

HMS Sequence

Exercise: Connecting a Modbus RTU Slave

SOLUTION SHEET

SCM-1202-133 1.0 en-US ENGLISH

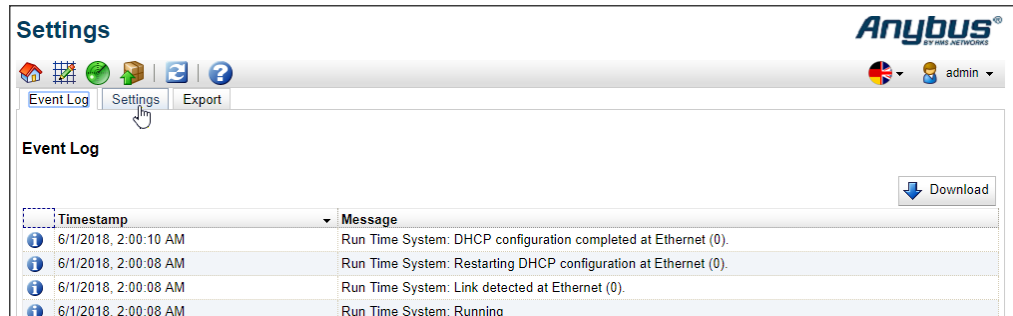
1 Instructions

This exercise explains how to connect a Modbus RTU slave to an Anybus Edge Gateway. In the example we use the Netbiter IOX-DAIO.

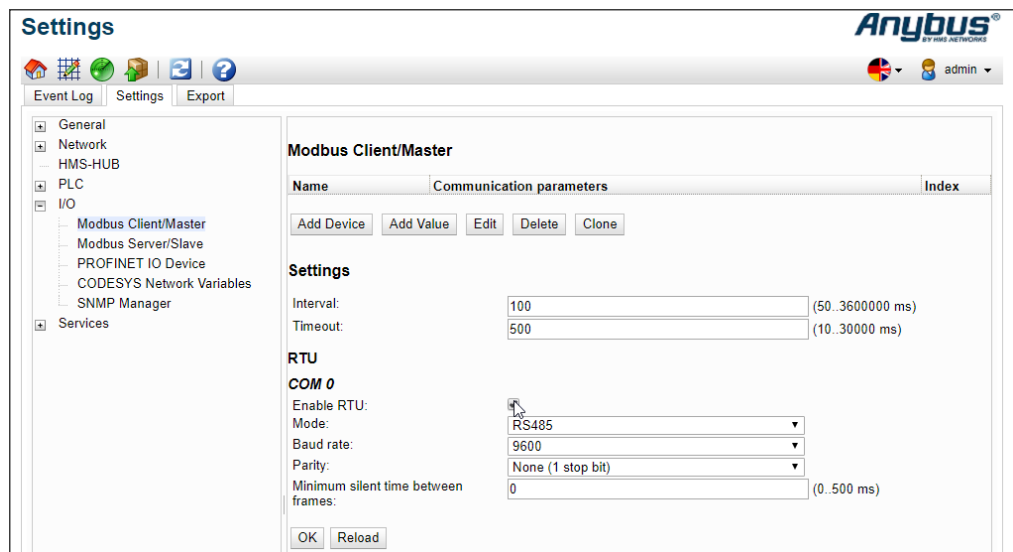
1. Go to settings, by clicking the cogwheel icon in the toolbar.



2. Select the **Settings** tab.



3. Find **I/O** in the tree, and expand it.
4. Go to **Modbus Client/Master** to add a slave.



5. Configure Interval, under Settings. This interval depends on how often a response from the slave device is needed.

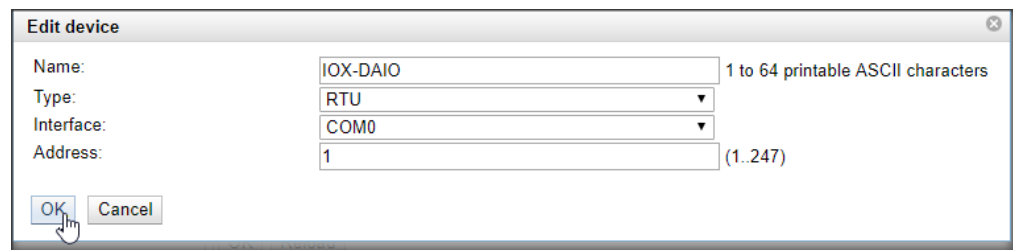
In this case, use 100 ms.

6. Configure the Modbus settings according to your Modbus slave device.

In this case, according to the following:

- Check the Enable RTU checkbox.
- Mode: RS485
- Baud rate: 9600
- Parity: None (1 stop bit)

7. Set the timeout. Timeout is the maximum time to wait for a response from the slave device. In this case, use 500 ms.
8. Press **OK**. If you are prompted for a reboot, do not reboot the gateway yet.
9. Click Add the device, and add the device according to the image below:



Edit device

Name: IOX-DAIO 1 to 64 printable ASCII characters

Type: RTU

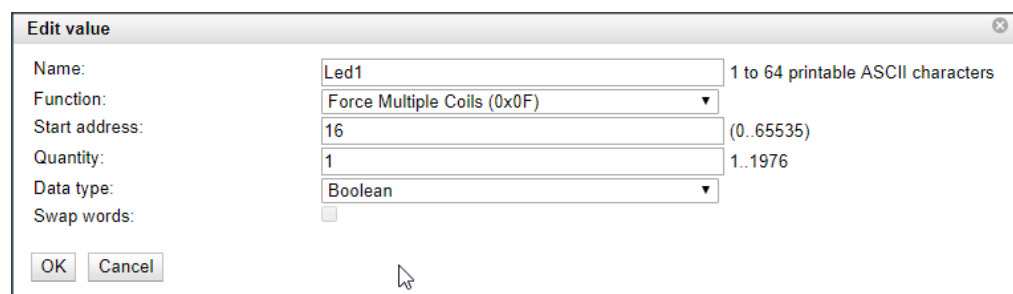
Interface: COM0

Address: 1 (1..247)

OK Cancel

10. For this example, we will need a set of values. Add values by clicking Add value. Add a value called Led1 according to the following:

- Name: Led1
- Function: Force Multiple Coils (0x0F)
- Start address: 16
- Quantity: 1
- Data type: Boolean



Edit value

Name: Led1 1 to 64 printable ASCII characters

Function: Force Multiple Coils (0x0F)

Start address: 16 (0..65535)

Quantity: 1 1..1976

Data type: Boolean

Swap words: ☐

OK Cancel

11. Add the following four values in the same way:

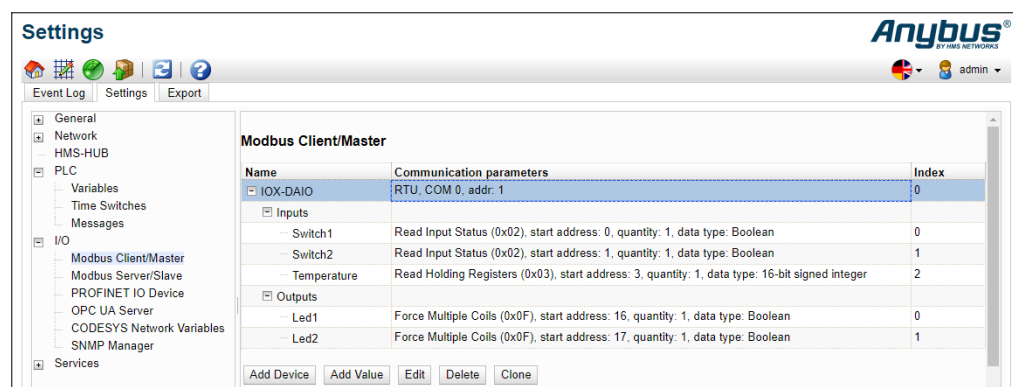
LED 2: Force multiple coils, start address 17, quantity 1, datatype BOOLEAN.

Switch 1: Read input status, start address 0, quantity 1, datatype BOOLEAN.

Switch 2: Read input status, start address 1, quantity 1, datatype BOOLEAN.

Temperature: Read holding register, start address 3, quantity 1, 16-bit Signed Integer.

12. This is how the configuration should look now.



Settings

Anybus® BY INEA NETWORKS

Event Log Settings Export

General Network HMS-HUB PLC Variables Time Switches Messages I/O Modbus Client/Master Modbus Server/Slave PROFINET IO Device OPC UA Server CODESYS Network Variables SNMP Manager Services

Modbus Client/Master

Name	Communication parameters	Index
IOX-DAIO	RTU, COM 0, addr: 1	0
Inputs		
– Switch1	Read Input Status (0x02), start address: 0, quantity: 1, data type: Boolean	0
– Switch2	Read Input Status (0x02), start address: 1, quantity: 1, data type: Boolean	1
– Temperature	Read Holding Registers (0x03), start address: 3, quantity: 1, data type: 16-bit signed integer	2
Outputs		
– Led1	Force Multiple Coils (0x0F), start address: 16, quantity: 1, data type: Boolean	0
– Led2	Force Multiple Coils (0x0F), start address: 17, quantity: 1, data type: Boolean	1

Add Device Add Value Edit Delete Clone

13. Press **OK** in the lower left section.
14. Press **Reboot**.

