

# Polling UPS input registers

## Polling UPS input registers via Modbus TCP

Application note

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### 1 Description

This document describes polling UPS-IQ data via Modbus<sup>®</sup> TCP using a GW MODBUS TCP/RTU... DB9 gateway. An IFS-RS232-DATACABLE (Order No. 2320490) is required as well as a protocol converter to convert the Modbus 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)



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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".

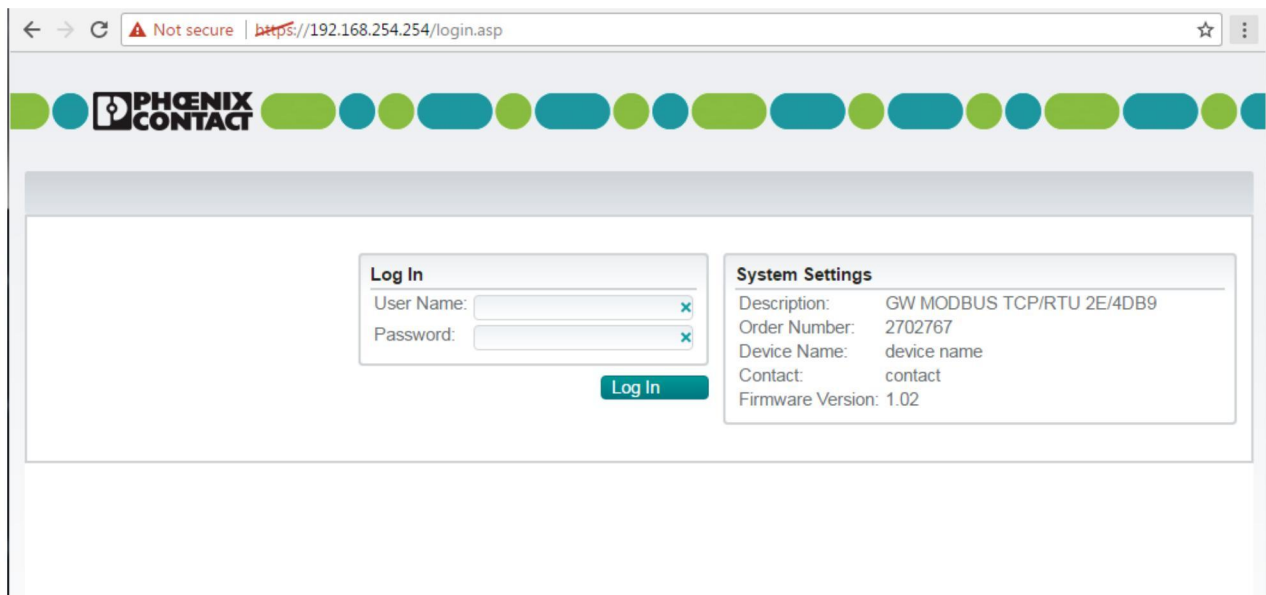


Figure 1 Serial port settings

7. Navigate to the corresponding port configuration under the “Serial Settings” tab and set the appropriate serial settings.

Figure 2 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

- When finished, click the “Apply Changes” button on the bottom right of the page to apply the settings.
- Configure the Modbus device to poll the IP address of the GW MODBUS TCP/RTU... DB9 using port **502** and function code **0x04**.

The Device ID of the UPS is fixed at **192**.

If connecting more than one UPS to a multiport GW MODBUS TCP/RTU... DB9, each UPS must have a unique Device ID.



Use the “Device ID Offset” mode in the GW MODBUS TCP/RTU... DB9 to create unique Device IDs by incrementing or decrementing the Device ID.

Table 3 Sample Modbus registers

Dec Address	Hex Address	Name	Unit	Coding
29696	7400	OUT_LX_Remote	Binary	0 = Enabled 1 = Disabled
29697	7401	OUT_LX_BatteryMode	Binary	0 = Off 1 = On
29698	7402	OUT_LX_ShutdownEvent	Binary	0 = Off 1 = On
29699	7403	OUT_LX_BatteryCharging	Binary	0 = Off 1 = On



The maximum number of simultaneous input registers that may be polled is **32**.

Refer to the IFS-RS232-DATACABLE (Order No. 2320490) data sheet for the complete list of Modbus registers.