IoT and CANx solutions 2019

For notes:

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

CANx—future proof technology with familiar concepts

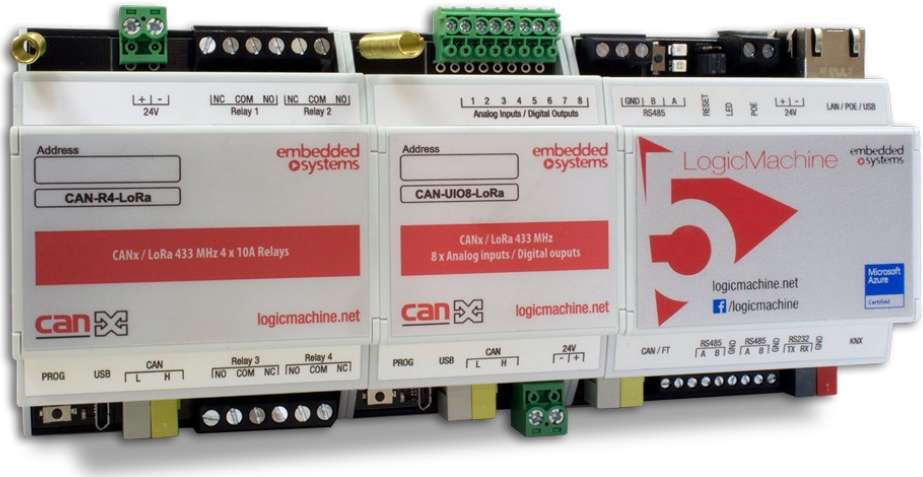
Why is there a need for a new system?

- When newest specification was made 25 years ago, such things as encryption, security and usability were not important
- Nobody thought about ecosystem concept: not only protocol specification, but also a universal way of commissioning and integration
- We've chosen to build something new based on timeproven technologies. CAN FT was selected as base media. It is widely used in automotive and space industries. CAN FT is the latest version of international standard ISO 11898-3:2006

Unique features

- 1:1 mapping to KNX
- High reliability due to internal hardware watchdogs and monitoring
- Direct communication can be disabled for improved security. This way only group communication works, no parameters or addressing can be modified without the master code
- Highly secure and encrypted communication between system elements, web and cloud services
- Close partnership and integration with Microsoft tools – the most advanced data visualization, big data and analytics provider

CANx—future proof technology with familiar concepts



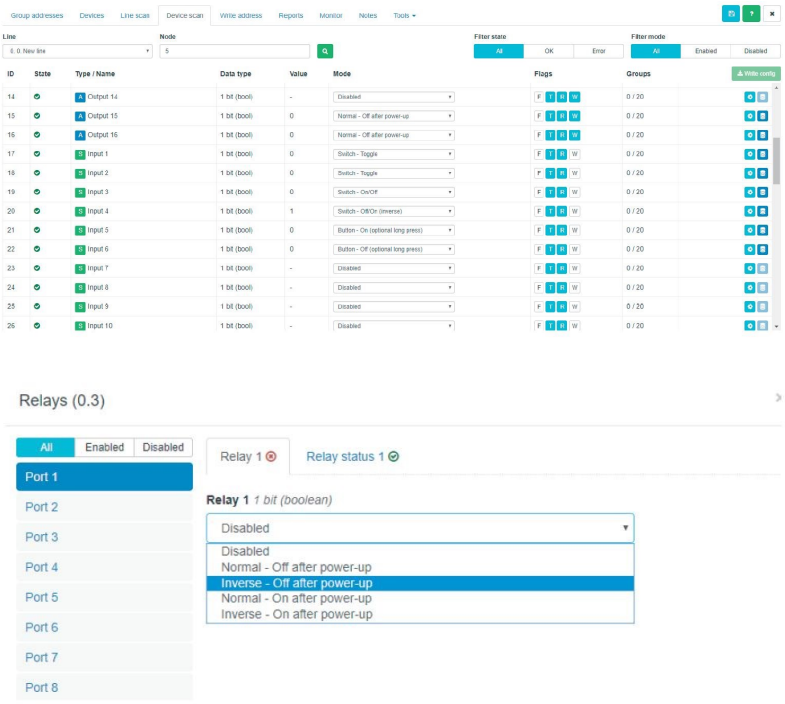
Advantages for electricians

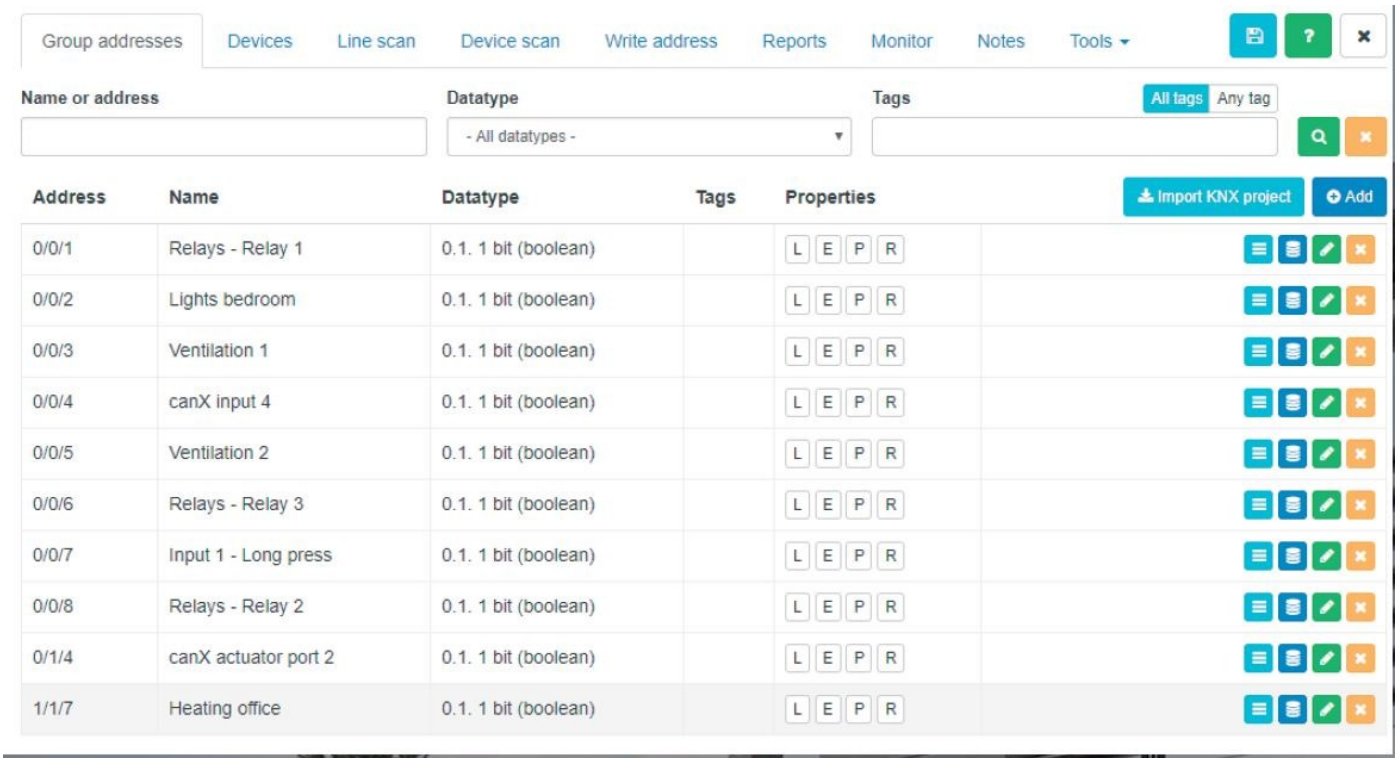
- No efforts are needed to learn something new, same principles as KNX. If you know KNX, you know CANx
- Commissioning software is free of charge
- Easy remote configuration, diagnostics and maintenance of your installation
- CANx system can check device health and report errors automatically
- Seamlessly compatible with KNX standard, but better and cheaper
- No knowledge needed for device replacement

CANx configuration software

Simple yet powerful configuration tool

- Multi-platform web-based app on LogicMachine. No more limitation to Windows OS only
- ETS project can be imported and enriched with semantics
- Easy import/export of project data
- Direct or group-based communication
- Multiple modes (for example: I/O, Fancoil, Shutter controller)per device without additional firmware change
- Direct in-place device configuration even without project data
- Project data can be restored by reading configuration from all devices in the installation
- Dedicated semantics dictionary for native IoT integration





CAN-UIO16

CANx 16 x Analog inputs / Digital outputs

This device is designed as swiss-knife for your installation. It can be used as push-button interface, analog sensor input module, pulse meter or controller of external contactors.

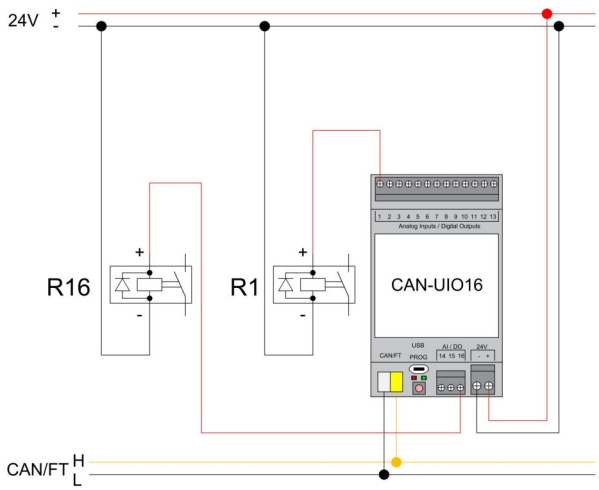
Highlights

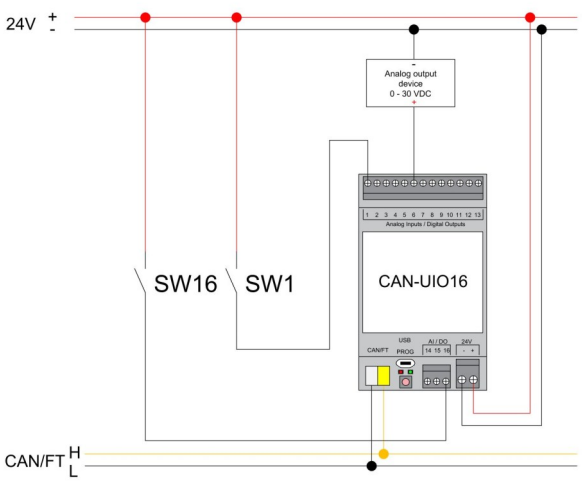
16 x Analog inputs / Digital ouputs

1 x CAN FT

CANx configurator is freely available from LM app store

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	12 mA
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Universal Inputs/Outputs	16
Analog input resolution	12bit
Digital output current	350 mA (max 2 A per whole device)
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Inputs/Outputs	3.5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	52(W)x100(H)x56(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	80 g
Gross weight	94 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/02 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3





CAN-UI10

CANx 10 x Push-button inputs / 1 x PT1000 sensor input

Each port of this flush-mounted module can be used as push-button input or LED control. This device has thermostat functionality with temperature data taken either from PT1000 resistive sensor input or built-in sensor.

Highlights

10 x Binary inputs / LED control

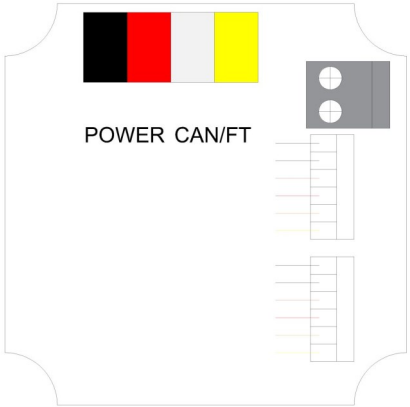
1 x PT1000 sensor input

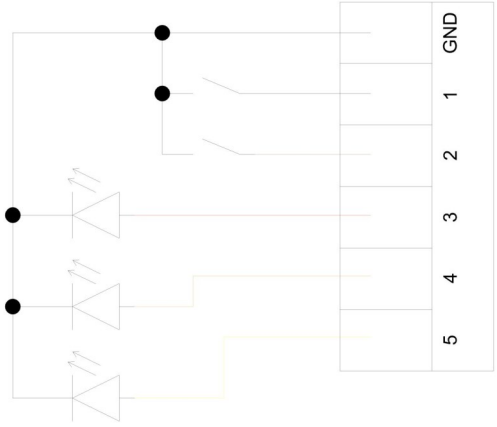
1 x Built-in temperature sensor

1 x CAN FT

CANx configurator is freely available from LM app store

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	11 mA (input mode)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Binary inputs or outputs	10
Voltage if used as output	5 V
Current if used as output	5mA (enough for regular LED)
Temperature sensor	1
PT1000 input	1
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – Programming
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Inputs / Outputs	Sharp ZH 1.5mm connector (6pin cables included)
Power supply	0.8mm2
Color	Black
Dimensions	52(W)x48(H)x15(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	40 g
Gross weight	50 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/01 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3





CAN-UIO8-LoRa

CANx / LoRa 433 MHz 8 x Analog inputs / Digital outputs

This device is designed as swiss-knife for your installation. It can be used as push-button interface, analog sensor input module, pulse meter or controller of external contactors. It can be used with wired or wireless media, gateway between wireless-wired.

Highlights

8 x Analog inputs / Digital ouputs

1 x CAN FT

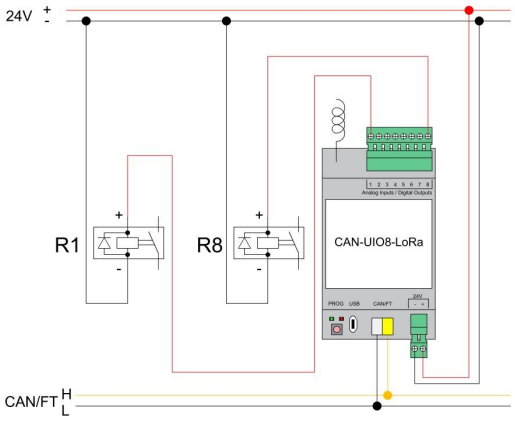
1 x LoRa 433 Mhz transceiver with antenna (adjustable bandwidth / distance)

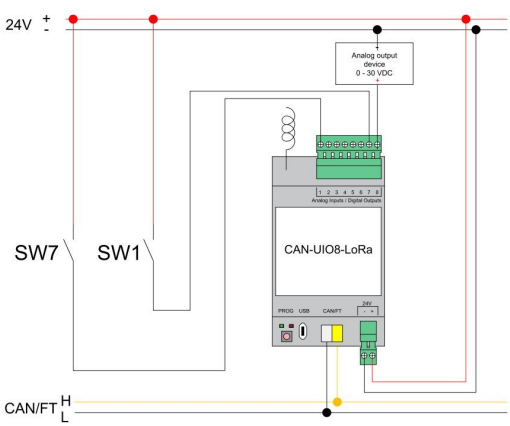
Can be used with wired or wireless media, gateway between wireless-wired

CANx configurator is freely available from LM app store

LoRa specification	
Power on transmitter	1.6-50 mW (software adjustable)
Frequency range	433-434,750 MHz
Channel bandwidth	125 / 250 / 500 kHz
Carrier frequency step	125 kHz
Spreading factor	7-12

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	15 mA (LoRa not active), 30 mA (peak LoRa activity)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Universal Inputs/Outputs	8
Analog input resolution	12bit
Digital output current	350 mA (max 2 A per whole device)
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 – RX/TX LoRa
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Inputs / Outputs	3.5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	54(W)x100(H)x68(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	86 g
Gross weight	97 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/03 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3





CAN-AO6

CANx 6 x 0-10V Analog outputs

This device is used as dimmer in lighting control applications. It is applicable also for motor, inverter, hydraulic actuator and other device control supporting analog signal.

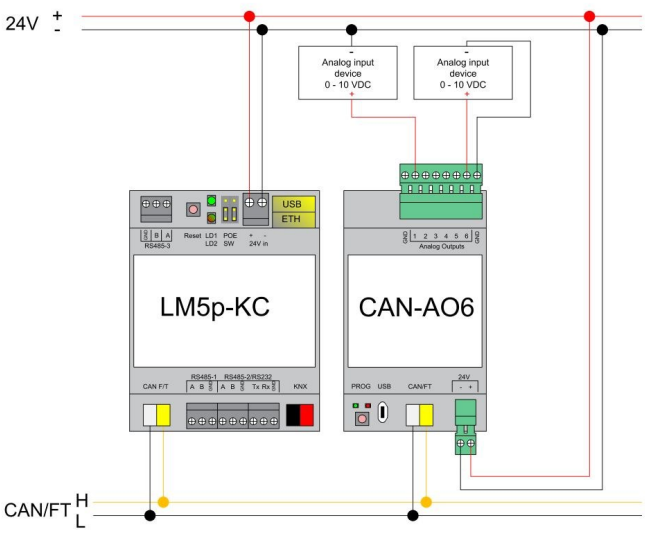
Highlights

6 x 0-10V analog outputs

1 x CAN FT

CANx configurator is freely available from LM app store

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	16 mA (outputs activated), 0.2 mA (max current per channel)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
0-10V outputs	6
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 – RX/TX LoRa
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Outputs	3.5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	52(W)x100(H)x56(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	86 g
Gross weight	97 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/04 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-AO6-LoRa

CANx / LoRa 433 MHz 6 x 0-10V Analog outputs

This device is used as dimmer in lighting control applications. It is applicable also for motor, inverter, hydraulic actuator and other device control supporting analog signal. This device can be used with wired or wireless media, gateway between wireless-wired.

Highlights

6 x 0-10V analog outputs

1 x CAN FT

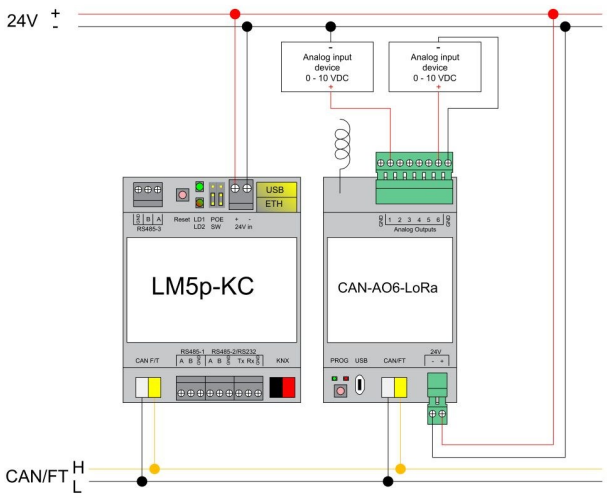
1 x LoRa 433 Mhz transceiver with antenna (adjustable bandwidth / distance)

Can be used with wired or wireless media, gateway between wireless-wired

CANx configurator is freely available from LM app store

LoRa specification	
Power on transmitter	1.6-50 mW (software adjustable)
Frequency range	433-434,750 MHz
Channel bandwidth	125 / 250 / 500 kHz
Carrier frequency step	125 kHz
Spreading factor	7-12

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	16 mA (outputs activated), 0.2 mA (max current per channel)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
0-10V outputs	6
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 – RX/TX LoRa
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Outputs	3.5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	52(W)x100(H)x68(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	86 g
Gross weight	97 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/04 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-R1-PT1000

CANx 1 x 6A Relay / 1 x PT1000 sensor input

This flush-mounted device is applicable in floor heating applications. It is equipped with resistive temperature sensor input and relay for AC/DC circuit commutation.

Highlights

1 x 6A relay

1 x PT1000 sensor input

1 x CAN FT

CANx configurator is freely available from LM app store

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	11 mA
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Relays	1
Rated voltage/current	250V AC (10 A), 30V DC (5 A)
PT1000 temperature sensor input	1
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Relays	5 mm2
Power supply	5 mm2
Color	Black / Gray
Dimensions	53(W)x25(H)x43(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	40 g
Gross weight	50 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/11 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

CAN-PT8

CANx 8 x PT1000 sensor inputs

This device is designed for heating applications. It is equipped with 8 input channels for connection of temperature sensors.

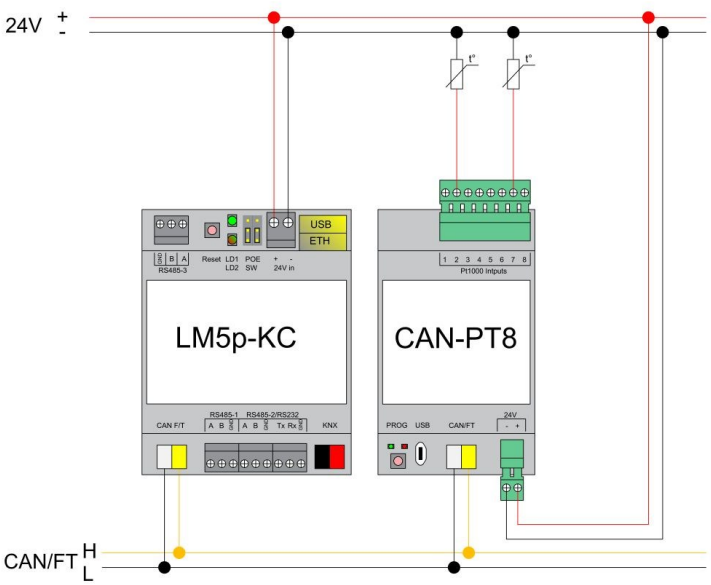
Highlights

8 x PT1000 inputs

1 x CAN FT

CANx configurator is freely available from LM app store

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	4 mA (all sensors connected), 0.2 mA (max current per channel), 19 mA (full load with LoRa)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
PT1000 temperature sensor inputs	8
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 - RX/TX LoRa
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Inputs	3.5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	52(W)x100(H)x56(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	86 g
Gross weight	97 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/05 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-PT8-LoRa

CANx/ LoRa 433 MHz 8 x PT1000 sensor inputs

This device is designed for heating applications. It is equipped with 8 input channels for connection of temperature sensors. It can be used with wired or wireless media, gateway between wireless-wired.

Highlights

8 x PT1000 inputs

1 x CAN FT

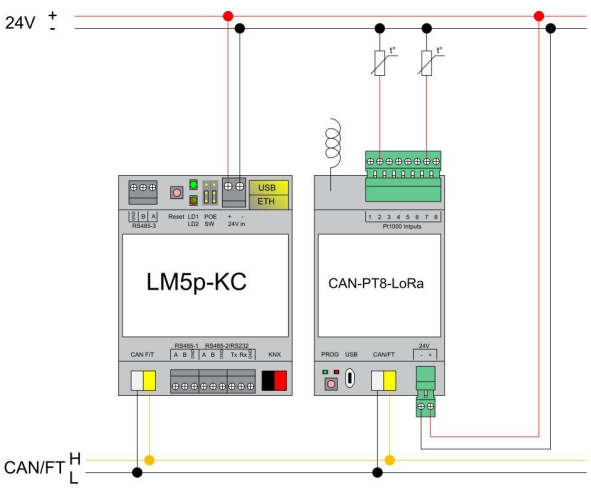
1 x LoRa 433 Mhz transceiver with antenna (adjustable bandwidth / distance)

Can be used with wired or wireless media, gateway between wireless-wired

CANx configurator is freely available from LM app store

LoRa specification	
Power on transmitter	1.6-50 mW (software adjustable)
Frequency range	433-434,750 MHz
Channel bandwidth	125 / 250 / 500 kHz
Carrier frequency step	125 kHz
Spreading factor	7-12

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	4 mA (all sensors connected), 0.2 mA (max current per channel), 19 mA (full load with LoRa)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
PT1000 temperature sensor inputs	8
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 - RX/TX LoRa
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Inputs	3.5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	52(W)x100(H)x68(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	86 g
Gross weight	97 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/05 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-R4

CANx 4 x 10A Relays

This device is designed for high power AC/DC circuits commutation. It is applicable for power sockets, blinds/shutters, thermoelectric valve, non-dimmable light, HVAC and locks control.

Highlights

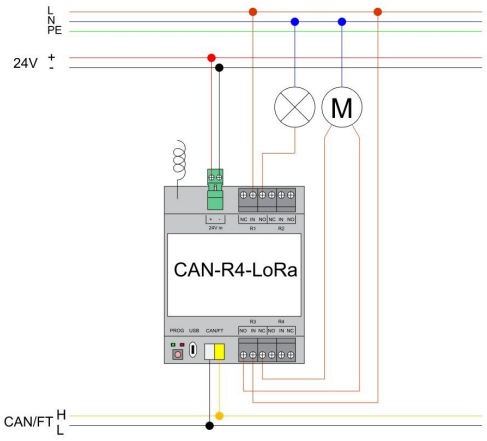
4 x 10A relays

4 x manual operating buttons

1 x CAN FT

CANx configurator is freely available from LM app store

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	10 mA (LoRa not active, relays off), 25 mA (LoRa peak load, relays off), 93 mA (LoRa peak load, relays on)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Relays	4
Rated voltage/current	250V AC (10A), 30V DC (5 A)
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 – RX/TX LoRa, 4 - Relay status
Relay manual operating buttons	4
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Relays	5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	70(W)x91(H)x56(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	145 g
Gross weight	160 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/13 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-R4-LoRa

CANx 4 x 10A Relays

This device is designed for high power AC/DC circuits commutation. It is applicable for power sockets, blinds/shutters, thermoelectric valve, non-dimmable light, HVAC and locks control. It can be used with wired or wireless media, gateway between wireless-wired.

Highlights

4 x 10A relays

4 x manual operating buttons

1 x CAN FT

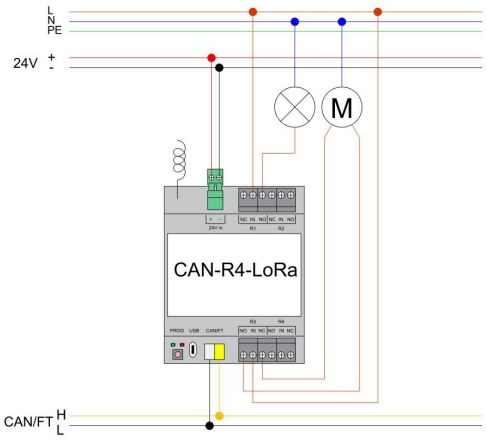
1 x LoRa 433 Mhz transceiver with antenna (adjustable bandwidth / distance)

Can be used with wired or wireless media, gateway between wireless-wired

CANx configurator is freely available from LM app store

LoRa specification	
Power on transmitter	1.6-50 mW (software adjustable)
Frequency range	433-434,750 MHz
Channel bandwidth	125 / 250 / 500 kHz
Carrier frequency step	125 kHz
Spreading factor	7-12

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	10 mA (LoRa not active, relays off), 25 mA (LoRa peak load, relays off), 93 mA (LoRa peak load, relays on)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Relays	4
Rated voltage/current	250V AC (10A), 30V DC (5 A)
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 – RX/TX LoRa, 4 - Relay status
Relay manual operating buttons	4
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Relays	5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	70(W)x91(H)x68(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	145 g
Gross weight	160 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/13 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-R6-LoRa

CANx / LoRa 433 MHz 6 x 10A Relays

This device is designed for high power AC/DC circuits commutation. It is applicable for power sockets, blinds/shutters, thermoelectric valve, non-dimmable light, HVAC, locks control. It can be used with wired or wireless media, gateway between wireless-wired and wireless repeater.

Highlights

6 x 10A relays

6 x manual operating buttons

1 x CAN FT

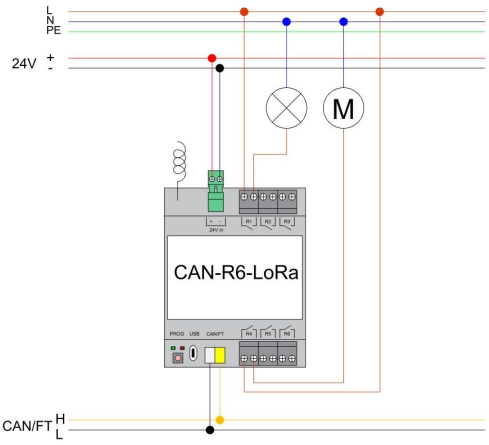
1 x LoRa 433 Mhz transceiver with antenna (adjustable bandwidth / distance)

Can be used with wired or wireless media, gateway between wireless-wired

CANx configurator is freely available from LM app store

LoRa specification	
Power on transmitter	1.6-50 mW (software adjustable)
Frequency range	433-434,750 MHz
Channel bandwidth	125 / 250 / 500 kHz
Carrier frequency step	125 kHz
Spreading factor	7-12

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	10 mA (LoRa not active, relays off), 25 mA (LoRa peak load, relays Off), 76 mA (LoRa peak load, relays on),
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Relays	6
Rated voltage/current	250V AC (10A), 30V DC (5 A)
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 – RX/TX LoRa, 6 - Relay status
Relay manual operating buttons	6
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Relays	5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	70(W)x91(H)x68(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	158 g
Gross weight	173 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/14 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-R6HC

CANx 6 x 16A Relays, High inrush current

This device is designed for high power AC/DC circuits commutation. Especially it is applicable in lighting applications where high inrush current is required.

Technical data	
Power supply	12-32V DC
Power consumption	200 mW per each relay
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Relays	6
Relay contact rating	Resistive 16A / 250VAC , Incandescent lamp 3000W / 230VAC, Inrush current 165A / 20ms, LED 492A / 1.5ms
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 – RX/TX LoRa, 6 - Relay status
Relay manual operating buttons	6
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Relays	5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	61(W)x91(H)x108(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight	160 g
Gross weight	170 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/15 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

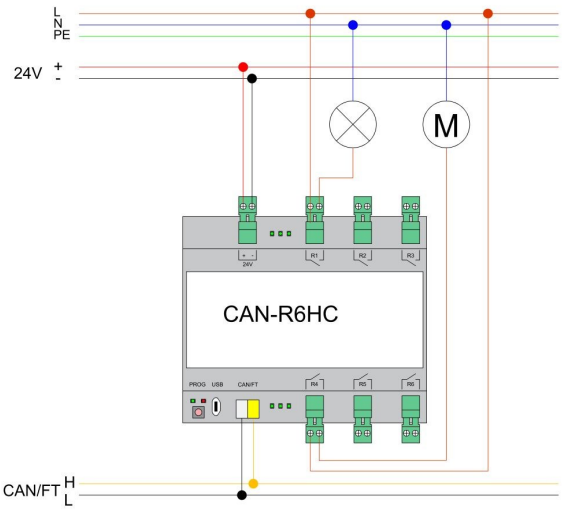
Highlights

6 x 16A high inrush current relays

6 x manual operating buttons

1 x CAN FT

CANx configurator is freely available from LM app store



CAN-R6HC-LoRa

CANx/LoRa 433 MHz 6 x 16A Relays, High inrush current

This device is designed for high power AC/DC circuits commutation. Especially it is applicable in lighting applications where high inrush current is required. It can be used with wired or wireless media, gateway between wireless-wired .

Highlights

6 x 16A high inrush current relays

6 x manual operating buttons

1 x CAN FT

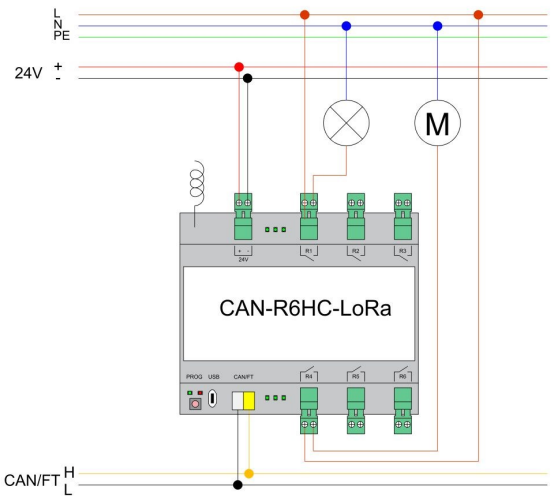
1 x LoRa 433 Mhz transceiver with antenna (adjustable bandwidth / distance)

Can be used with wired or wireless media, gateway between wireless-wired

CANx configurator is freely available from LM app store

LoRa specification	
Power on transmitter	1.6-50 mW (software adjustable)
Frequency range	433-434,750 MHz
Channel bandwidth	125 / 250 / 500 kHz
Carrier frequency step	125 kHz
Spreading factor	7-12

Technical data	
Power supply	12-32V DC
Power consumption	200 mW per each relay
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Relays	6
Relay contact rating	Resistive 16A / 250VAC , Incandescent lamp 3000W / 230VAC, Inrush current 165A / 20ms, LED 492A / 1.5ms
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 2 – RX/TX LoRa, 6 - Relay status
Relay manual operating buttons	6
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Relays	5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	61(W)x91(H)x108(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight	160 g
Gross weight	170 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/15 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-R8

CANx 8 x 10A Relays

This device is designed for high power AC/DC circuits commutation. It is applicable for power sockets, blinds/shutters, thermoelectric valve, non-dimmable light, HVAC and locks control.

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	10 mA (relays off), 78 mA (relays on)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Relays	8
Rated voltage/current	250V AC (10A), 30V DC (5 A)
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Activity, 8 - Relay status
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Relays	5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	70(W)x91(H)x56(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	104 g
Gross weight	122 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/16 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

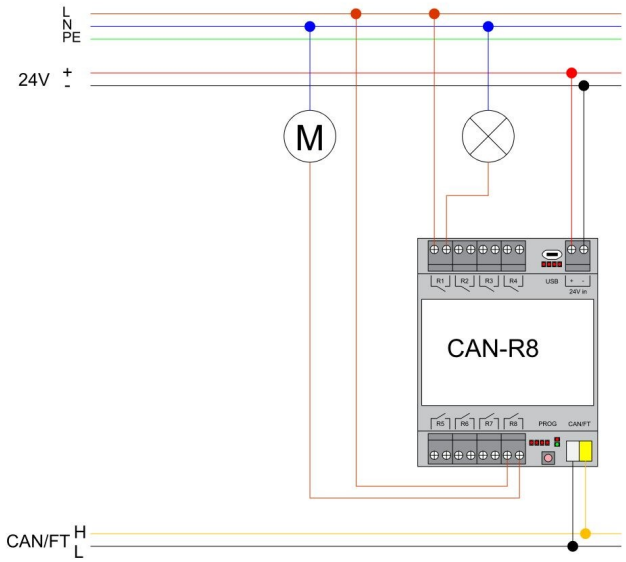
Highlights

8 x 10A relays

1 x CAN FT

8 x manual operating buttons

CANx configurator is freely available from LM app store



CAN-SA2

CANx 2 channel shutter actuator

This device is designed for shading application. It is applicable for controlling shutters, curtains, blinds or other electrical motors. The device has 4 push-button inputs.

Highlights

2 x shutter actuator

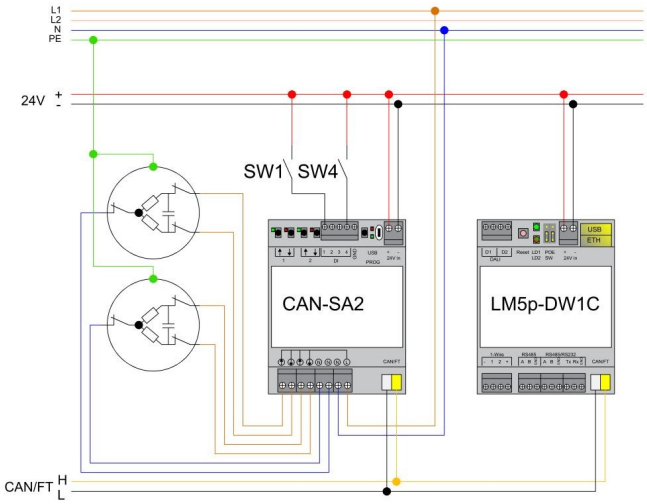
4 x push-button inputs

4 x manual operating buttons

1 x CAN FT

CANx configurator is freely available from LM app store

Technical data	
Power supply	12-32V DC
Power consumption (at 24V)	15 mA (relays off), 8.5 mA /relay
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
Relays	2x2
Rated voltage/current	250V AC (5 A), 30V DC (5 A)
Digital inputs	4
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error, 4 – Shutter status
Relay manual operating buttons	4
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Power supply	5 mm2
Digital inputs	3.5 mm2
Color	Gray
Dimensions	70(W)x100(H)x56(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	145 g
Gross weight	160 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/17 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-DALI

CANx DALI gateway

This device is applicable in lighting applications where DALI lamp drivers are installed.

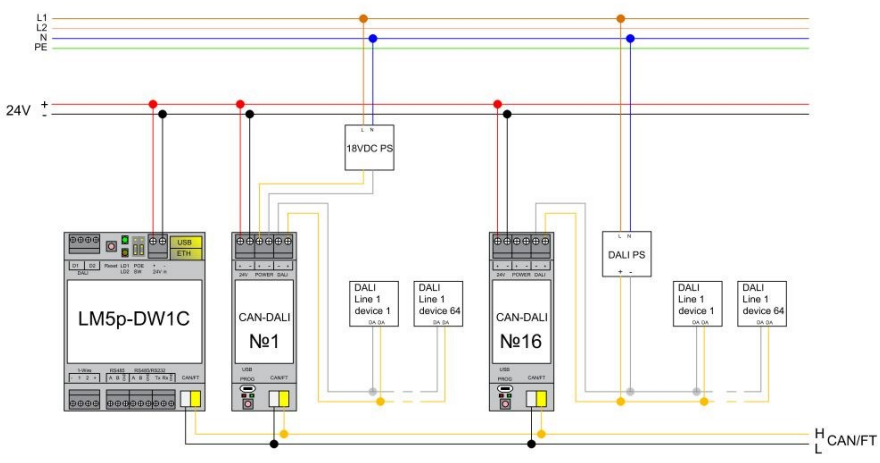
Technical data	
Power supply for gateway	12-32V DC
Power consumption (at 24 V)	11 mA (full consumption depends on how many DALI devices are on DALI bus)
Power supply for the DALI bus	16-18V DC
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
DALI output	1
Maximum count of ballasts per one CANx DALI gateway	64
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
DALI output	5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	36(W)x91(H)x56(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	61 g
Gross weight	73 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/09 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

Highlights

Connection of up-to 64 DALI ballasts

1 x CAN FT

CANx configurator and DALI app is freely available from LM app store



CAN-DALI-LoRa

CANx / LoRa DALI gateway

This device is applicable in lighting applications where DALI lamp drivers are installed, especially for renovation projects to control DALI over wireless. It can be used with wired or wireless media, gateway between wireless-wired

Highlights

Connection of up-to 64 DALI ballasts

1 x CAN FT

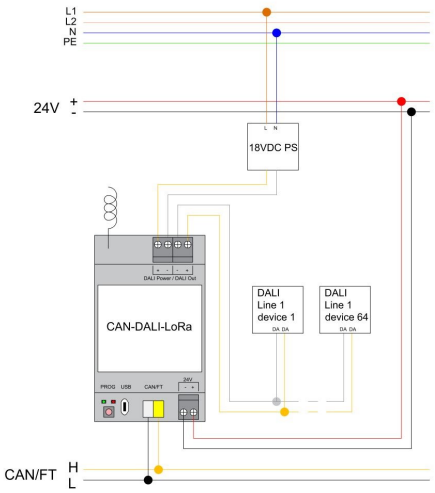
1 x LoRa 433 Mhz transceiver with antenna (adjustable bandwidth / distance)

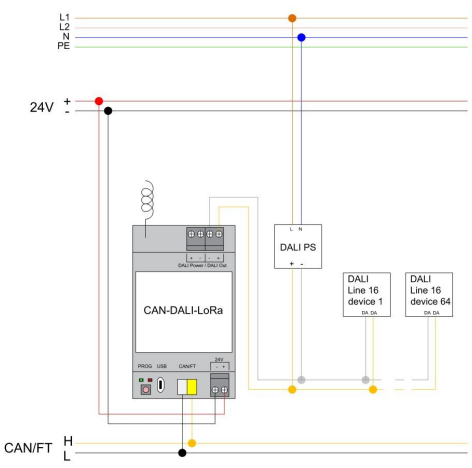
Can be used with wired or wireless media, gateway between wireless-wired

CANx configurator is freely available from LM app store

LoRa specification	
Power on transmitter	1.6-50 mW (software adjustable)
Frequency range	433-434,750 MHz
Channel bandwidth	125 / 250 / 500 kHz
Carrier frequency step	125 kHz
Spreading factor	7-12

Technical data	
Power supply for gateway	12-32V DC
Power consumption (at 24 V)	5.5 mA (stand-by), 20 mA (full load with LoRa)
Power supply for the DALI bus	16-18V DC
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
DALI output	1
Maximum count of ballasts per one CANx DALI gateway	64
USB	1 microUSB for upgrade firmware flashing
CAN FT	1
LED	1 – CPU load, 1 - Error
Programming/reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
DALI output	5 mm2
Power supply	5 mm2
Color	Gray
Dimensions	70(W)x100(H)x68(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	86 g
Gross weight	97 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/10 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3





CAN-CANL

CANx Repeater

This device is designed to extend CANx line for 32 devices.

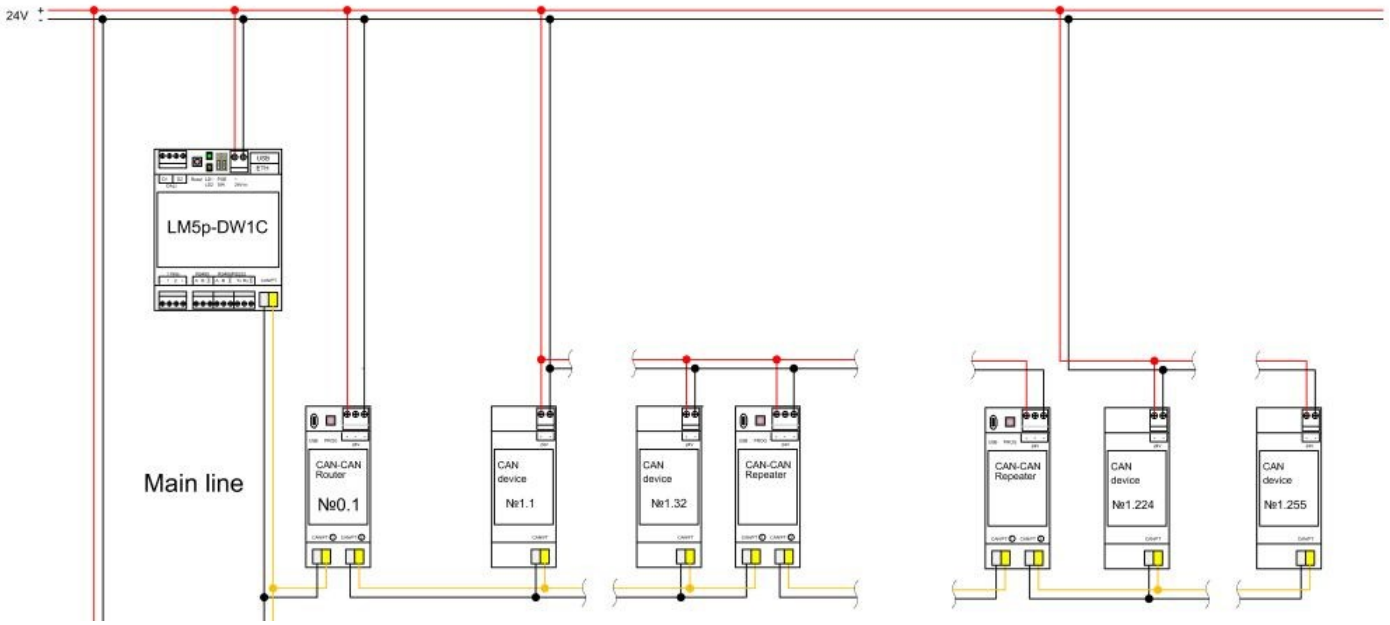
Highlights

CANx line extender for 32 devices

1 x CAN FT

CANx configurator is freely available from LM app store

Technical data	
Power supply for gateway	12-32V DC
Power consumption (at 24 V)	25 mA (stand-by), 30 mA (full load)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
USB	1 microUSB for upgrade firmware flashing
CAN FT	2 (galvanically isolated)
LED	1 – CPU load, 1 - Error
Clamps and enclosure	
CAN FT Terminal	0.8 mm2
Power supply	5 mm2
Color	Gray
Dimensions	15(W)x90(H)x56(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	61 g
Gross weight	73 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/06 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3



CAN-CANLF

CANx In-line repeater

This device is designed to extend CANx line for 32 devices. The device is designed for flush-mounting.

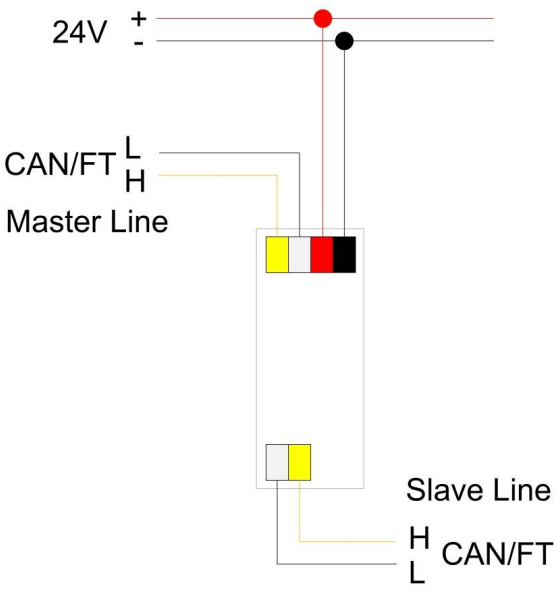
Technical data	
Power supply for gateway	12-32V DC
Power consumption (at 24 V)	4.5 mA (stand-by), 10 mA (full load)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
USB	1 microUSB for upgrade firmware flashing
CAN FT	2
LED	1 – CPU load, 1 - Error
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Power supply	0.8mm2
Color	Black
Dimensions	24(W)x58(H)x15(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	50 g
Gross weight	70 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/07 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

Highlights

CANx line extender for 32 devices

1 x CAN FT

CANx configurator is freely available from LM app store



CAN-CANT

CANx line termination device

Line termination device is required for longer lines with a small number of devices

Highlights

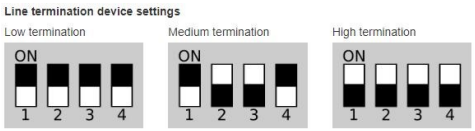
Up to 340m line length with small count of CANx devices

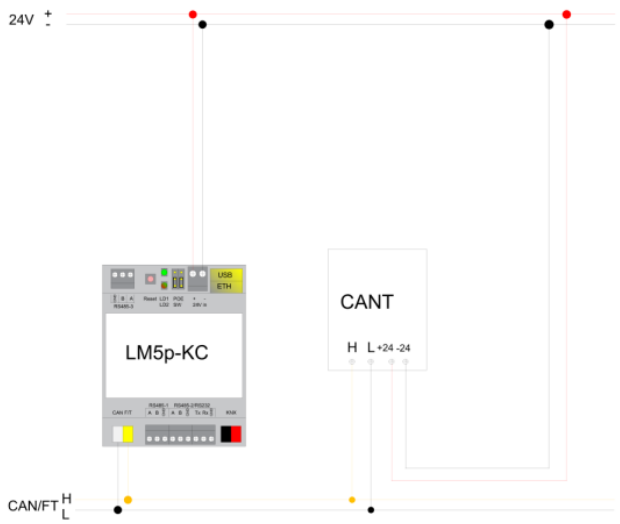
DIP switch for low, medium, high termination

Line calculator available in the CANx app

1 x CAN FT

Technical data	
Power supply for gateway	12-32V DC
Power consumption (at 24 V)	3 mA (stand-by), 4 mA (full load)
DC overvoltage protection:	50 V
Wrong wiring polarity protection	Yes
Interfaces and operating elements	
CAN FT	1
DIP switches	yes
Clamps and enclosure	
CAN FT Terminal	3.5mm2
Power supply	3.5mm2
Color	Black
Dimensions	12(W)x43(H)x23(L) mm
Protection	IP20 according to EN 60529
Usage temperature	-5C ... +55C
Storage temperature	-20C ... +70C
Net weight:	61 g
Gross weight	73 g
Standards and norms compliance	
CE conformity	EMBS-CE-190223/07 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3





LM5p2-KC

LogicMachine5 Power KNX CANx

This device is multi-purpose embedded platform designed to use as cross-standard gateway, logic engine, visualization platform, voice controller, IP Router for KNX TP1 and CAN FT buses. It also allows easy cloud/web service integration. It supports additionally BacNet, Modbus and many more. The device has its own app store including apps for CANx device commissioning and monitoring.

Highlights

Gateway and uniform way of control of KNX TP1, CAN FT, ModBus RTU/TCP, BACnet IP, DMX 512 and more

Comprehensive logic and scenario engine

Visualization platform for PC and touch devices

IP Router

Cloud ready device with Microsoft Azure, Amazon Web Services and other services supported

Object logging with trends support and data exporting to external servers

Voice control over Siri, Alexa, Google Voice

Local and cloud application store

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
10BaseT/100BaseTX	1
RS-485	1
RS-485/RS-232	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-190717/01 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

LM5CLp2

LogicMachine5 Lite Power CANx

This device is multi-purpose embedded platform designed to use as cross-standard gateway, logic engine, visualization platform, voice controller, IP Router for CAN FT bus. It also allows easy cloud/web service integration. It supports additionally BacNet, Modbus and many more. The device has its own app store including apps for CANx device commissioning and monitoring.

Highlights

Gateway and uniform way of control of CAN FT, ModBus RTU/TCP, BACnet IP, DMX 512 and more

Comprehensive logic and scenario engine

Visualization platform for PC and touch devices

IP Router

Cloud ready device with Microsoft Azure, Amazon Web Services and other services supported

Object logging with trends support and data exporting to external servers

Voice control over Siri, Alexa, Google Voice

Local and cloud application store

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	
CAN FT	1
10BaseT/100BaseTX	1
RS-485	1
RS-485/RS-232	1 – CPU load, 1 - Activity
USB2.0	1
Programming/reset button	1
Reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Power supply	5 mm2
Serial	3.5 mm2
Color	Gray
Dimensions	52(W)x90(H)x51(L) mm
Protection	IP20 according to EN 60529
Usage temperature	0C ... +45C
Storage temperature	-15C ... +55C
Net weight:	97 g
Gross weight	112 g
Standards and norms compliance	
CE conformity	EMBS-CE-190717/02 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

LM5Cp2-DW1

LogicMachine5 Power CANx

This device is multi-purpose embedded platform designed to use as cross-standard gateway, logic engine, visualization platform, voice controller, IP Router for CAN FT bus. It also allows easy cloud/web service integration. It supports additionally BacNet, Modbus, DALI, 1-wire and many more. The device has its own app store including apps for CANx device commissioning and monitoring.

Highlights

Gateway and uniform way of control of CAN FT, DALI, 1-Wire, ModBus RTU/TCP, BACnet IP, DMX 512 and more

Comprehensive logic and scenario engine

Visualization platform for PC and touch devices

IP Router

Cloud ready device with Microsoft Azure, Amazon Web Services and other services supported

Object logging with trends support and data exporting to external servers

Voice control over Siri, Alexa, Google Voice

Local and cloud application store

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	
CAN FT	1
DALI master	2
Maximum count of ballasts per device	128
1-Wire	2
10BaseT/100BaseTX	1
RS-485	1
RS-485/RS-232	1 – CPU load, 1 - Activity
USB2.0	1
Programming/reset button	1
Reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Power supply	5 mm2
Serial / DALI / 1-Wire	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-190717/03 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

LM5Cp2-DR

LogicMachine5 Power CANx

This device is multi-purpose embedded platform designed to use as cross-standard gateway, logic engine, visualization platform, voice controller, IP Router for CAN FT bus. It also allows easy cloud/web service integration. It supports additionally BacNet, Modbus, DALI, 1-wire and many more. The device has its own app store including apps for CANx device commissioning and monitoring.

Highlights

Gateway and uniform way of control of CAN FT, DALI, ModBus RTU/TCP, BACnet IP, DMX 512 and more

Comprehensive logic and scenario engine

Visualization platform for PC and touch devices

IP Router

Cloud ready device with Microsoft Azure, Amazon Web Services and other services supported

Object logging with trends support and data exporting to external servers

Voice control over Siri, Alexa, Google Voice

Local and cloud application store

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	
CAN FT	1
DALI master	2
Maximum count of ballasts per device	128
10BaseT/100BaseTX	1
RS-485	2
RS-485/RS-232	1 – CPU load, 1 - Activity
USB2.0	1
Programming/reset button	1
Reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Power supply	5 mm2
Serial / DALI	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-190717/04 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

LM5Cp2-RIO2

LogicMachine5 Reactor IO V2 Power CANx

This device is all-in-one multi-purpose embedded platform designed to use as cross-standard gateway, logic engine, visualization platform, voice controller, IP Router for CAN FT bus. It also allows easy cloud/web service integration. It supports additionally BacNet, Modbus, and many more. The device has its own app store including apps for CANx device commissioning and monitoring.

Highlights

Gateway and uniform way of control of CAN FT, ModBus RTU/TCP, BACnet IP, DMX 512 and more

18 I/O ports on-board

Comprehensive logic and scenario engine

Visualization platform for PC and touch devices

IP Router

Cloud ready device with Microsoft Azure, Amazon Web Services and other services supported

Object logging with trends support and data exporting to external servers

Voice control over Siri, Alexa, Google Voice

Local and cloud application store

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	
CAN FT	1
Analog input / Digital output	16 - configurable, 380mA continuous current on output
Analog output	2 - 0-10V, 12bit resolution, 20mA max current
1-Wire	1
10BaseT/100BaseTX	1
RS-485	1
RS-485/RS-232	1 – CPU load, 1 - Activity
USB2.0	1
Programming/reset button	1
Reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Power supply	5 mm2
Serial / IO / 1-Wire	3.5 mm2
Color	Gray
Dimensions	61(W)x90(H)x108(L) mm
Protection	IP20 according to EN 60529
Usage temperature	0C ... +45C
Storage temperature	-15C ... +55C
Net weight:	150 g
Gross weight	170 g
Standards and norms compliance	
CE conformity	EMBS-CE-190717/05 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

LM5Cp2-RD

LogicMachine5 Reactor Dimmer Power CANx

This device is multi-purpose embedded platform designed to use as cross-standard gateway, logic engine, visualization platform, voice controller, IP Router for CAN FT bus. It also allows easy cloud/web service integration. It supports additionally BacNet, Modbus, DALI, 1-wire and many more. The device has its own app store including apps for CANx device commissioning and monitoring.

Highlights

Gateway and uniform way of control of CAN FT, DALI, 1-Wire, ModBus RTU/TCP, BACnet IP, DMX 512 and more

12 I/O ports

Comprehensive logic and scenario engine

Visualization platform for PC and touch devices

IP Router

Cloud ready device with Microsoft Azure, Amazon Web Services and other services supported

Object logging with trends support and data exporting to external servers

Voice control over Siri, Alexa, Google Voice

Local and cloud application store

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	
CAN FT	1
DALI master	2
Maximum count of ballasts per device	128
Analog input / Digital output	8- configurable, 380mA continuous current on output
Analog output	3 - 0-10 V, 12 bit resolution, 20 mA max current 1 - 4..20 mA
1-Wire	1
10BaseT/100BaseTX	1
RS-485	1
RS-485/RS-232	1 – CPU load, 1 - Activity
USB2.0	1
Programming/reset button	1
Reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Power supply / DALI / 1-Wire	5 mm2
Serial / IO	3.5 mm2
Color	Gray
Dimensions	61(W)x90(H)x108(L) mm
Protection	IP20 according to EN 60529
Usage temperature	0C ... +45C
Storage temperature	-15C ... +55C
Net weight:	150 g
Gross weight	170 g
Standards and norms compliance	
CE conformity	EMBS-CE-190717/06 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3

LM5Cp2-GSM

LogicMachine5 Reactor GSM CANx

This device is multi-purpose embedded platform designed to use as cross-standard gateway, logic engine, visualization platform, voice controller, IP Router for CAN FT bus. It also allows easy cloud/web service integration. It supports additionally BacNet, Modbus, 3G/LTE, 1-wire and many more. The device has its own app store including apps for CANx device commissioning and monitoring.

Highlights

Gateway and uniform way of control of CAN FT, 3G/LTE, 1-Wire, ModBus RTU/TCP, BACnet IP, DMX 512 and more

20 I/O ports

Comprehensive logic and scenario engine

Visualization platform for PC and touch devices

IP Router

Cloud ready device with Microsoft Azure, Amazon Web Services and other services supported

Object logging with trends support and data exporting to external servers

Voice control over Siri, Alexa, Google Voice

Local and cloud application store

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	
CAN FT	1
GSM module with antenna	1
micro-SIM connector	1
Analog input / Digital output	16 - configurable, 380mA continuous current on output
Analog input	1 - 0-10 V
Analog input for current measurement clamps	3
1-Wire	1
10BaseT/100BaseTX	1
RS-485	1
RS-485/RS-232	1 – CPU load, 1 - Activity
USB2.0	1
Programming/reset button	1
Reset button	1
Clamps and enclosure	
CAN FT Terminal	0.8mm2
Power supply	5 mm2
Serial / IO / 1-Wire	3.5 mm2
Color	Gray
Dimensions	61(W)x90(H)x108(L) mm
Protection	IP20 according to EN 60529
Usage temperature	0C ... +45C
Storage temperature	-15C ... +55C
Net weight:	150 g
Gross weight	170 g
Standards and norms compliance	
CE conformity	EMBS-CE-190717/07 Electromagnetic compatibility
EMC	EN61000-6-1, EN61000-6-3