

ibaPDA-Interface-Modbus-Serial

Serial Modbus Interface for Data Acquisition



Quick Guide

Issue 1.0

Measurement and Automation Systems



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Certification

The device is certified according to the European standards and directives. This device corresponds to the general safety and health requirements. Further international customary standards and directives have been observed.

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1 About this guide

This guide describes the configuration of the software interface ibaPDA-Interface-Modbus-Serial.

1.1 Target group

This guide addresses in particular the qualified professionals who are familiar with handling electrical and electronic modules as well as communication and measurement technology. A person is regarded to as professional if he/she is capable of assessing safety and recognizing possible consequences and risks on the basis of his/her specialist training, knowledge and experience and knowledge of the standard regulations.

1.2 Designations

The following designations are used in this guide:

Action	Designations
Menu command	Menu „Logic diagram“
Call of menu command	„Step 1 – Step 2 – Step 3 – Step x“ Example: Select menu „Logic diagram – Add – New logic diagram “
Keys	<Key name> Example: <Alt>; <F1>
Press keys simultaneously	<Key name> + <Key name> Example: <Alt> + <Strg>
Buttons	<Button name> Example: <OK>; <Cancel>
File names, Paths	„File name“, „Path“ Example: „Test.doc“

1.3 Used symbols

If safety instructions or other notes are used in this guide, they mean:

DANGER

The non-observance of this safety information may result in an imminent risk of death or severe injury:

- By an electric shock!
- Due to the improper handling of software products which are coupled to input and output procedures with control function!

If you do not observe the safety instructions regarding the process and the system or machine to be controlled, there is a risk of death or severe injury!

WARNING

The non-observance of this safety information may result in a potential risk of death or severe injury!

CAUTION

The non-observance of this safety information may result in a potential risk of injury or material damage!



Note

A note specifies special requirements or actions to be observed.



Important note

Note if some special features must be observed, for example exceptions from the rule.



Tip

Tip or example as a helpful note or insider tip to make the work a little bit easier.



Other documentation

Reference to additional documentation or further reading.

2 Introduction

ibaPDA-V6 offers two kinds of Modbus interface:

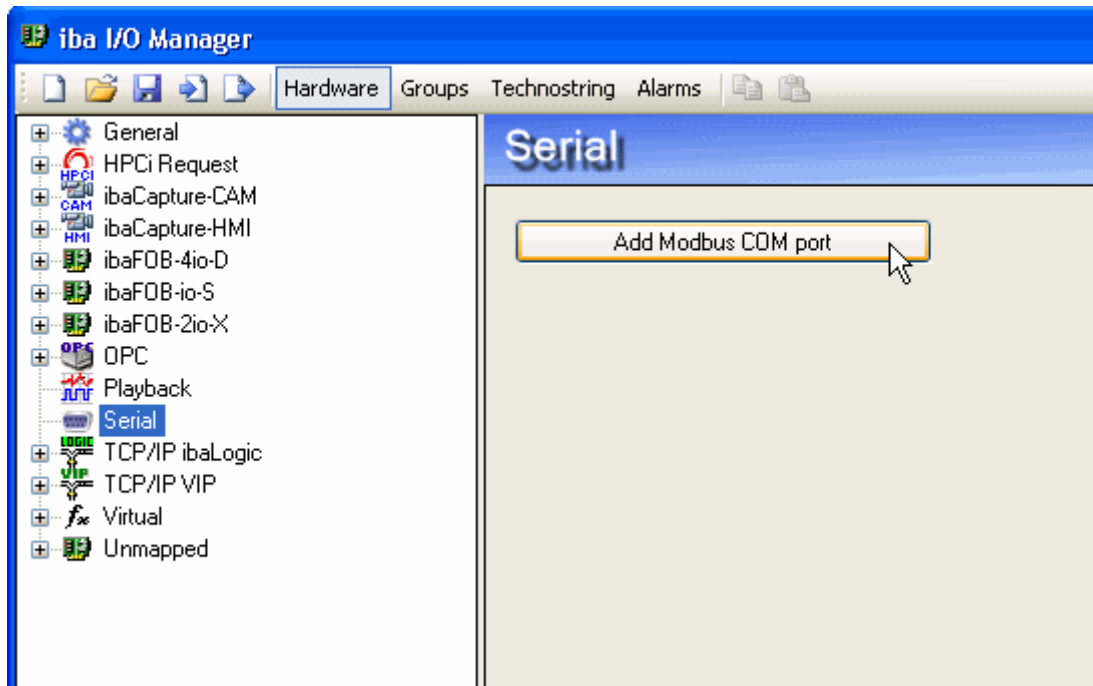
- ❑ Modbus over TCP
- ❑ Serial Modbus
 - Slave COM-port only since ibaPDA-V6.14.0
 - Master and slave COM port since ibaPDA-V6.15.0

This Quick Guide describes how to set up the serial connection.

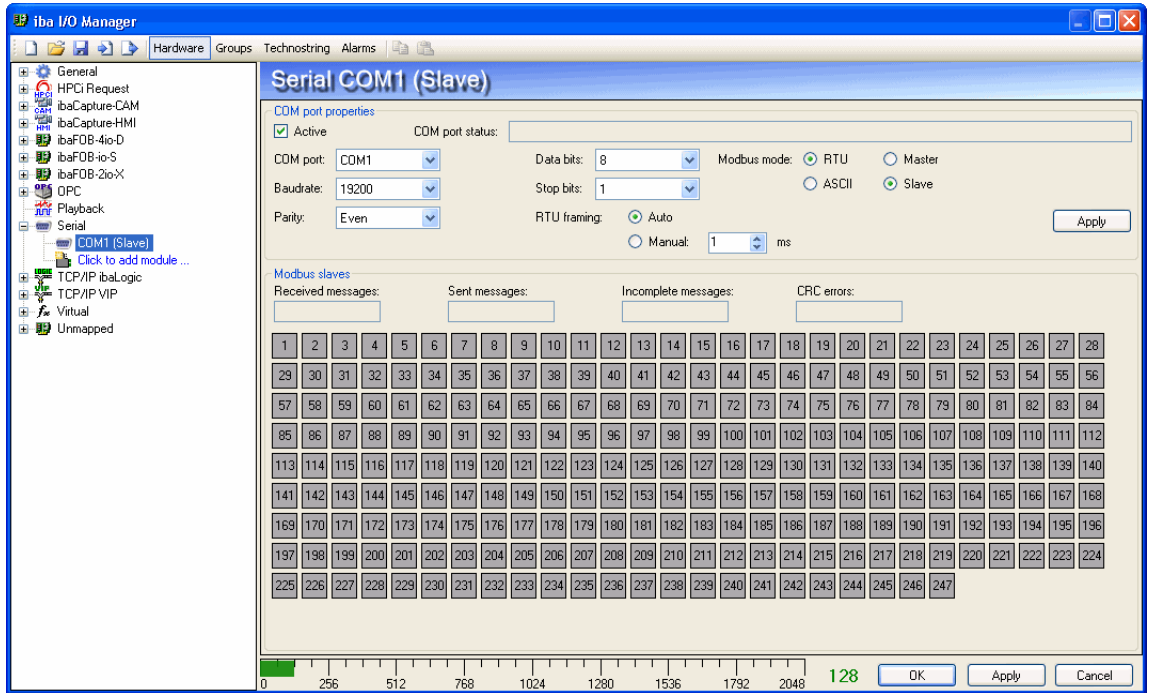
3 Connecting the serial Modbus

First, you have to setup a COM port for the serial connection.

1. Open the I/O manager of ibaPDA-V6
The interface “Serial” is visible in the tree, provided that the Serial Modbus license is enabled in the dongle.
2. Click on the interface “Serial”
3. Click the button on the right side to add a Modbus COM port.



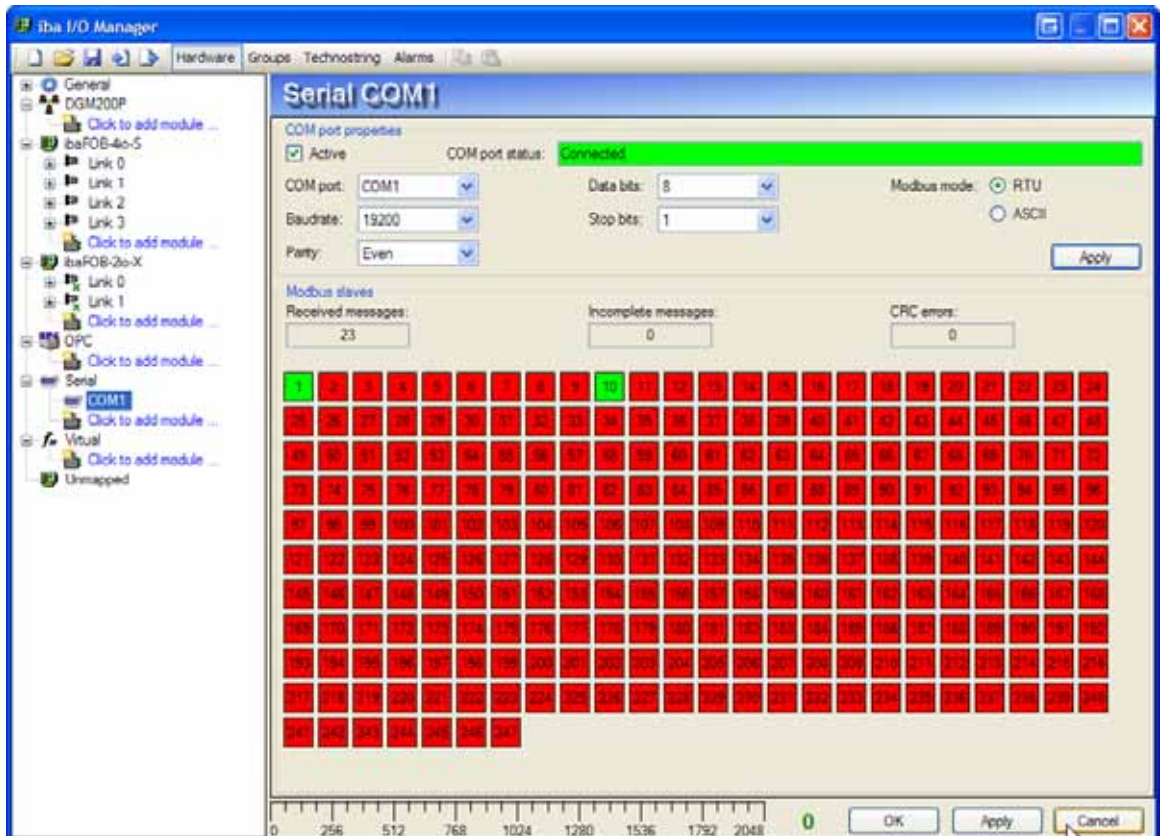
The Modbus COM port will look like this.



Currently it is not active. You first have to setup all the COM port properties (port number, baudrate, parity, data bits and stop bits). You also have to choose between Modbus RTU and Modbus ASCII. Once everything is setup you can click the Apply button to apply the settings. The ibaPDA server will open the COM port and start listening to messages on the port.

4 Setting up a Modbus slave COM port

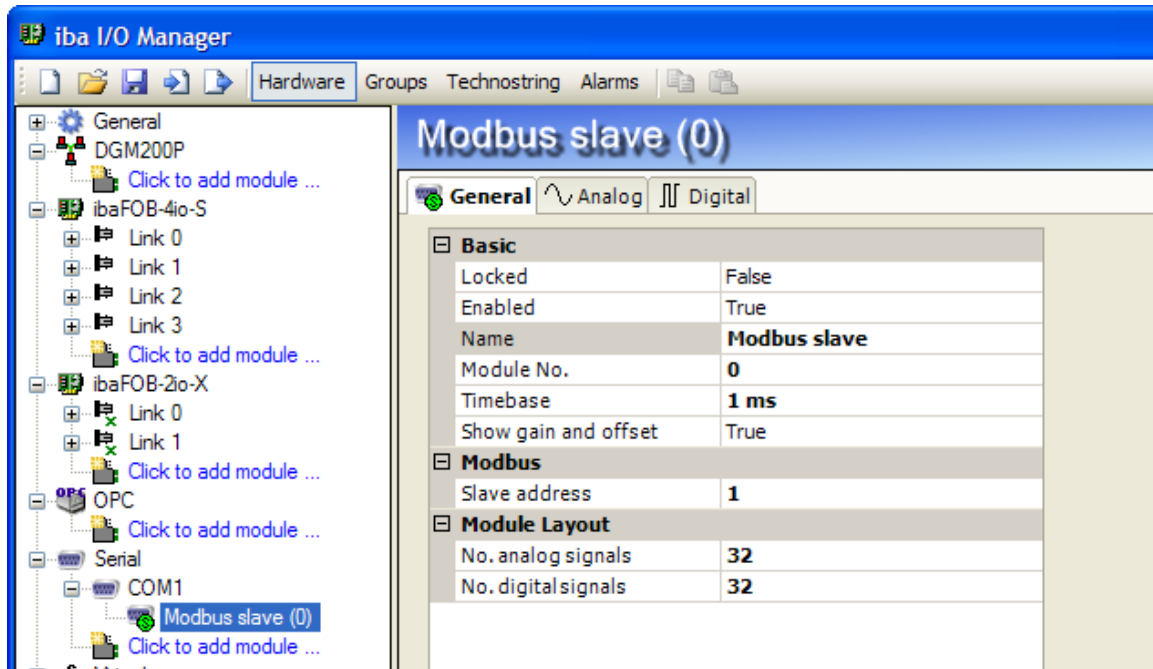
Once the port is active you will see something like this (example slave COM port):



The COM port status is reported at the top. In the Modbus groupbox you get some diagnostics about the Modbus messages coming in. The grid shows the status of all 247 possible modbus slaves. A red square means that there have been no messages received for that slave in the last minute. A green square means that there have been messages received for that slave.

5 Setting up a Modbus slave module

Now you can add a Modbus slave module.



On the general tab of the Modbus slave module you have to enter the slave address of the slave you want to measure. IbaPDA acts as an active Modbus slave for that slave address. This means that ibaPDA will process the messages and send responses to the Modbus master. You can create multiple Modbus slave modules with the same slave address. On the general tab you can also specify the number of analog and digital signals of the module.



You have to specify the register number and datatype for each analog signal. The register number has to be between 0 and 65535. IbaPDA supports BYTE, INT, WORD, DINT, DWORD and FLOAT datatypes. The registers are 16 bit registers. So an INT signal occupies 1 register and a FLOAT signal occupies 2 registers. When you click the Register column header the register numbers will be incremented automatically from

the selected line in the grid to the last line in the grid. The actual column shows the current value for each signal.



The digital signals only require a bit number. The bit number has to be between 0 and 65535. When you click the bit number column header the bit numbers will be incremented automatically from the selected line in the grid to the last line in the grid.

6 Setting up a Modbus serial master

The Modbus COM port can be switched between master and slave mode via radio buttons.



If the COM port is in slave mode then ibaPDA responds to requests from the Modbus master. If the COM port is in master mode then ibaPDA will periodically send requests to the Modbus slaves that have been configured.

The screenshot above shows ibaPDA as Modbus master with 2 configured slaves: 10 and 20. A slave can be in following states:

State	Master mode	Slave mode
Connected (green)	The slave responds to the periodic requests from pda.	The master is sending periodic requests to pda.
Disconnected (red)	The slave does not respond to periodic requests from pda.	The master doesn't send any requests to this slave.
Disabled (gray)	This slave is not configured.	This slave is not configured.

7 Support and Contact

Support

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Note

If you require support, specify the serial number (iba-S/N) of the product.

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