DATA SHEET



PH485Ex1

#1 RS-485/RS-422 Serial Port to Ethernet Terminal Server/Client and Modbus ASCII/RTU to Modbus TCP Gateway

IPEX

(IP Electronix)

7 January 2025

Doc No: PH485Ex1-DS-001

CONTENTS

1. INTRODUCTION 3
2. SERIAL INTERFACE (RS-485) 3
3. SERIAL INTERFACE (RS-422) 4
4. ETHERNET INTERFACE 4
5. PROTECTION 4
6. GENERAL SPECIFICATIONS 4
7. POWER SUPPLY 5
8. PHYSICAL CHARACTERISTICS (THE DEVICE ONLY) 5
9. PHYSICAL CHARACTERISTICS (IN THE BOX) 5
10. ENVIRONMENTAL LIMITS 5

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1. INTRODUCTION

IPEX PH485Ex1 bidirectional communication terminal server/client is a simple solution for connecting serial devices to a network which results in having 1 RS-485 or RS-422 serial port over Ethernet network. This converter uses transparent communicate protocol, so it is not required to understand complex Ethernet 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.

Protection against Surge, ESD and EMI is implemented in its design and it has 3kV isolation between Ethernet and RS-485/RS-422 sides.

PH485Ex1 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 ….

2. 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:** Phoenix Standard Green Terminal Block on RS-485 side.

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3. 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:** Phoenix Standard Green Terminal Block on RS-422 side.

4. Ethernet Interface

- **Number of Ports:** 1
- **Speed:** 10/100 Mbps, auto MDI/MDIX
- **Connector:** 8-pin RJ45 Magnetic, POE is supported.
- **Magnetic Isolation Protection:** 1.5 KV built-in
- **Network Protocols:** ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, ARP, HTTP.
- **Power Over Ethernet (PoE):** Supported.
- **Remote Configure:** Web Configuration is supported.

5. 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 Bus-Pin ESD Protection Exceeds ±15 kV Using Human-Body Model (HBM)

6. GENERAL SPECIFICATIONS

- Power **(Green)** LED Indicator
- PoE **(Green)** LED Indicator
- TCP Server, TCP Client, UDP **(Green)** LED Indicator
- Parity Error (PE) **(Red)** LED Indicator
- Transmit **(Blue)** LED Indicator

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- Receive **(Yellow)** LED Indicator
- **Guarantee Period:** 1 Year
- **Warranty Period:** 5 years

7. POWER SUPPLY

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

8. 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)

9. PHYSICAL CHARACTERISTICS (IN THE BOX)

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

10. 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)

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