


## KNX-GW-MODBUS-RSxxx

KNX Gateway Modbus	Product Group 1
<p>Application : KNX bus coupling for counters with Modbus/RTU interface</p> <p>The bus coupler represents a bus master of the Modbus/RTU interface.</p> <p>A connection can be realized via RS485 (maximum 32 subscribers incl. Master) or RS232 (P2P). This selection must be observed when ordering and can not be switched by application.</p> <p>There are 32 M-Bus data points available, which can be assigned freely to the different devices.</p> <p>Product Data Base: <b>MODBUS</b></p>	

KNX-GW-MODBUS-RSxxx	Article	Article Description	Article-No.
KNX		Document: 4440_ex_ModBus.pdf	
	KNX-GW-MODBUS-RS485	Modbus gateway for up to 32 data points	40300007
	KNX-GW-MODBUS-RS232	Plastic housing: 50 x 50 x 20 mm 58mm diagonal ( for in-wall mounting in dry interiors ) IP20	40310007

<b>1. KNX Parameter and Objects</b>	<b>2</b>
<b>2. Product Page</b>	<b>5</b>
<b>3. Technical Data</b>	<b>6</b>
<b>Imprint</b>	

## Application Description

The M-Bus Gateway is set up using the ETS ( KNX Tool Software ) with the associated application program.  
The device is delivered unprogrammed.  
All functions are parameterized and programmed by ETS.

## 1 KNX Parameter and Objects

### 1.1 General Settings

<b>General Settings</b>	Modbus Reading Cycle	1 min
Channel 1: Channel 1	KNX Writing Cycle	5 min
Channel 2: Voltage PH1	Timeout	1,0 sec
Channel 3: Total Active Power	Baudrate	9600
⋮	Parity	even
⋮		
Channel 31: unconfigured	Number of required Channels	3
Channel 32: unconfigured		

#### General Settings - KNX-GW-MODBUS-RSxxx

Parameter	Setting	Description
Modbus Reading Cycle	10 sec. - 12 h	The measured values are read out from the Modbus device in the set cycle time.
KNX Writing Cycle	1 min. - 12 h	The measured values are sent to the KNX bus in the set cycle time independently of a change in measured value.
Timeout	500ms - 2,5 sec.	If a transmission error lasts longer than the set time, the error bit is set. default : 1 sec.
Baudrate	300 - 115200	Here, the serial communication parameters must be set.
Parity	even odd none	
Number of required Channel	1 - 32	Number of required data points.

## 1.2 Channel X

General Settings	Channel <input type="radio"/> unconfigured <input checked="" type="radio"/> configured
Channel 1: Channel 1	Comment <input type="text" value="Voltage PH1"/>
Channel 2: Voltage PH1	
Channel 3: Total Active Power	
	Setup
	Send Cyclically <input type="radio"/> No <input checked="" type="radio"/> Yes
	Send on Chance <input type="radio"/> No <input checked="" type="radio"/> Yes
	ID <input type="text" value="1"/>
	Register Number ( Register 1 is located at Address 0 ) <input type="text" value="3028"/>
	Correction
	Multiplier <input type="text" value="1"/>
	Offset <input type="text" value="0"/>
	KNX
	Length <input type="text" value="16 Bit"/>
	Type <input type="text" value="Float"/>
	Modbus
	Register Type <input type="text" value="Holding Register"/>
	Custom Type ( Swap Bytes ) <input checked="" type="radio"/> No <input type="radio"/> Yes
	Length <input type="text" value="-- A -- 32 Bit float"/>

### Channel X - KNX-GW-MODBUS-RSxxx

Parameter	Setting	Description
Channel	Radiobutton	- unconfigured - configured
Comment	Up to 64 Character	Naming of the channel
Setup		
Send Cyclically	Radiobutton	- No - Yes
Send on Change	Radiobutton	- No - Yes
ID	1 - 247	Each bus user must have a unique address.
Register Number	1 - 65535	Address of the relevant register.

## Channel X - KNX-GW-MODBUS-RSxxx ( Fortsetzung )

Parameter	Setting	Description
Correction		
Multiplier	-3,4E-38 ... 3,4E+38	With this setting, the measured value to a desired value can convert.  e.g. price / kWh = 0.34€ Multiplier: 3,4E-1 , Offset: 0
Offset	-3,4E-38 ... 3,4E+38	
KNX		
Length	1 Bit 8 Bit 16 Bit 32 Bit Metering Value	Length of the KNX data type
Type	unsigned integer signed integer float	Selection of the KNX data type
Modbus		
Register Type		Modbus register type
Custom Type ( Swap Bytes )		Values from the Modbus are always 2-byte registers. In the event that a value is only 1 byte long, if necessary, the high and low byte can be exchanged.
Length		Length of the ModBus data type
Value Information Field		KNX Association Datapoint Types
Exponent	x 10^-7 ... x 10^7	value adjustment

Only with selection „KNX Length = Metering Value

## KNX

Length

Metering Value

## Modbus

Register Type

Holding Register

Custom Type  
( Swap Bytes )☒ No ☐ Yes

Length

-- A -- 32 Bit float

Value Information Field

Energy [Wh]

Exponent

x 1

For each Modbus Channel, an object is created as input or output as well as with the parameterized data type and length.

## 2 Product Page

The **KNX-GW-MODBUS-RSxxx** is a device that can integrate all kind of consumption measuring devices that are equipped with an ModBus/RTU interface into the KNX-bus.

The bus coupler represents a bus master of the Modbus/RTU interface.

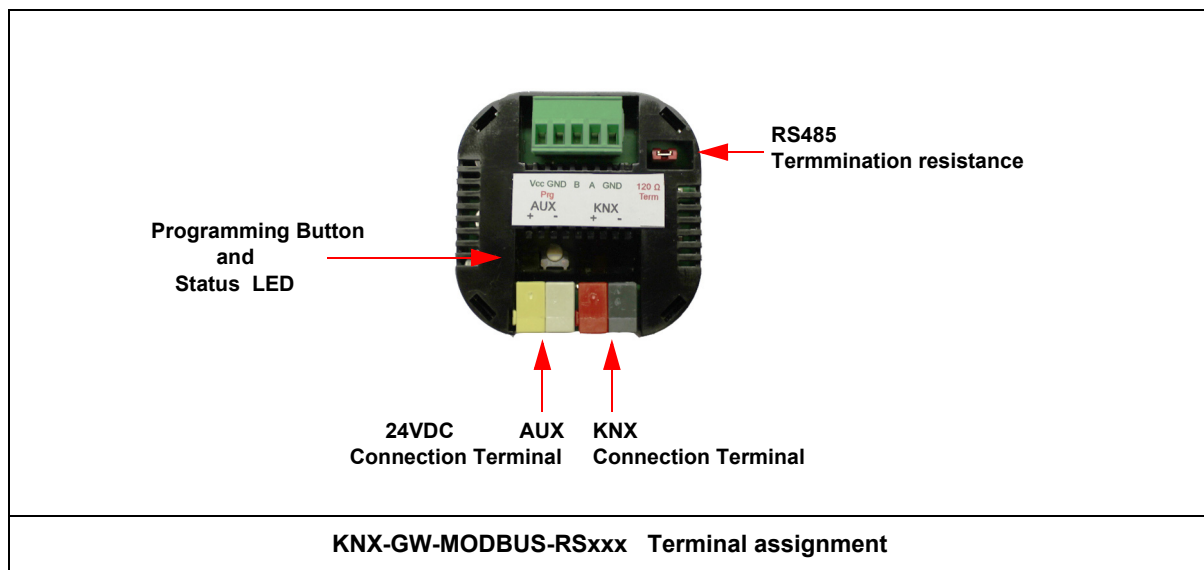
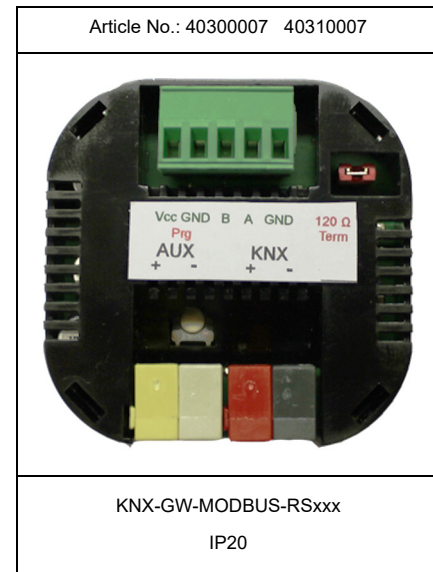
A connection can be realized via RS485 (max. 32 member incl. Master) or RS232 (P2P).

This selection must be observed when ordering and can not be switched by application.

There are 32 ModBus data points available, which can be assigned freely to the different devices

The device has an integrated bus coupling unit and needs no auxiliary power.

The module is configured with the ETS ( KNX Tool Software ) and the associated application program.



### In Case of Bus Voltage Recurrence

The values of ModBus devices are available again after a new reading.  
The ETS parameter settings are retained.

### Discharge Program and Reset Sensor

In order to delete the programming ( projecting ) and to reset the module back to delivery status, it must be switched to zero potential ( disconnect the KNX bus coupler ).

Press and hold the programming button while reconnecting the KNX-bus coupler and wait until the programming LED lights up ( approx. 5-10 seconds ).

Now you can release the programming button.

The module is ready for renewed projecting.

If you release the programming button too early, repeat the aforementioned procedure.

### 3 Technical Data

#### Technical Data - KNX-GW-MODBUS-RSxxx

Number of ModBus devices ( RS232 )	1 Cable length see RS232 specification
Number of ModBus devices ( RS485 )	max. 31 member Cable length see RS485 specification
Number of consumption data points	32 can be assigned freely
Auxiliary voltage for ModBus devices	12VDC / max. 100mA
Operating voltage KNX	KNX Busvoltage 21 .. 32VDC
Power consumption KNX	approx. 240 mW ( at 24VDC )
Auxiliary voltage	24 .. 32VDC
Power consumption auxiliary voltage	Depending on the number of ModBus devices to be supplied max. 100mA
Bus coupler	integrated
Environment temperature	Storage: -20 .. +85 °C Operation: -20 .. +55 °C
Housing	plastic
Housing dimension	( 50 x 50 x 20 ) mm ( W x H x D ) 58mm diagonal
Protection class	IP20
Article number	40300007 40310007

## Imprint

Editor: Arcus-EDS GmbH, Rigaer Str. 88, 10247 Berlin

Responsible for the contents: Hjalmar Hevers, Reinhard Pegelow

Reprinting in part or in whole is only permitted with the prior permission of Arcus-EDS GmbH.

All information is supplied without liability. Technical specifications and prices can be subject to change.

## Liability

The choice of the devices and the assessment of their suitability for a specified purpose lie solely in the responsibility of the buyer. Arcus-EDS does not take any liability or warranty for their suitability. Product specifications in catalogues and data sheets do not represent the assurance of certain properties, but derive from experience values and measurements. A liability of Arcus-EDS for damages caused by incorrect operation/projecting or malfunction of devices is excluded. The operator/project developer has to make sure that incorrect operation, planning errors and malfunctions cannot cause subsequent damages.

## Safety Regulations

Attention! Installation and mounting must be carried out by a qualified electrician.

The buyer/operator of the facility has to make sure that all relevant safety regulations, issued by VDE, TÜV and the responsible energy suppliers are respected. There is no warranty for defects and damages caused by improper use of the devices or by non-compliance with the operating manuals.

## Warranty

We take over guarantees as required by law.

Please contact us if malfunctions occur. In this case, please send the device including a description of the error to the company's address named below.

## Manufacturer



## Registered Trademarks



The CE trademark is a curb market sign that exclusively directs to authorities and does not include any assurance of product properties.



Registered trademark of the Konnex Association.