Modbus over TCP – Interface description

Modbus is a communication protocol designed for measuring devices that communicate over RS-485 or RS-232 (sometimes named Modbus RTU). The Modbus protocol itself allows to share the **memory area for variables**, e.g. the readings, over one of the physical interfaces. Modbus/TCP is an extension of this protocol for communication over Ethernet.
Its advantages include easy implementation in industrial visualization systems.

Mapping of variables for the Modbus/TCP protocol

Analog quantities					
Address	**I/O**	**Type**	**Function**	**Units**	**Description**
100	Input	Int	4		Current number of installed (configured in Setup) sensors
101-10x	Input	Int	4	0.1°C (K, F)	Current value of the sensor No. 1 through x, where x is the value at address 100. Units are configured in Flash Setup.

Binary values					
Address	**I/O**	**Type**	**Function**	**Units**	**Description**
100 - 102	In	bit	2	0 / 1	Current values of binary inputs
200	In	bit	1	0 / 1	Reads the current value of the DTR output
200	Out	bit	5	0 / 1	Sets the value of the DTR output
201	In	bit	1	0 / 1	Reads the current value of the RTS output
201	Out	bit	5	0 / 1	Sets the value of the RTS output

The Poseidon works as a TCP Server at port 502 (Modbus standard). The Modbus/TCP communication takes place using the given addresses. For details, see http://www.modbus.org.

Caution: *The supported Modbus/TCP implementation requires that the "**Slave ID**" variable is set to 2. If the connection cannot be established, check this setting. (The actual name may differ in your software – it used to be an address to distinguish multiple devices on a RS-485 line in case of Modbus/RTU).*

Note: *For details about Modbus/TCP, see **AN28: Damocles family & Modbus/TCP*** at our website.