

# EMDX<sup>3</sup>

## PULSE CONCENTRATORS



Legrand offers complete solutions to meet energy efficiency needs.

This technical guide provides all the essential information you need to know about **EMDX<sup>3</sup> pulse concentrators** in order to understand how to choose them, their characteristics, installation and configuration rules, etc ...

This document can be downloaded from the online catalog and is a complete technical guide on **EMDX<sup>3</sup> pulse concentrators** in the distribution board.

#### LEGAL INFORMATION

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# EMDX<sup>3</sup>

## PULSE CONCENTRATORS

### Product specifications

The EMDX<sup>3</sup> pulse concentrator Cat.No 4 120 65 is used to collect pulses sent by the electricity, gas, water, oil meters, etc and transmit this information, via its RS485 output, to a supervision or energy management system.



The concentrator can collect data from up to 12 Legrand or non-Legrand water, gas or electricity pulse meters at the same time.

#### CHARACTERISTICS

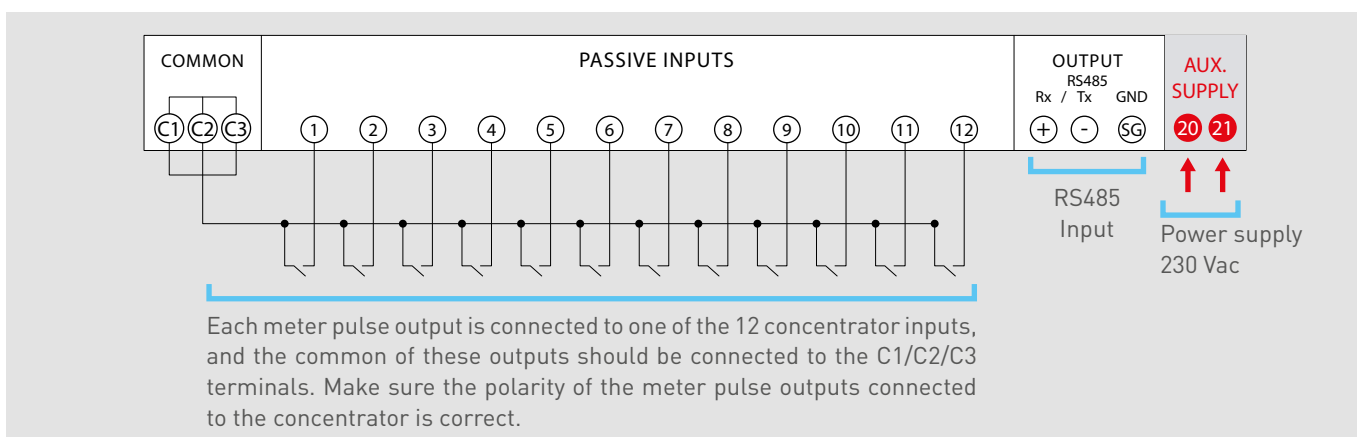
- **Display:** LCD.
- **Power supply voltage:** Single-phase 230 Vac.
- **Frequency:** 50 – 60 Hz.
- **Consumption:** 5 VA max.
- **Connection:** 12 digital inputs with volt-free contact.
- **Output:** RS485 Modbus.
- **Mounting:** on DIN rail.
- **Dimensions:** 4 modules.

## PRODUCT SELECTION

The EMDX<sup>3</sup> pulse concentrator Cat.No 4 120 65, is used to:

- Display in a single place the consumption values of several electricity, gas or water pulse meters, up to 12 meters.
- Transmit this information on an RS485 BUS so it can be processed by an energy management system such as the Energy web server 4 149 47/48/49 or a building supervision system.

## CONNECTION



**i** **Cable:**  
Min. cross-section: 1 mm<sup>2</sup>  
Max. length between each meter and the pulse concentrator: 1000 m

**i** Make sure the polarity of the meter pulse outputs connected to the pulse concentrator is correct.

**!** The pulse concentrator needs an auxiliary power supply in order to work, and we recommend protecting it with 0.5 A gG fuses.

## SETTING PARAMETERS

After connection, the pulse concentrator parameters need to be adjusted so that it displays data consistent with the associated meters.

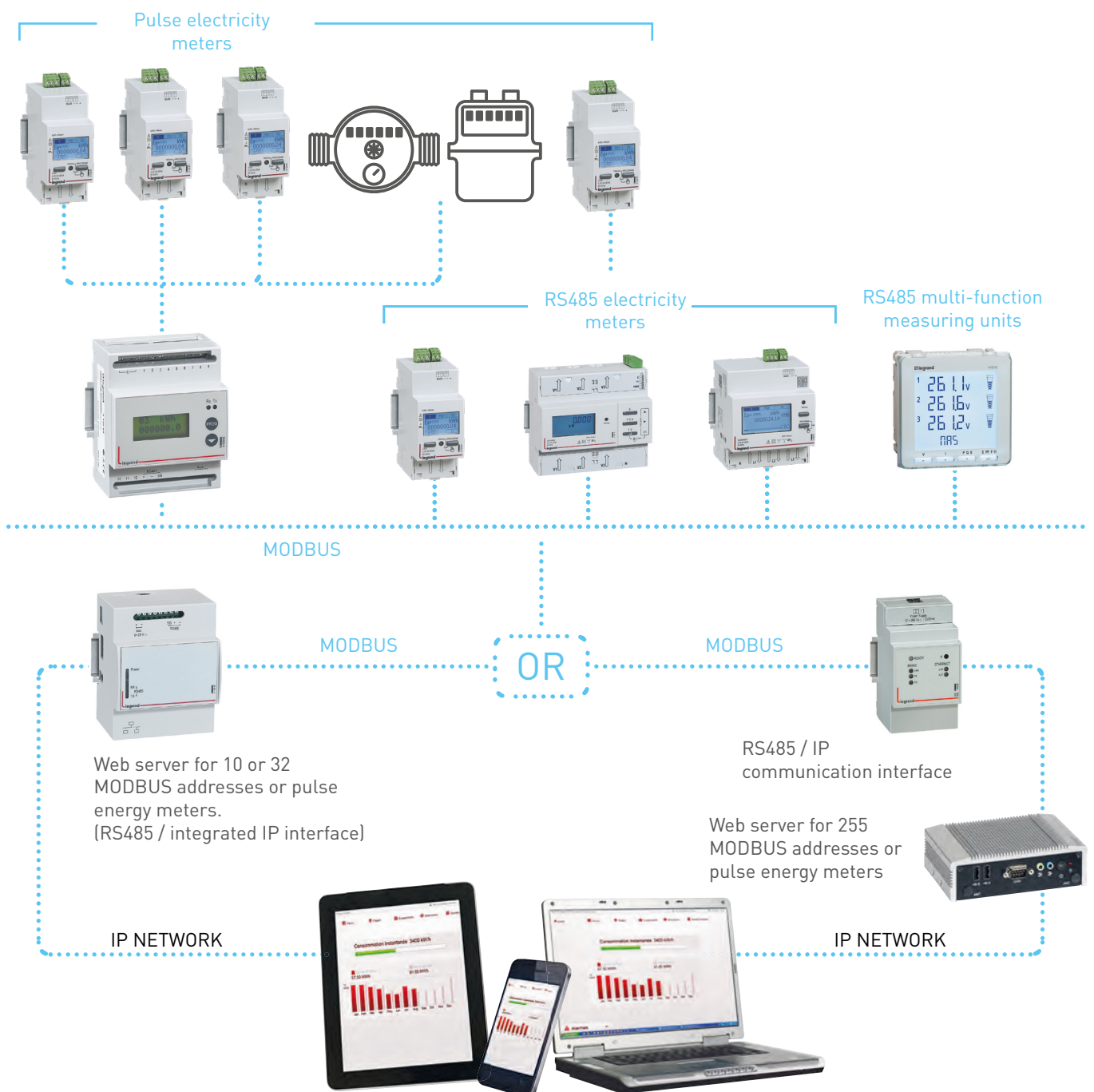


- Programming mode is entered by simultaneously pressing both the “**PROG** and ↓” buttons on the front.
- Access to the parameters is locked by a password which can be changed if necessary (factory setting = 1000).
- If “manual” mode selected, after simultaneously pressing both the “**PROG** and ↓” buttons, the parameters scroll down on release.
- The parameters scroll down in succession if automatic mode is selected.
- The “**PROG**” button alone changes the value of the selected parameter.
- The “↓” button alone moves the cursor.
- The “Rx Tx” LEDs identify RS485 dialogue.

## PARAMETER IDENTIFICATION

DISPLAY	PARAMETERS
PASSWORD	Password
PRGInput	Setting the input type parameters: <ul style="list-style-type: none"> <li>• Pot Free = 12 pulse inputs with volt-free contact</li> <li>• PotAFree = 12 pulse inputs with volt-free contact (the parameters of the 1st input are loaded on the next automatically)</li> <li>• Pot Live = not used</li> <li>• GME S0 = not used</li> </ul>
1 PLS TYP	Pulse type setting (where 1 = input 1)
1 PLS VAL	Pulse weight setting (where 1 = input 1)
1KTA	Connected meter current transformer ratio (where 1 = input 1)
1KTV	Connected meter voltage transformer ratio (where 1 = input 1)
1TIM OFF	OFF time (where 1 = input 1)
Scroll	Automatic or manual parameter scrolling
Address	Modbus communication address
Baudrate	Modbus communication speed
Parity	Modbus parity bit (none, even, odd)
Contrast	Screen contrast setting
SAVING	Backup

# Schematic diagram



# Help and definitions

## DATA TRANSFER

The pulse concentrator has an RS485 output to send data to an operating system.

- Modbus RTU protocol.
- Address from 1 to 255.
- Baud rate 9600, 19200.

■ Parity: none, even, odd.

■ Standard RS485 cable 2 shielded twisted pairs (Belden 9842).

## MODBUS ADDRESSING

In order to enable «system integrators» to develop the energy management program, the addressing tables are available on the E-catalogue at [www.legrand.com/ecatalogue](http://www.legrand.com/ecatalogue) in the instruction sheets or in separate files depending on the product.











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