



REAL SMART HOME

REAL SMART HOME GmbH

**APPMODULE**

**MODBUS TCP Connect App**

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# 1 INTRODUCTION

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Thank you for your trust, and the purchase of the **MODBUS TCP Connect**-app for the BAB **APPMODULE**. With the **MODBUS TCP Connect** -app you get simple use of Modbus® registers in building automation. This documentation will help you get started with the app and aims to improve your setup experience.

REAL SMART HOME GmbH

## IMPORTANT INFORMATION ON THE OPERATING INSTRUCTIONS

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Important information on the operating instructions

We reserve the right continually improve the product. This entails the possibility that parts of this documentation might be out-of-date. You will find the latest information at:

[www.bab-appmarket.de](http://www.bab-appmarket.de)

This app is an independent product, with no legal ties to Modbus®. Neither **BAB APP MARKET** GmbH nor the developer of this app take any claim in the trademarks owned by Modbus®.

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## 2 MODBUS TCP CONNECT – FUNCTIONAL OVERVIEW

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With this app you can connect an existing Modbus gateway to the KNX world via TCP in no time at all. For example, you can transfer data from inverters or smart meters to your KNX system. The app works as a Modbus TCP master and offers read or write access to up to 50 Modbus registers.

### 2.1 HIGHLIGHTS

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- Cull meter readings e. g. for natural gas, water, energy, etc.
- Controlling Analog Outputs
- access to up to 50 Modbus registers
- 1 Bit, 1 Byte, 2 Byte and 4 Byte data
- Read and write registers
- Easy usage of Modbus meter readings in KNX
- Full interoperability with other apps and features

## 3 THE INNOVATIVE, MODULAR APP-CONCEPT FOR THE BUILDING AUTOMATION

The innovative, modular app concept for building automation. The **APPMODULE** brings the innovative, modular app concept into building automation. You can mix and match any of the diverse applications that are available to integrate third-party solutions. With these apps from the dedicated **BAB APP MARKET**, the **APPMODULE** becomes a tailor-made integration unit for your building automation.

### HOW IT WORKS

**1****PURCHASE AN APPMODULE**

Purchase BAB TECHNOLOGIE's APP MODULE via a wholesaler.

**2****REGISTER**

Register your APP MODULE.  
Each app is bound to one device.

**3****LOAD APPS**

Buy and download your favorite apps for your APP MODULE..

**4****INSTALL YOUR APPS**

Install your downloaded apps on your APP MODULE. You can start to configure your apps immediately.

Manufacturer of the **APPMODULE** [BAB TECHNOLOGIE GmbH](http://www.bab-tec.de)

Distribution of all apps for the **APPMODULE** [BAB APP MARKET GmbH](http://www.bab-app-market.de)

App developer [REAL SMART HOME GmbH](http://www.real-smart-home.de)

### 3.1 INFORMATION ABOUT THE APPMODULE

Please refer to the separate product documentation of the **APPMODULE** for a detailed product description and setup instructions.

[http://www.bab-tec.de/index.php/download\\_de.html](http://www.bab-tec.de/index.php/download_de.html)

**Product variants:**

The **APPMODULE** is available in three variants:

- **APPMODULE** KNX/TP – for stand-alone use on KNX/TP Bus
- **APPMODULE** EnOcean – for stand-alone use in the EnOcean wireless network
- **APPMODULE** Extension – for use in an IP-based KNX installation (KNXnet/IP) or as extension for an EIBPORT

## 4 APP INSTALLATION / UPDATE

Please proceed as follows to install an App.

1. Open the APPMODULE web page: Enter <IP Address of **APPMODULE** > into your browser's address bar and press Enter. The APPMODULE web interface will appear.
2. Log in to your **APPMODULE** with your login data. How to log in to the **APPMODULE** can be found in the **APPMODULE** documentation.
3. Click on the menu entry "App Manager"
4. You are now on the page where already installed Apps are listed. The list will be empty if no apps have been installed. Click "Install App" in order to install a new app.
5. Now click on "Select App"; a file selector window will appear. Choose the Smart Home App »MODBUS TCP Connect« and click "OK".  
The Smart Home App "MODBUS TCP Connect" must first be downloaded from the **BAB APP MARKET** ([www.bab-appmarket.de](http://www.bab-appmarket.de)).
6. After the message "Installation successful" appears, click "OK". The app has been updated. Your instance configurations will remain unchanged.
7. To update an already installed app, click on the App icon in the "App Manager".
8. The detail view of the App appears. Click on "Update App" to select the app package and start the update.  
The update version must be downloaded from the **BAB APP MARKET**.

### **Information**

Please use Google Chrome as your browser to configure the app.

## 5 APP SETTINGS

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With this app you can connect an existing Modbus gateway via TCP to the KNX world in next to no time.

### **Information**

The browser-session expires after a period of 60 minutes due to inactivity. Unsaved changes to the configuration will be lost.

## 5.1 INSTANCE

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Once the app is installed, you can create an "instance". In order to create an instance, click on the symbol "Create Instance".

### **Instance Name:**

Choose a name for this new instance.

### **Comment:**

Insert a description what this instance does.

### **Note on communication with the Modbus Gateway:**

After an interruption of the network connection, e.g. by restarting the Modbus TCP Slave, failure of the power supply, or similar, the Modbus TCP Connect App reconnects automatically under normal circumstances.

Nevertheless, this should be checked and, if necessary, the corresponding instance of the app should be restarted.

## 5.1.1 GENERAL MODBUS SETTINGS

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### **Gate Address:**

Using the gate address you can enable or disable this app instance remotely. If this address is not set, the instance remains active until you disable it in the web configuration.

### **Modbus TCP Host:**

The IP address of the Modbus TCP gateway to which you want this app instance to connect.

### **Modbus TCP Port:**

The TCP port number of the Modbus TCP gateway to which you want this app instance to connect.

### **Modbus TCP Unit ID:**

The unit/slave ID of the Modbus TCP gateway to which you want this app instance to connect.

### **Swap Byte Order:**

Swap the byte order from big endian (high byte first) to little endian (non-standard).

### **Swap Word Order:**

Swap the word order from big endian (high word first) to little endian (non-standard).

### **Swap Bit Order:**

Swap the bit order from big endian (high bit first) to little endian (non-standard)



## 5.1.2 INPUTS AND OUTPUTS

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### **Modbus Elements:**

This list contains the Modbus elements which should be read from or written to.

### 5.1.2.1 MODBUS-ELEMENTE

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#### **Comment**

Choose a name to identify the Modbus element.

#### **Modbus**

For easy setup, you can provide Modbus addresses in CoDeSys format. Any further settings will then be applied automatically.

#### **Difference Threshold**

The value will only be forwarded from Modbus to the group address, or vice versa, if the difference to the current value is larger than this threshold. This is meant to reduce telegram load on the bus, and you should set a meaningful threshold, i.e. do not set it too low.

#### **Group Address**

The group address used either as output to write the read value to, or as input from which to read a value.

#### **Data Type**

Configure the data type of the value.

- EIS 11 unsigned (4 Byte Integer)
- 4 Byte 0...4294967295
- EIS 5 (2 Byte Floating Point)
- EIS 10 signed (2 Byte -32768...32767)
- EIS 10 unsigned (2 Byte 0...65535)
- EIS 11 signed (4 Byte Integer)
- 1 Byte -128...127
- EIS 1 (1 Bit)
- 0%...100%
- 4 Byte FP
- 2 Byte 0...65535
- 1 Bit
- 1 Byte 0...255
- 2 Byte FP
- 2 Byte -32768...32767
- 4 Byte -2147483648...2147483647
- EIS 6 (1 Byte Scaled 0...100)
- EIS 9 (4 Byte Floating Point)
- EIS 14 signed (1 Byte -128...127)
- EIS 14 unsigned (1 Byte 0...255)

## 6 ATTACHMENT

function	EIS type	DPT	typical function	typical values	data	identifier
PriorityPosition	EIS1	DPT 1*	Wind alarm	1=high and inhibit	1 Bit	1-bit
Switch	EIS1	DPT 1*	Light switching	0=Off; 1=On	1 Bit	1-bit
DimControl	EIS2	DPT 3*	Dimming	0=Off; 1=On xxx=relative dimming 0-255=absolute dimming	1Bit 4Bit 8Bit	3-bit controlled
Time	EIS3	DPT 10*	Time	Hhh:mm:ss	3 Byte	Time
Date	EIS4	DPT 11*	Date	dd:mm:yyyy	3 Byte	Date
Value	EIS5	DPT 9*	Value	[-671088.64 ... 670760.96]	1Byte	2-byte float value
DimValue	EIS6	DPT 5*	Percent	0-100%	1Byte	8-bit unsigned value
DriveBlade Value	EIS6	DPT 5*	Position value	0-100%; 0-255	1Byte	8-bit unsigned value
DriveShutter Value	EIS6	DPT 5*	Position value	0-100%; 0-255	1Byte	8-bit unsigned value
Position	EIS6	DPT 5*	Control value Heating	0-100%; 0-255	1Byte	8-bit unsigned value
DriveMove	EIS7	DPT 1*	Move shutter	0=up 1=down	1Bit	1-bit
DriveStep	EIS7	DPT 1*	Adjusting the slat blind	0=up; 1= down; 0 or 1 during movement=stop	1Bit	1-bit
PriorityCont-rol	EIS8	DPT 2*	Priority	0,1 switch; 3=forced off; 4=forced on	2Bit	1-bit controlled
FloatValue	EIS9	DPT 14*	IEEE	Floating-point value	4 Byte	4-byte float value
Counter 16bit	EIS10	DPT 7*	Counter 16 bit	0 - 65.535	2Byte	2-byte unsigned value
Counter 16bit	EIS10	DPT 8*	Counter 16 bit with sign	-32.768 - 32.767	2Byte	2-byte signed value
Counter 32bit	EIS11	DPT 12*	Counter 32 bit	0 - 4.294.967.295	4Byte	4-byte unsigned value
Counter 32bit	EIS11	DPT 13*	Counter 32 bit with sign	0 - 4.294.967.295	4Byte	4-byte signed value
Access Control	EIS12	DPT 15*	Access control	Card number	4Byte	Entrance access
Char	EIS13	DPT 4*	ASCII characters	Character	1Byte	Character
Counter 8bit	EIS14	DPT 5*	Value	0 - 255	1Byte	8-bit unsigned value
Counter 8bit	EIS14	DPT 6*	Value with sign	-128 - 127	1Byte	8-bit signed value
String	EIS15	DPT 16*	String	max. 14 characters	14 Byte	Character string

EIB/KNX devices exchange fixed prescribed data formats with each other. These are defined in types. The old designations of the types are EIS (EIB Interworking Standard)  
The new designations are DPT (Data Point Type)