

Data Sheet Universal Modbus Client/Master SL



With the easy-to-use Modbus function blocks, values can be read and written via Modbus TCP, Modbus UDP or Modbus RTU. In addition, Modbus RTU over TCP and Modbus RTU over UDP are supported.

Without purchasing a license (just download), the Universal Modbus Client Master SL runs for 30 minutes without functional limitations (demo).

Product Description

The function blocks allow the PLC as Modbus TCP / UDC client or as Modbus RTU slave to exchange data with other devices such as energy meters, controllers or sensors. All relevant features of the Modbus protocol are implemented:

- Supported Function codes: FC01, FC02, FC03, FC04, FC05, FC06, FC15, FC16
- Data can be read, written or exchanged bidirectionally (with automatic change detection)
- Automatic byte order transformation
- All IEC data types are supported

Range of Functions

Modbus is an open communication protocol that enables master-slave or client-server communication between devices connected to the network. The basic principle of Modbus is: A master sends a request and a slave responds to it. In Modbus TCP, the master is referred as client, a slave as server. The function is the same. Subsequently, only the more common names Master and Slave are used for the descriptions of the functions of the protocol, regardless of the variants RTU and TCP.

Supported function codes

FC01 (0x01)	Read Coils
FC02 (0x02)	Read Discrete Inputs
FC03 (0x03)	Read Holding Registers
FC04 (0x04)	Read Input Registers
FC05 (0x05)	Write Single Coil
FC06 (0x06)	Write Single Register
FC15 (0x0F)	Write Multiple Coils
FC16 (0x10)	Write Multiple registers

All IEC data types

The input **Value** of the function block ModbusValue is of type Any. Thus, all data types, such as BOOL, DINT, REAL, etc. can be transferred. Structures and arrays are also possible. It should be noted that in this case there is no automatic transformation of the byte order.

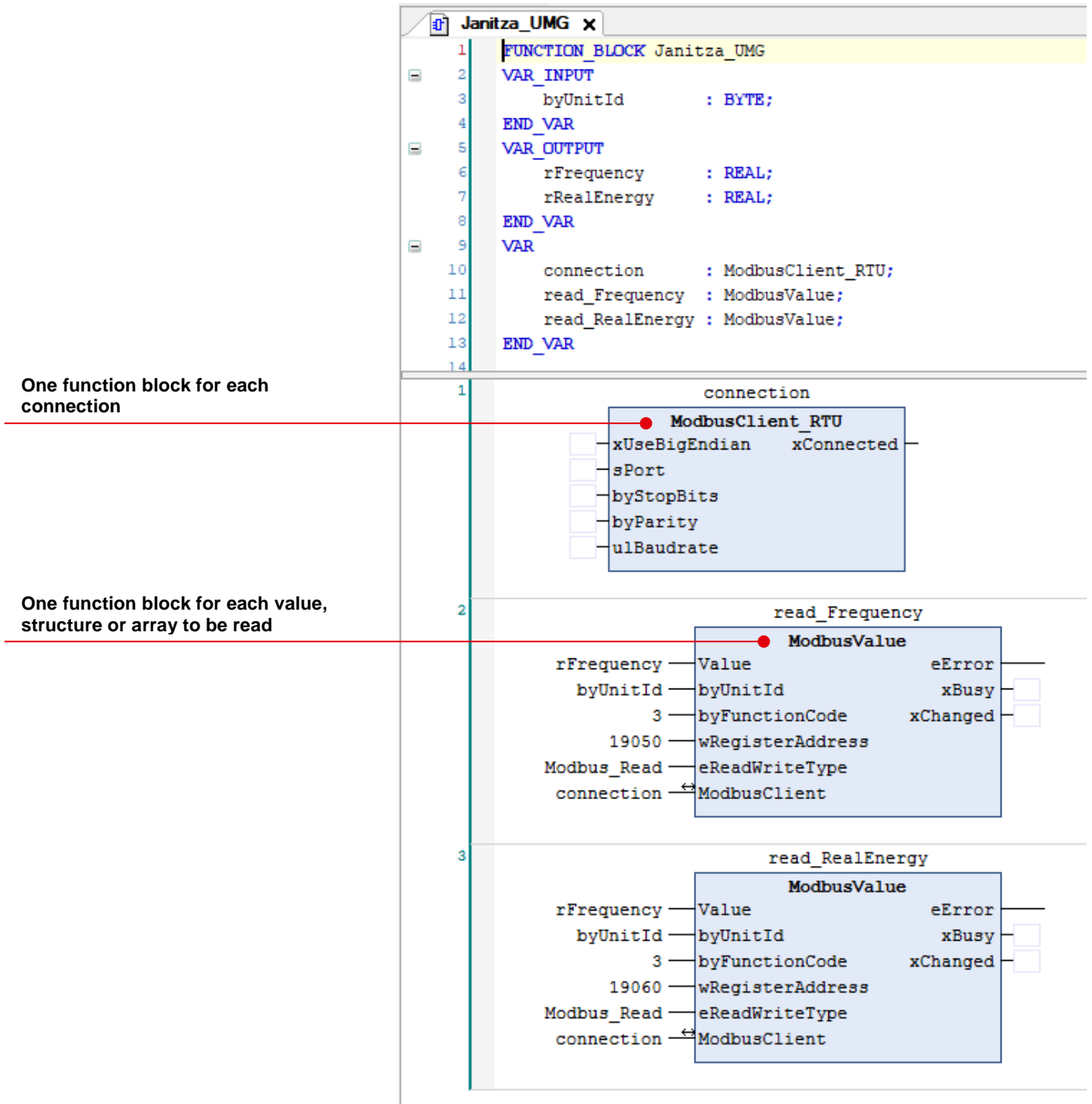
Automatic byte order transformation

Typically, Modbus devices provide their data in big-endian byte order (also called Motorola byte order). If the input **Value** is a standard data type, the byte order is transformed automatically. This behavior can be deactivated by negating the input **xUseBigEndian**.

Bidirectional data exchange

If the input **eReadWriteType** is set to *Modbus_Bidir*, the function block automatically detects changes by the PLC program and sends a corresponding write command to the device. If the value has not been changed, the value is read from the target device.

(Screenshot example)



Example of a connection of an energy meter in FUB

General Information



Supplier	Mirasoft GmbH & Co. KG Steingraben 13 97788 Neuendorf Germany
Support	Tel: +49 9351 9793320 support@mirasoft.de
Product	Universal Modbus Client or Master
Order Number	2312000008
Sales	https://www.mirasoft.de https://www.anyviz.de/en
Scope of Delivery	▪ Package Universal Modbus Client or Master

System Requirements and Restrictions

Programming System	CODESYS Development System V3.5.8.0
Target System	CODESYS Control V3.5.8.0
Supported Platforms / Devices	Notice: Use the project 'Device Reader' to find out the supported features of your device. 'Device Reader' is available for free in the CODESYS Store.
Additional Requirements	
Restrictions	
Licensing	License activation on CODESYS Runtime Key or CODESYS Soft Key (part of CODESYS Controls)
Required Accessory	