

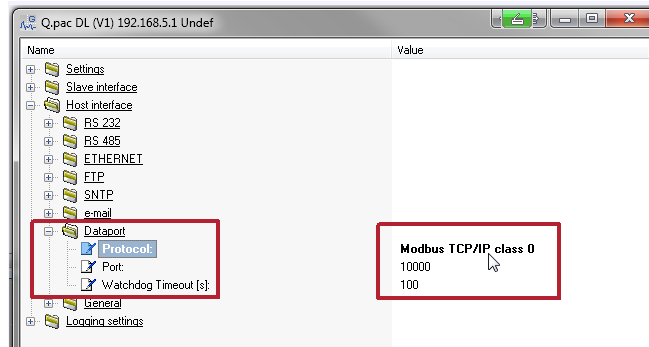


Quick Start Guide: Using the Modbus TCP/IP Dataport

Purpose: This guide will describe the Modbus TCP/IP Dataport. This port is used for standardized Modbus TCP/IP data transmission. Because only one port can be opened, it is not possible to use Dataport Modbus TCP/IP if ASCII TCP/IP is running.

Procedure:

In test.commander the Dataport protocol (default Port = 10000) of the controller has to be set to Modbus TCP/IP class 0 or Modbus WORD swapped) TCP/IP class 0.



The entry in the controller file “@main_i.gcf” is complete. (this is done by test.commander)

[HOST_DATAPORT]

```
Port=1      /      Modbus TCP/IP
Port=10000 /      Default= port number
```

Command Description

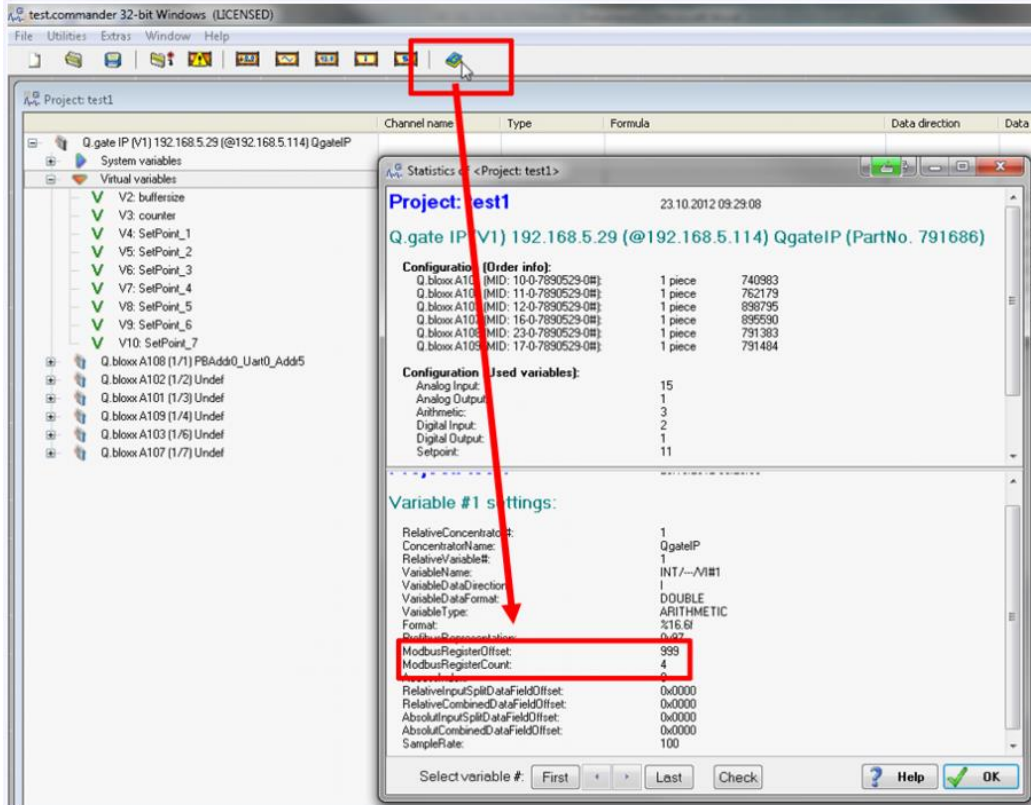
A class 0 Modbus TCP/IP server has been implemented. This means that the following commands are supported:

- Read multiple registers – (Read holding registers FC = 0x03 / Read input registers FC = 0x04)
- Write multiple registers – (FC = 0x10)
- Write single register – (FC = 0x06)

Also the following definitions have to be considered:

- Protocol Identifier – needs to always be 0x00
- Unit Identifier – needs to always be 0x01
- Modbus Register Offset – dec 999 > \x03\xE7

The ModbusRegisterOffset and the ModbusRegisterCount for each variable in the controller can be seen in test.commander.



The register information can also be found for each test.commander project in the .CSV file, which is located inside the project directory folder.

Frame Description

Request of Variable, Client > Server, Function 03 (Hex)

Transact. identifier	Protocol identifier			Number Databytes		Unit identifier	Function	Data			
								Reg. Offset		Reg. Count	
0x00	0x00	0x00	0x00	0x00	0x06	0x01	0x03	HB	LB	HB	LB

Response, Server > Client

Transact. identifier	Protocol identifier			Number Databytes		Unit identifier	Function	Data	
								Number Databytes	Information
0x00	0x00	0x00	0x00	0x00	n+3	0x01	0x03	n	



Example

Read Timestamp:

Request:

00 00 00 00 00 06 01 03 03 E7 00 04

Register count = 4 > 8 data bytes

Response:

00 00 00 00 00 0B 01 03 08 40 E1 D5 C0 0E EF A9 26

8 data bytes: 40 E1 D5 C0 0E EF A9 26

Tools

To test the Modbus TCP/IP communication, the following tools can be used:

- GanTerm: Free download at <http://www.gantnerinstruments.com/software%20downloads/Utilities.zip>
- ModScan: Download at <http://www.win-tech.com/html/demos.htm>

For example – reading the timestamp in ModScan:

