

TECHNICAL DATA

ABB i-bus® KNX

MG/S 11.100.1.1

Modbus RTU – KNX TP Gateway



Description of product

The device is a modular installation device (MDRC). It is designed for installation in electrical distribution boards and small housings with a 35 mm mounting rail (to EN 60715).

The device is KNX-certified and can be used as a product in a KNX system.

The device is powered via the bus (ABB i-bus® KNX) and requires no additional auxiliary voltage. The device connects to the bus (ABB i-bus® KNX) via a bus connection terminal on the front of the housing.

The software application Engineering Tool Software (ETS) is used for physical address assignment and parameterization.

Device functions

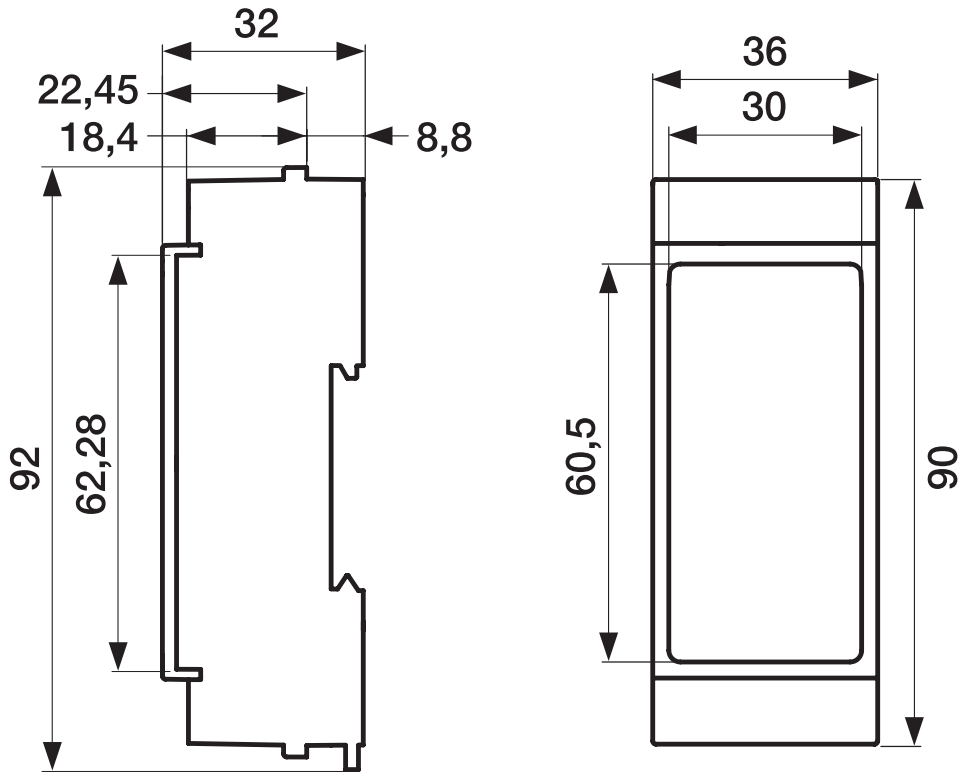
- The Modbus KNX Gateway is a compact modular installation device for the integration of Modbus RTU servers and KNX TP devices.
- The Modbus RTU – KNX TP Gateway is a bidirectional gateway with 100 freely configurable data points. The device functions as a Modbus RTU client and makes it easy to integrate Modbus servers that support the RTU protocol via RS-485.

Connections

The device has the following connections:

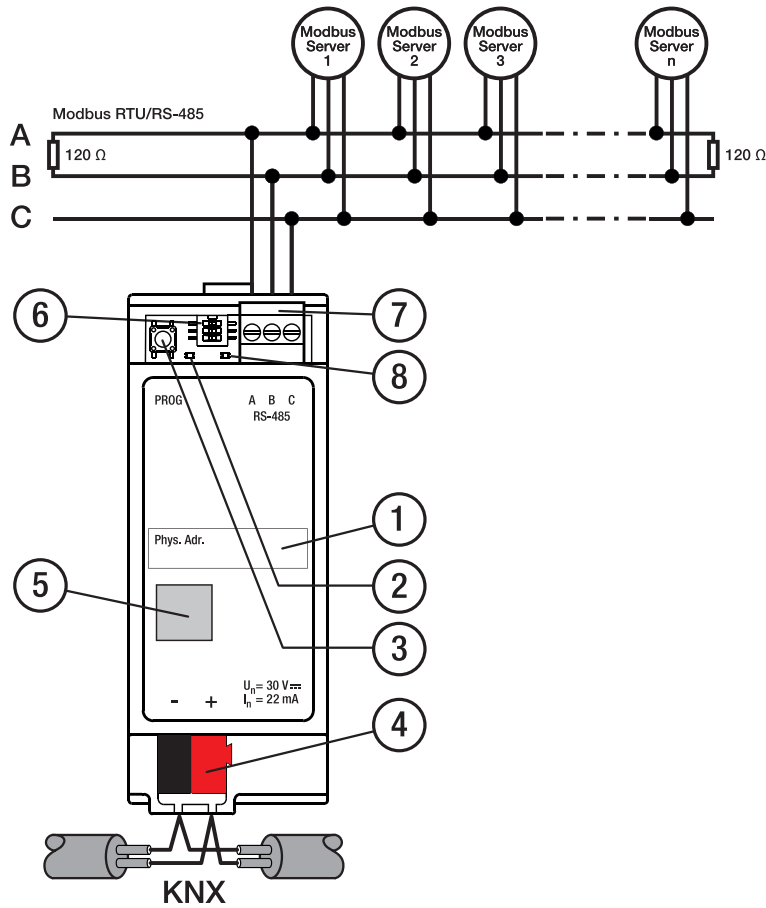
- RS-485 Modbus connection
- 1 bus connection

Dimension drawing



9AKK108464A0438

Connection



LEGENDE




- 1 Labeling field
- 2 KNX programming LED (red)
- 3 KNX programming button
- 4 KNX connection
- 5 2D code
- 6 DIP switch
- 7 RS-485 Modbus connection
- 8 Power/Modbus activity LED (yellow)

2D code

The packaging and the front of the device are labeled with a 2D code. These codes are used for unique identification of the device and include the following information:

- Link to the product page
- Order code
- Device serial number

The 2D codes can be read using any mobile device with an appropriate 2D code reader. By scanning the 2D codes with the [ABB Product Scanner](#), you can open additional digital services.

Operating controls and display elements		
Operating control/LED	Description/function	Display
 KNX programming button/LED	Assignment of the physical address	LED on: Device in programming mode LED flashing: Visual localization of the device
ON  DIP switch	Switching: Position 1: • ON: 120 Ohm termination active • OFF: 120 Ohm termination inactive (default) Positions 2 and 3: • ON: Polarization active (default) • OFF: Polarization inactive	ON: DIP switch x set to ON position OFF: DIP switch x set to OFF position
 Power/Modbus activity LED		OFF: Device switched off ON: Device switched on without communication Slow flashing: Invalid response or no response received from a server Fast flashing: Valid telegram received from the configured server

NOTE

When you install the gateway at one end of the RS-485 bus, you activate the termination resistor function by setting DIP switch 1 to the ON position. The RS-485 bus only permits two termination resistors.

NOTE

The bus must only be polarized at one point on the line, preferably on the client side. To deactivate the gateway's line polarization, switches 2 and 3 must be in the OFF position.

Technical data		
Device	Dimensions	92 × 36 × 32 mm (H x W x D)
	Mounting width in space units	2 modules, 18 mm each
	Weight	0.048 kg
	Mounting position	Any
	Mounting variant	35 mm mounting rail
	Degree of protection	IP20
	Protection class	II
	Overvoltage category	III
	Overload protection	Hiccup mode
	Reverse voltage protection	60 V
	Short-circuit proof	Continuous short-circuit proof
	Pollution degree	2
	Materials	Housing
Electronics	Rated voltage, bus	30 V DC
	Voltage range, bus	21 ... 33 V DC
	Current consumption, bus	11 ... 22 mA
	Maximum current, device	22 mA
	Power loss, device	≤ 3 W
	Power loss, bus	≤ 0.58 W
	KNX safety extra low voltage	SELV
Connections	Connection type, KNX bus	Plug-in terminal
	Cable diameter, KNX bus	0.6 ... 0.8 mm, solid
	Connection type, Modbus	3-pole terminal block with screw locking (RS-485)
	Pitch	KNX: 5.84 mm Modbus: 3.5 mm
	Tightening torque, screw terminals	0.5 ... 0.6 Nm
	Conductor cross section, fine stranded	1 x (0.5 mm ² ... 1.5 mm ²) 2 x (0.5 mm ² ... 0.75 mm ²) 3 x (not permissible)
	Conductor cross section, single core	1 x (0.5 mm ² ... 1.5 mm ²) 2 x (0.5 mm ² ... 0.75 mm ²) 3 x (not permissible)
Certificates and declarations	CE declaration of conformity	→ 9AKK108464A0431
Ambient condition	Operation	0 °C ... +60 °C
	Humidity	≤ 95 %
	Condensation allowed	No
	Atmospheric pressure	Atmosphere up to 2,000 m

Device type – KNX interface		
Device type	Modbus RTU – KNX TP Gateway 100 Points	MG/S 11.100.1.1
	Application	Modbus RTU Gateway, 100p/...
		... = current version number of the application
	Maximum number of Group Objects	205 100 Status Group Objects 100 Control Group Objects 4 Error Status Group Objects 1 optional Group Object for In Operation
	Maximum number of group addresses	700
	Maximum number of connections	700

Device type – Modbus interface		
Device type	Maximum number of Modbus addresses	254
	Maximum number of data points	100
	Maximum number of servers supported	100
	Type of Modbus server	Modbus RTU (EIA-485)

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NOTE

The number of servers supported is directly dependent on the maximum number of data points and is therefore limited to 100 servers.

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NOTE

A repeater is required if you are installing more than 32 devices. This limit is specified by the Modbus protocol.

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Example

There are 8 servers connected to the gateway; each with 10 data points. There are 80 data points in total. The gateway could therefore support another 20 servers with one data point each. The limit is specified by the number of data points.

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NOTE

See software information on the website
→ www.abb.com/knx

Ordering details					
Device type	Product Name	Order No.	bbn 40 13614 EAN	Weight 1 pcs. [kg]	Packaging [pcs.]
MG/S 11.100.1.1	Modbus RTU – KNX TP Gateway 100 Points	2CDG120089R0011	57108 4	0.082	1

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NOTE

Please refer to the Modbus RTU – KNX TP Gateway MG/S 11.100.1.1 product manual for a detailed description of the application. It is available free of charge at www.abb.com/knx.

ETS (ETS version: 5.7.7 or later) and the current version of the device application are required for programming.

The latest version of the application and corresponding software information is available for download from www.abb.com/knx. After import into ETS, it appears in the Catalogs window under Manufacturers/ABB/System infrastructure and interfaces/Gateways. The device does not support the locking function of a KNX device in ETS. Using a BCU code to inhibit access to all the project devices has no effect on this device. Data can still be read and programmed.



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