

**Manufacturer: Crestron Germany**  
**Model: Modbus/TCP**  
**Device Type: Modbus Devices**

**GENERAL INFORMATION:**

<b>SIMPLWINDOWS NAME:</b>	Modbus-TCP Processor
<b>CATEGORY:</b>	HVAC
<b>VERSION:</b>	V1.3
<b>SUMMARY:</b>	Process Tx and Rx from one TCP/IP Client for all Modbus/TCP modules.

Modbus is a generic communications protocol. It allows a group of addressable informations to be accessed by the Crestron system. There are digital coils, which have two states - on and off. There are also analog register, which allow 16 bit numbers to be accessed. Some informations/values are read only, while others are read/write. The Input register and Discrete Inputs are read only. The Holding register and Coils are read-/writeable.

Modbus supports principal two different command formats – RTU and TCP. This module uses the TCP format. Modbus communicates over TCP and the default Port is 502. But the Port is configurable in the Modbus device.

**GENERAL NOTES:** Each device on a Modbus system is uniquely addressed by its IP-Address. The Modbus device is reachable over a TCP/IP Client with his IP-Address. There is also a single parameter field for the unit identifier (unit id), Integer. This unit identifier is just needed, when the Modbus device is reachable over Modbus/RTU over a Gateway from Modbus/TCP. If the Modbus device is Modbus/TCP the unit id has to be 255 for broadcast and is reachable over the IP-Address over the TCP/IP Client.

If you want to control one Modbus device, you have to use and connect this module with one TCP/IP Client to the corresponding IP-Address. The Tx and Rx have to be connected to this module (Modbus-TCP Processor). This module process all outgoing and incoming traffic (Tx and Rx). You can find an example in the Demo program.

**CRESTRON HARDWARE REQUIRED:** 2- and 3-series processor

**SETUP OF CRESTRON HARDWARE:** **TCP Connection (TCP/IP Client)**  
IP Address of the Modbus Device or Modbus Gateway  
Default TCP Port: 502

**VENDOR FIRMWARE:** -

**VENDOR SETUP:** The correct IP-Address has to be set to the corresponding device.

**CABLE DIAGRAM:** **NET**  
RJ45

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**CONTROL:**

Rx	S	Serial Signal that have to be connected to the Rx Output of the TCP/IP Client.
To_Processor	S	Serial Signal that have to be connected to all modules (Read and Write Holding Register / Read and Write Coils / Read Discrete Inputs / Read Input Register) to control Modbus devices.

**FEEDBACK:**

Tx	S	Serial Signal that have to be connected to the Tx Input of the TCP/IP Client.
From_Processor[1-100]	S	Serial Signal which have to be allocated to one module (Read and Write Holding Register / Read and Write Coils / Read Discrete Inputs / Read Input Register) and connect to the From_Processor Input.

**PARAMETERS:**

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**TESTING:**

OPS USED FOR TESTING: MC3: 1.011.0023

SIMPL WINDOWS USED FOR TESTING: 4.0.2

CRESTRON DB USED FOR TESTING: 51.05.007.00

DEVICE DB USED FOR TESTING: 65.05.003.00

SAMPLE PROGRAM: Modbus-TCP Demo v1.3.smw

REVISION HISTORY: Modbus-TCP Demo v1.2

**MODIFICATIONS:**

**Version 1.3:**  
Bugfix for the Analog 32 64 bit Serial Converter. The Converter converts the 2 or 4 Analog 16bit Values to early so that the two high bytes are already set, but the low bytes are still 0 or have the last value. In the Analog 32 64 bit Serial Converter you are now able to Convert discrete with a Digital Pulse, so you have to use a Serial/Analog OneShot with the last Analog Value which comes out of the Modbus Module.

**Version 1.2:**  
Now you are able to convert 2xAnalog Values to one Serial 32bit value for visualization or 4xAnalog Values to one Serial 64bit Value for visualization. Therefor you need the Analog 32 64 bit Serial Converter v1.0.