KNX Modbus Gateway RTU485 [SCN-MBGRTU.01]

For bi-directional data exchange between Modbus RTU and the KNX bus. The MDT KNX Modbus Gateway can be used as a Modbus master or slave and integrates Modbus devices such as wallboxes, photovoltaic inverters, energy meters or climate control units. Up to 200 individual channels are available to the user.

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Modbus operating mode

Comprehensive setting options enables the connection to the existing Modbus as a master or additional slave. The Modbus protocol can be RTU or ASCII. Detailed error and diagnostic objects are available to the user for commissioning the gateway.

Templates for Modbus device settings

Modbus participants devices can be individually pre-configured and used as a template to configure each channel. This saves time-consuming reconfiguration of each individual channel. No limit to the number of devices, each channel can be used individually without a device template.

Channel templates

Channel templates simplify the channel configuration. Settings such as the communication direction (Modbus to KNX, KNX to Modbus or bi-directional), the KNX data point type, the send condition and the function type can be reused in each channel.

Channels

Each of the 200 channels can be set individually or based on the user configured templates. When using the channel and device templates, only the Modbus register address to be read or written and the priority of the channel need to be specified. If the templates are not applied, each channel can be individually configured.

Bi-directional communication

In addition to the directions “Modbus -> KNX” and “KNX -> Modbus”, each channel can also be operated bi-directionally. In this operation mode values can be transmitted over a single channel, written to a single Modbus register address and status read out without the use of a second channel.

Multi-channel read

A multi-channel read function can be activated for consecutive register addresses of a Modbus slave. This function is necessary whenever a value is associated with a changing factor. In this case, multi-channel reading ensures that the associated information is read in one cycle.

Mathematics

The MDT Modbus Gateway offers a wide range of mathematical functions to convert the values received or to be transmitted. These include scaling, range conversion, range limitation, binary functions and the basic arithmetic operations: addition, subtraction, multiplication and division. An external logic module to convert the values is not required.

Comparator

A comparator with up to 4 comparison values (equal, unequal, greater than, less than) is available for each channel. The output values for a fulfilled or not fulfilled comparison can be transmitted via a common or separate objects. The data point type of each comparator can be set.

Message texts

Up to 10 message text functions can be activated, each with up to 10 different 14-byte message texts. The value of a channel is compared with a comparable value. If a comparison (equal, unequal, greater than, less than) is fulfilled, the specified message text is written to the 14-byte output object. This function can be used, for example, to display various states of a Modbus device as plain text via KNX.

Updateable via DCA app

If necessary, the device can be updated using the MDT update tool (DCA).
The download is available free of charge at www.mdt.de and www.knx.org.

Long Frame Support

The device supports “long frames” (longer telegrams). These contain more user data per telegram, which significantly reduces the programming time.