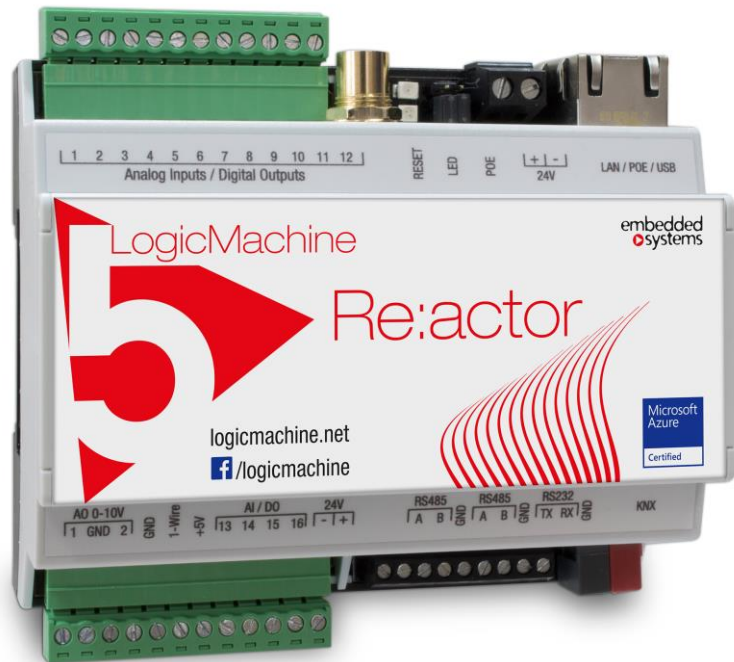


Embedded Systems SIA, VAT No LV40003411103
47. Katolu str., Riga, LV 1003, LATVIA
Phone: +371 67648888, fax: +371 67205036, e-mail: sales@openrb.com

LogicMachine5 Reactor IO V2

LogicMachine (LM) is your easiest way to program complex logic in KNX/EIB, Modbus, BACnet, EnOcean and other 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-RIO2 is an embedded platform with integrated Ethernet, USB, KNX/EIB, Serial interfaces, EnOcean transceiver (optional) and I/O ports. 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, 3rd 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.

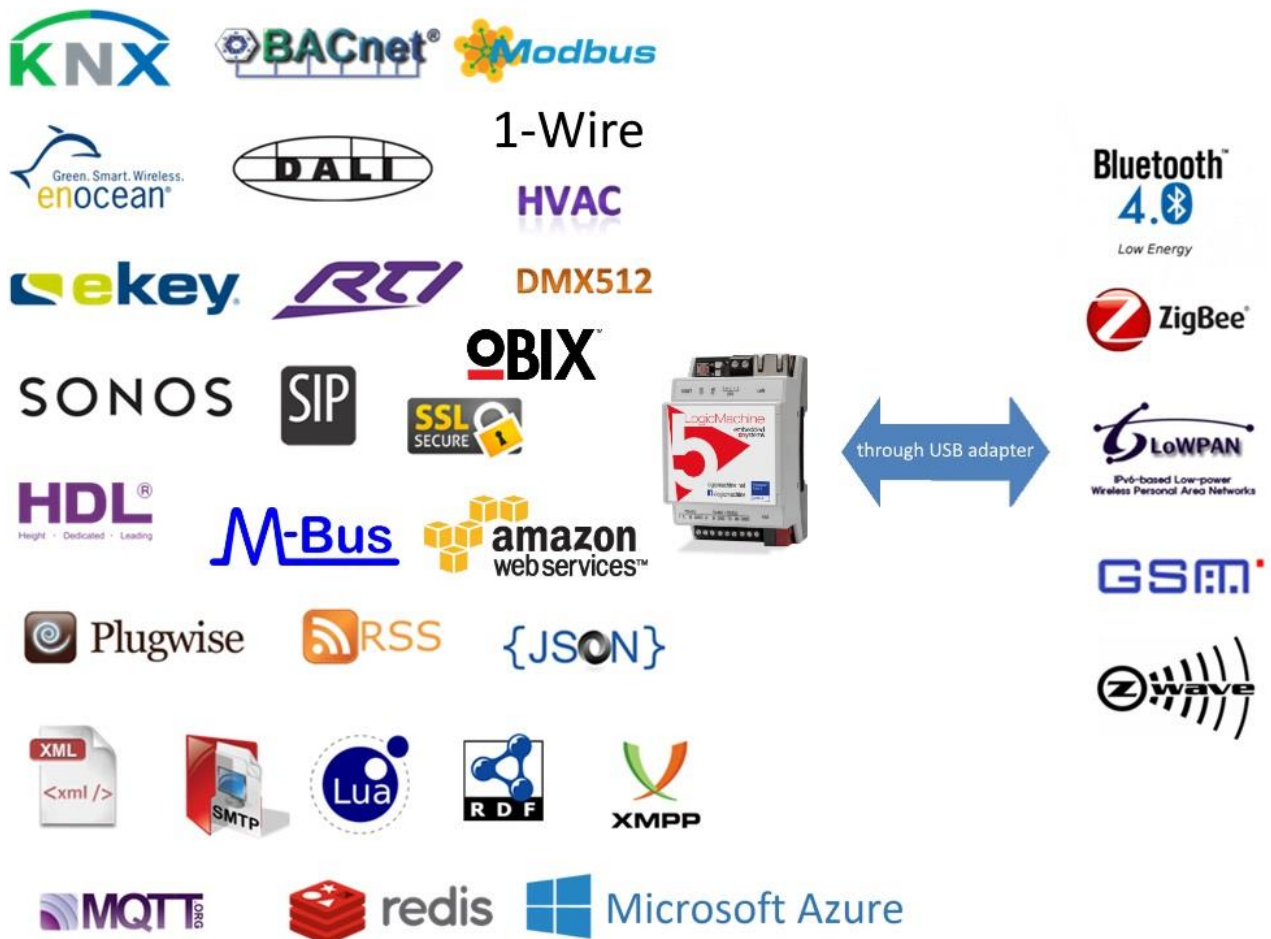


LM5-RIO2 is optionally available with 3x more powerful CPU than all previous LogicMachine versions.

ENG - Data sheet
Issue date 11.06.2017

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
- Presence monitoring
- Lighting regulation
- Universal controller (lighting, shutter etc.)
- Health/activity monitoring
- Internet-of-Things
- Cloud server/client
- ...



Types of product

LogicMachine5 Reactor IO V2	LM5-RIO2
LogicMachine5 Reactor IO V2 Power	LM5p-RIO2
LogicMachine5 Reactor IO V2 EnOcean	LM5-RIO2E
LogicMachine5 Reactor IO V2 EnOcean Power	LM5p-RIO2E

Standards and norms compliance

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

Technical data:

Power supply: 2 x 24V DC on terminal connectors (1 for LM powering, 1 for external relay powering) or
24V DC Passive Power-over-Ethernet

Power consumption: 1.3W

Interface:	KNX/EIB TP1	1
	EnOcean 868MH with Antenna	1
	10BaseT/100BaseTX	1
	RS-485	1
	RS-485/RS-232 (switchable in software – full-duplex=RS232, half-duplex=RS485)	1
	USB2.0	1
	Analog input/Digital output	16 (Configurable). 380 mA continues current on output. Optoislated from KNX/EIB bus. Additional 24V power source is supported.
	Analog outputs	2 (0-10V, 12bit resolution, 20mA max current)
1-Wire	1	

Connections:	KNX bus:	Bus Connection Terminal 0.8mm ²
	Power supply:	Screw, 1.5mm ²
	Serial:	Screw, 1.0 mm ²
	I/O:	Screw, 1.5 mm ²
	1-wire	Screw, 1.5 mm ²

Operating elements	LED	1 – CPU load 1 - Activity
Enclosure:	Material: Color: Dimensions:	Polyamide Gray 61(W)x90(H)x108(L) mm
Usage temperature:	0C ... +45C	
Storage temperature:	-15C ... +55C	
Weight:	150g	
Warranty:	2 years	
Relative Humidity:	10...95 % without condensation	

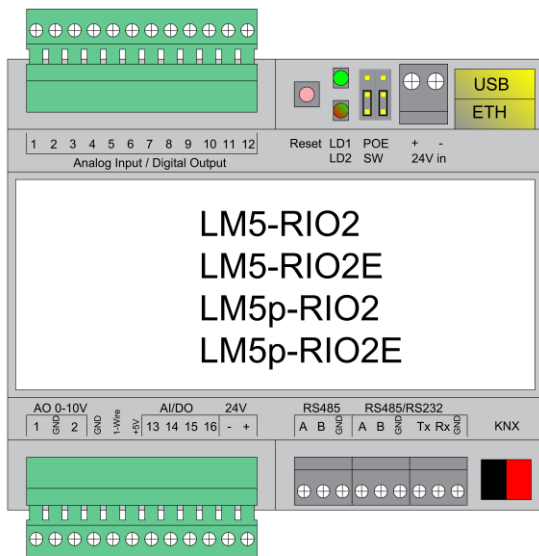


**Caution
Security advice**

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

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.

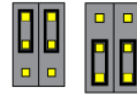


Terminal connection schemes

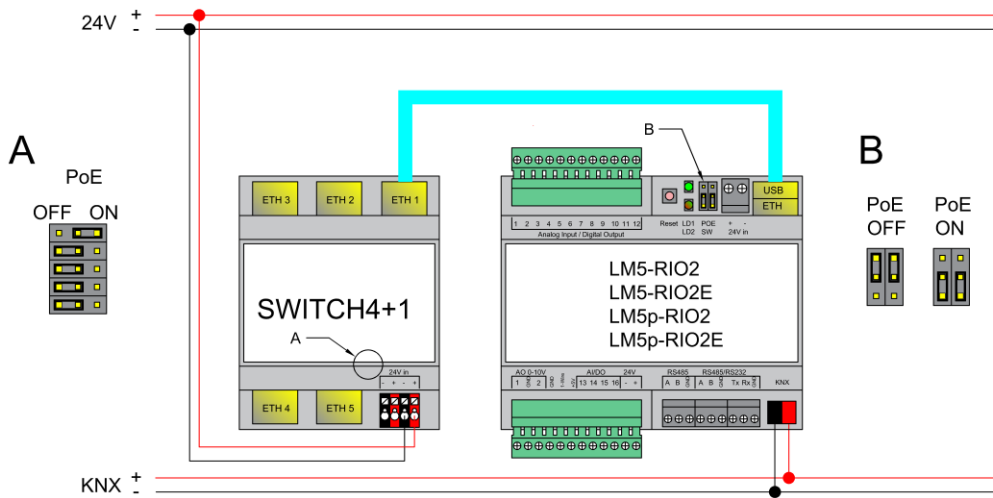
Powering over Ethernet

LM5 supports two powering modes:

- regular powering over screw terminals (Jumpers up or down)
- passive PoE powering over 24V DC (Jumpers down)



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.



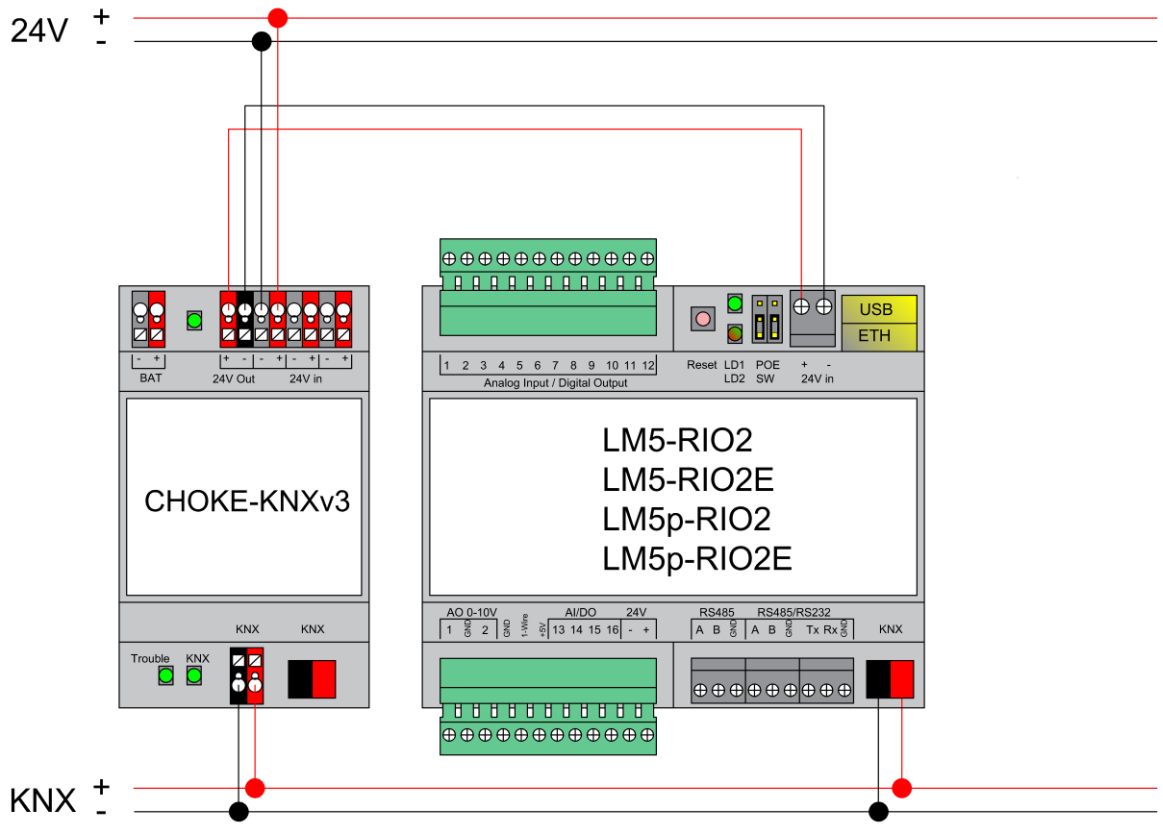
Passive PoE switch



Passive PoE adapters



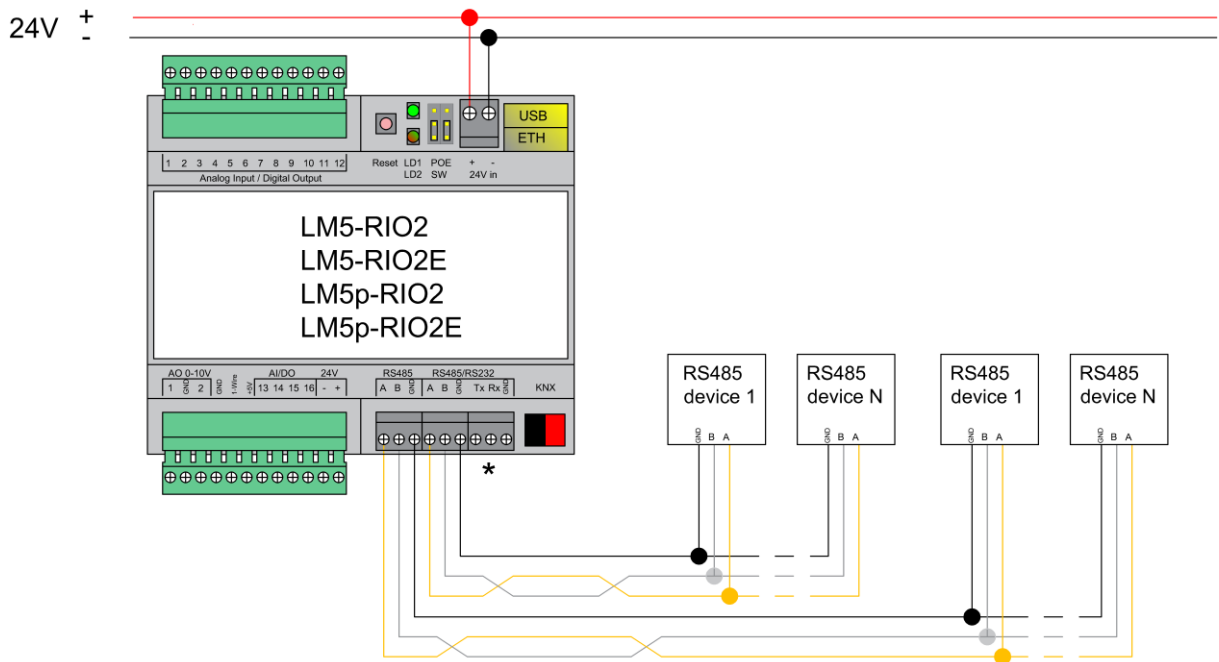
KNX connection / Powering over 24V terminals



RS-485 connection

There can be used max two RS-485 on LM5. First one is definitive, second one is software switchable – either it works as RS-485 or as RS-232 :

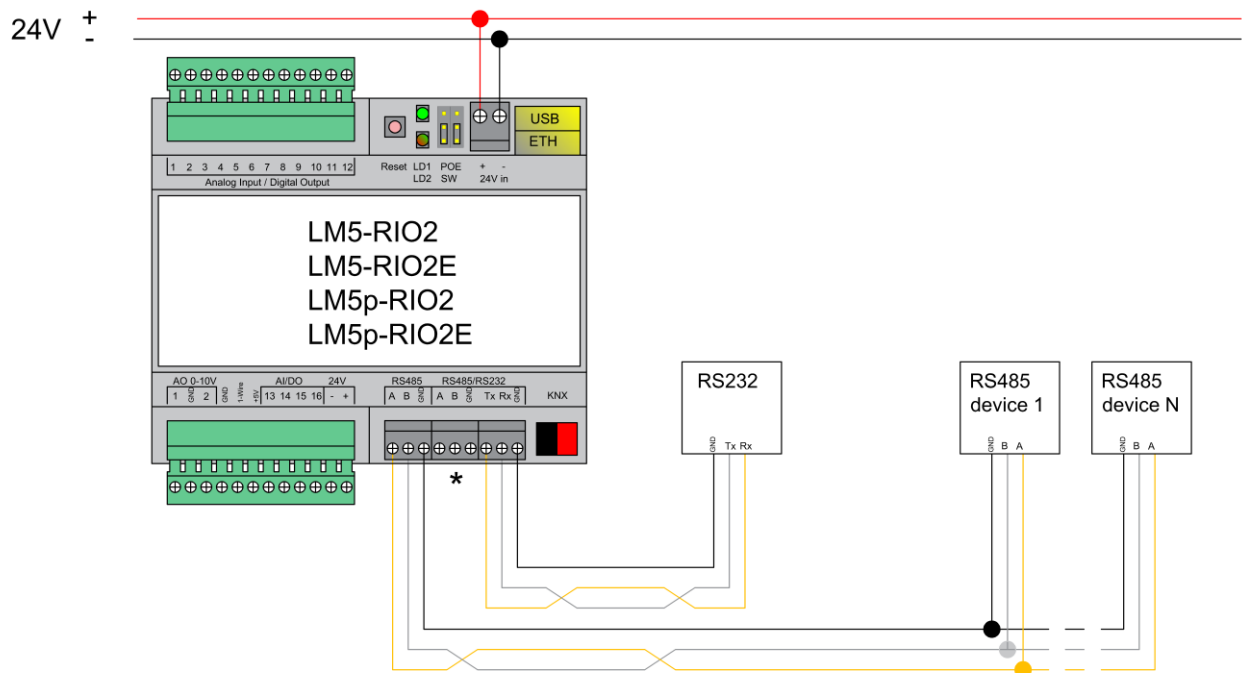
- If it is set up as full-duplex it will operate as RS-232 and respective TX/RX/GND screw terminals should be used
- If it is set up as half-duplex (*) it will operate as RS-485 and respective A/B/GND screw terminals should be used



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

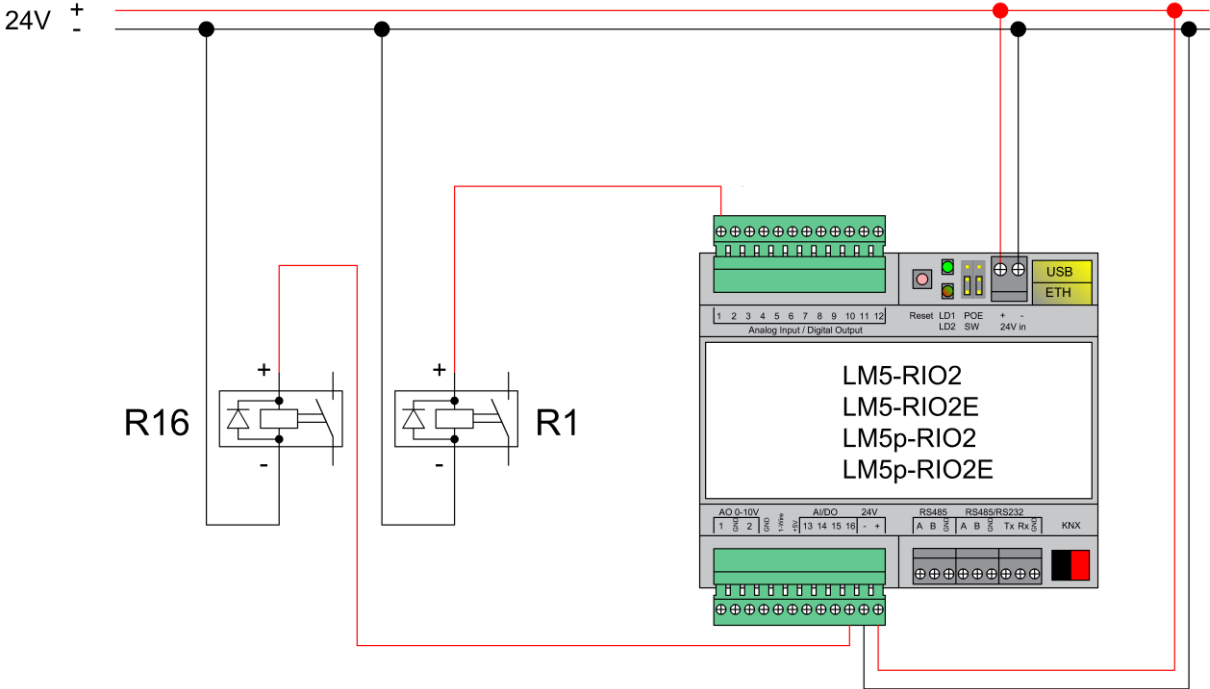
RS-485/RS-232 connection

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.

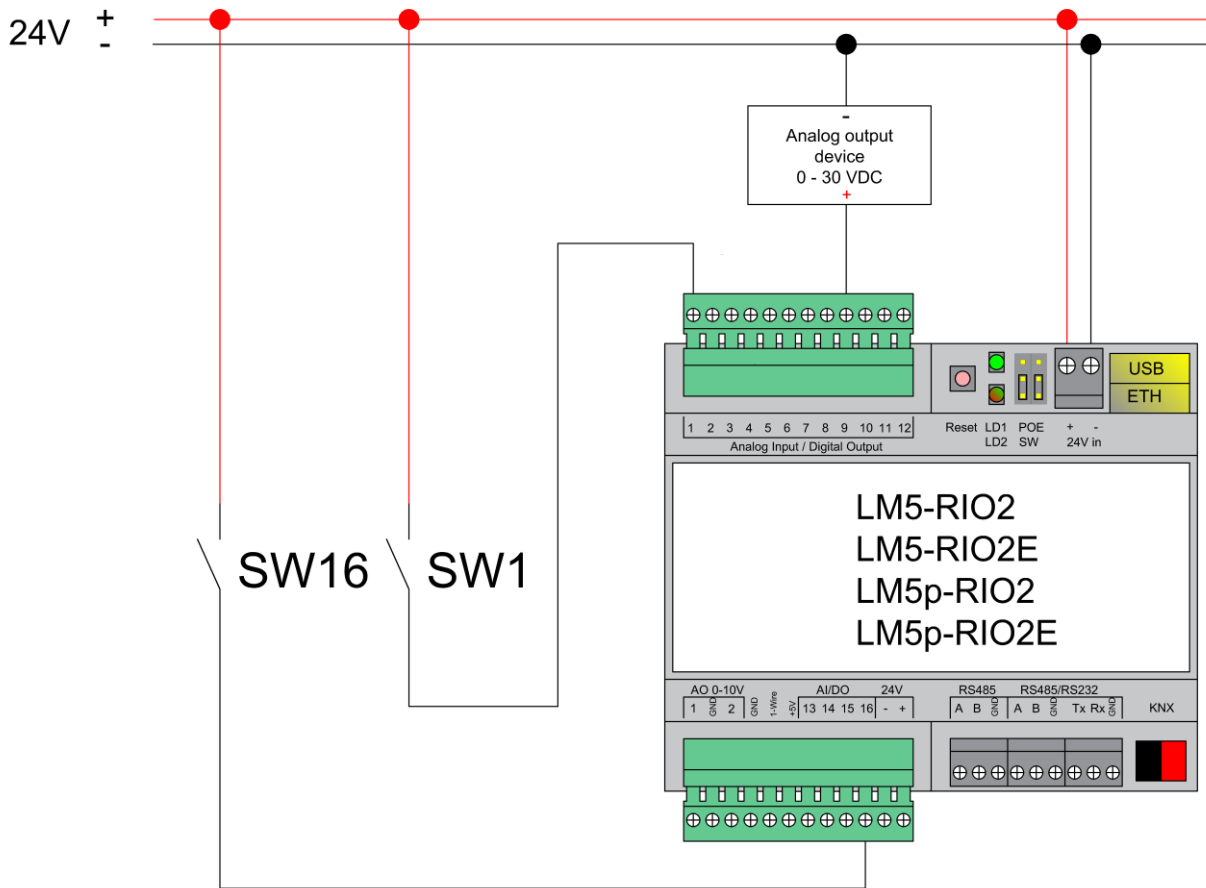


*RS-232 is chosen in this case, RS-485 is not activated

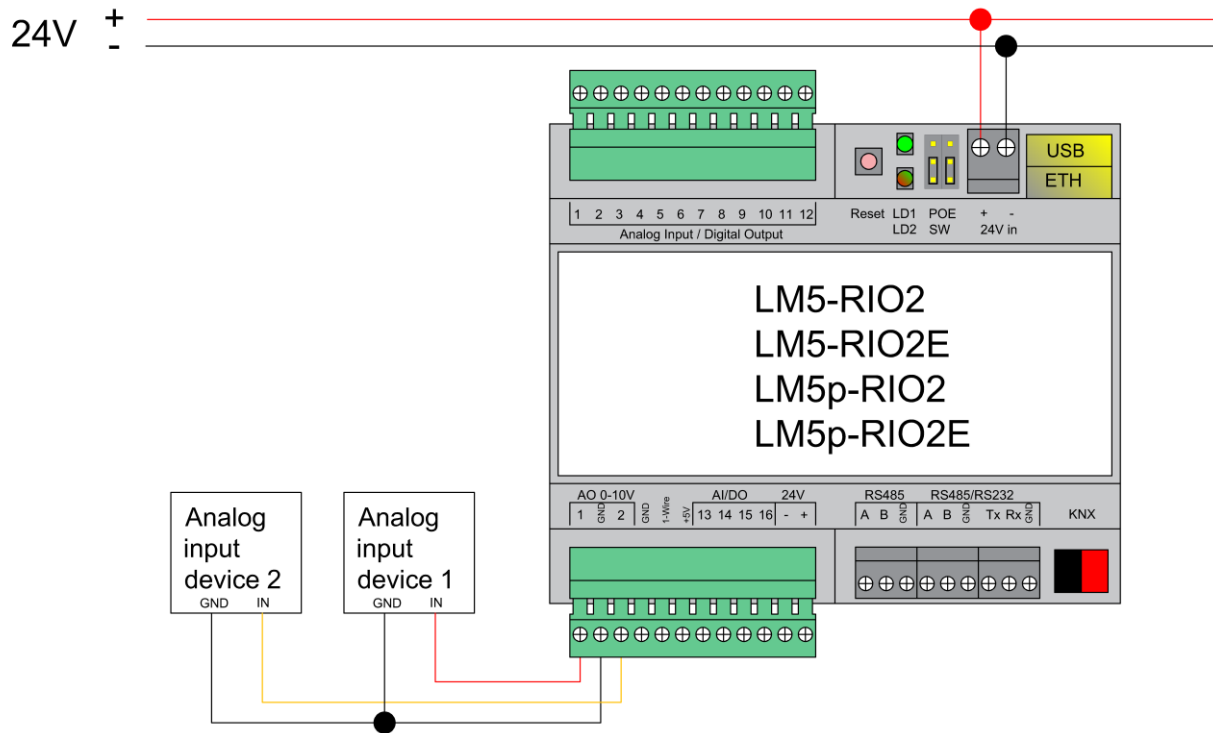
Digital output (e.g. relay/contactor)



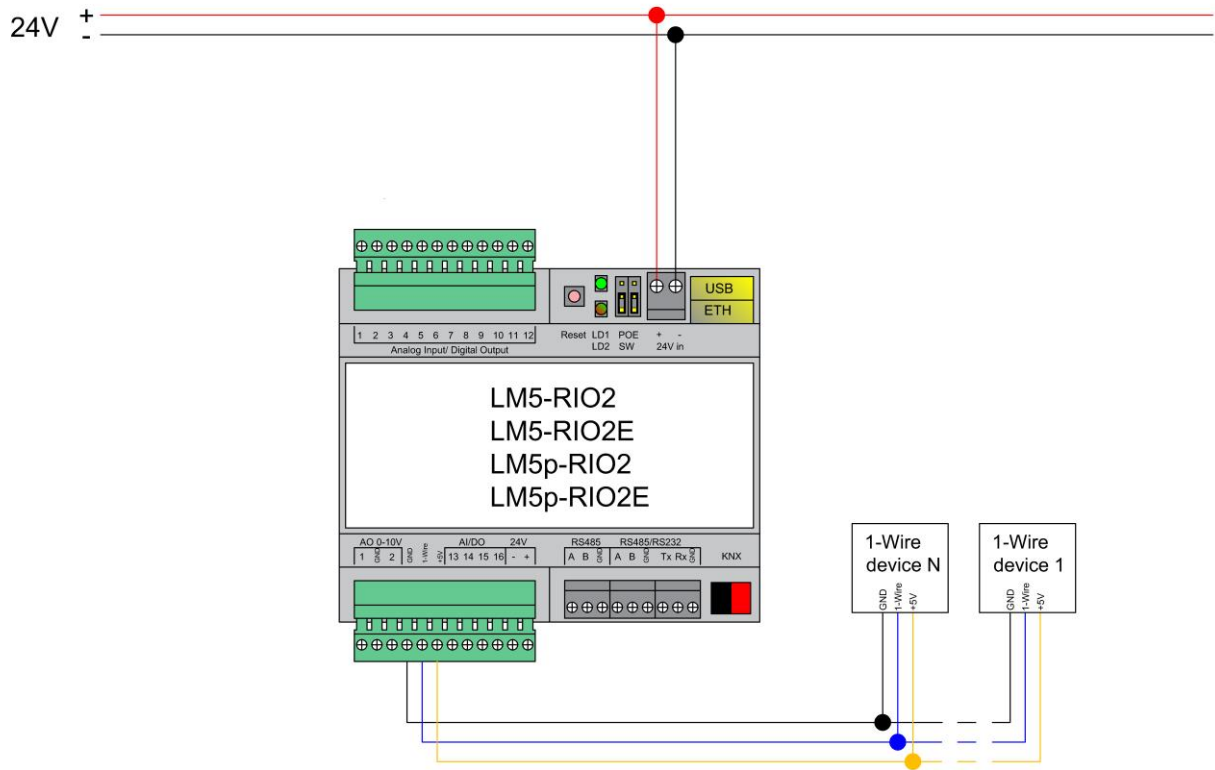
Binary input (e.g. pushbutton) or Analog input



Analog output (0..10V)



1-Wire connection



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 crew terminals or through Passive 24V DC Power-Over-Ethernet)
- 4) Connect Ethernet/LAN cable coming from the PC/switch

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