IntesisBox®

IBOX-KNX-MBUS
MBUS to KNX gateway

Order Codes:
IBKNXMEB0100000 (10 M-Bus devices, 250 KNX objects)
IBKNXMEB0200000 (20 M-Bus devices, 500 KNX objects)
IBKNXMEB0600000 (60 M-Bus devices, 1500 KNX objects)
IBKNXMEB1200000 (120 M-Bus devices, 3000 KNX objects)

HOW IT WORKS

The IntesisBox **IBOX-KNX-MBUS** Gateway has been specially designed to work as a translator between an M-BUS installation and a KNX home automation system.

IntesisBox acts as a master in the M-BUS line, retrieving data from all configured meters and exposing them to the KNX TP-1 line in the shape of standardized KNX objects.

IntesisBox connects directly to both the KNX TP-1 installation, and to the M-BUS M+/M- line (no M-BUS level converter required).

Configuration project is done through IntesisBox MAPS.
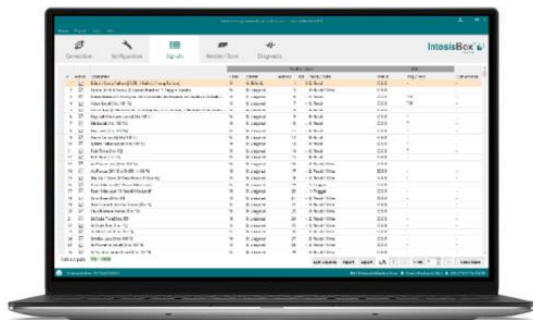
FEATURES

- Handles conversion between KNX and M-BUS meters (number of supported meters depends on IntesisBox version)

- Support up to thousands of KNX objects, each to be associated with a register read from an M-BUS meter

- M-BUS line scan (meter detection) and register discovery functionality, to ease configuration process

- Configuration through IP or USB (Console) port

- Datalogging through external USB port

- Front cover LED indicators to provide easy to check communication status on both the Ethernet and serial ports

- Includes IntesisBox MAPS with automatic updates for both IntesisBox MAPS and Gateway's firmware

INTEGRATION EXAMPLE

IntesisBox®
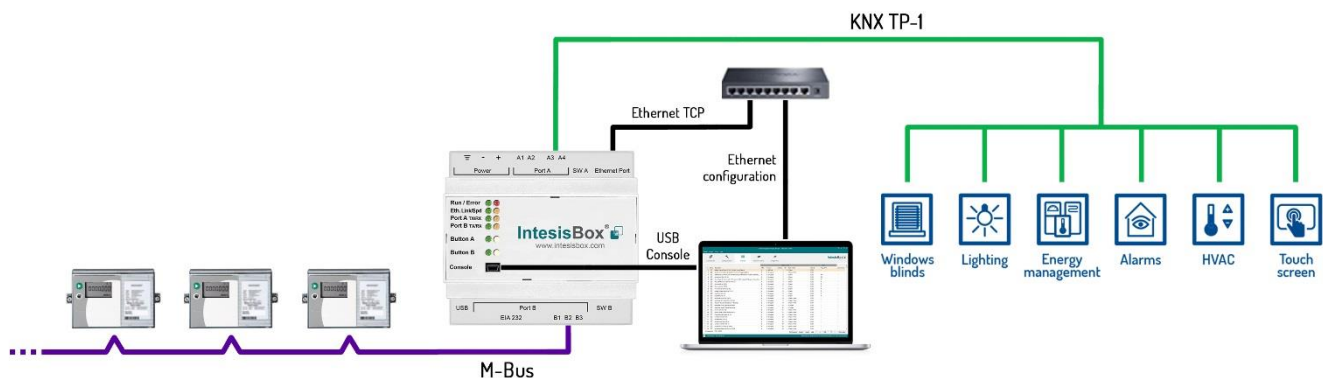
CONNECTIONS
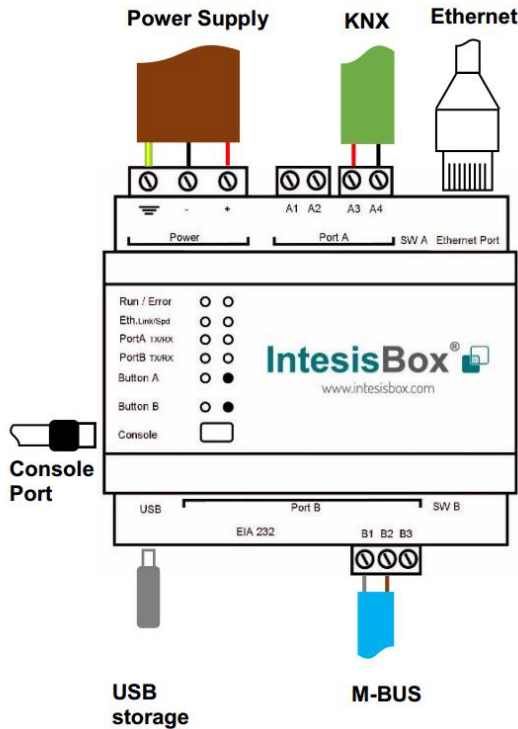
PROTOCOLS

M-Bus

The M-Bus ("Meter-Bus") is a new European standard for remote reading of heatmeters and it is also usable for all other types of consumption meters as well as for various sensors.

M-BUS is based on a two-wire physical layer, using bus topology, where each meter will have an own address for communication with a central gateway.

Key aspects of M-BUS communication standard include large number of available devices in the market, possibility of network expansion and robustness of its physical layer.

For further information, please visit www.m-bus.com

KNX

KNX is the world's only open Standard for the control in both commercial and residential buildings.

This standard is based upon more than 20 years of experience in the market. Bus devices can either be sensors or actuators needed for the control of building management equipment such as: lighting, blinds/shutters, security systems, energy management, heating, ventilation and air-conditioning systems, signaling and monitoring systems, interfaces to service and building control systems, remote control, metering, audio/video control, white goods, etc.

For further information, please visit www.knx.org

COMMUNICATION

	KNX	M-BUS
Connection	TP-1 +/-	M+/M-
Data rate	9.6 kbps	0.3, 0.6, 1.2, 2.4, 9.6 kbps
Data Types & Functions supported	DPT_1.x (1 bit) DPT_5.x (1 byte unsigned) DPT_6.x (1 byte signed) DPT_7.x (2 byte unsigned) DPT_8.x (2 byte signed) DPT_9.x (2 byte float) – *recommended* DPT_12.x (4 byte unsigned) – *recommended* DPT_13.x (4 byte signed) – *recommended* DPT_14.x (4 byte float) – *recommended* DPT_20.x (1 byte unsigned)	Secondary and primary addressing supported Supports all VIF/VIFEs defined in the M-BUS standard

ELECTRICAL & MECHANICAL FEATURES

Enclosure	Plastic, type PC (UL 94 V-0) Net dimensions (dxwxh): 90x88x56 mm Recommended space for installation (dxwxh): 130x100x100mm Color: Light Grey. RAL 7035
Mounting	Wall. DIN rail EN60715 TH35.

Terminal Wiring (for power supply and low-voltage signals)	Per terminal: solid wires or stranded wires (twisted or with ferrule)
	    1 core: 0.5mm² … 2.5mm²
	    2 cores: 0.5mm² … 1.5mm²
	    3 cores: not permitted
	If cables are more than 3.05 meters long, Class 2 cable is required.

Power	1 x Plug-in screw terminal block (3 poles)
	    Positive, Negative, Earth
	    24VDC

Ethernet	1 x Ethernet 10/100 Mbps RJ45 2 x Ethernet LED: port link and activity

Port A	1 x KNX TP-1 Plug-in screw terminal block orange (2 poles)
	    2500VDC isolation from other ports
	    KNX power consumption: 5mA
	    Voltage rating: 29VDC
	1 x Plug-in screw terminal block green (2 poles)
	    Reserved for future use
	    1500VDC isolation from other ports

Switch A (SWA)	1 x DIP-Switch for PORT A configuration: Reserved for future use

PORT B	1 x Serial EIA232 (SUB-D9 male connector)
	    Reserved for future use
	1 x M-BUS Plug-in screw terminal block (3 poles)
	    MBUS power consumption: 210mA
	    Voltage rating: 36VDC
	    (except PORT B: EIA232)

Switch B (SWB)	1 x DIP-Switch for PORT B configuration: Reserved for future use

Battery	Size: Coin 20mm x 3.2mm Capacity: 3V / 225mAh Type: Manganese Dioxide Lithium
Console Port	Mini Type-B USB 2.0 compliant 1500VDC isolation
USB port	Type-A USB 2.0 compliant Only for USB flash storage device *(USB pen drive)* Power consumption limited to 150mA *(HDD connection not allowed)*
Push Button	Button A: Programming button (not used) Button B: Not used
Operation Temperature	0°C to +60°C
Operational Humidity	5 to 95%, no condensation
Protection	IP20 (IEC60529)

LED Indicators	10 x Onboard LED indicators
	    2 x Run (Power)/Error
	    2 x Ethernet Link/Speed
	    2 x Port A TX/RX
	    2 x Port B TX/RX
	    1 x Button A indicator
	    1 x Button B indicator

100 mm

100 mm (w)   130 mm

This information is subject to change without prior notice
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IntesisBox ®

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