

# Remote UPS monitoring

## Programming UPS via Ethernet and UPS-CONF

Application note

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### 1 Description

This document describes remote configuration of an uninterruptible power supply (UPS) across an Ethernet network using the UPS-CONF software. An IFS-RS232-DATACABLE (Order No. 2320490) is required as well as a protocol converter to convert the Modbus<sup>®</sup> TCP to Modbus RTU. Any of the following will provide this function:

- GW MODBUS TCP/RTU 1E/1DB9 (Order No. 2702764)
- GW MODBUS TCP/RTU 1E/2DB9 (Order No. 2702765)
- GW MODBUS TCP/RTU 2E/2DB9 (Order No. 2702799)
- GW MODBUS TCP/RTU 2E/4DB9 (Order No. 2702767)



The UPS-CONF software communicates via a fixed device ID. Connecting more than one UPS per gateway is not possible.



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## 2 Configuring the GW MODBUS TCP/RTU... DB9

1. Insert the 12-pos. IFS connector of the IFS-RS232-DATACABLE into the UPS.
2. Insert the female D-SUB 9 connector into the GW MODBUS TCP/RTU... DB9.  
The pinout for the cable is:

Table 1 RS-232 pinout

	IFS-RS232-DATACABLE	GW MODBUS TCP/RTU... DB9
D-SUB	Signal	Signal
1	DCD	DCD
2	TxD	RxD
3	RxD	TxD
4	DTR	DTR
5	GND	GND
6	-	DSR
7	-	RTS
8	-	CTS
9	-	RI

3. Using an Ethernet cable, connect a PC to the GW MODBUS TCP/RTU... DB9.
4. Set the IP address of the PC to the sub-network of the GW MODBUS TCP/RTU... DB9. For example, IP = 192.168.254.10, sub-network = 255.255.255.0.
5. Open a web browser and enter the IP address of the GW MODBUS TCP/RTU... DB9 in the address field. The default IP address upon delivery is 192.168.254.254.
6. Open the web-based management page for the gateway and enter the username and password to configure the settings. The default user name is "Admin" with a password of "admin".
7. Navigate to the corresponding port configuration under the "Serial Settings" tab and set the appropriate serial settings.

The screenshot displays the web-based management interface for the gateway. The 'Serial Settings' tab is active, showing 'Port 1 Configuration' selected. The 'Serial Port Configuration' section includes: Port Name: Port 1, Port Mode: RS-232, Baud Rate: 115200, Parity: even, Data Bits: 8, Stop Bits: 1, Flow Control: none, RS-485 Terminating Resistor: off, DTR Mode: off, Rx Timeout Between Packets (ms): 200, and Discard Messages With Errors: checked. The 'Modbus Configuration' section includes: Serial Device(s): Modbus RTU Slaves, Modbus Slaves Settings (Response Timeout: 1000 ms, Inactivity Wait Time Before Tx: 0 ms, Lost Device Search Enable: off, Send Write Messages First: off, Write Mode: Read/Write, Device ID Offset Mode: Off, Device ID Offset: 0), and Modbus Master/Slaves Settings (Forward Broadcasts From Serial Master: off, Private Slave Device ID Range: min: 1, max: 1).

Figure 1 Serial port settings

Depending upon the UPS, set the communication parameters to:

Table 2 Communication parameters

	Baud rate	Start bit	Data bits	Parity	Stop bit
QUINT-UPS/24DC/24DC... QUINT-UPS/24DC/24DC...AH QUINT UPS/1AC/24DC/5	115200	1	8	Even	1
TRIO-UPS/1AC/24DC/5	19200	1	8	Even	1
GW MODBUS TCP/RTU	Set accordingly	1	8	Even	1

8. When finished, click the “Apply Changes” button on the bottom right of the page to apply the settings.

### 3 Configuring UPS-CONF

1. Launch the UPS-CONF software (version 2.2 or higher is required) and locate the “Software Settings” option at the top right corner (see Figure 2)

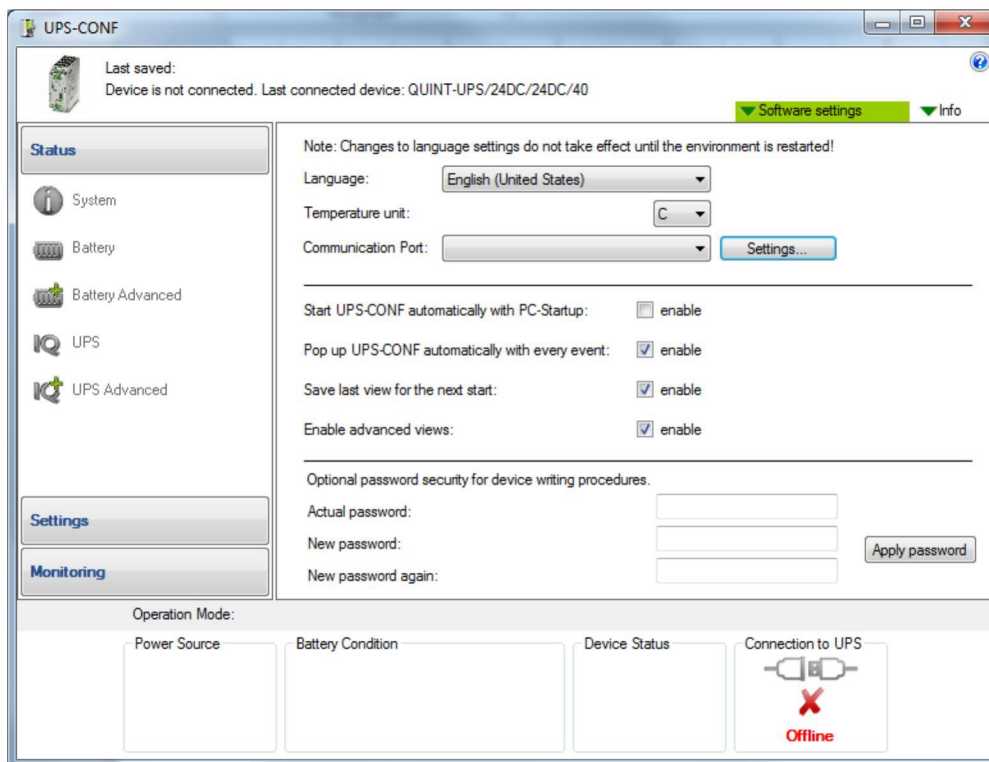


Figure 2 UPS-CONF software settings

2. Click the “Settings” button to display the “Settings” dialog box.
3. Click the “Add” button to launch the “TCP/IP Port” dialog box (see Figure 3).

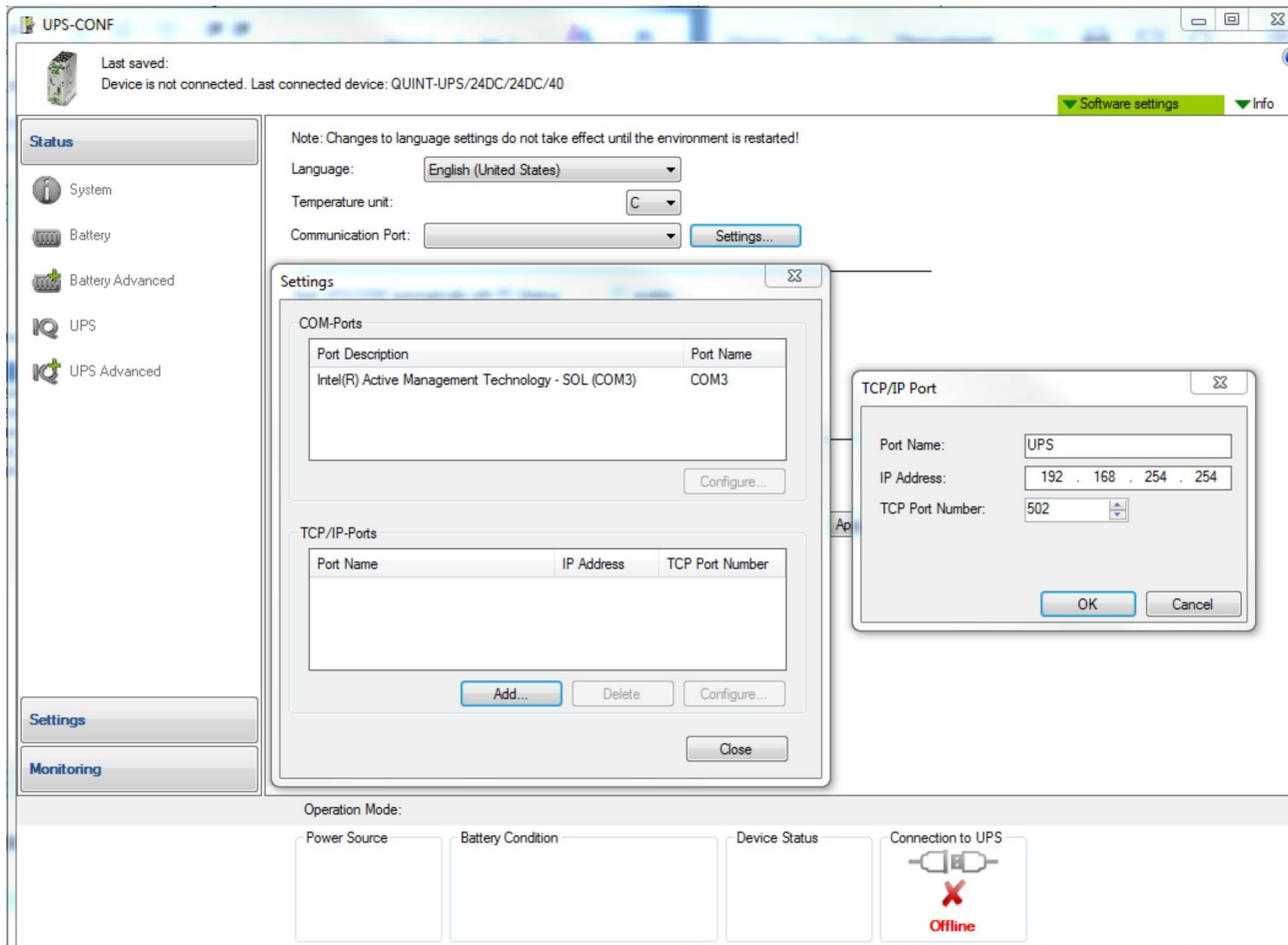


Figure 3 TCP/IP port settings

4. Enter:
  - a) a custom port name in the "Port Name" field.
  - b) the IP address of the GW MODBUS TCP/RTU... DB9 in the "IP Address" field.
  - c) **502** in the "TCP Port Number" field.
5. Click the "OK" button to close the "TCP/IP Port" dialog box and apply the settings.
6. Click the "Close" button to close the dialog box.

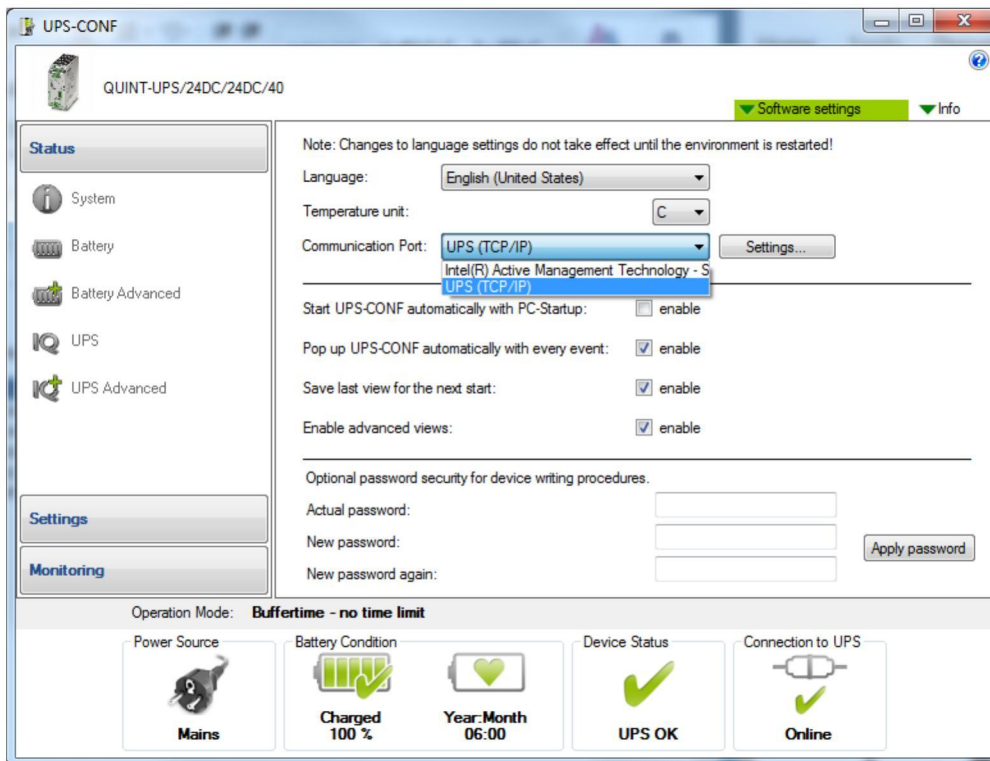


Figure 4 UPS-CONF “Communication Port” drop-down menu

- From the “Communication Port” drop-down menu (see Figure 4), click the newly created connection method (the custom port name).

If configured properly, The UPS will appear online after a few seconds. Once online, the user can use any of the monitoring, programming, and reporting features they would typically utilize when connected directly to the UPS.

#### 4 Additional information on Ethernet access to the UPS

If the GW MODBUS TCP/RTU... DB9 is placed on a network, multiple PCs may access the UPS simultaneously. This is particularly useful for monitoring UPS systems where multi-party notifications are desired.

With the ability to access the UPS from any computer on the network equipped with UPS-CONF software, it may be desirable to restrict certain users to monitoring-only permissions. By entering an administrator-controlled password in the “Optional password security for device writing procedures” field, the local PC will only be able to monitor the UPS – programming becomes password-restricted. This step must be completed on each PC upon which write-access restriction is required.

Multiple UPS systems may be monitored from one PC by assigning a unique IP address to each GW MODBUS TCP/RTU... DB9 and subsequently creating multiple “Ports” in the UPS-CONF software. Select the port for the UPS the user desires to monitor to see relevant status information.