

# Installation Manual

## Green Expansion



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### Relay Expansion

Ag/MIS/UmEN-2737-05/19 Rev 1.1

P/N: 116790

# Green Expansion

## Manual for use and maintenance

Rev 1.1 05/2022

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

This document is destined for the user of the apparatus: it may not be reproduced in whole or in part, committed to computer memory as a file or delivered to third parties without the prior authorization of the assembler of the system.

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 Green Expansion!

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 2019

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

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## 2 Green Expansion Box

*CAUTION This unit must be installed inside, in a location protected from solar radiation and direct rain*

The Green Expansion box acts as remote I/O terminals; it is connected to the main CPU through a network connection and cannot function independently.

A maximum of three Expansion Boxes can be connected to an Green House or Green Climate upper port network.

### 2.1 Wiring

The Green Expansion boxes can be connected as follows:

- RS-485 using an RCLP 485 X 2 (long range – see Figure 1):
  - Controller side: Connect the upper port of the controller communication card (RCLP 485 X 2) to the Expansion box.
  - Expansion box side: Connect the wires to the RS485 communication port located on the Expansion box CPU (do not invert Rx and Tx wires).

Green Expansion boxes can be daisy chained or parallel.

Green Expansion boxes can only be daisy chained. In this case invert Rx and Tx only in the first connection between the Controller and the first Expansion Box. In the connections between the Expansion Boxes do not invert.

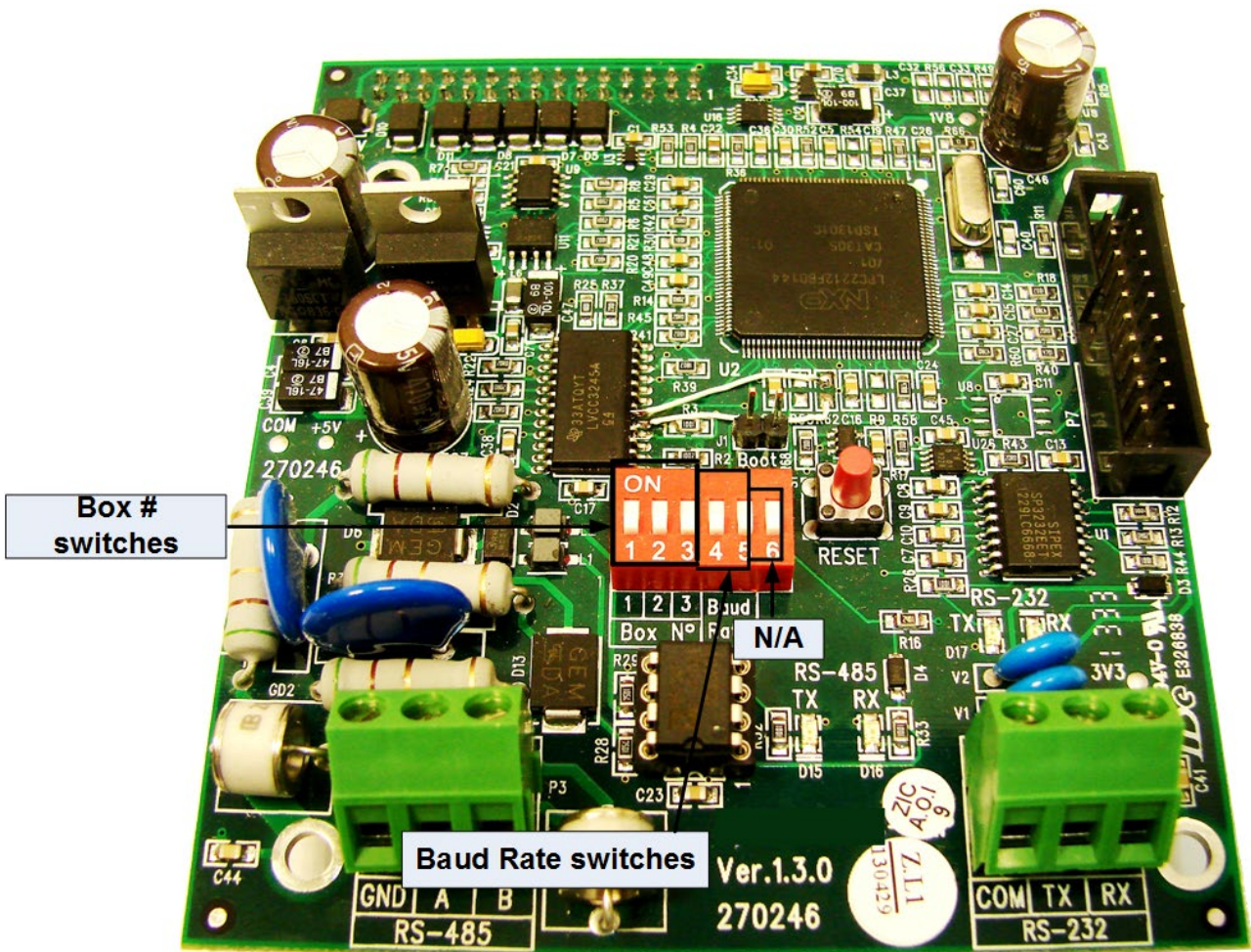


Figure 1: Expansion card layout

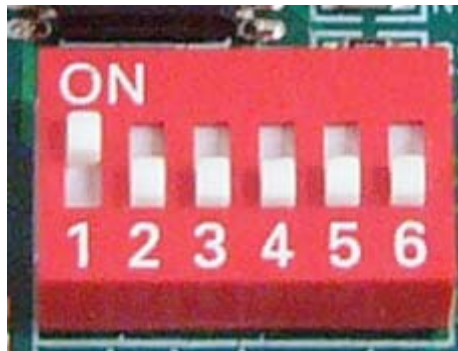


Figure 2: Box # set to '1' for Expansion box #1

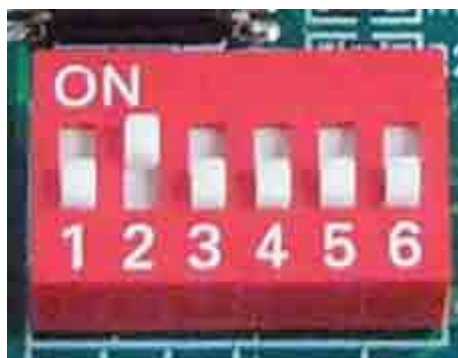


Figure 3: Box # set to '2' for Expansion box #2

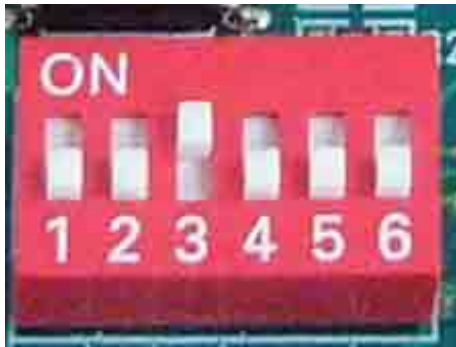


Figure 4: Box # set to '3' for Expansion box #3



Figure 5: Baud rate switches in 9600 mode

Table 1 presents all available states of switches '4' and '5' (see Figure 5).

Figure 5 presents a Baud rate of 9600 (see table below for further explanations)

'4' switch position	'5' switch position	Baud Rate
Low	Low	2400
High	Low	4800
Low	High	9600
High	High	19200

Table 1: Baud rate values

NOTE Note that Figures 1-4 apply to Figures 6-8.

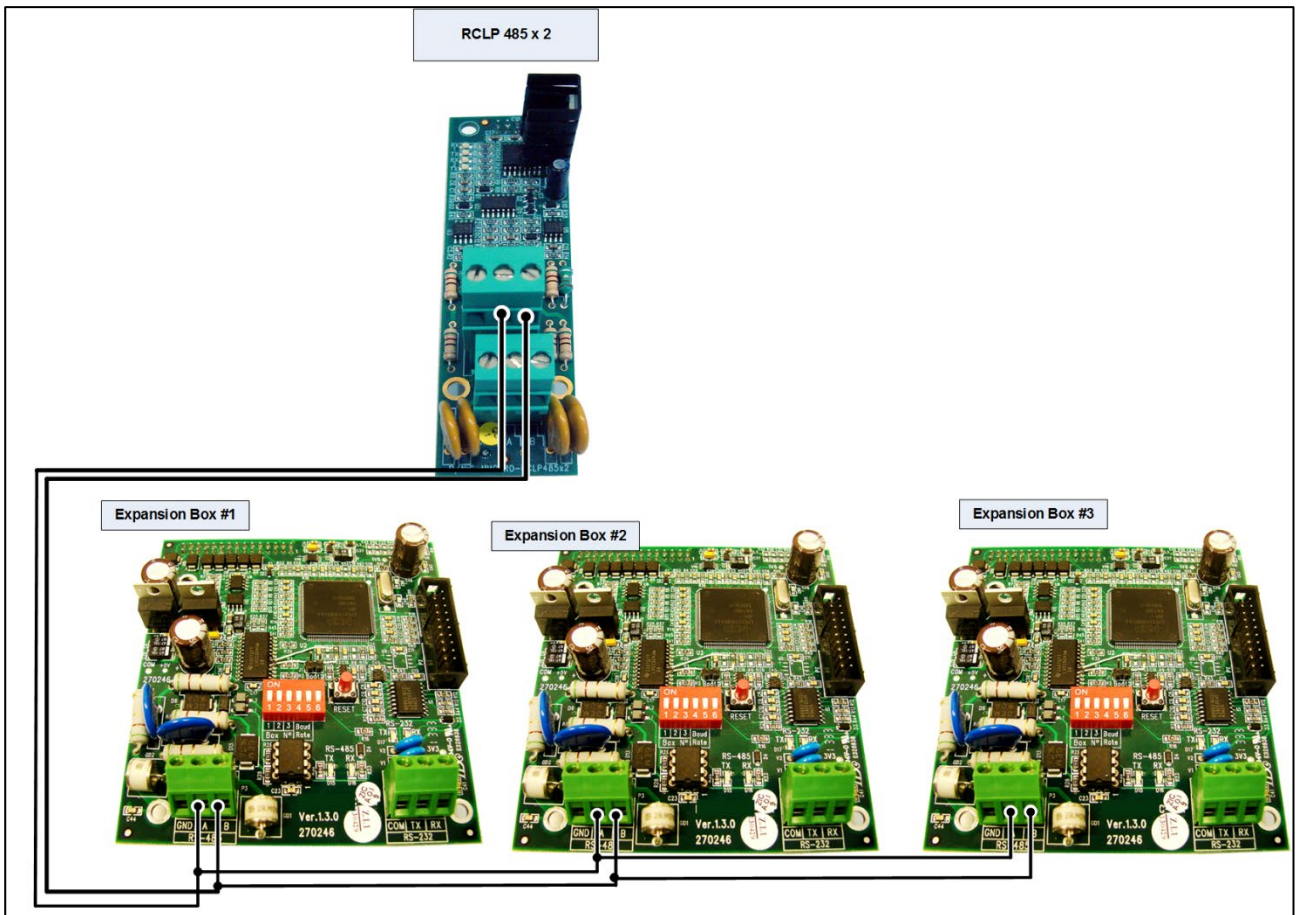


Figure 6: Expansion box wiring diagram - RS-485 connection (using an RCLP 485X2)

## 2.2 Distances

- For one box:
  - 2000 meter 9600 baud
  - 2500 meter 4800 baud
  - 3000 meter 2400 baud
- For three boxes:
  - 1200 meter 9600 baud
  - 1800 meter 4800 baud
  - 2400 meter 2400 baud



# 3 Relay Connection

- 2400 Meter 2400 Baud

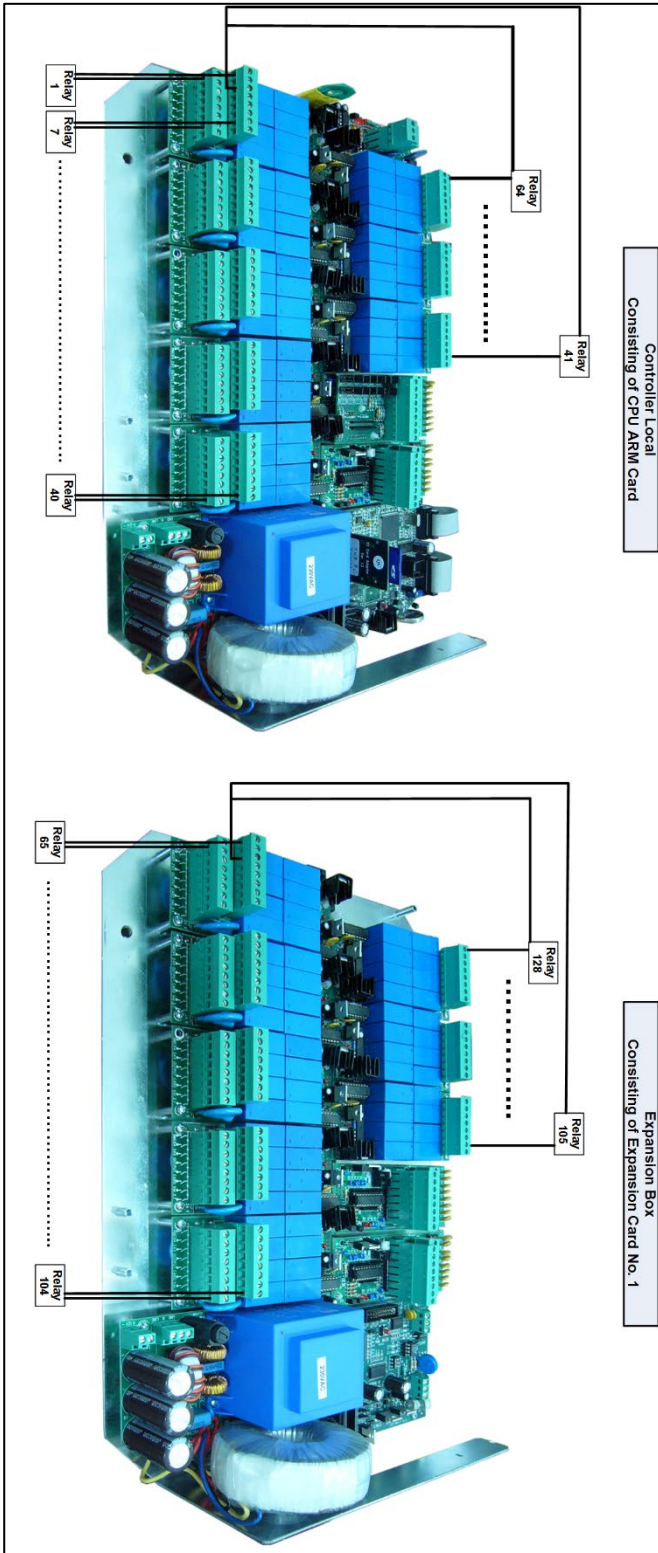


Figure 7: Relay connection

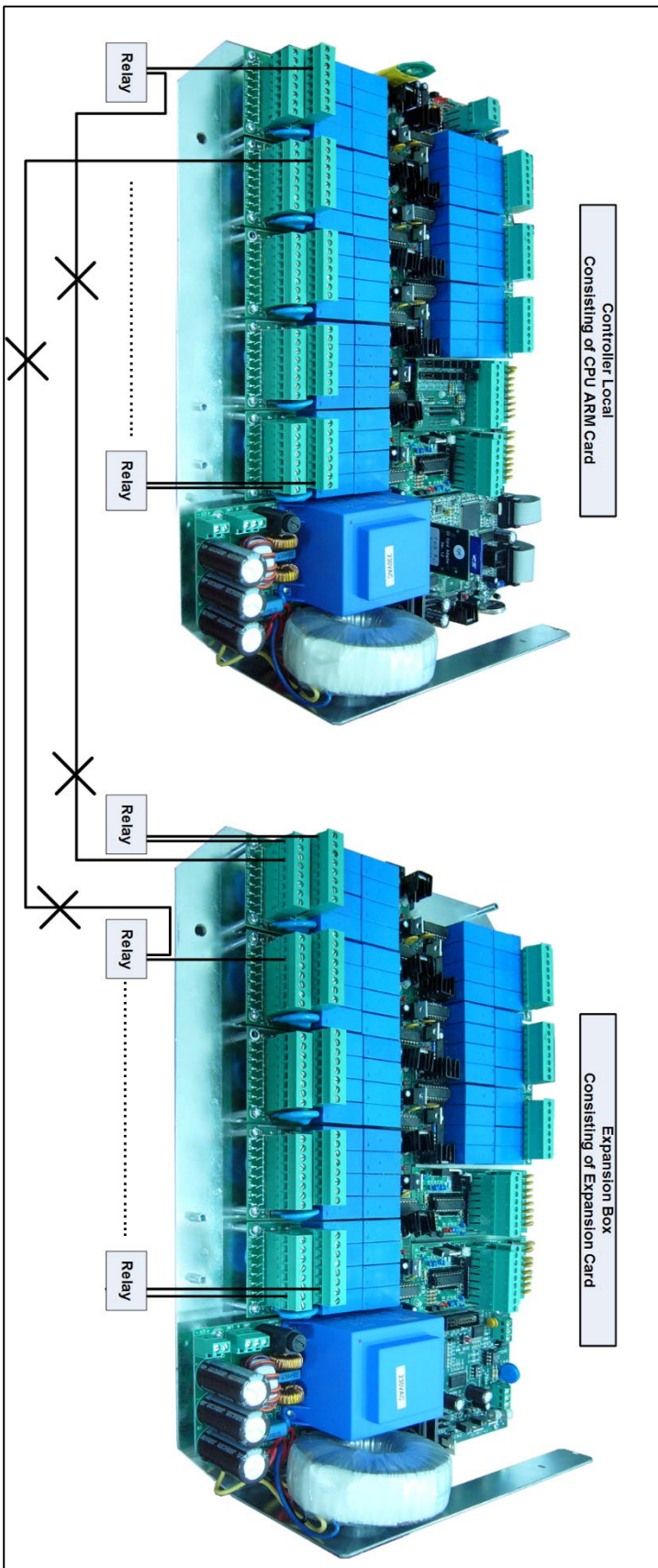


Figure 8: Wrong relay connection

CAUTION Attention: Do not connect 24VAC transformer Common.

# 4 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 the Green Expansion boxes, (for example antennas, 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.

