COMMUNICATION GATEWAY
iHUB-L1

- **DIN-RAIL** MOUNTING ACCORDING TO EN60715.
- AC MAINS POWER SUPPLY.
- **RS485** SERIAL COMMUNICATION.
- **IR** SERIAL COMMUNICATION (2 PORTS).
- **WI-FI** COMMUNICATION.
- **PULSE INPUT** (OPTIONAL) AND **TEMPERATURE SENSOR INPUT** (OPTIONAL).

Iskra®

FEATURES

- o AC mains power supply.
- o Nominal supply voltage (U_n) from 85 V to 265 V.
- o Nominal frequencies 50 Hz and 60 Hz.
- o Multifunctional front green LED.
- o RS485 serial communication.
- o IR serial communication (2 ports).
- o Wi-Fi communication.
- o 1-DIN rail width mounting communication gateway according to EN 60715.

DESCRIPTION

The iHUB-L1 (iHUB-L1-IO) communication gateway is intended to connect various equipment into communication network via Wi-Fi communication. The gateway has build-in two optical (IR) communication ports and the RS485 serial communication with the MODBUS protocol. RS485 communication enables data transmission and thus connection of communication gateway into the RS485 network and communication with various equipment, which is equipped with RS485 communication (e.g. energy meters, bi-stable switches, power monitoring devices, etc.), via TCP MODBUS.

The iHUB-L1-IO is also equipped with pulse input and temperature sensor (Pt1000) input.

INSTALLATION

The iHUB-L1 is intended only for DIN-rail mounting.

The iHUB-L1 should be connected to power supply voltage. Two IR communication ports are assembled into the gateway, one on each side. The left one communicates with energy meter, the right one is meant to connect to the latching switch.
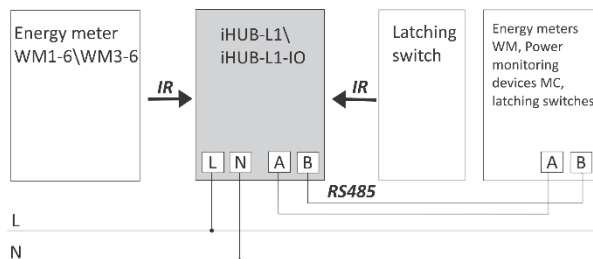
NOTE: For proper operation of the IR communication, avoid a powerful external source of light.

The iHUB-L1-IO could be connected to pulse input and to temperature sensor (Pt1000) input.
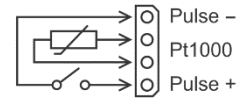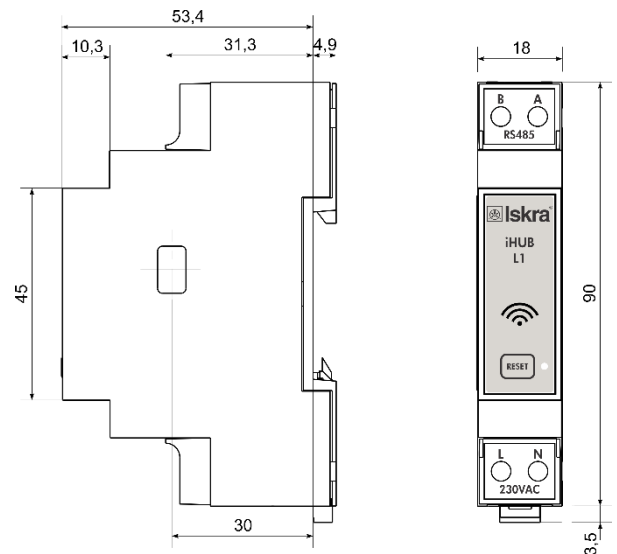

Connection of modules:

The gateway can be equipped with different modules. Table below is showing equipped combinations.

Terminals

Power supply	N	L
RS485 communication	A	B
Pulse input*	Pulse -	Pulse +
Temperature sensor*	Pt1000	Pt1000

*Only for the iHUB-L1-IO

DIMENSIONAL DRAWINGS

TECHNICAL DATA

Rail mounting according DIN EN 60715.

Mechanical characteristics of input:

Main inputs
- Contacts capacity:
  $0.5\ mm^2 ... 3\ mm^2$
- Connection screws: M3
- Max torque: 0.5 Nm (PZ2)
- Length or removed isolation: 6 mm

RS485 module
- Contact capacity: $0.5\ mm^2... 3\ mm^2$
- Connection screws: M3
- Max torque: 0.5 Nm
- Length or removed isolation: 6 mm

Power Supply input:

Nominal voltage U_n:
From 85 V to 265 V

Power consumption: < 3 W
Nominal frequency f_n: 50 Hz and 60 Hz
Length of removed isolation: 6 mm

LED:

Colour: green
LED on: connected
LED blinking slow 1 \s (connecting)
LED blinking fast 10 \s (access point mode)

Wi-Fi

Protocols: 802.11 b/g/n
Frequency range: 2.4 GHz – 2.5 GHz
(2400 MHz – 2483.5 MHz)
Security: WPA/WPA2
Encryption: WEP/TKIP/AES

RS485 Serial communication

Type: RS485
Speed: 1200 bit/s to 115200 bit/s (default
115200 bit/s)
Frame: 8, N, 2
Protocol: MODBUS RTU
Address: 34 (default)

Pulse input (optional)

Subject to safe and correct installation, the equipment will interface to any meter (gas, water or electricity) having a suitable pulse output such as:
- a volt-free contact,
- Reed relay,
- open collector (drain) – when connecting the correct polarity should be observed.

Output voltage U_o: 3.3 V
(when no pulse output connected to pulse input connection of iHUB-L1)

Temperature sensor (Pt1000) input (optional)

Measuring method: two wire connection
Input range with programmable ratings:
RTD sensors limit values: $200\ \Omega$ - $10\ k\Omega$
Measuring voltage: ≤ 3.3 V
Minimum temperature range: 100 K
Minimum differential resistance:
$400\ \Omega$ ($1000\ \Omega$ -> $1400\ \Omega$)
Lead resistance: < $10\ \Omega$ per lead
Consumption: < 0.5 VA

Safety and ambient conditions

According to standards for IEC 60950.
Temperature and climatic condition according to EN 62052-11.
Dust/water protection IP50
Operating temperature -25 °C - +55 °C
Storage temperature -40 °C - + 70 °C
Enclosure self extinguish, complying UL94-V

EU DIRECTIVES CONFORMITY:

EU Directive on Measuring Instruments **2014/32/EU.**
EU Directive on EMC **2014/30/EU.**
EU Directive on LDV **2014/35/EU.**
EC Directive WEEE **2002/96/EC.**
EU RED Directive **2014/53/EU**

DISPOSAL

It is forbidden to deposit electrical and electronic equipment as municipal waste.
The manufacturer or provider shall take waste equipment free of charge.

ORDERING CODE

022459150000	iHUB-L1-IO	iHUB-L1-IO communication gateway, IR, RS485, Wi-Fi, PI, Pt1000
022459150100	iHUB-L1	iHUB-L1 communication gateway, IR, RS485, Wi-Fi

DICTIONARY:

PI	*Pulse input*
MODBUS/DNP3	*Industrial protocol for data transmission*
AC	*Alternating quantity*
IR	*Infrared (optical) communication*
Pt1000	*Temperature sensor*
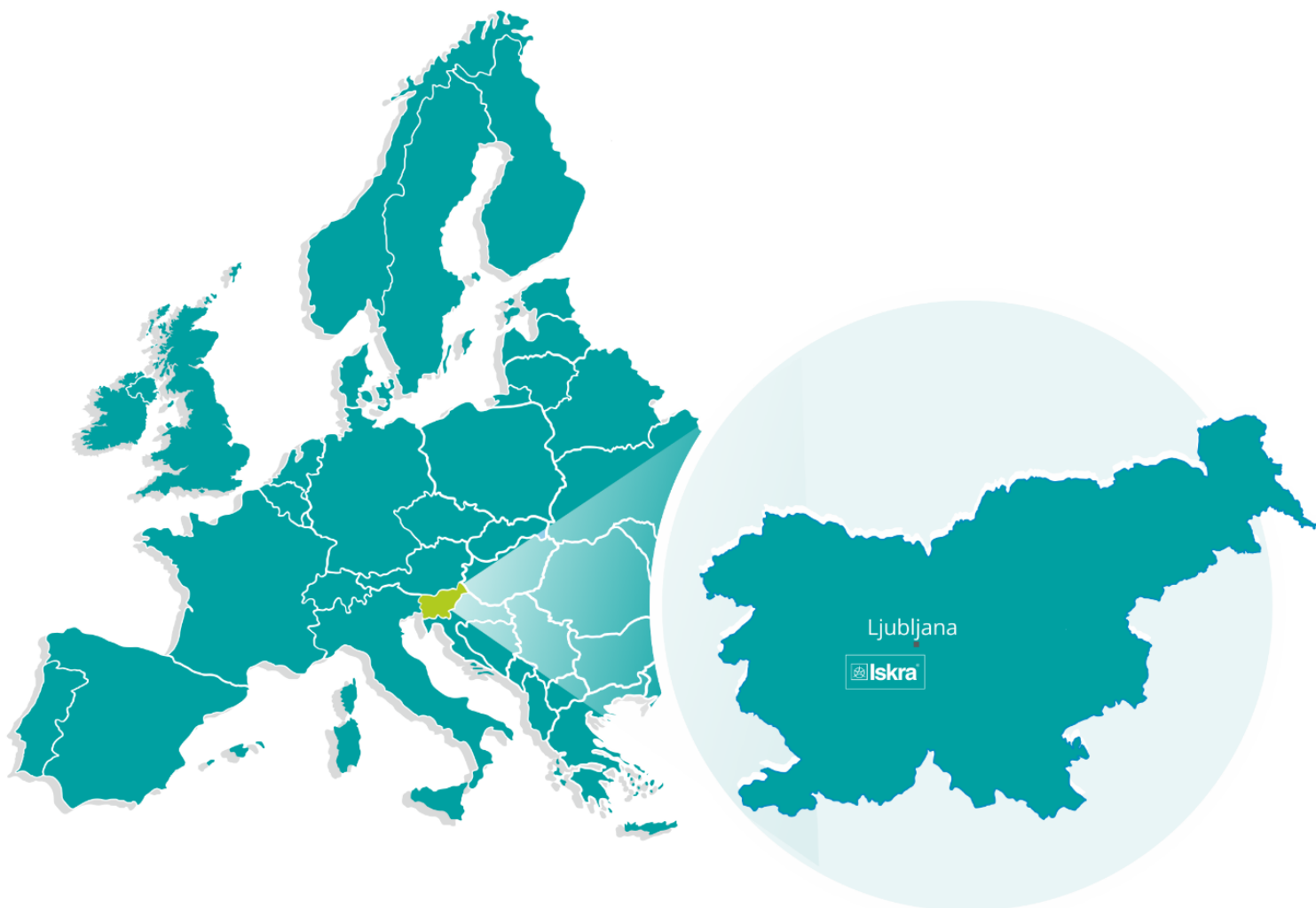
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