Communication
Box

Manual for use and maintenance

Communication Box

RS-232 and RS-485 Communication

◆ Munters

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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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Munters reserves the right to effect modifications to the apparatus in accordance with technical and legal developments.

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1 Introduction

1.1 Disclaimer

Munters reserves the right to make alterations to specifications, quantities, dimensions etc. for production or other reasons, subsequent to publication. The information contained herein has been prepared by qualified experts within Munters. While we believe the information is accurate and complete, we make no warranty or representation for any particular purposes. The information is offered in good faith and with the understanding that any use of the units or accessories in breach of the directions and warnings in this document is at the sole discretion and risk of the user.

1.2 Introduction

Congratulations on your excellent choice of purchasing a Communication 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 Overview

The Munters MUX enables in line communication between controllers and a PC.

- The COMMUNICATION BOX has an AC voltage input on the left side of the box, and three communication terminals.
- The left side terminal (RS-232) is connected to the controllers in the houses, the second one from the left is connected to the modem and the other one is connected to the P.C. as shown in the wiring diagram.
- The cable which comes from the controllers and connects to the RS-232 terminal should be a 3-wire shielded cable.

The MODEM input is the **priority channel**, while the PC is **not** a priority channel. This means, that in normal conditions the communication is performed between PC and Controllers. If the demand for communication comes in from the modem, the PC channel is blocked until the communication with the MODEM is complete.

NOTE If the communication is not working, try switching the RX and TX pins of the PC terminal.

NOTE Munters recommends the US Robotics Modem.

2.1 PC Terminal Connection

PC Terminal	Wire color	DB-9 Connector
TX	Red	2
RX	Black	3
COM	Shield	5

2.2 Modem Terminal Connection

Modem Terminal	Wire color	DB-25 Connector
TX	Red	2
RX	Black	3
-	Short	4
-		5
COM	Shield	7
DCD	Green	8
DTR	White	20

2.3 Environmental Protection

Recycle raw materials instead of disposing as waste. The controller, accessories and packaging should be sorted for environmental-friendly recycling. The plastic components are labeled for categorized recycling.

2.4 Wiring Diagram
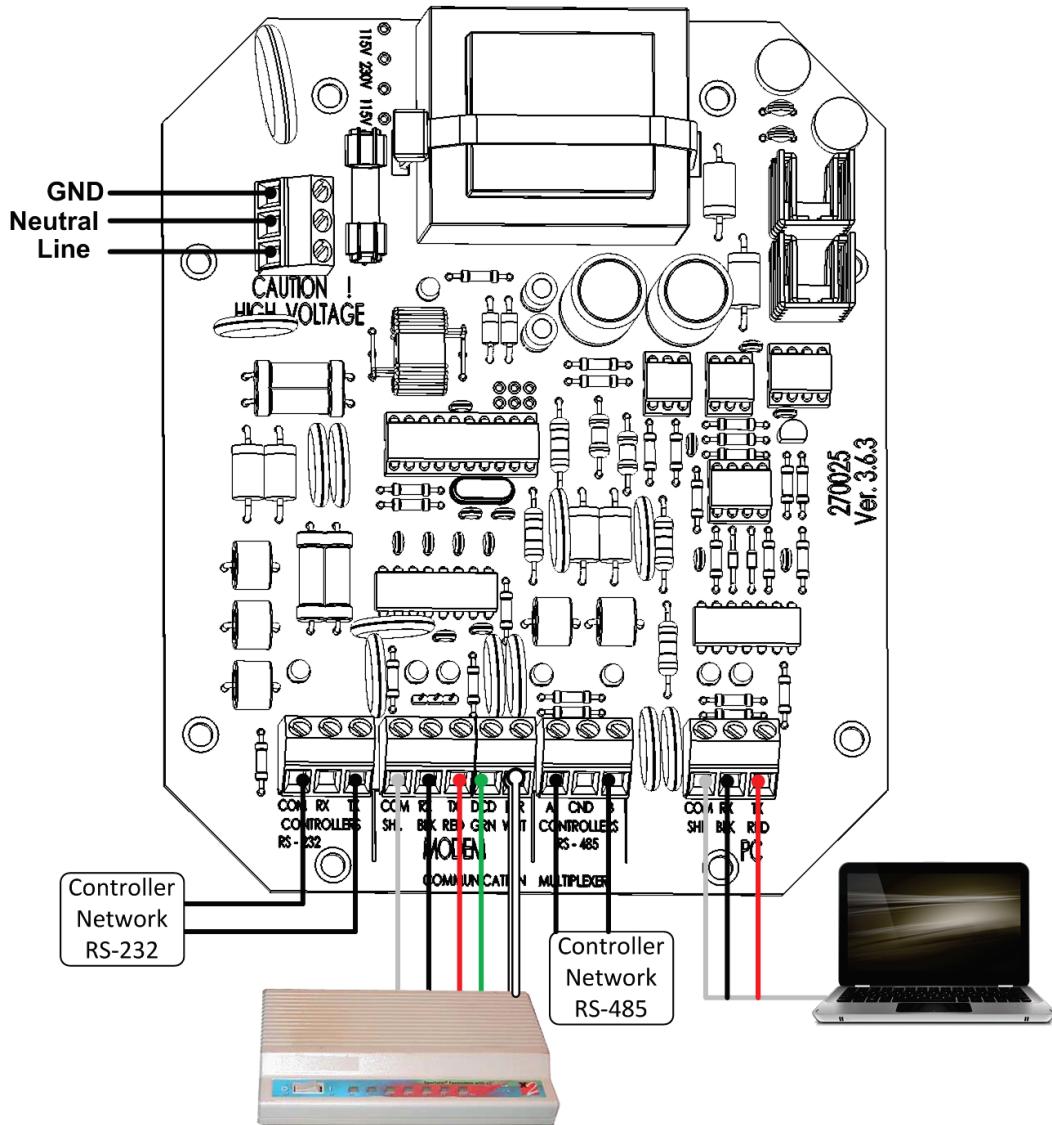
Speed	Cable length	Number of houses
2400	1000 m	32 controllers
2400	1500 m	10 controllers
4800	500 m	32 controllers
9600	300 m	10 controllers

The speed (baud rate) depends on cable length, number of houses, and level of noise in the lines. These results are lab tested and may vary in the field according to other parameters.

CAUTION   *Munters guarrentees the results shown in the above table only when employing AWG-24 shield cable (or better).*

2.5   RS-232 to Controllers Wiring Diagram

NOTE   *Note the ground connection method!*

1: Communication card

2: Long distance

3: Connect the cable shields only at 1) one end of every cable 2) one end of each house

4: Connect shield to GND

5: Neutral

6: Modem (priority channel)

7: COM 1, 2

8 PC
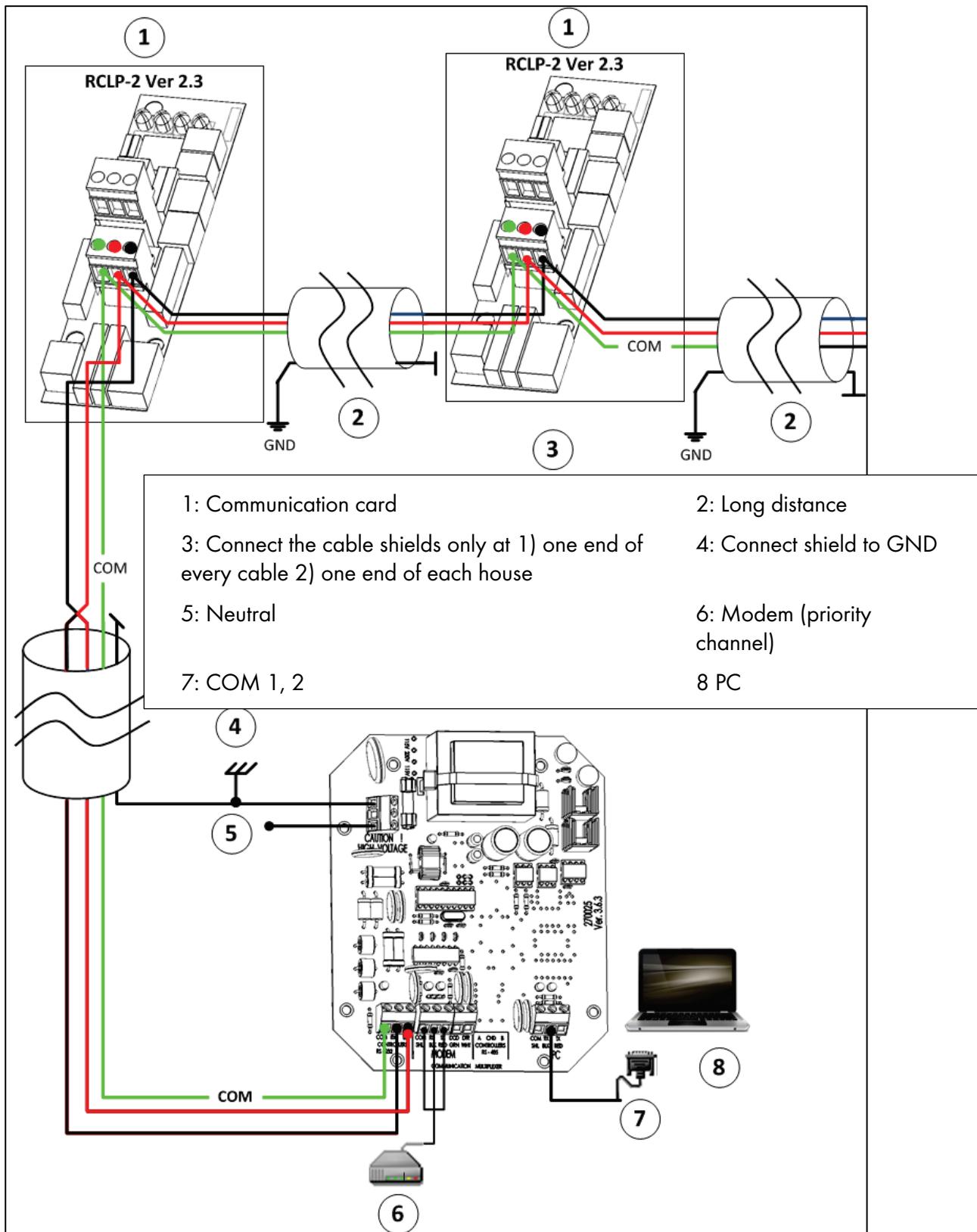
- The RS-232 **TX** (output) terminal connects to the Controllers **RX** (input) terminal.
- The RS-232 **RX** (input) terminal connects to the Controllers **TX** (output) terminal.
- The third wire connects the RS-232 **COM** Communication Box and Controllers.
- The shield should be connected to the ground (Safety Ground) on the Controller's side ONLY.

2.6 RS-485 to Controllers Wiring Diagram

Key:

1: Controller communication card

2: Long distance

3: To prevent a ground loop, connect shield wire on one end only.
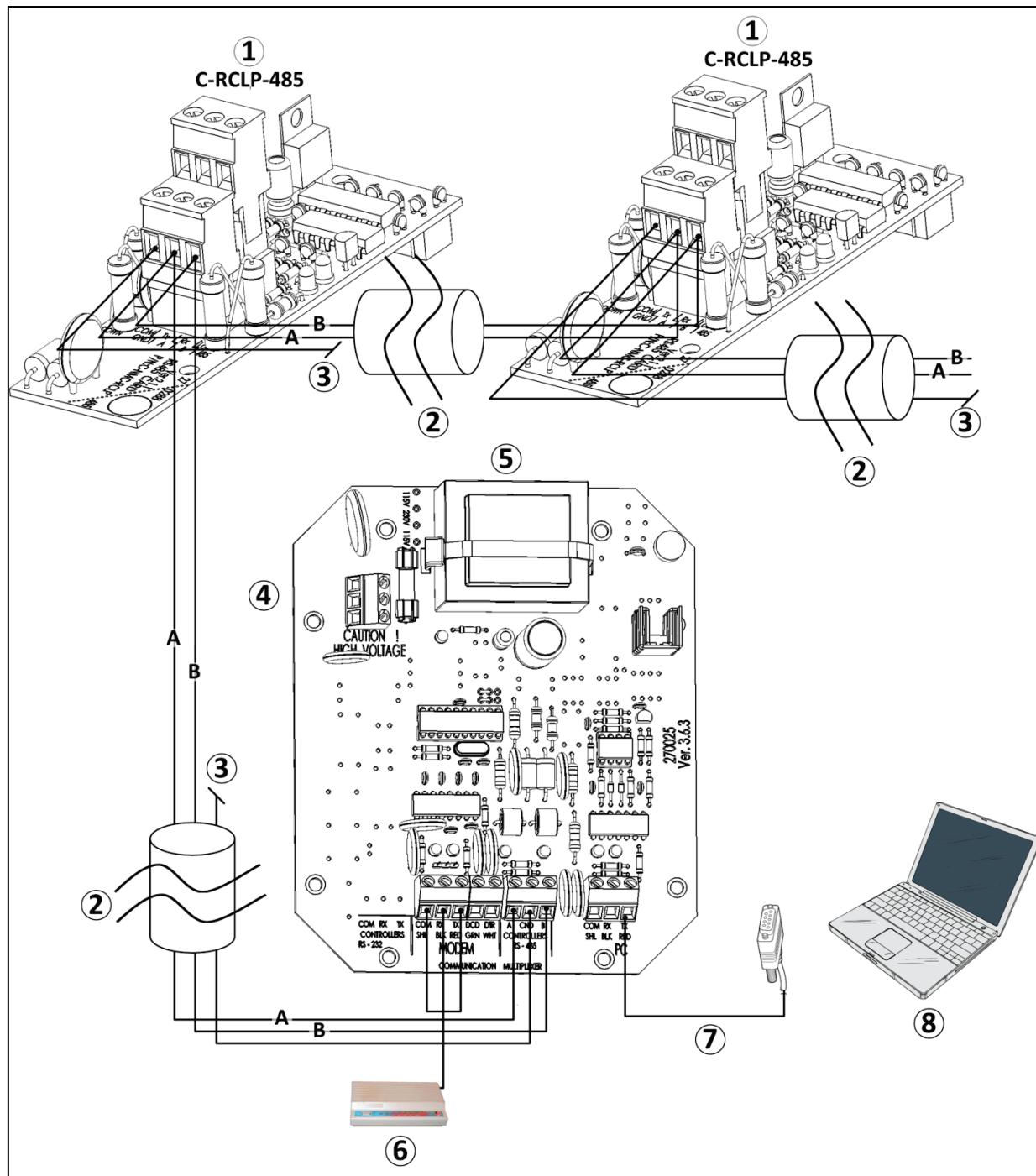
4: Neutral, ground connections

5: MUX RS-485 card

6: Modem (priority channel)

7: Com 1. 2

8: PC

2.7 Troubleshooting

In case of a communication problem

1. Open the unit.
2. Locate the LEDs and refer to the following charts.
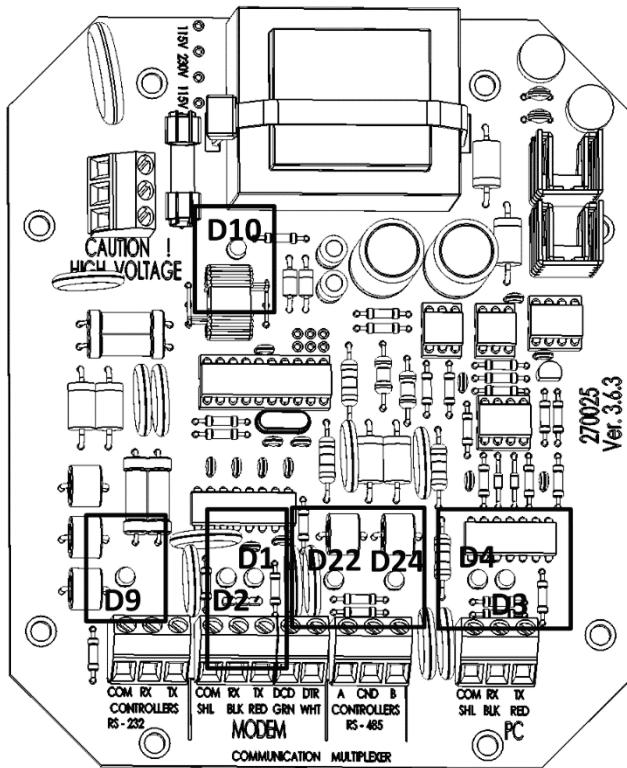
LED	State	Definition
D10	On OFF	Power OK Problem with the power supply
D1	Blinking Steady On or Off	Incoming RS-232 data from modem. No RS-232 data from modem.
D3	Blinking Steady On or Off	Incoming data from PC. No data from PC.
D9	Blinking Steady On or Off	RS-232 data sent to controllers. No RS-232 data to controllers
D24	Blinking Steady On or Off	RS-485 data sent to controllers. No RS-485 data to controllers
D2	Blinking Steady On or Off	RS-232 data sent to modem. No RS-232 data to modem
D4	Blinking Steady On or Off	RS-232 data to PC. No RS-232 data to PC
D4	Blinking Steady On or Off	RS-232 data to PC. No RS-232 data to PC

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 Communication Box, (for example modem, 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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