embedded
systems

COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO 9001:2015

KNX MEMBER

can
protocol creator

LogicMachine5 Power KNX CANx DALI (LM5p2-KCD)

LogicMachine (LM) is your easiest way to program complex logic in KNX, CAN, Modbus, DALI, 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 TP1, CAN FT, DALI, 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 26.11.2021

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
- …
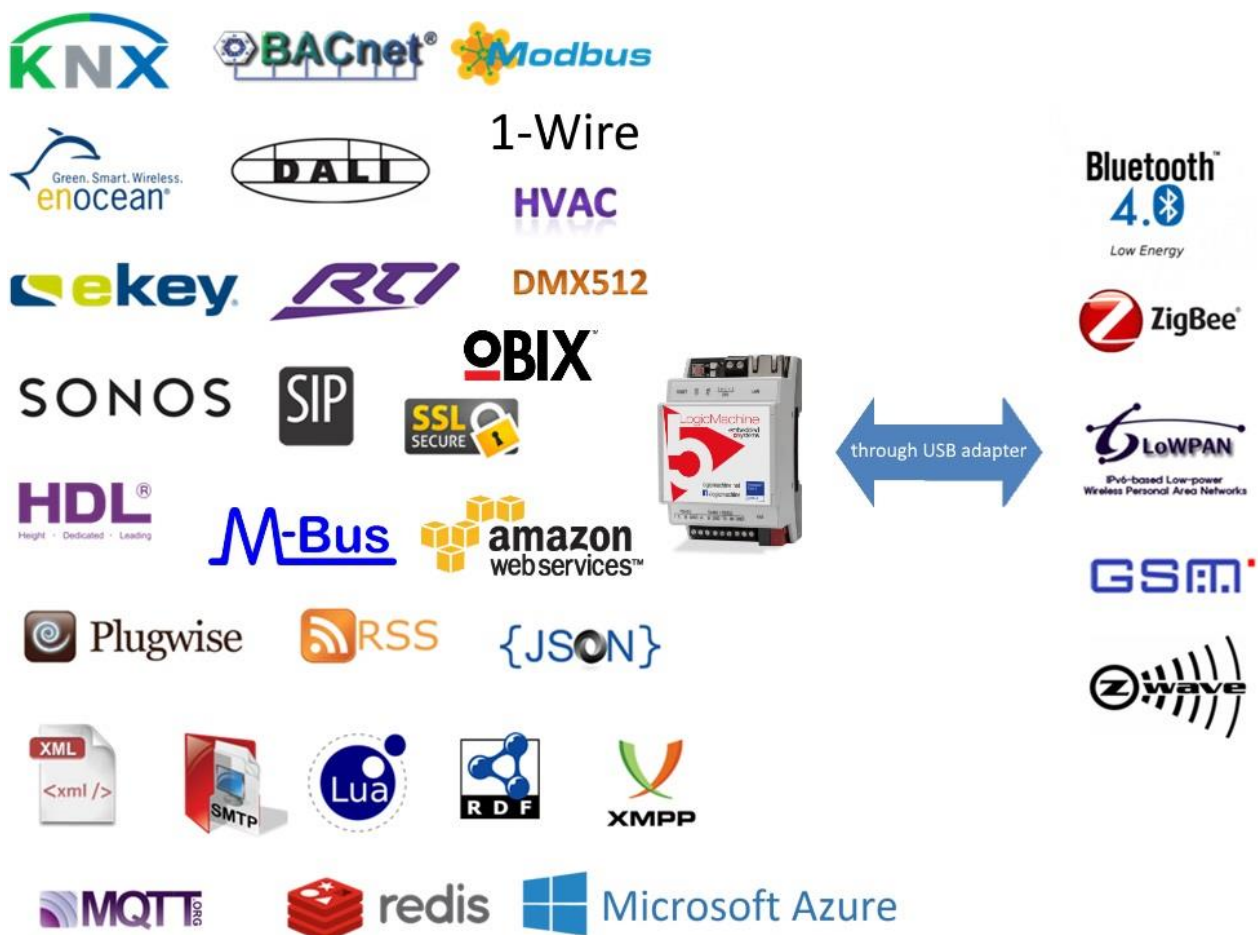
| Types of product	
LM5p2-KCD	LogicMachine5 Power KNX CANx DALI
Technical data	
Power supply	12-32V DC terminal connector or Passive PoE
Power consumption (at 24 V)	1.3 W
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
KNX/EIB TP1	1
CAN FT	1
DALI master	1 (up to 64 ballasts)
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	0.8mm2
KNX TP1 Terminal	0.8mm2
Power supply	5 mm2
Serial	3.5 mm2
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
Standards and norms compliance	
CE conformity	EMBS-CE-200312/01 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

![Caution icon] **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.
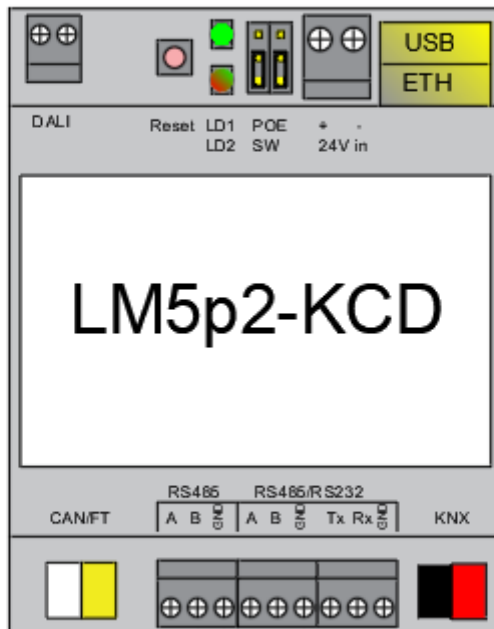
Quick startup guide

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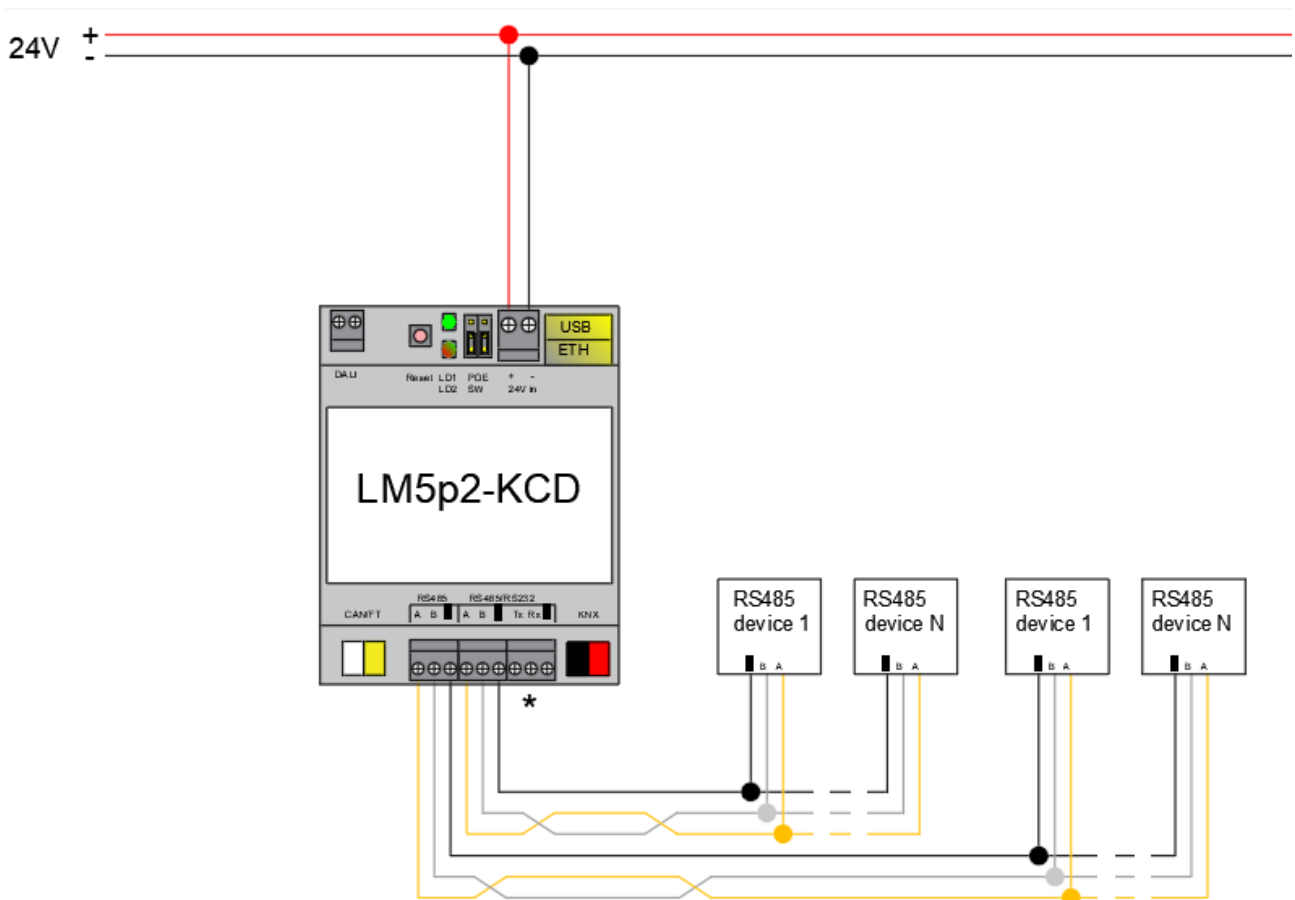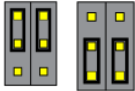
*RS-485 is chosen in this case, RS-232 is not activated

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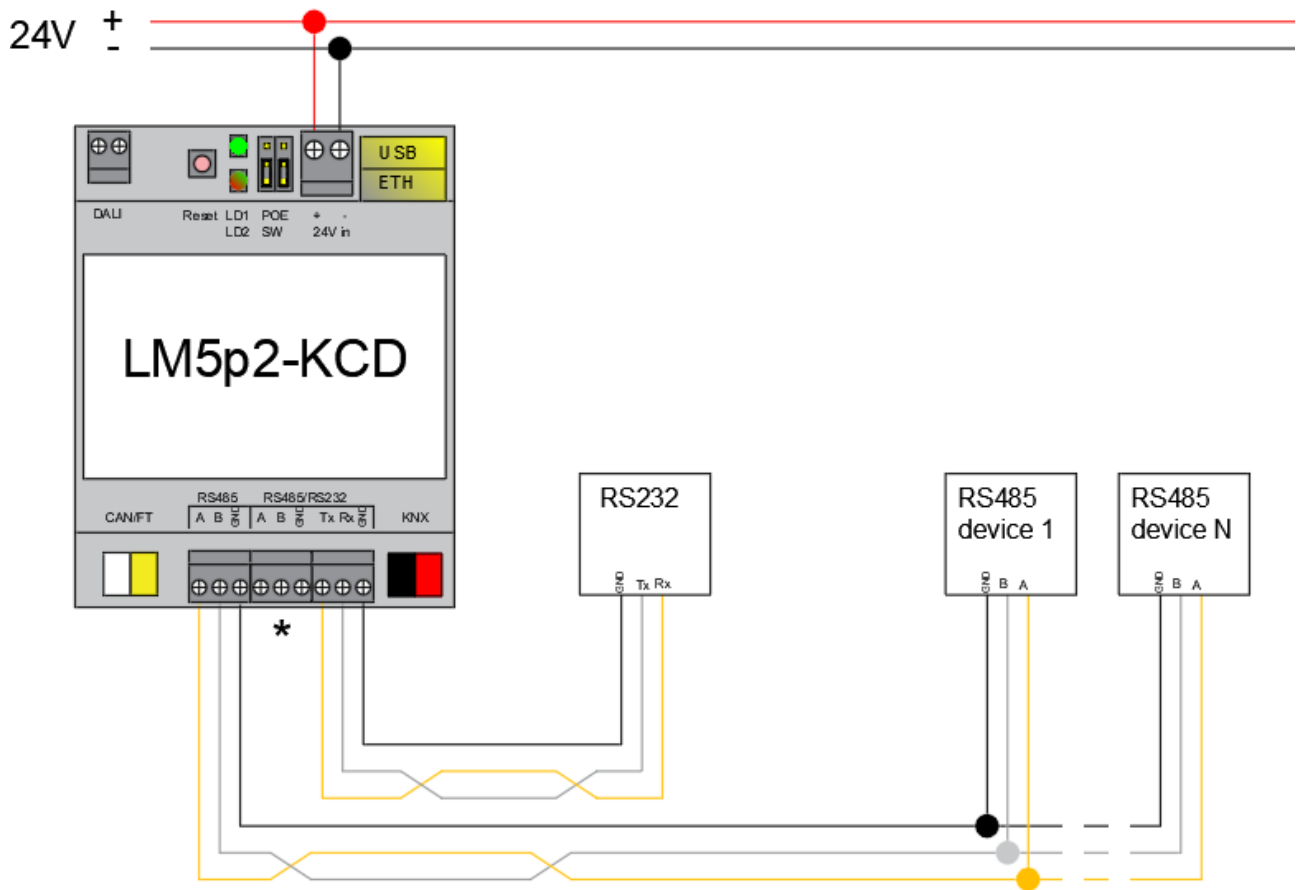
*RS-232 is chosen in this case, RS-485 is not activated

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
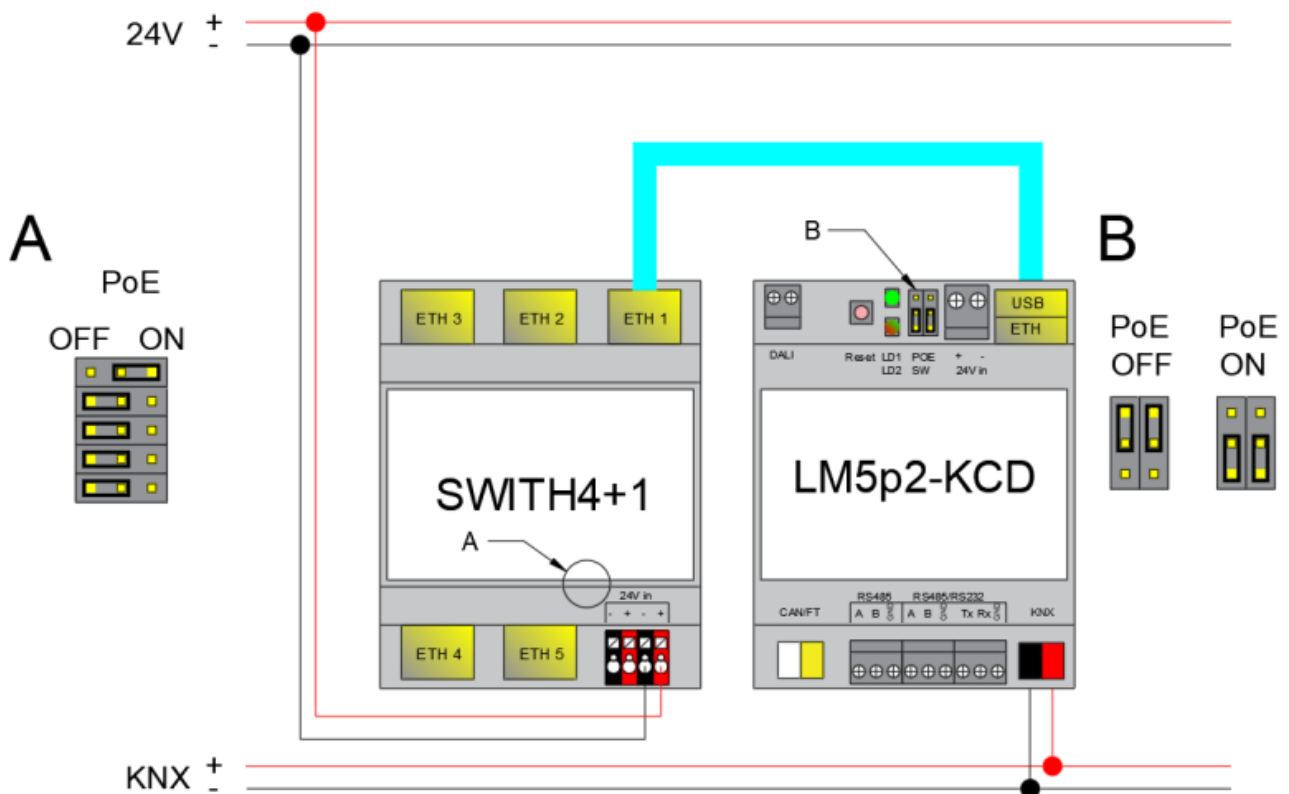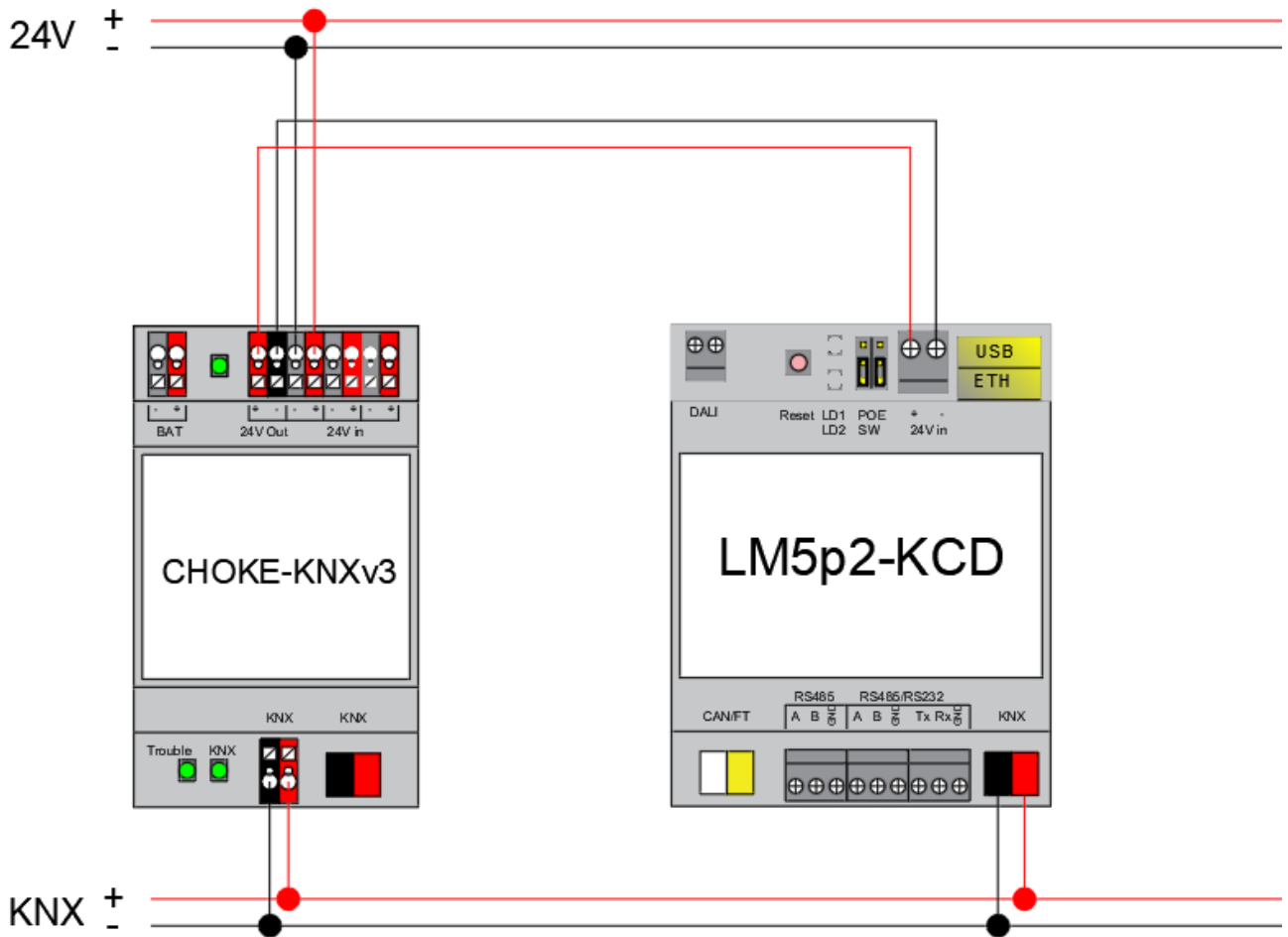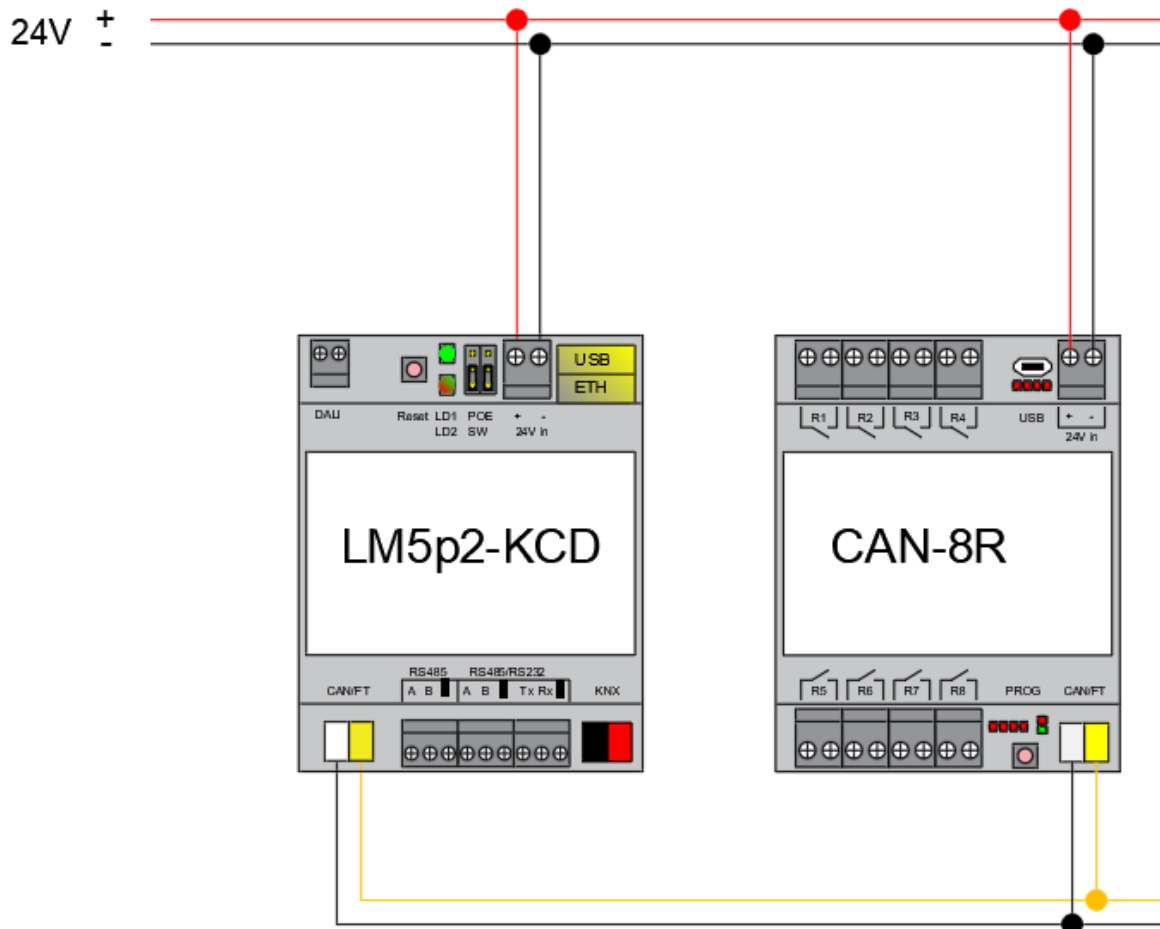
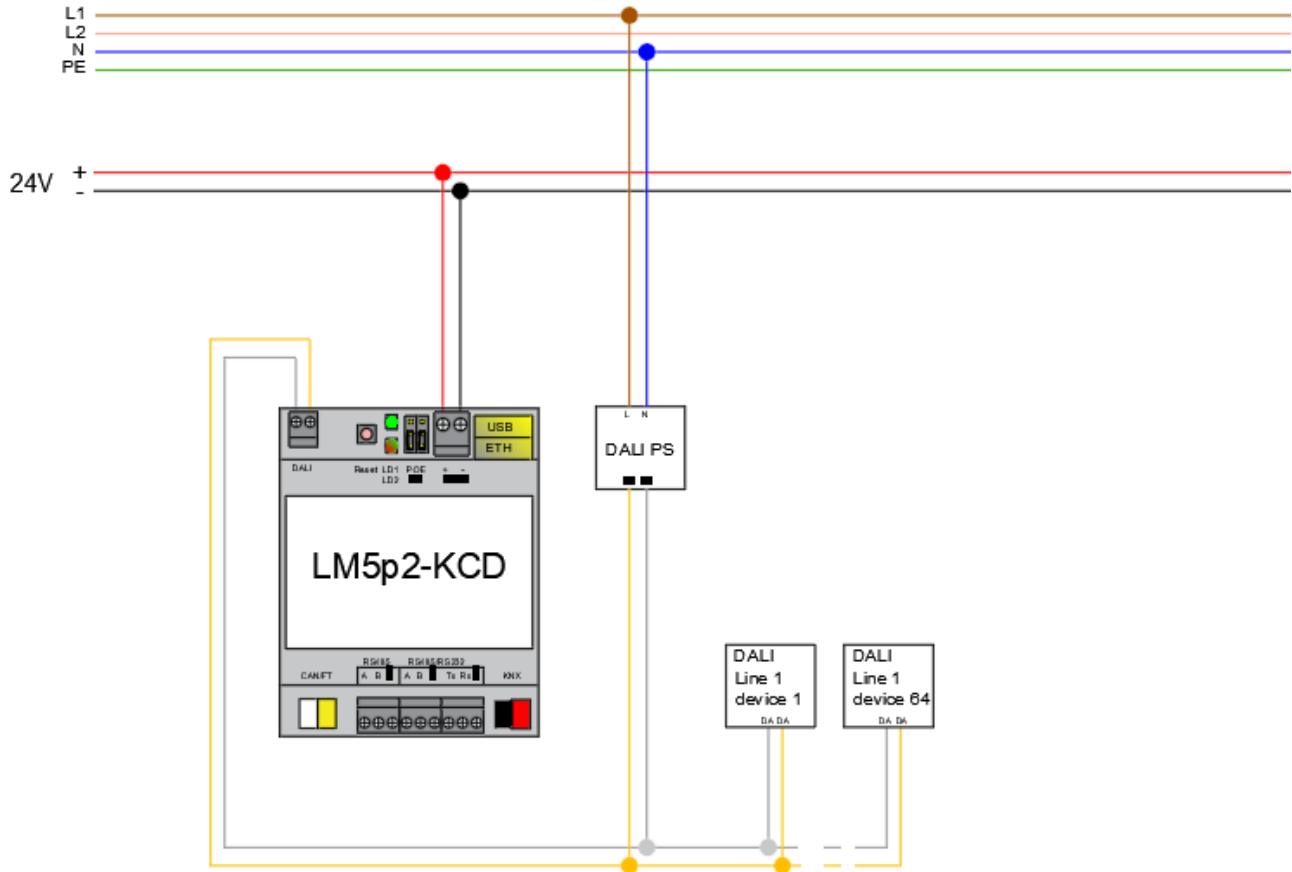Passive PoE switch

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.

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   **Node**

| 0 ⌄ | | 2 |

Name

| DALI gateway (internal) |

Device type

| DALI gateway (internal) ⌄ |

ⓘ More info

Tags

| 🔍 No tags set |

Location ➕ Add

| - 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   **Node**

| 0 ⌄ | | 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=lCIhoXdq2Do

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 currently supports DALI1 only but we have plans to add DALI2 later. We support Date Type 8 (color temperatures) for DALI lighting + you can send and receive 1/2/3 byte telegrams.