

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[®] 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".

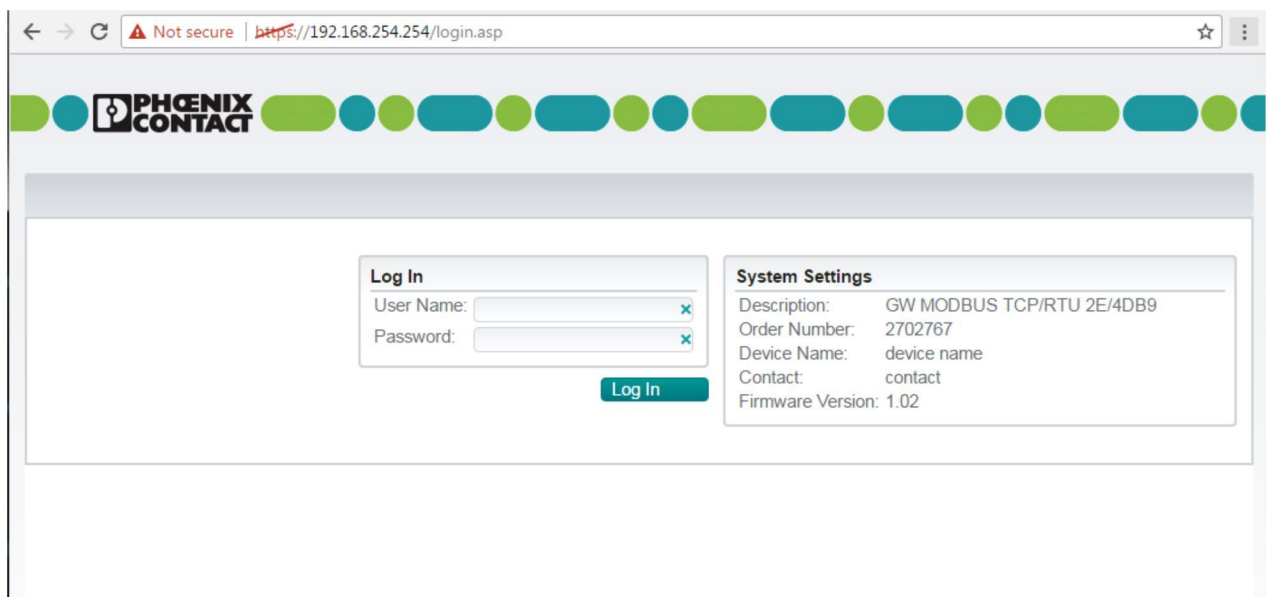


Figure 1 Serial port settings

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

8. When finished, click the “Apply Changes” button on the bottom right of the page to apply the settings.
9. 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.