PULSE CONCENTRATOR User Manual
EPC-12

WARNING

Ignoring the instructions in this manual may result in serious injuries or death.
– Disconnect all power supply inputs before connecting the device.
– Do not remove the front panel when device is connected to the mains.
– Do not clean the device with solvents alike. Only clean with dry cloth.
– Verify correct terminal connections before energizing the device.
– Contact your authorized reseller in case problems occur with your device.
– Device is only for rail mounting.
– An F Type Fuse must be used and its current limit must be 1 A.

No responsibility is assured by manufacturer or any of its subsidiaries for any consequences arising out of disregard the above precautions.

SECURITY

Read the User Manual entirely before using the device.

Warnings
– Connect a button or a circuit breaker between mains and the device.
– Connected button or circuit breaker must be in close proximity of the device.
– Connected button or circuit breaker must be marked to indicate that it disconnects the device from the mains.
– Battery life is 10 years. The battery can only be replaced by manufacturer. The battery is used to keep the internal real time clock in case of power outages.
– During power outages, the device will not count incoming pulses.

Standards Applied to the Device
EN 61010-1, EN 62053-31, EN 62054-21

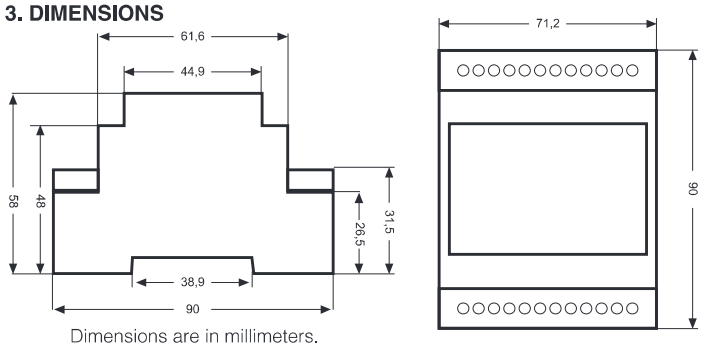
Warranty
The device has a 2 (two) year warranty. In case of a fault, the device must only be serviced by manufacturing company. Otherwise, the warranty of the device will be void.

1. INTRODUCTION
1.1. APPLICATIONS
EPC-12, is a microprocessor-based device that can separately collect incoming pulses from various meters (electricity, water, gas, etc.) connected to its 12 inputs according to 8 tariffs based on time, record them in real time with its internal clock chip and flash memory and transmit data via RS-485 line with Modbus RTU protocol.

1.2. GENERAL FEATURES
Device Features
1) Total counter indexes of 12 pulse inputs with tariff and unit information, date and time information and alarm states can be displayed on the 2x12 characters LCD screen automatically with intervals of 5 seconds or manually by pressing up and down buttons,
2) Enabling the backlight for 20 seconds by pressing any button to provide easy reading on the screen,
3) Data communication with a PC via RS-485 output,
4) Storing the contents of each pulse input with tariff information in 1-60 minutes intervals on the 2 MB permanent memory of the device with date and time information,
5) Preventing changes to settings by unauthorized users by defining a 4-digit user password.

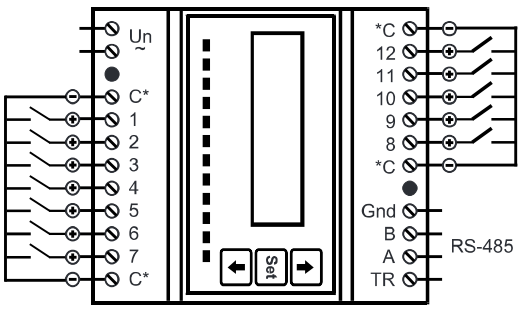
2. EPC-12 CONFIGURATION (INTERFACE) SOFTWARE
A User Interface Software has been prepared for settings that are done from a PC. The purpose of this software is an easier and faster way when changing the settings which has to be done from a PC. You can access the interface software and its manual from the included CD. Details on how to use the interface software are available in the Interface Software User Manual.

3. DIMENSIONS

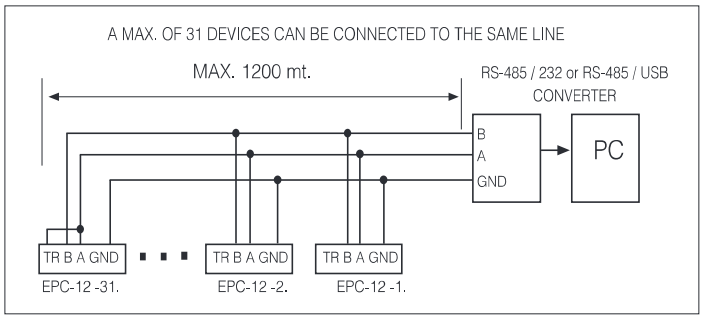


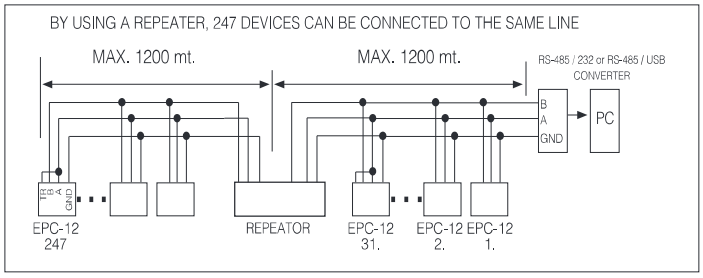
Dimensions are in millimeters.

3.1.CONNECTION DIAGRAM



* Common Lead (Using any one of them will suffice.)
When a counter with NPN output is connected to EPC-12, collector lead is connected to In (+) input and emitter lead is connected to Com (-) input. When a counter with PNP output is connected to EPC-12, emitter lead is connected to In (+) input and collector lead is connected to Com (-) input.





4. TECHNICAL DATA

Operating Voltage (Un)	= Please see device labels.
Operating Frequency (f)	= 45-65Hz
Supply Input Power Consumption	= <5VA
Communication (Insulated)	= MODBUS RTU (RS485)
Baud Rate	= 1200 – 38400 bps
Address	= 1 – 247
Parity	= No, Odd, Even
Stop Bit	= 1
Max Communication Distance using signal amplifier)	= 1200 m (MODBUS/RS-485 side,
Pulse Inputs (12 pcs, Insulated)	= Complies with EN 62053-31.
Minimum Pulse Duration	= 10 msec
Minimum Time Between Pulses	= 30 msec
Minimum pulse period	= 60 msec
Maximum Pulse Frequency	= 16 Hz
Maximum Contact Resistance	= 800 Ohm
Pulse Voltage	= 10-12V
Trigger Edge	= Rising and Pulse width control
Distance between meters to be connected to EPC-12	= 1000 m
Total Counter Capacity	= 34.359.738.360
Ambient Temperature	= -25...+55 ºC
Storage Temperature	= -25...+70 ºC
Humidity	= 95%
Display	= Backlight 2x12 LCD
Dimensions	= DIN4 (PK27)
Device Protection Class	= Double Insulated
Front panel	= IP40
Terminals	= IP20
Enclosure Material	= Nonflammable
Installation	= Rail mount
Cable Thickness for Voltage Connection	= max. 2.5 mm^2
Cable Thickness for Pulse Connection	= max. 2.5 mm^2
Cable Thickness for RS-485 Connection	= CAT 5 cable
Weight	= 456,4 gr
Internal Memory	= 2MB

Factory Default Settings

Baud Rate	= 9600
Parity	= No
Address	= 1
Counter Set	= Disable
PASSWORD	= 1234
PASSWORD Enable	= No
Log Save Period	= 30 min.
Daylight Savings Time application	= Active
Multiplier	= 1
Denominator	= 1
Unit	= None
Tariff	= None
Counters	= 0
Alarm	= Normal

CE
A5042/ Rev.3

EPC-12 MENÜKARTE