DATA SHEET

PH485Wx1P

**RS-232/RS-485/RS-422 Serial Port to Wi-Fi, Terminal Server/Client
and Modbus ASCII/RTU to Modbus TCP Gateway**

IPEX
(IP Electronix)

CONTENTS

www.ipelectronix.com

1. INTRODUCTION

IP Electronix **PH485Wx1P** bidirectional communication terminal server/client is a simple solution for connecting serial devices to a Wi-Fi network which results in having 1 RS-232, RS-485 or RS-422 serial port over Wi-Fi network. This converter uses transparent communicate protocol, so it is not required to understand complex Wi-Fi and TCP/IP protocol, and no modification in serial programs is needed. It operates as a Real COM, TCP Server, TCP Client, UDP Server and UDP Client Full-Duplex converter and supports bidirectional connection.

PH485Wx1P also can be used as Modbus ASCII/RTU Gateway

PH485Wx1P is designed for industrial usage and is useful for connecting any device with a serial interface to a computer via Ethernet supported network like LAN, WAN … and can be used in Industrial Automation, Telecommunications, SCADA Systems, DCS Systems ….

Protection against Surge, ESD and EMI is implemented in its design and there is 3kV isolation in serial side.

2. SERIAL INTERFACE (RS-232)

- **Number of Ports:** 1;
- **Serial Standard:** Meets or Exceeds the Requirements of TIA/EIA-232-F and ITU v.28 Standards;
- **RS-232 Signal:** TxD, RxD, GND;
- **Baud-Rates:** 50 to 230400 bps
- **Data Bits:** 5, 6, 7, 8; Selectable;
- **Stop Bits:** 1, 1.5, 2; Selectable;
- **Parity:** Even, Odd, None, Mark and Space; Selectable;
- **Data Buffer:** 2000 Bytes (1k Bytes Transmit, 1k Bytes Receive);
- **Connector:** DB9 Male (DTE);
- **Maximum Communication Distance:** 15m.

3. SERIAL INTERFACE (RS-485)

- **Serial Standard:** EIA RS-485 Standard;
- **RS-485:** Asynchronous Half-Duplex 2-Wire;
- **RS-485 Signal:** Data+, Data-, GND;
- **RS-485 Data Direction Control:** ADDC (Automatic Data Direction Control);
- **Network Topology:** Supports Point-to-Point and Multi-Drop Configuration;
- **Transmission Medium:** Twisted Pair Cable or Shielded Wire;
- **Protocol:** Differential 2-Wire Half-Duplex RS-485;
- **Maximum Communication Distance:** 1200m (4000 feet);
- **Loading:** RS-485 Side Supports up to 32 Nodes;
- **Plug & Play:** Online Module Insertion and Removal;
- **Transient Suppression** on RS-485 Communication Lines;
- **Connector:** Screwed Terminal Block.

4. SERIAL INTERFACE (RS-422)

- **Serial Standard:** EIA RS-422 Standard;
- **RS-422:** Asynchronous Full-Duplex 4-Wire;
- **RS-422 Signal:** TX+, TX-, RX+, RX-, GND;
- **Network Topology:** Supports Point-to-Point and Multi-Drop Configuration;
- **Transmission Medium:** Twisted Pair Cable or Shielded Wire;
- **Protocol:** Differential 4-Wire Full-Duplex RS-422;
- **Maximum Communication Distance:** 1200m (4000 feet);
- **Loading:** RS-422 Side Supports up to 32 Nodes;
- **Plug & Play:** Online Module Insertion and Removal;
- **Transient Suppression** on RS-422 Communication Lines;
- **Connector:** Screwed Terminal Block.

5. Wi-Fi INTERFACE

- **Standard:** IEEE 802.11a/b/g/n
- **Working Mode:** Station, Access Point
- **Antenna Connector:** RP-SMA (Female)
- **Antenna Type:** 2db Omni-Directional (RP-SMA Male)
- **Network Protocols:** ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, ARP, HTTP;
- **Remote Configure:** Web Configuration is supported.
- **Secure data access**: with WEP, WPA, WPA2

6. PROTECTION

- **Isolation Protection:** 3kV Instantaneous, 500V DC Continuous;
- **Surge Protection:** Embedded 1500W Surge Protection;
- **Magnetic Isolation:** 1.5 kV Built-in;
- **ESD Protection:** RS-232/RS-485/RS-422 Bus-Pin ESD Protection Exceeds ±15 kV Using Human-Body Model (HBM).

7. GENERAL SPECIFICATIONS

- Power **(Green)** LED Indicator;
- Wi-Fi **(Green)** LED Indicator;
- TCP Server, TCP Client, UDP **(Green)** LED Indicator;
- Parity Error (PE) **(Red)** LED Indicator;
- Transmit **(Blue)** LED Indicator;
- Receive **(Yellow)** LED Indicator;
- **Guarantee Period:** 1 Year;
- **Warranty Period:** 5 years.

8. POWER SUPPLY

- **Power Supply Input Voltage:** +8V to +48V DC;
- **Power Consumption:** ~ 2W (Max.).

9. PHYSICAL CHARACTERISTICS (THE DEVICE ONLY)

- **Housing:** Plastic;
- **Weight:** 185g;
- **Dimensions:** 26mm x 71.6mm x 122 mm (1.03in x 2.8in x 4.82in).

10. PHYSICAL CHARACTERISTICS (IN THE BOX)

- **Housing:** Carton;
- **Weight:** 430g;
- **Dimensions:** 200mm x 135mm x 65mm (7.87in x 5.31in x 2.56in).

11. ENVIRONMENTAL LIMITS

- **Operating Temperature:** -10°C to +70°C (+14°F to +158°F);
- **Operating Humidity:** 5% to 95% RH;
- **Storage Temperature:** -40°C to +85°C (-40°F to +185°F).