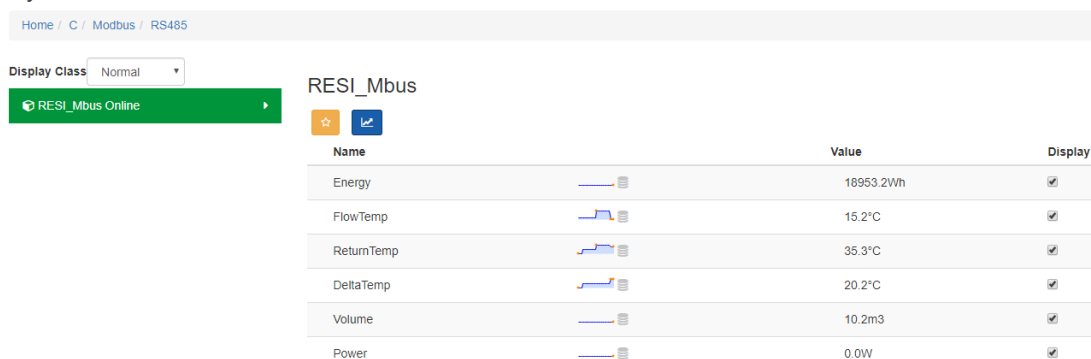


HOW-TO GUIDE

HOW TO CONNECT RESI MODBUS-MBUS MODULE TO ASPECT

This document describes how to connect the **RESI Modbus to Mbus gateway Module** to an **Aspect-MatrixMax** controller.

System Browser



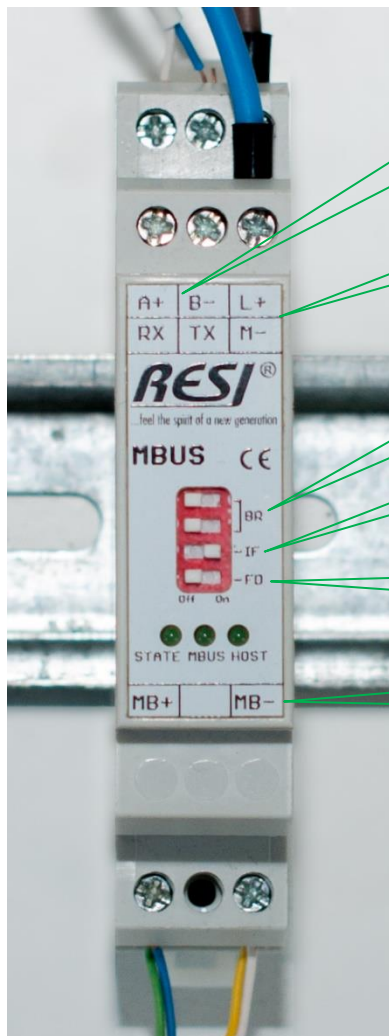
In order to connect to the **RESI** module you will need the following:

1. **RESI** Module
2. **RS232** or **USB-to-RS485** converter
3. **RESI MODBUS Configurator** (the version used when creating this document was 1.0.5.30) – This software can be downloaded from www.resi.cc (you need to be registered to access full download page)
4. **RESI-USB-SIO,RESI-USB-BOX-DRIVER** - This software can be downloaded from www.resi.cc (you need to be registered to access full download page).

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WIRING THE RESI MODULE

Wire the **RESI** module according to documentation available on Internet or in the datasheet sent with device.



Modbus RS485 RTU

Power Supply 24V DC

Baudrate Setup

Interface Setup

Function Definition

MBus Interface

DIP Switch Setup

BR – Baud rate

DIP 1	DIP2	Baudrate
OFF	OFF	9600 bps
ON	OFF	19200 bps
OFF	ON	38400 bps
ON	ON	57600 bps

Note: Parity is selected with **RESI MODBUS Configurator** software only

IF – Interface

OFF	RS232
ON	RS485

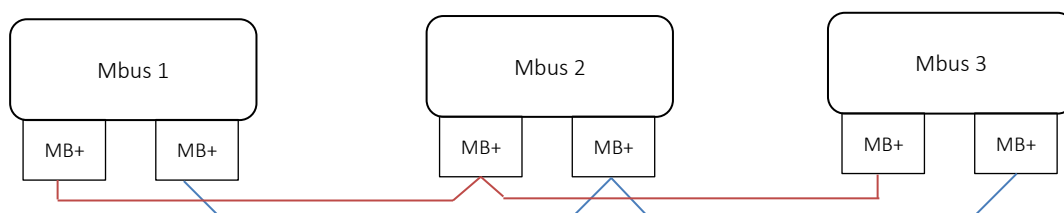
FD – Function Definition

OFF	The unit ID(address) from FLASH memory used(configurable in Mdbus Configurator Software)
ON	The unit ID (address) 255 is set

MBus interface connections do not require polarity matching.

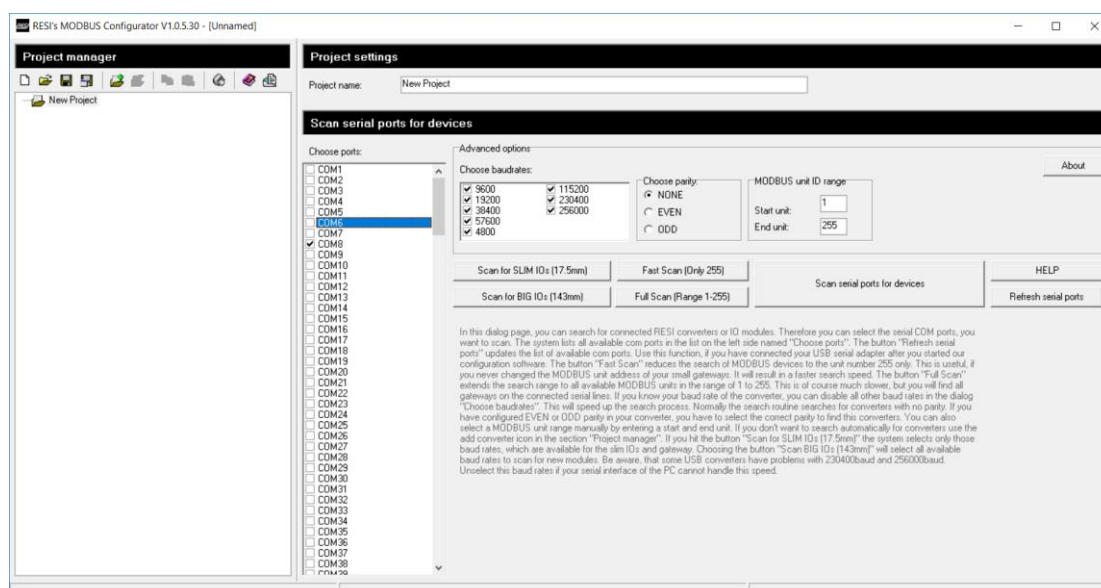
CONNECTING MBUS METERS

Connect all your **Mbus** meters in daisy chain. Use the same **M+** and **M-** ports on all **Mbus** devices.

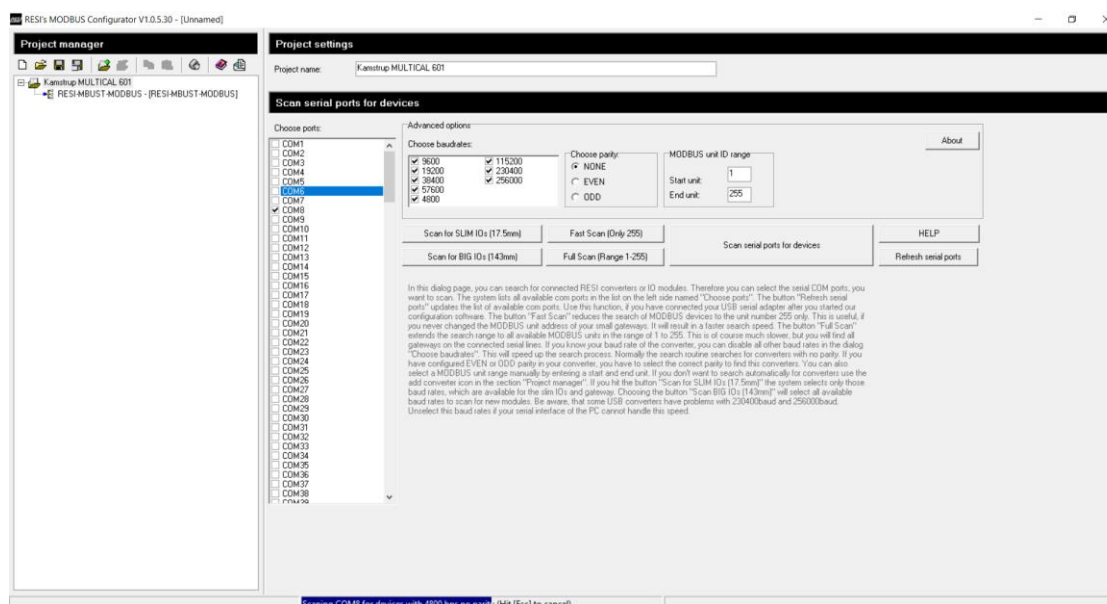


DISCOVERING THE RESI MODULE IN THE MODBUS CONFIGURATOR

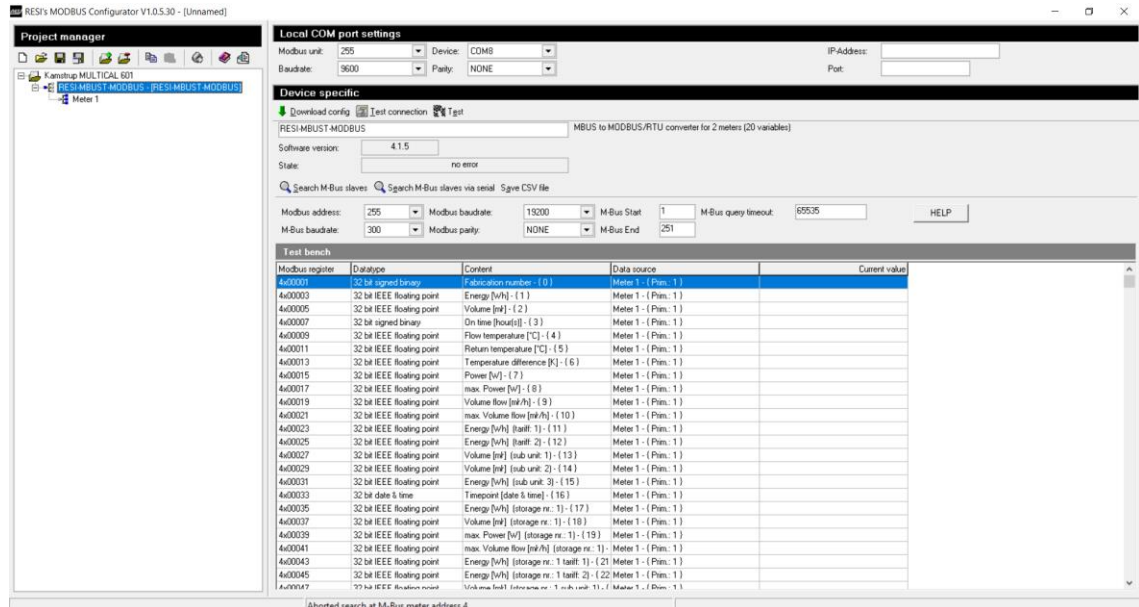
1. Run the **RESI MODBUS Configurator** application, and configure your com port connection



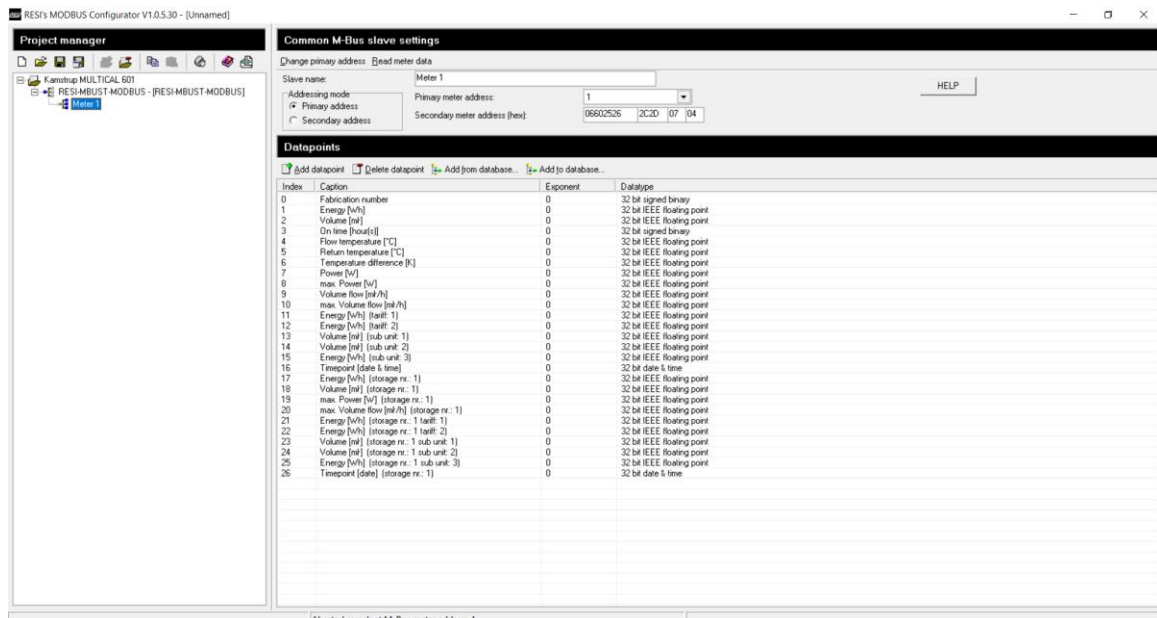
2. Name your new project and click **Scan serial ports for Devices**.



3. Select the discovered **RESI** module and click **Search M-Bus slaves** (press the ESC button to stop scanning)

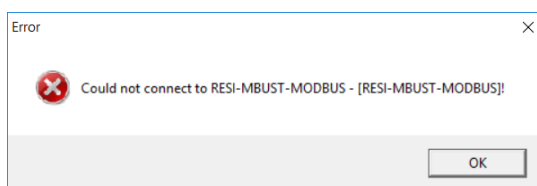


4. Select your discovered meter to see the available registers



5. Depending on the type of **RESI** module, it might be necessary to delete data points from the database (this device can have 2 Mbus devices with up to 20 data points)
6. Click on the **RESI** module in left pane, set the **Modbus** port settings and set the **Mbus** communication speed, start address and end address.

- Click **Download Config** – after the configuration is loaded successfully, the **Modbus unit** address in **Local COM port Settings** will automatically change to 255. If you try to test the connection you will get an error. Make sure that you change your local **Modbus port's COM Port** settings to the correct one on the device now.



Local COM port settings

Modbus unit: Device:

Baudrate: Parity:

- Click on **Test** to scan for Mbus meter values

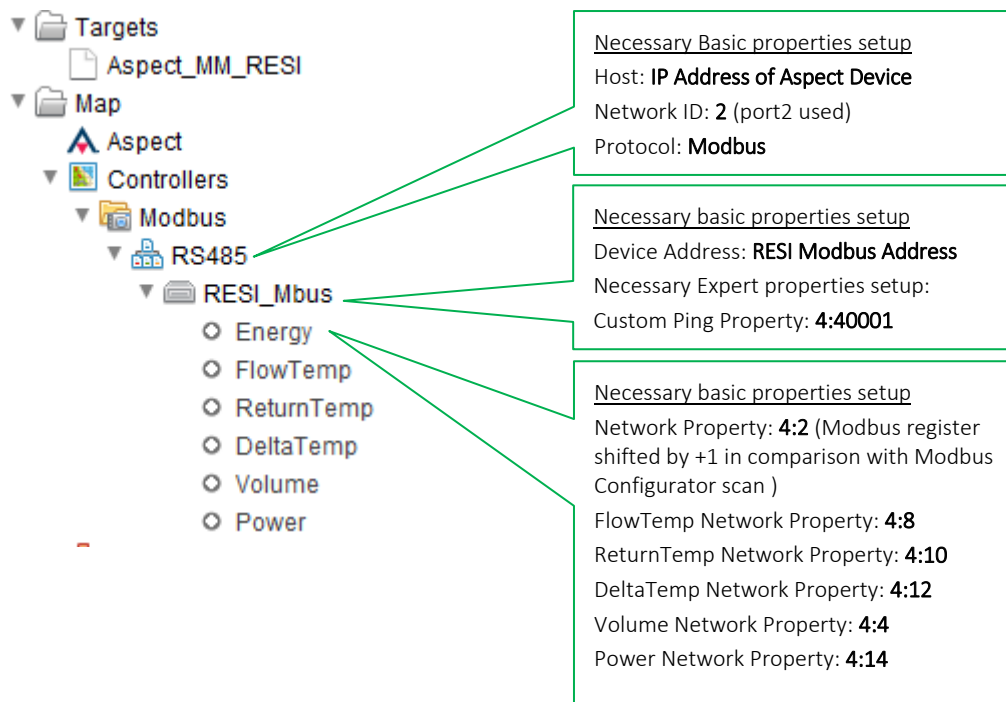
The screenshot shows the 'RESI MODBUS Configurator V1.0.5.30' interface. The 'Local COM port settings' are configured with Modbus unit: 1, Device: COM10, Baudrate: 9600, and Parity: NONE. The 'Test' button is clicked, and the 'Test mode started...' message is displayed. The 'Test results' table is shown below.

Modbus register	Datatype	Content	Data source	Current value
400005	32 bit IEEE floating point	Energy [kWh] (1)	Meter 1 - (Pins: 1)	10000.00
400003	32 bit IEEE floating point	Volume [m³] (1)	Meter 1 - (Pins: 1)	10.15
400006	32 bit signed binary	On time [hours] (1)	Meter 1 - (Pins: 1)	775
400007	32 bit IEEE floating point	Flow temperature [°C] (4)	Meter 1 - (Pins: 1)	21.47
400009	32 bit IEEE floating point	Return temperature [°C] (5)	Meter 1 - (Pins: 1)	23.67
400011	32 bit IEEE floating point	Temperature difference [°C] (6)	Meter 1 - (Pins: 1)	2.20
400013	32 bit IEEE floating point	Power [kW] (7)	Meter 1 - (Pins: 1)	0.00
400015	32 bit IEEE floating point	max. Power [kW] (8)	Meter 1 - (Pins: 1)	3714400.00
400017	32 bit IEEE floating point	Volume flow [m³/h] (9)	Meter 1 - (Pins: 1)	0.00
400019	32 bit IEEE floating point	max. Volume flow [m³/h] (10)	Meter 1 - (Pins: 1)	320240.00
400021	32 bit IEEE floating point	Energy [kWh] (half: 1) (11)	Meter 1 - (Pins: 1)	0.00
400023	32 bit IEEE floating point	Energy [kWh] (half: 2) (12)	Meter 1 - (Pins: 1)	0.00
400025	32 bit IEEE floating point	Volume [m³] (sub unit: 1) (13)	Meter 1 - (Pins: 1)	0.00
400027	32 bit IEEE floating point	Volume [m³] (sub unit: 2) (14)	Meter 1 - (Pins: 1)	0.00
400029	32 bit IEEE floating point	Energy [kWh] (sub unit: 3) (15)	Meter 1 - (Pins: 1)	4200.00
400031	32 bit date & time	Timestamp (date & time) (16)	Meter 1 - (Pins: 1)	0x1382061e => "10.12.09 06:30"
400033	32 bit IEEE floating point	Energy [kWh] (storage nr: 1) (17)	Meter 1 - (Pins: 1)	0.00
400035	32 bit IEEE floating point	Volume [m³] (storage nr: 1) (18)	Meter 1 - (Pins: 1)	0.00
400037	32 bit IEEE floating point	max. Power [kW] (storage nr: 1) (19)	Meter 1 - (Pins: 1)	0.00
400039	32 bit IEEE floating point	max. Volume flow [m³/h] (storage nr: 1)	Meter 1 - (Pins: 1)	0.00
400001	16 bit signed binary	State of meter	Meter 1 - (Pins: 1)	3 => "Values are valid"
400002	32 bit signed binary	Identification number of meter	Meter 1 - (Pins: 1)	6602526

If you can see values then your **RESI** module has been set up correctly with the **Mbus** meter. Use **Modbus Port settings** and register numbers to read them in Cylon controllers.

ADDING MBUS READINGS IN ASPECT

In order to read the **Mbus** meter readings in **Aspect**, you must configure the **Modbus** port on your **Aspect** device according to **RESI** module setup.



MODBUS CABLING WITH MATRIXMAX

The image below shows a wiring diagram for properly connecting a **RESI** module to a **MatrixMax** controller on Port 2.

- Connect **A+** from **RESI** module to **N+** of the **MatrixMax**.
- Connect **B-** from the **RESI** module to **N-** on the **MatrixMax**

