

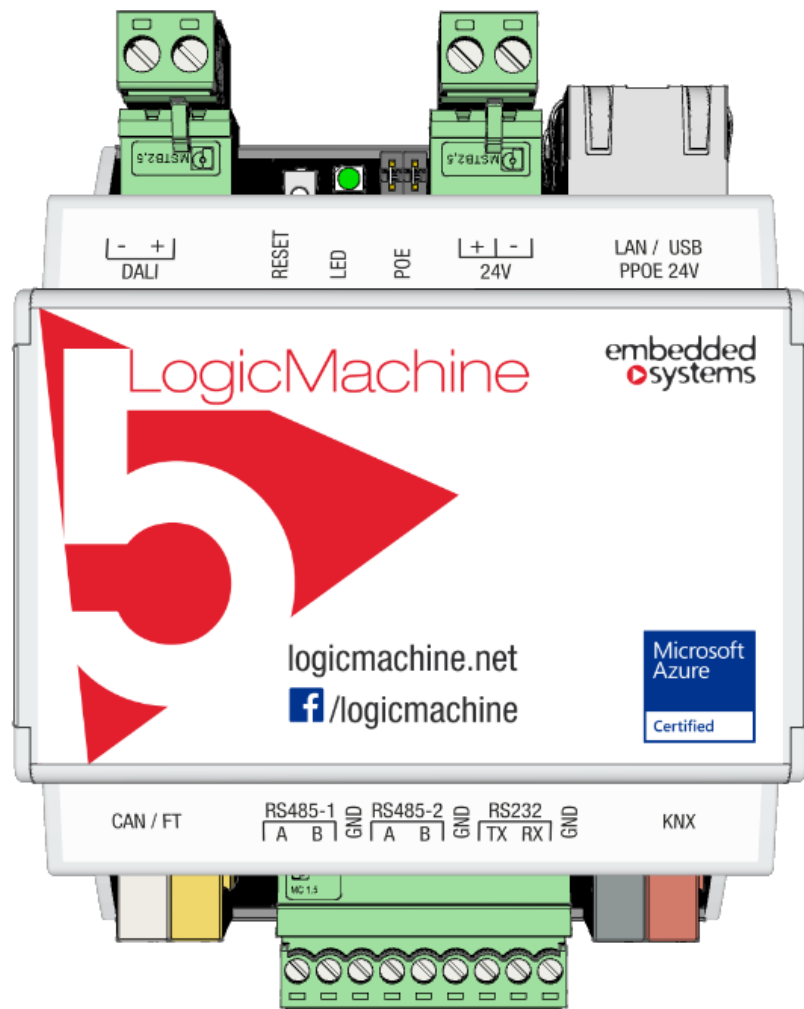
LogicMachine5 Power KNX CANx DALI ZigBee (LM5p2-KCDZ)

LogicMachine (LM) is your easiest way to program complex logic in KNX, CAN, Modbus, DALI, BACnet, ZigBee 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 TP1, CAN FT, DALI, ZigBee, 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, 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 Power has passive Power-over-Ethernet support.

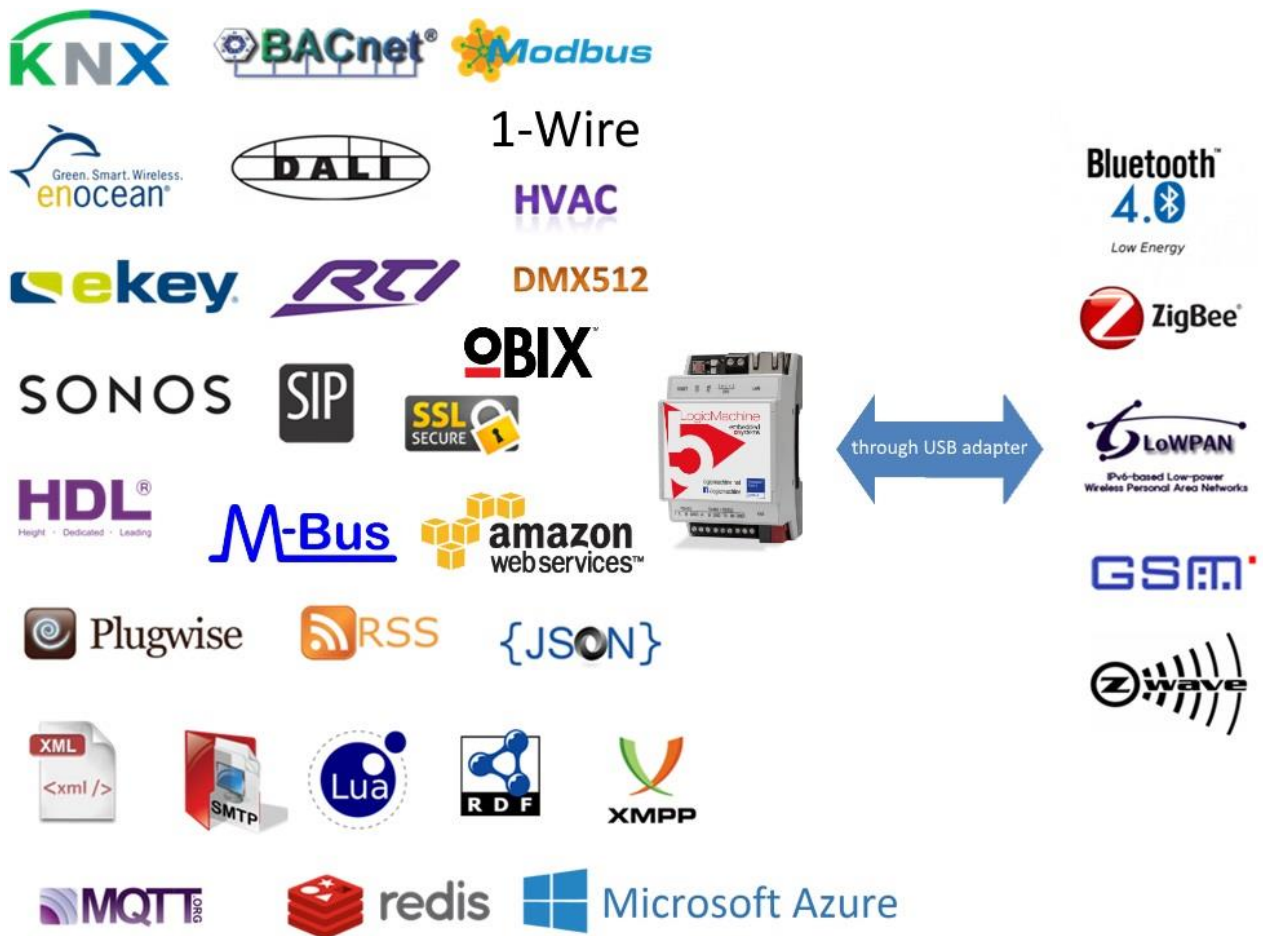


ENG - Data sheet

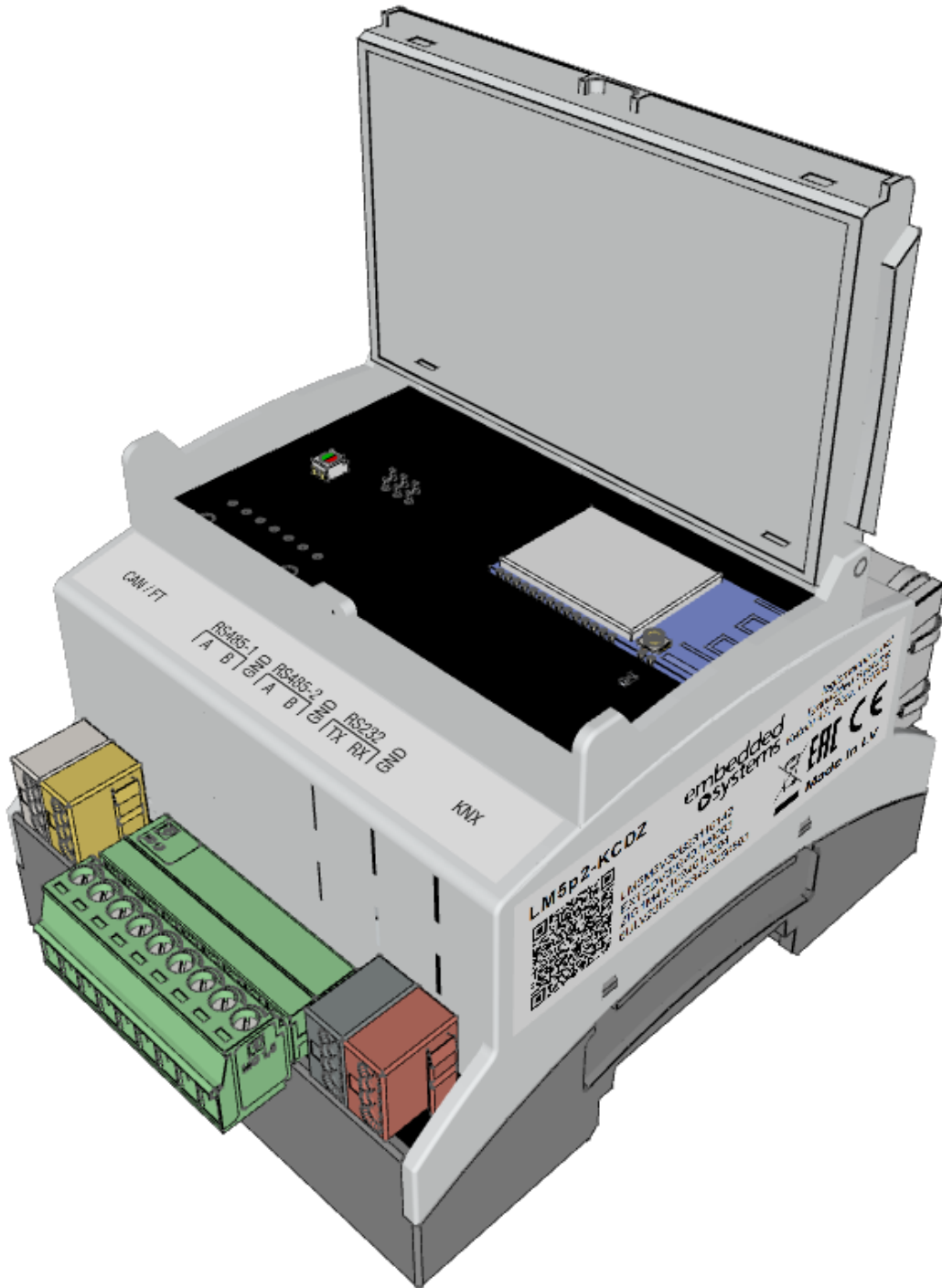
Issue date 27.05.2024

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
- MQTT broker / client
- ...



Types of product	
LM5p2-KCDZ	LogicMachine5 Power KNX CANx DALI ZigBee
Technical data	
Power supply	12-32V DC terminal connector or Passive PoE
Power consumption (at 24 V)	1.3 W
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
KNX/EIB TP1	1
CAN FT	1
DALI master	1 (up to 64 ballasts)
ZigBee with built in antenna	1
10BaseT/100BaseTX	1
RS-485	1
RS-485/RS-232	1
LED	1 – CPU load, 1 - Activity
USB2.0	1
Programming/reset button	1
Reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm ²
KNX TP1 Terminal	0.8mm ²
Power supply	5 mm ²
Serial	3.5 mm ²
Color	Gray
Dimensions	71(W)x90(H)x61(L) mm
Protection	IP20 according to EN 60529
Usage temperature	0C ... +45C
Storage temperature	-15C ... +55C
Net weight:	119 g
Gross weight	137 g
ZigBee specification	
Power on transmitter	+5 dBm
Frequency	2.4 GHz
Channels	11-26
Max count of ZigBee devices connected	50
Standards and norms compliance	
CE conformity	EMBS-CE-240527/01 Electromagnetic compatibility
EMC, other	EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2020 EN IEC 61000-3-2:2019 EN 61000-3-3:2013+A1:2019+A2:2022+AC:2022





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 CANx extensions
- 4) Connect 24V power supply to the device (either through separate 24V screw terminals or through Passive 24V DC Power-Over-Ethernet)
- 5) 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

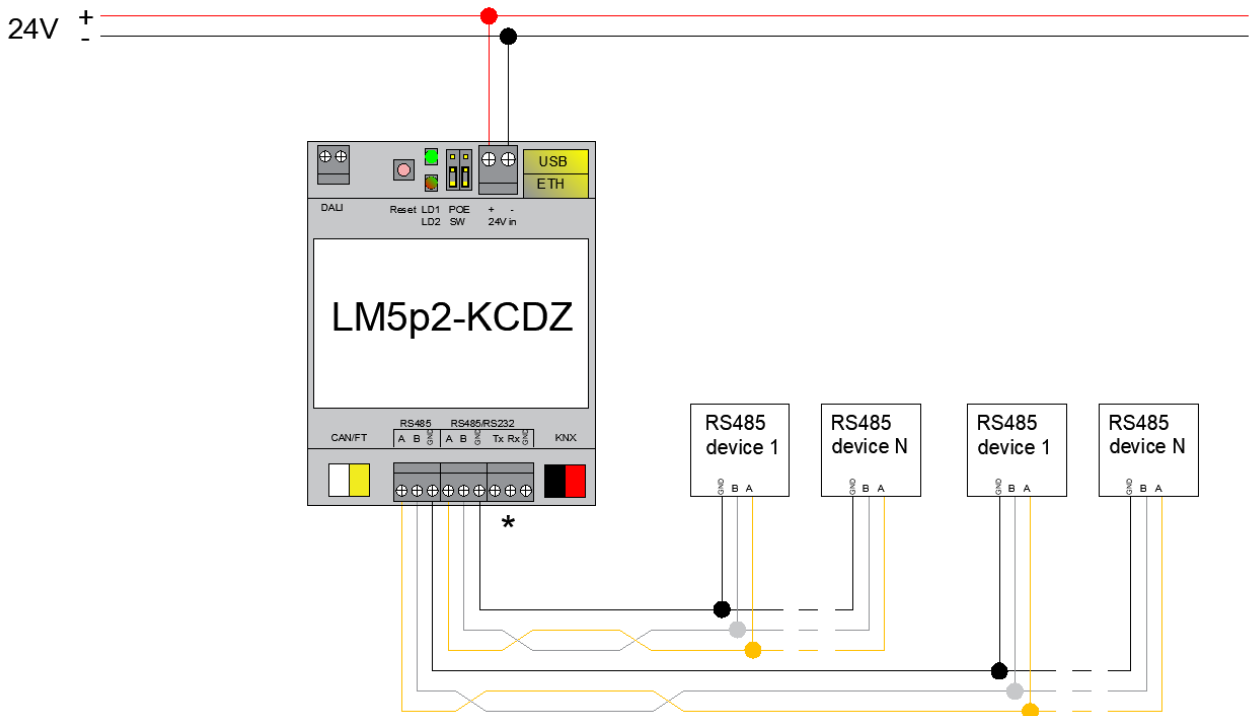
You can either reboot the device by pressing RESET button or reset the configuration to factory defaults:

- *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

RS-485 connection

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

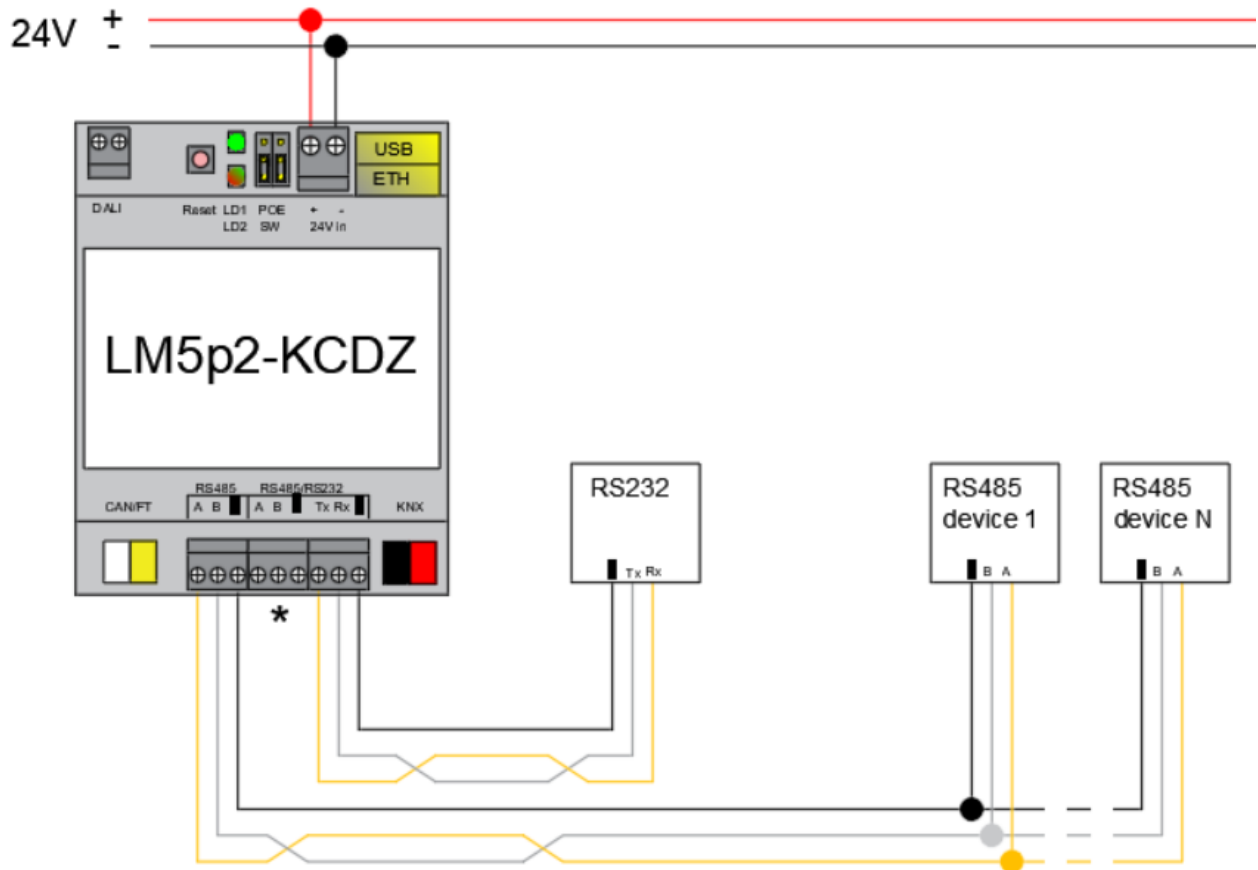
- If it is set up as full-duplex it will operate as RS-232 and respective TX/RX/GND screw terminals should be used
- If it is set up as half-duplex (*) it will operate as RS-485 and respective A/B/GND screw terminals should be used



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

RS-232 connection

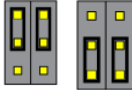

If second serial port is set as full-duplex in LogicMachine configuration, it will operate as RS-232 and respective TX/RX/GND screw terminals should be used



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

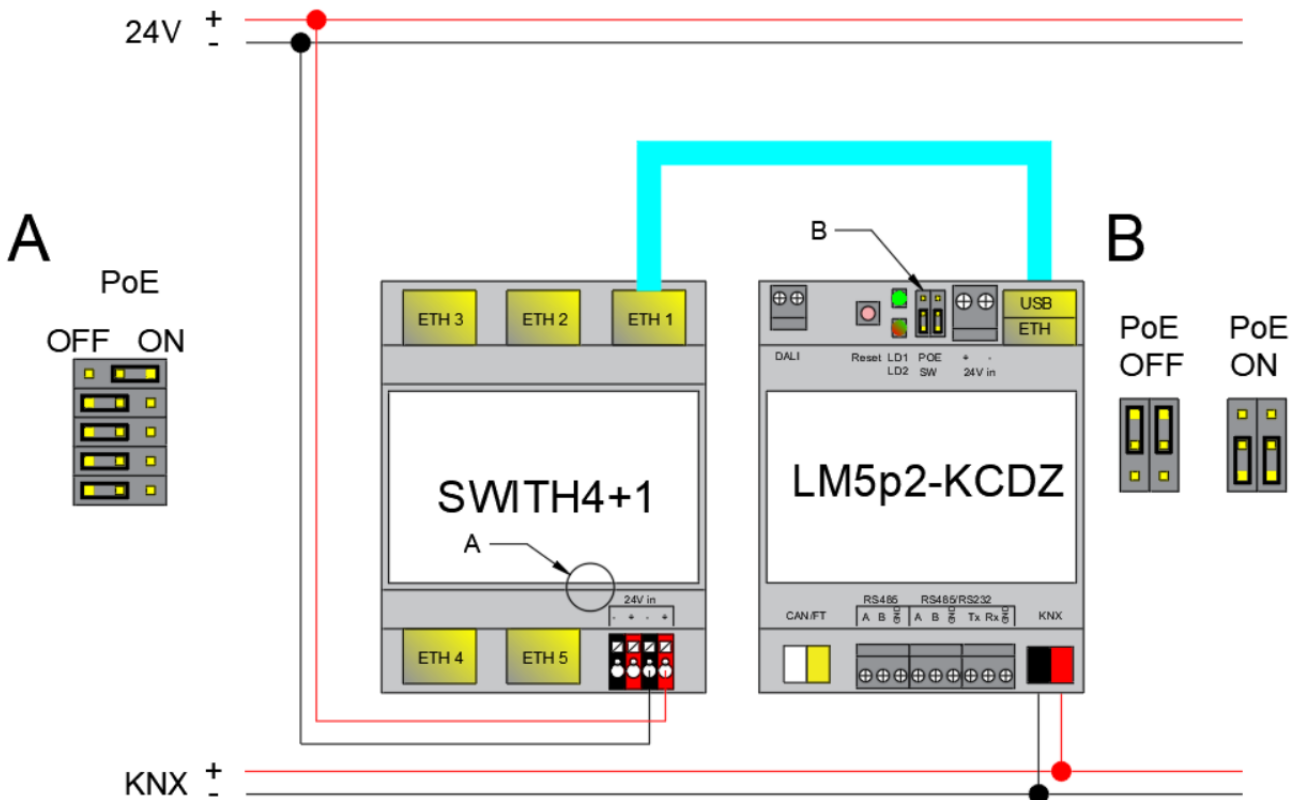
Powering

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

Note! By default LM is set into Passive PoE + 24V DC powering mode. Make sure not to connect it to active PoE switch or change jumpers accordingly before doing that



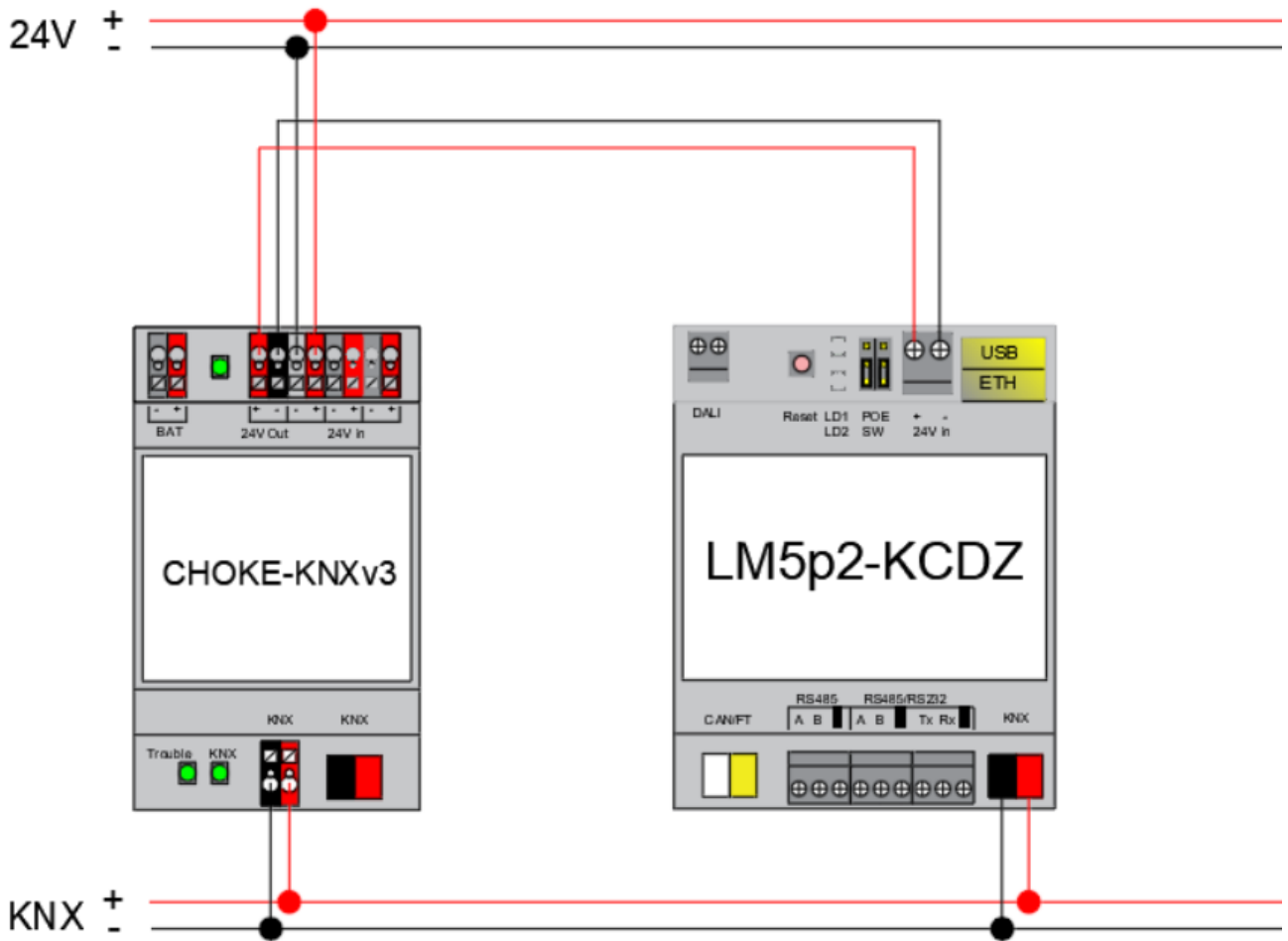
Passive PoE switch



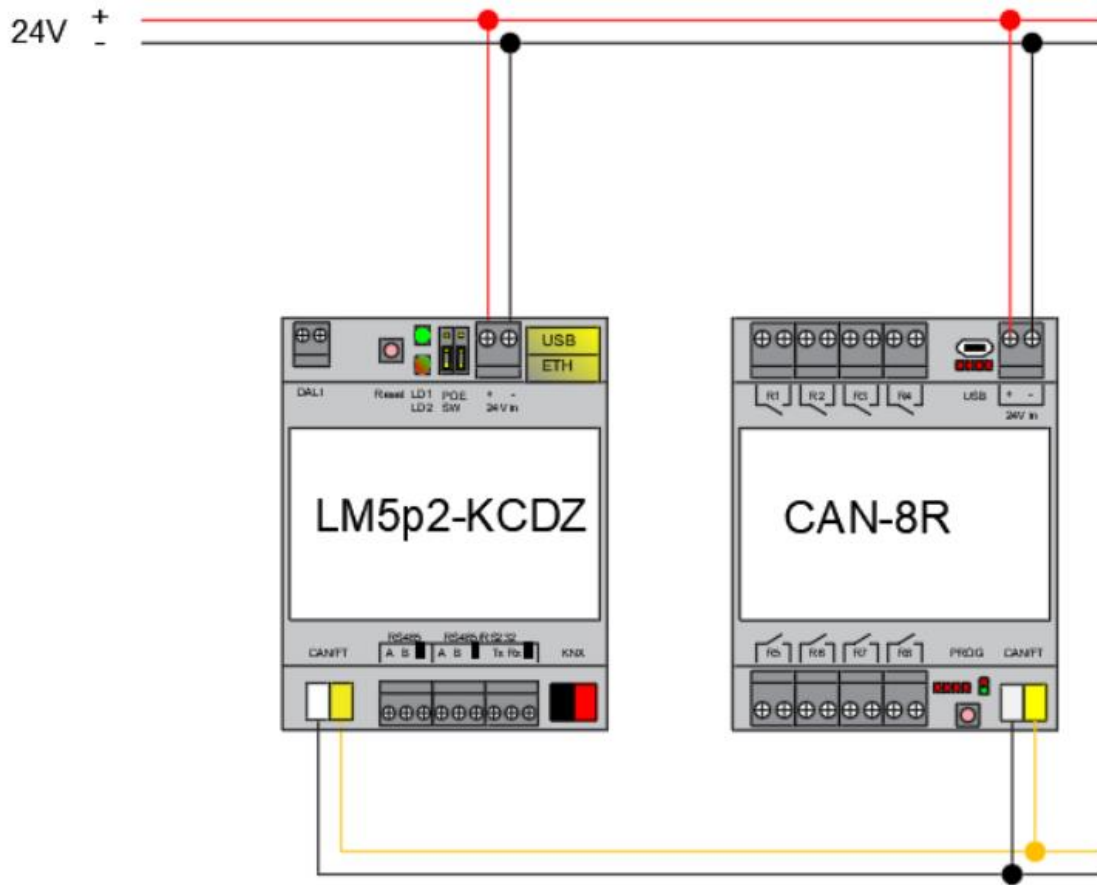
Passive PoE adapters



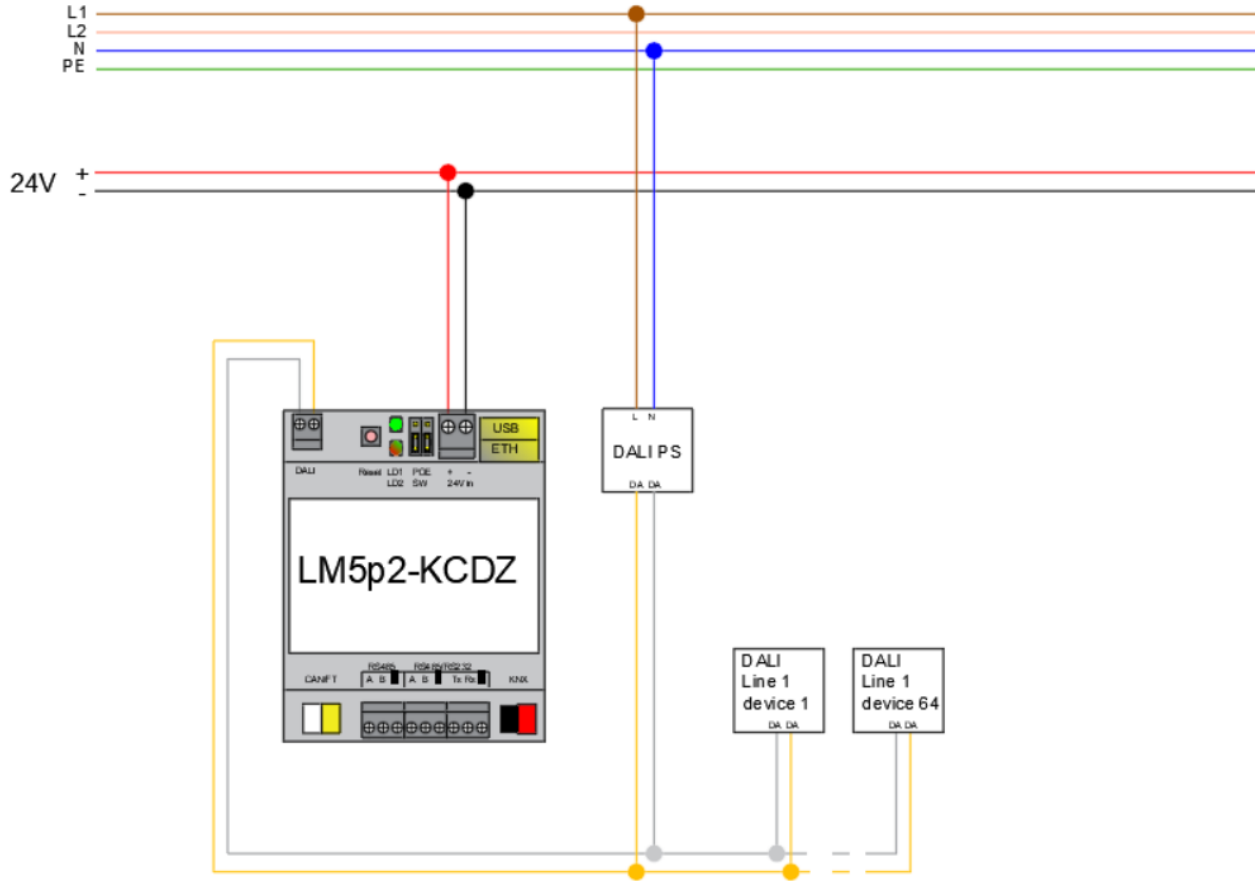
KNX connection



CAN FT connection



DALI connection



DALI usage notes

DALI in this product is used in a bit different way than on other LM5 products. DALI acts as CAN-DALI gateway. Therefore, you need to do a Line scan in CANx app to find/add it to the devices.

Groups Devices Locations Connection helper Line scan Device scan Reports Monitor Tools

Line range: 0 to 0

Filter devices: All Prog Error

Address	Name	Type	HW-SW ID	State
0.2		UIO8 (8 Universal IO ports + LoRa)	00 00 00 0B / 02	-
0.1	DALI gateway (internal)	DALI gateway (internal)	00 00 00 07 / 03	-

Also, to change this *DALI device* physical address, you need first add it to *Devices*. Then *Edit* its parameters and set to desired address

Edit device

Line: 0 Node: 2

Name: DALI gateway (internal)

Device type: DALI gateway (internal)

Tags: No tags set

Location: - No location -

Block write (skip device during full project write)

Comments:

Save and configure Save Cancel

Then click on *Write configuration* icon, and reply YES when asked.

Device DALI gateway (internal) (0.3) cannot be found, do you want to write address to it?

Yes No

Then a *Write device address* window will appear with **Toggle internal programming button** function. Press it.

Write device address

Line: 0 Node: 3

Now press programming button on the device

Toggle internal programming button

Write Cancel

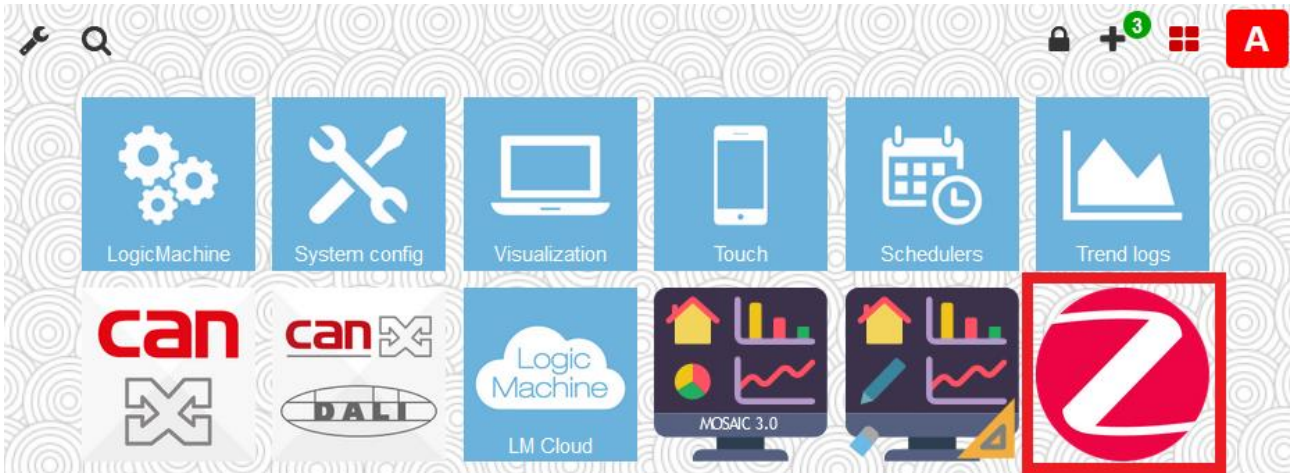
Later use special DALI configuration app which is explained in this video tutorial:

<https://www.youtube.com/watch?v=IClhoXdq2Do>

In comparison with DALI built in other LM5 devices (like DW1, DR, RD), you can use it as DALI Multi-master. The commissioning software for LM supports DALI1 and DALI2.

Zigbee connection

Open Zigbee app



If the Zigbee device that you are going to add has an install code, then before pairing add install code



Add install code ✕

Address (EUI-64)

Install code

Add
Cancel

Change Network state to open

☰ ZigBee
🔒 Network state: closed
✕

Address	Name	Manufacturer / Model	Status	?
689b <small>cc86ecffecf3bac</small>	Schneider Electric - Wiser Smart Plug	Schneider Electric - Wiser Smart Plug	📶 68% <small>2024.05.27 13:27:51</small>	↻ 🔗 ℹ️ 📄 🔧 ⚙️ ✕

☰ ZigBee
🔓 Network state: open
✕

Address	Name	Manufacturer / Model	Status	?
689b <small>cc86ecffecf3bac</small>	Schneider Electric - Wiser Smart Plug	Schneider Electric - Wiser Smart Plug	📶 68% <small>2024.05.27 13:27:51</small>	↻ 🔗 ℹ️ 📄 🔧 ⚙️ ✕

Then add device to your Zigbee network (please see manufacturer instruction of specific device to know how to pair the Zigbee device).

☰ ZigBee
🔓 Network state: open
✕

Address	Name	Manufacturer / Model	Status	?
32bd <small>a4c13830b52ee1d9</small>		Silvercrest - Smart Plug		🔗 ℹ️ 📄 🔧 ⚙️ ✕
689b <small>cc86ecffecf3bac</small>	Schneider Electric - Wiser Smart Plug	Schneider Electric - Wiser Smart Plug	📶 68% <small>2024.05.27 13:27:50</small>	↻ 🔗 ℹ️ 📄 🔧 ⚙️ ✕

The device (Silvercrest – Smart Plug) was added, close the Network state.

List of supported Zigbee devices: <https://kb.logicmachine.net/misc/zigbee-devices/>

Zigbee library for custom device integration: <https://kb.logicmachine.net/libraries/zigbee/>