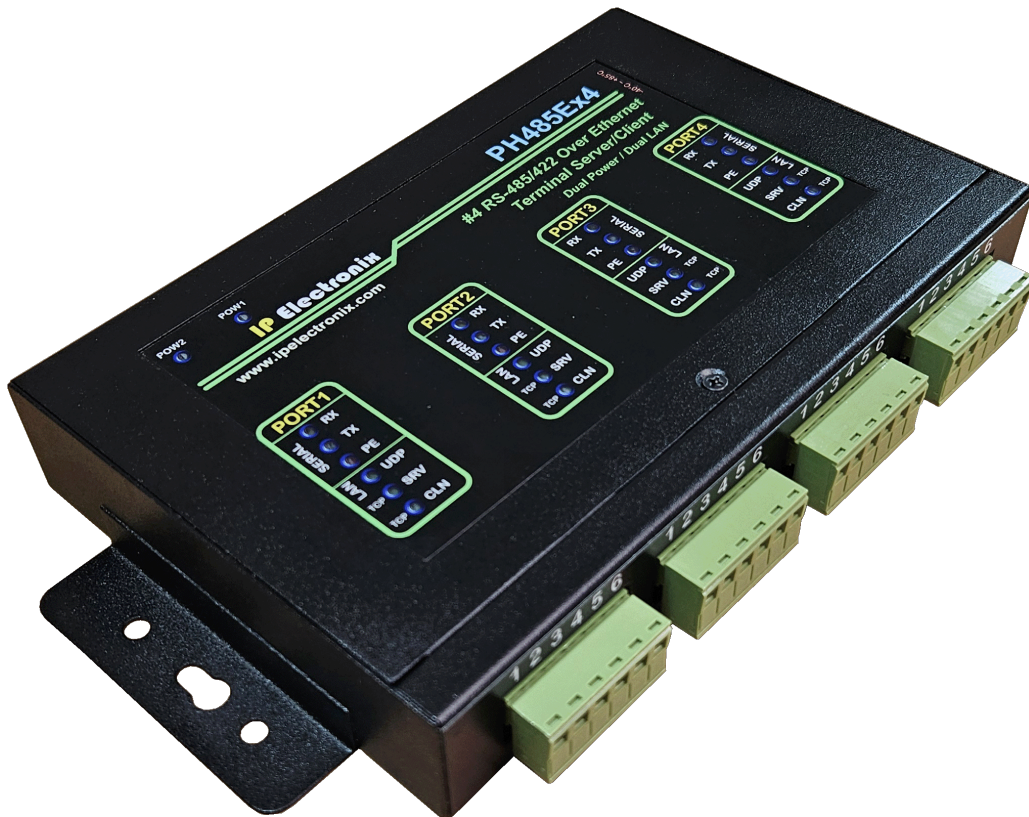


# DATA SHEET



## PH485Ex4

#4 RS-485/422 SERIAL PORT OVER ETHERNET, TERMINAL SERVER/CLIENT  
& Modbus ASCII/RTU Gateway

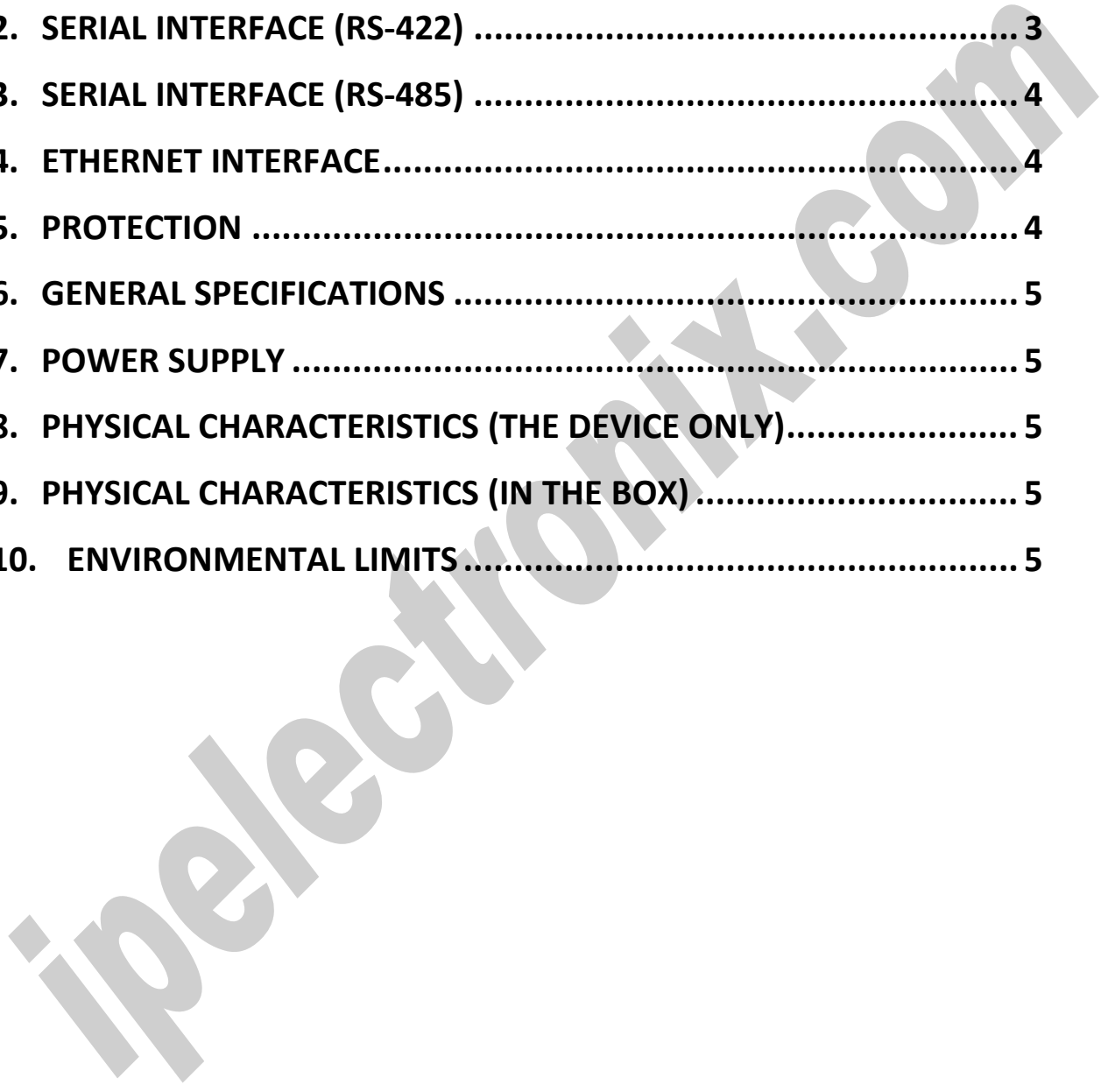
**IPEX**

**(IP Electronix)**

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## 1. INTRODUCTION

**IPEX PH485Ex4** bidirectional communication terminal server/client is a simple solution for connecting serial devices to a network which results in having #4 RS-485 or RS-422 serial ports over Ethernet network. This converter uses transparent communication, 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. Furthermore, all the RS-485/RS-422 ports are insulated from each other too.

**PH485Ex4** 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-422)

- **Serial Standard:** EIA RS-422 Standard;
- **RS-422:** Asynchronous Full-Duplex 4-Wire;
- **RS-422 Signal:** Tx+, Tx-, Rx+, Rx-, GND;
- **Baud Rates:** 1200 to 230400 bps and Custom Baud Rate is Selectable;
- **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 Per Port (1k Bytes Transmit, 1k Bytes Receive);
- Supports **Point-to-Point** and **Multidrop** 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 Support up to 32 Nodes;
- **Plug & Play:** Online Module Insertion and Removal;
- **Transient Suppression** on RS-422 Communication Lines;
- **Connector:** Screwed Terminal.

### 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);
- **Baud Rates:** 1200 to 230400 bps and Custom Baud Rate is Selectable;
- **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 Per Port (1k Bytes Transmit, 1k Bytes Receive);
- Supports **Point-to-Point** and **Multidrop** 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 Support up to 32 Nodes;
- **Plug & Play:** Online Module Insertion and Removal;
- **Transient Suppression** on RS-485 Communication Lines;
- **Connector:** Screwed Terminal.

### 4. Ethernet Interface

- **Number of Ports:** 2;
- **Speed:** 10/100 Mbps, auto MDI/MDIX;
- **Connector:** 8-pin RJ45 Magnetic;
- **Magnetic Isolation Protection:** 1.5 KV built-in;
- **Network Protocols:** ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, ARP, HTTP;
- **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  $\pm 15$  kV Using Human-Body Model (HBM).

## 6. GENERAL SPECIFICATIONS

- Power (**Green**) LED Indicator;
- Transmit (**Blue**) LED Indicator;
- 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:** ~ 2.4W (Max.).

## 8. PHYSICAL CHARACTERISTICS (THE DEVICE ONLY)

- **Housing:** Metal;
- **Weight:** 507g;
- **Dimensions:** 218mm x 122mm x 30mm (8.58in x 4.80in x 1.18 in).

## 9. PHYSICAL CHARACTERISTICS (IN THE BOX)

- **Housing:** Carton;
- **Weight:** 840g;
- **Dimensions:** 220mm x 160mm x 80mm (8.66in x 6.30in x 6.08in).

## 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).