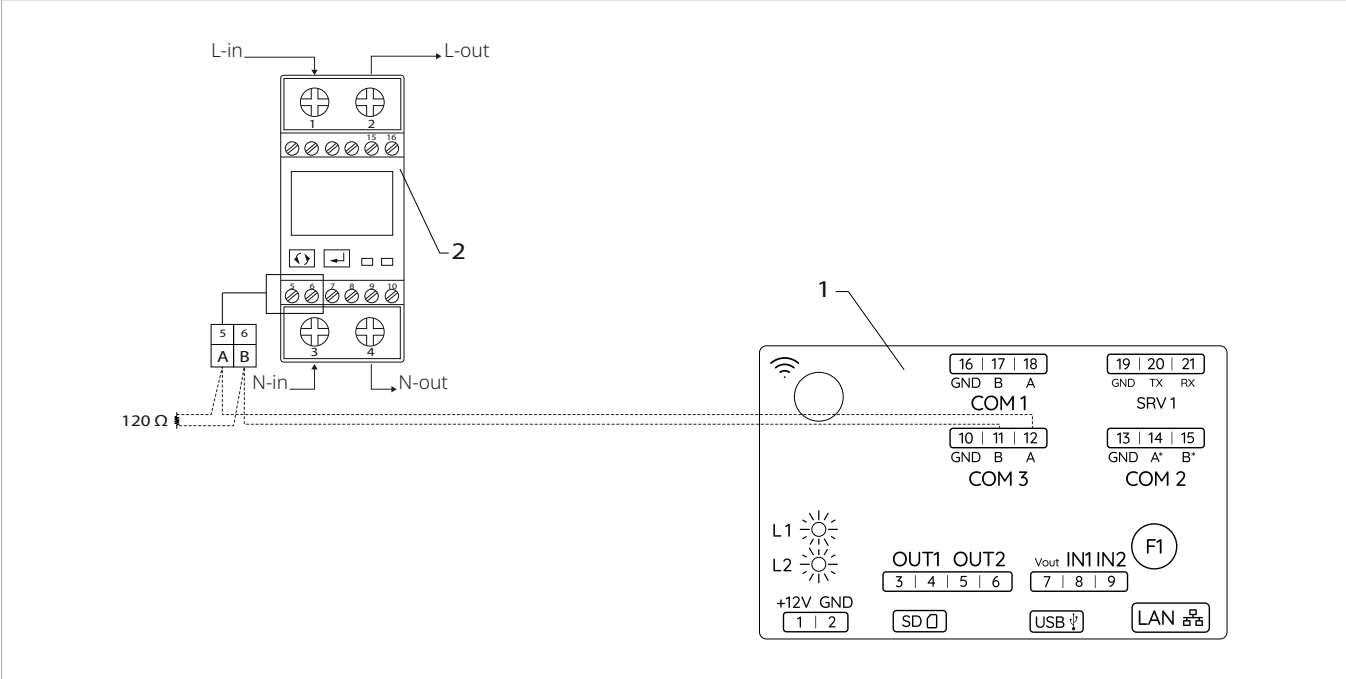
EMT - Three Phase Energy Monitor

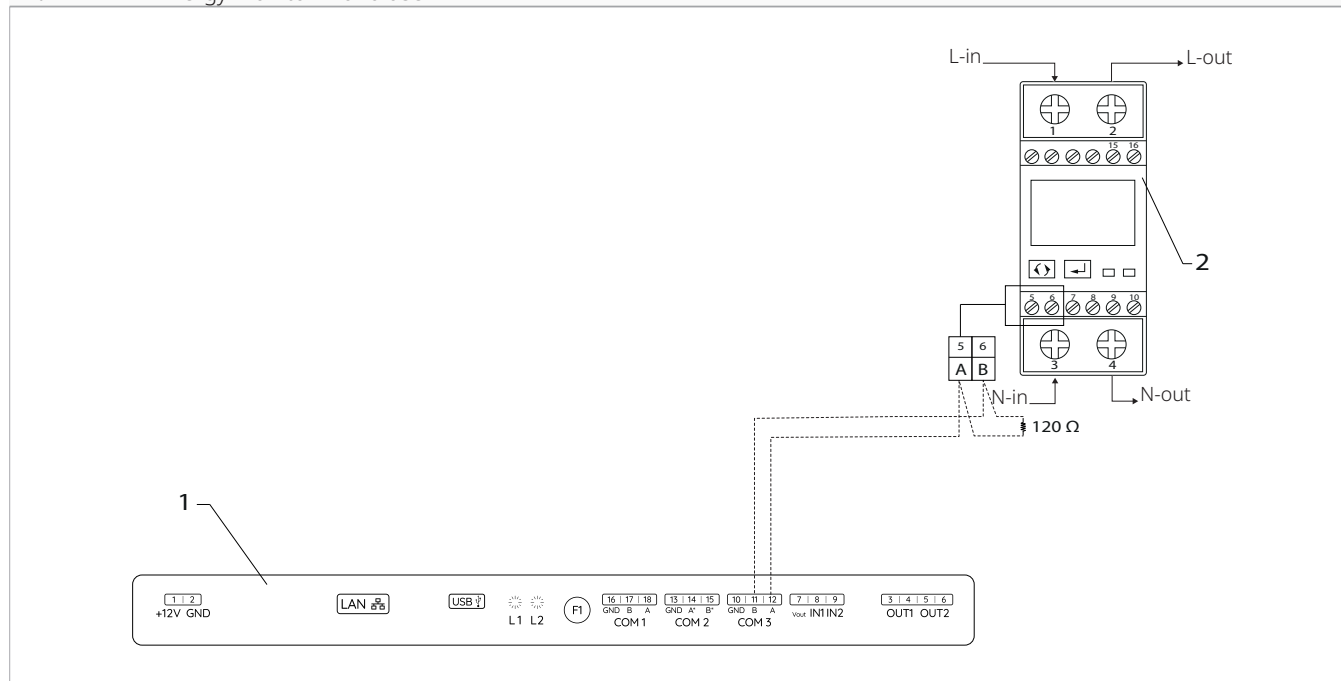| **1.**	Butler Pro
2.	EMT - Energy Monitor Trifase

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Wiring diagram with Butler Pro Touch

EMM - Single Phase Energy Monitor

| **1.** | Butler Pro Touch |
| **2.** | EMM - Energy Monitor Monofase |

EMT - Three Phase Energy Monitor

| **1.** | Butler Pro Touch |
| **2.** | EMT - Energy Monitor Trifase |
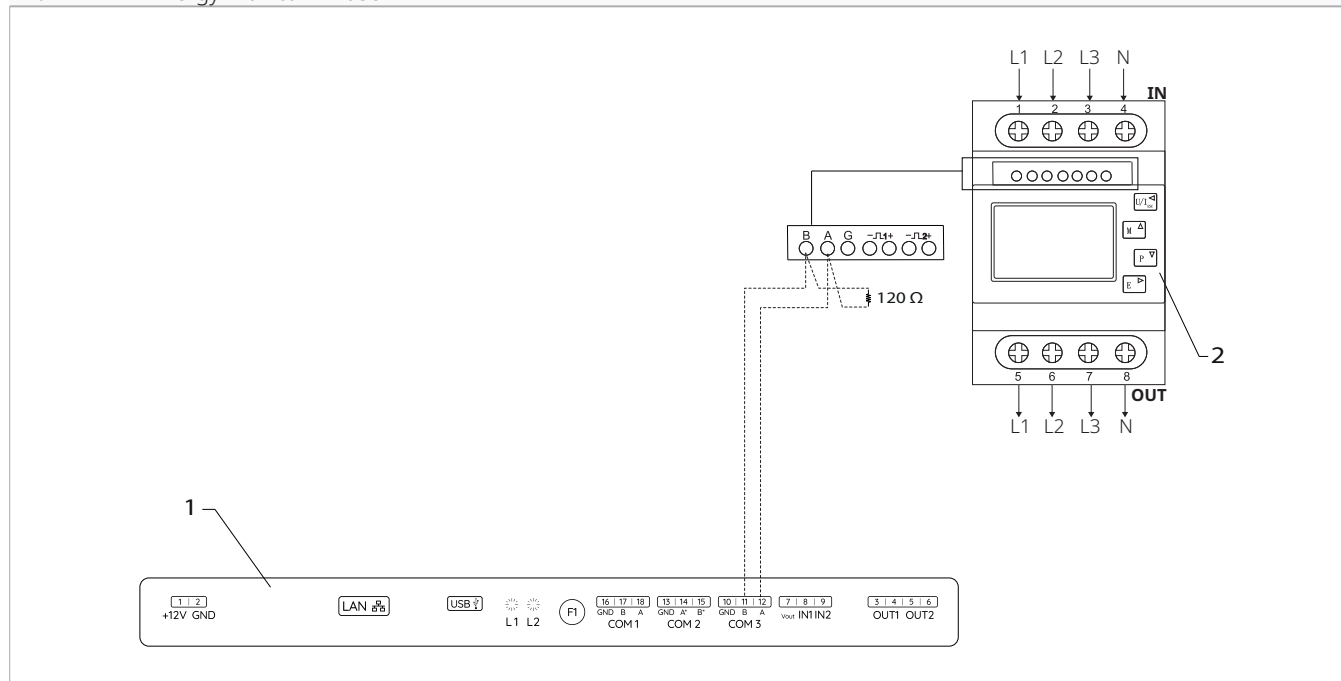
Connection

For the connection:
- remove a portion of the insulation from the end of the cable
- follow the indication on the connection diagram
- insert the cable into the spring terminal
- insert the cable completely

⚠ The spring terminals allow the connection of rigid or flexible cables with sections from 0.2 to 1 mm². For cables provided with lugs with plastic collar the maximum section is reduced to 0,75 mm².

For RS485 serial connection:

⚠ Use a bipolar shielded cable suitable for the RS485 serial connection with a minimum section of 0,35 mm².

⚠ Keeping the bipolar cable separate from power supply cables.

⚠ Chase out the wall in order to minimize the length of the leads.

⚠ Complete the line with the 120 Ω resistance.

⊖ It is forbidden make "star" connections.

Modbus address configuration

EMM - Energy Monitor Monofase and **EMT - Energy Monitor Trifase** modules are shipped from the factory with address 001.

It is possible to connect to the same kit Butler Pro or Butler Pro Touch up to a maximum of three modules. In this case it is necessary to configure different Modbus addresses (e.g. 002, 003, ...) for the different modules.

The Modbus addresses set are used to configure the EMM - Energy Monitor Monofase and EMT - Energy Monitor Trifase modules through Butler Pro. Refer to the Butler Pro or Butler Pro kit instruction sheet for configuring the modules through Butler Pro Touch.

EMM - Single Phase Energy Monitor

Modbus address configuration
- press the ⌨ key for 3 seconds to access the settings menu
  This takes you to the password entry screen.
  The first digit of the password flashes.
- press ⟳ to change value
  The value change.
- press ⌨ to move though digits
 *The next digit after the modified one flashes.*

⚠ A password is required to access the settings menu. Default password 1000.
- press ⌨ key for 3 seconds to confirm
  This takes you to the settings menu.
  The first menu item is Add, Modbus address modification.

- press the ⌨ key for 3 seconds to select the menu item
  You enter the edit mode. The first digit on the left flashes
- press ⟳ to change value
  The value change.
- press ⌨ to move though digits
  The next digit after the modified one flashes.
- press ⌨ key for 3 seconds to confirm
  The message good appears on the display. The change has been made.
  No digits are flashing, you are no longer in edit mode.
- press ⟳ key for 3 seconds to exit the menu
  You will return to the main screen.

EMT - Three Phase Energy Monitor

Modbus address configuration
- press the ⌨ key for 3 seconds to access the settings menu
  This takes you to the password entry screen.
  The first digit of the password flashes.
- press ⎙ and ⎙ to change value
  The value change.
- press ⌨ to move though digits
  The next digit after the modified one flashes.

⚠ A password is required to access the settings menu. Default password 1000.
- press ⌨ key for 3 seconds to confirm
  This takes you to the settings menu.
  The first menu item is Set Addr, Modbus address modification.
- press the ⌨ key for 3 seconds to select the menu item
  You enter the edit mode. The first digit on the left flashes
- press ⎙ and ⎙ to change value
  The value change.

- press ⌨ to move though digits
  The next digit after the modified one flashes.
- press ⌨ key for 3 seconds to confirm
  The message good appears on the display. The change has been made.
  No digits are flashing, you are no longer in edit mode.
- press ⎙ key for 3 seconds to exit the menu
  You will return to the main screen.

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