

Embedded Systems SIA, VAT No LV40003411103  
47. Katolu str., Riga, LV 1003, LATVIA  
Phone: +371 67648888, fax: +371 67205036, e-mail: [sales@openrb.com](mailto:sales@openrb.com)

## LogicMachine5 Power (LM5p-PMC)

**LogicMachine (LM)** is your easiest way to program complex logic in KNX/EIB, Modbus, BACnet networks. LM will enable you to efficiently customize building automation processes, easily delivering unlimited flexibility benefit to end users in a cost-effective way.

**LM5 Power** is an embedded platform with integrated Ethernet, USB, KNX/EIB, Serial interfaces. LM allows to use it as cross-standard gateway, logic engine, visualization platform, IP Router. Scripting templates provides user-friendly, flexible configuration interface and integration with cloud/web services, 3<sup>rd</sup> party devices. Via applying custom scripts LM can simultaneously act as thermostat, security panel, lighting controller, etc. LogicMachine application store and external app development possibility allows to extend device functionality and adjust to a specific market segment

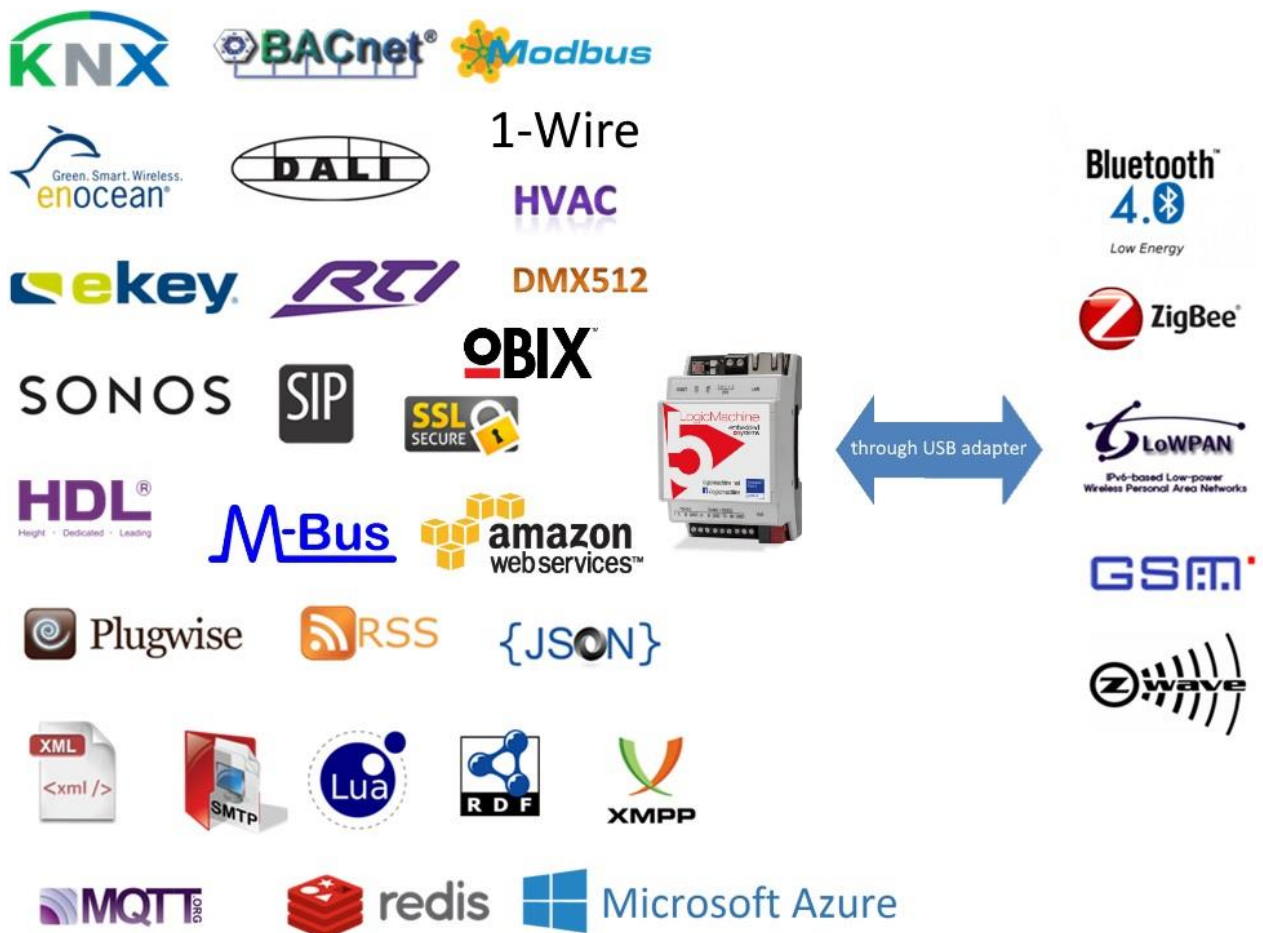


LM5 Power has built in KNX Choke for powering up to 16 KNX devices as well as voltage and current monitoring possibility for KNX bus. LM5 Power has Power-over-Ethernet support. Further, LM5 Power is 3x more powerful than all previous LogicMachine versions due to more powerful CPU and RAM.

**ENG - Data sheet**  
Issue date 11.01.2017

## Application

- Logical functions
- WEB SCADA visualization for PC and touch-devices
- Cross-standard gateway
- Integration with third party devices over USB, RS485 serial port, Ethernet – AV, IR, HVAC
- Data logger with trends
- KNX IP Router
- KNX Choke
- Presence monitoring
- Lighting regulation
- Universal controller (lighting, shutter etc.)
- Health/activity monitoring
- Internet-of-Things
- Cloud server/client
- ...



## Types of product

LogiMachine5 Power LM5p-PMC

## Standards and norms compliance

EMC: EN61000-6-1  
EN61000-6-3  
PCT Certificate

## Technical data:

Power supply: 1 x 12V-30V DC on terminal connectors or  
12V-30V DC Passive Power-over-Ethernet  
2 x 24-30V DC on terminal connectors for KNX bus powering  
(automatically swaps when one of inputs fails)

Power consumption: 1.3W

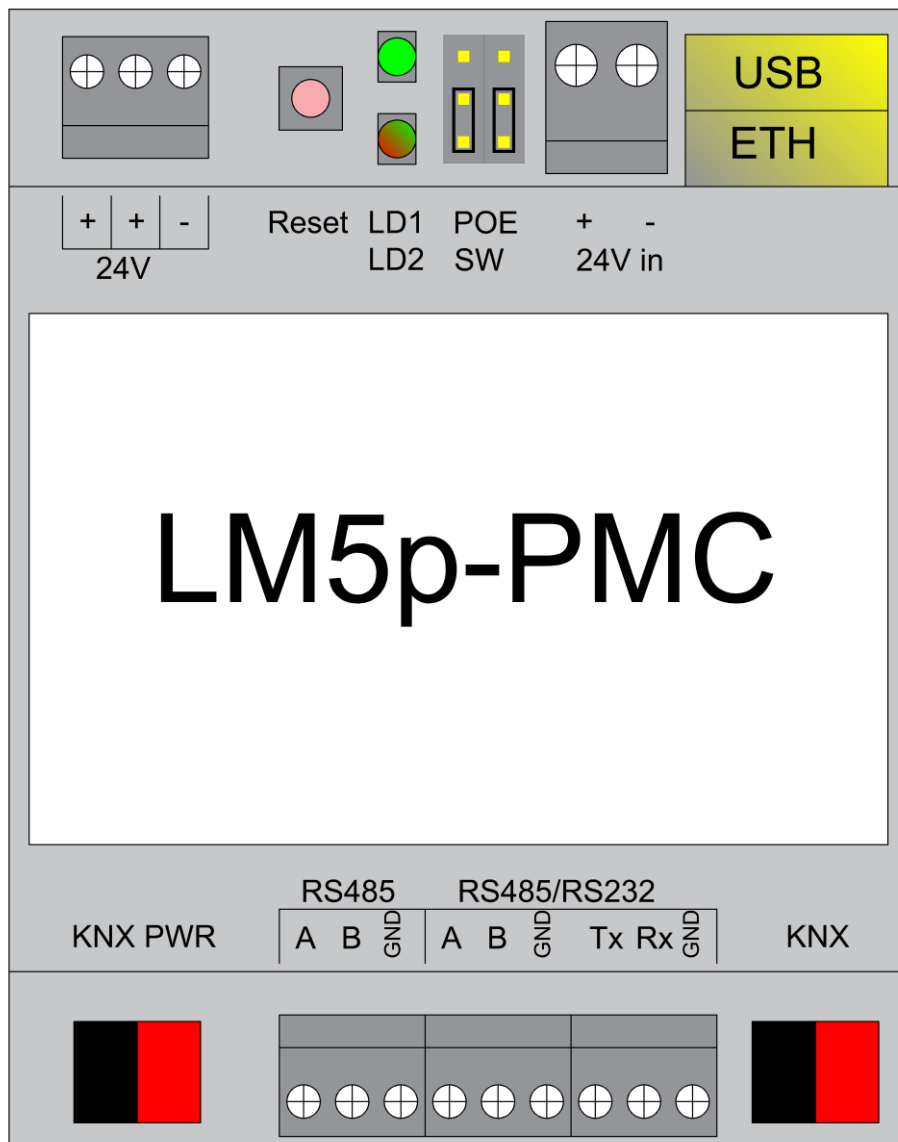
Interface: KNX/EIB TP1 1  
10BaseT/100BaseTX 1  
RS-485 1  
RS-485/RS-232 1  
(switchable in software –  
full-duplex=RS232,  
half-duplex=RS485)  
USB2.0 1  
Choke for up to 16 KNX  
device powering and with  
voltage/current monitoring max 320mA current

Connections: KNX bus: Bus Connection Terminal  
0.8 mm<sup>2</sup>  
Power supply Screw, 1.5 mm<sup>2</sup>  
Serial Screw, 1 mm<sup>2</sup>

Operating elements LED 1 – CPU load  
1 - Activity

Enclosure: Material: Polyamide  
Color: Gray  
Dimensions: 71(W)x90(H)x61(L) mm

Usage temperature: 0C ... +45C  
 Storage temperature: -15C ... +55C  
 Net Weight: 119g  
 Gross Weight: 137g  
 Warranty: 2 years  
 Relative Humidity: 10...95 % without condensation





## **Caution Security advice**

The installation and assembly of electrical equipment may only be performed by skilled electrician. The devices must not be used in any relation with equipment that supports, directly or indirectly, human health or life or with application that can result danger of people, animals or real value

## **Mounting advice**

The devices are supplied in operational status. The cables connections included can be clamped to the housing if required.

## **Electrical connection**

The devices are constructed for the operation of protective low voltage (SELV). Grounding of device is not needed. When switching the power supply on or off, power surges must be avoided.

## Quick startup guide

- 1) Mounting the device on DIN rail
- 2) Connect the KNX bus cable
- 3) Connect 24V power supply to the device (either through separate 24V screw terminals or through Passive 24V DC Power-Over-Ethernet)
- 4) Connect Ethernet/LAN cable coming from the PC

## Default IP configuration

Login name	admin
Password	admin
IP address	192.168.0.10
Network mask	255.255.255.0

## Reset device

You can either reboot the device by pressing RESET button or reset the configuration to factory defaults:

- *Press and hold for <10 sec* – reboot the device
- *Press and hold for >10 sec* – reset networking with IP to factory default
- *Press and hold for >10 sec and again press and hold for >10 sec* – full reset of configuration to factory defaults

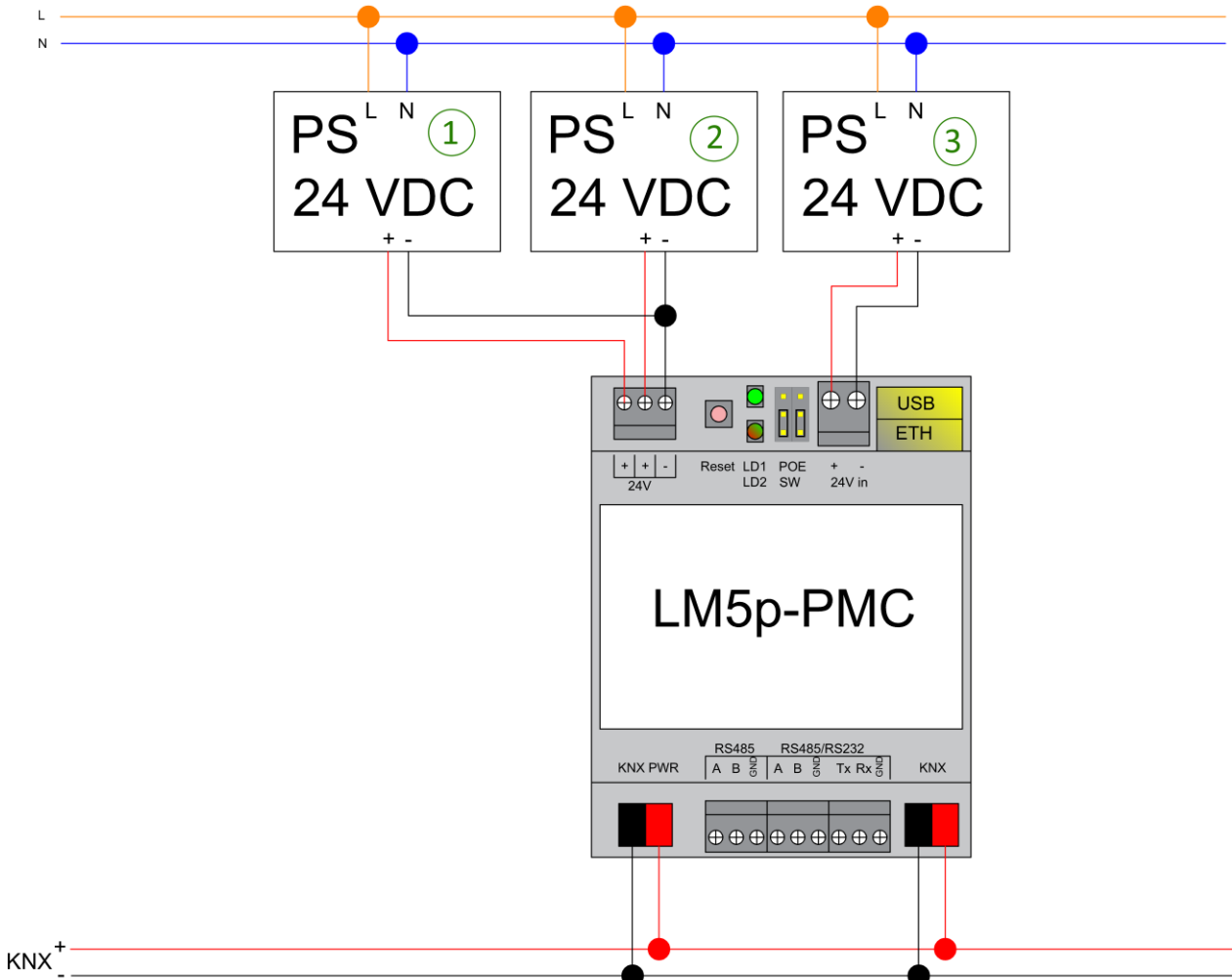
# Terminal connection diagrams

## Power supply + KNX powering

LM5p-PMC has 3 power supply inputs:

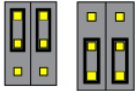

- 1. Power supply to power LM5 + KNX line
- 2. Power supply to power LM5 + KNX line (backup)
- 3. Power supply to power LM5 itself (backup)

All three power supplies should be on one phase except if you are using galvanically isolated power supplies (for example, transformer-based). If they are galvanically isolated you can connect to three different phases each of them. If there is no necessity to power KNX line, you can use 3. power supply only.

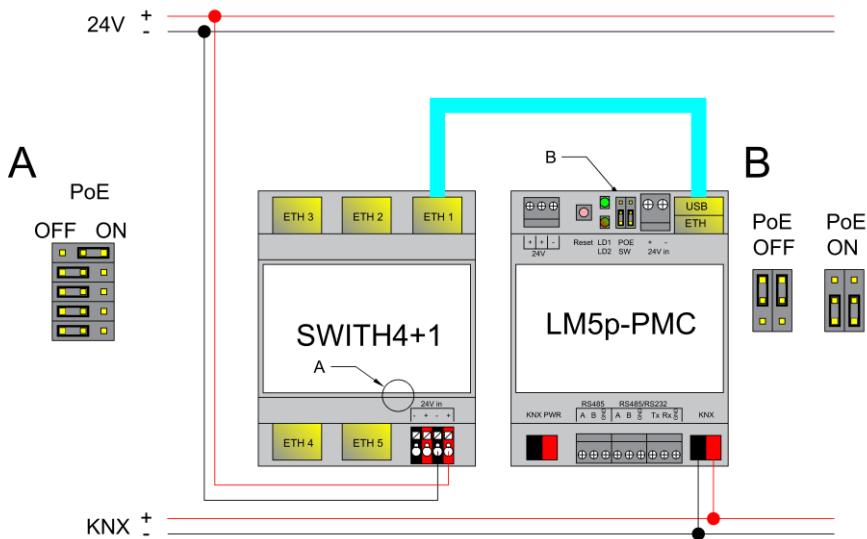


## PoE powering of LM5

LM5 supports two powering modes:

- regular powering over screw terminals (Jumpers up or down) 
- passive PoE powering over 24V DC (Jumpers down) 
- when using active PoE 48V, jumpers have to be UP or the product **will be damaged!**

Please note that there are two PoE types of PoE switches/adapters – passive and active (802.3af). In passive mode 4 Ethernet cable wires are used for data and 4 are used for power. In active PoE mode data and power goes together.



Passive PoE switch



Passive PoE adapters





## Power monitoring

If KNX bus is powered, you can see fieldbus power consumption mapped to KNX objects in *LogicMachine* → *Power meter*

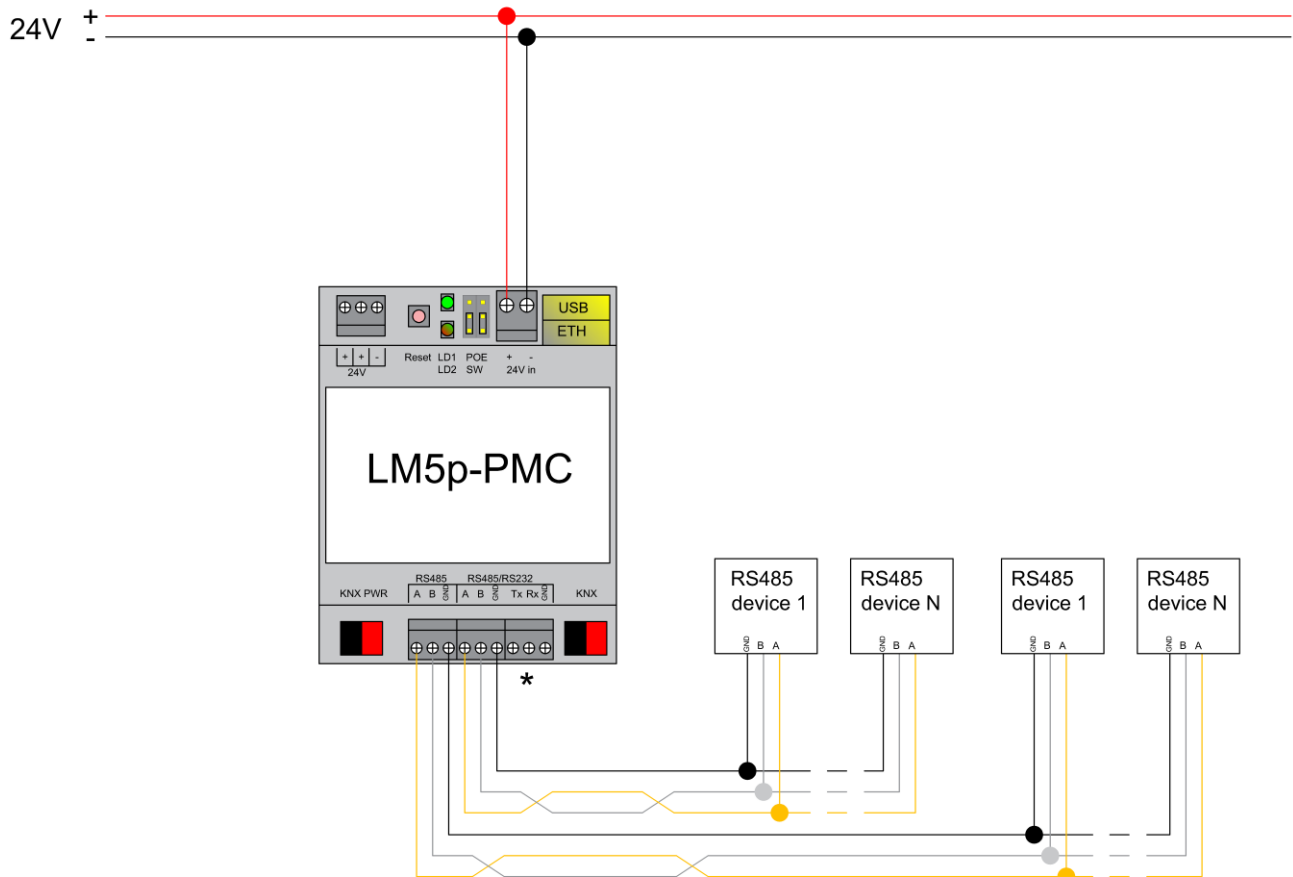
Parameter	Value
Voltage object (V):	1/1/16 Voltage monitoring
Write to bus:	<input type="checkbox"/>
Send delta:	1
Send timer (seconds, 0 = off):	1
Current object (mA):	1/1/17 Current monitoring
Write to bus:	<input type="checkbox"/>
Send delta:	50
Send timer (seconds, 0 = off):	1
Power object (W):	1/1/18 Power monitoring
Write to bus:	<input type="checkbox"/>
Send delta:	0.5
Send timer (seconds, 0 = off):	1

Buttons: Save, Cancel

## RS-485 connection

There can be used max two RS-485 on LM5p Power. First one is definitive, second one is software switchable – either it works as RS-485 or as RS-232 :

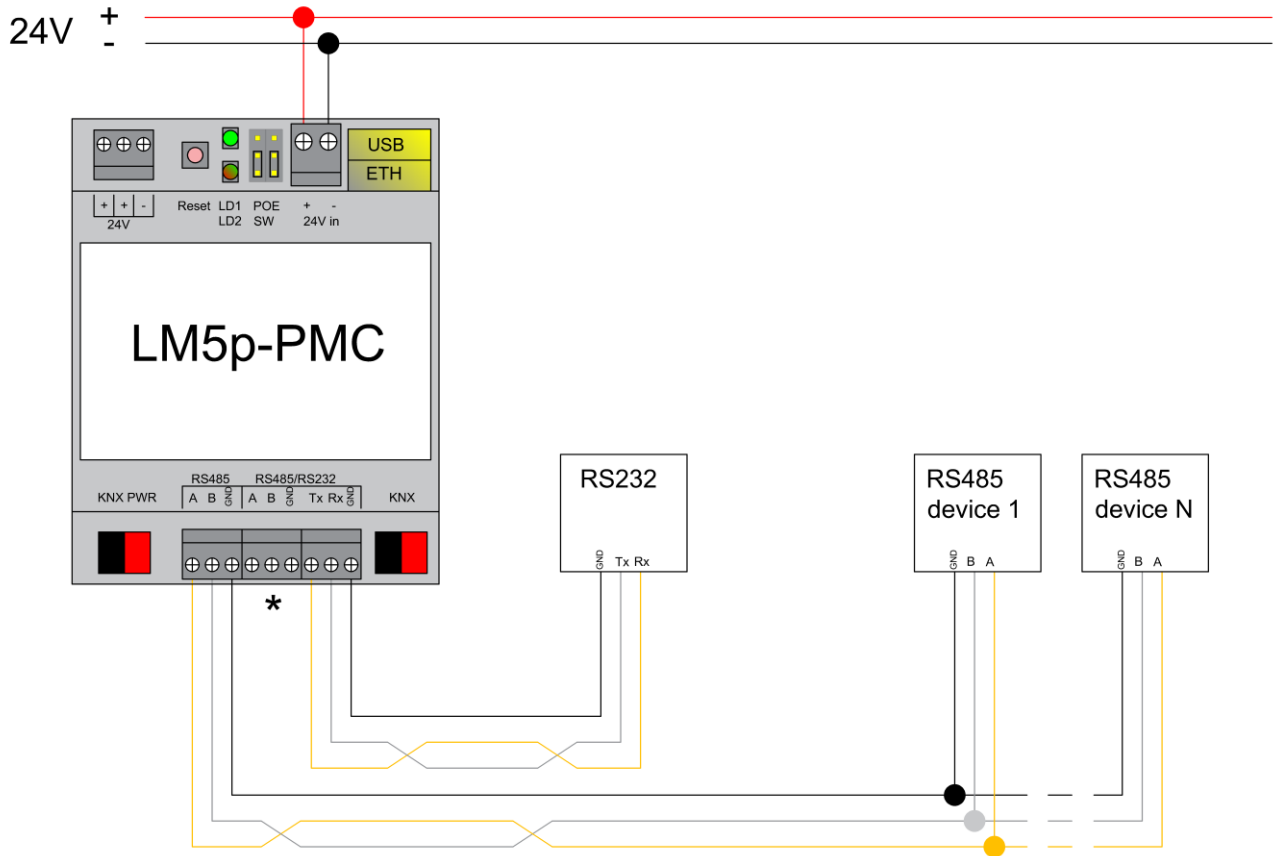
- If it is set up as full-duplex it will operate as RS-232 and respective TX/RX/GND screw terminals should be used
- If it is set up as half-duplex (\*) it will operate as RS-485 and respective A/B/GND screw terminals should be used



\*RS-485 is chosen in this case, RS-232 is not activated

## RS-232 connection

If second serial port is set as full-duplex in LogicMachine configuration, it will operate as RS-232 and respective TX/RX/GND screw terminals should be used.



\*RS-232 is chosen in this case, RS-485 is not activated