

# DATA SHEET



## PH232T485Y12

RS-232 to #2 RS-485/RS-422 ISOLATED HUB

**IPEX**

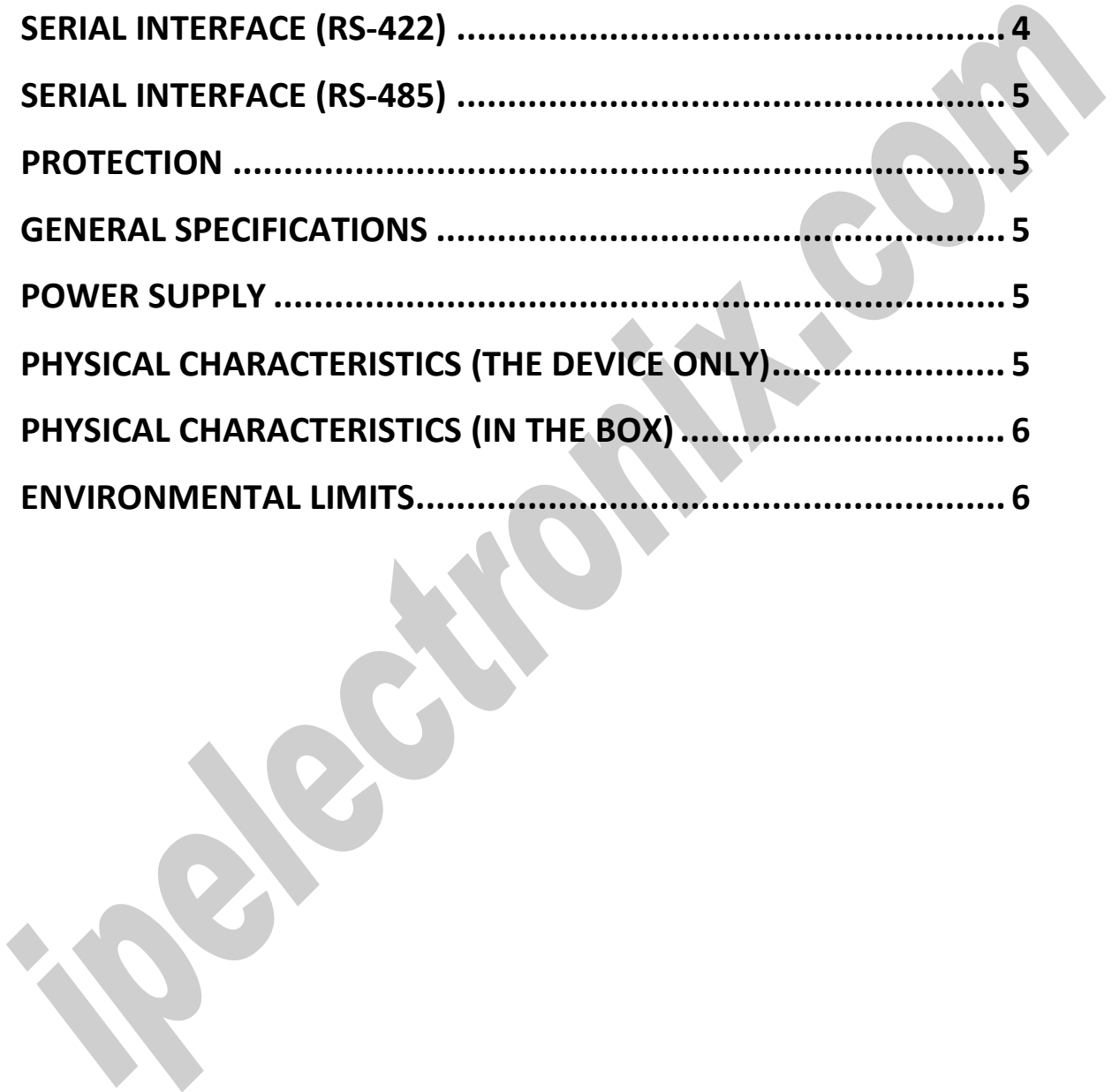
**(IP Electronics)**

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## 1. INTRODUCTION

**IPEX PH232T485Y12** is a Bi-Directional RS-232 to 4 RS-485/RS-422 HUB that provides #2 RS-485/RS-422 ports from one single RS-232 port that converts Rx/D & Tx/D signals of RS-232 standard to differential (Data+ & Data-) signals of RS-485 standard and (RX+, RX- & TX+, TX-) signals of RS-422 standard at a same time. It works with Baud-Rate from 300bps to 230400bps. Using this device, you can connect a RS-232 line, to 2 different devices which have RS-485 or RS-422 ports.

Since RS-485 is a Half-Duplex standard, switching between Transmit and Receive is done automatically and further signals (such as RTS) are not required. **PH232T485Y12** supports Point-to-Point and Point-to-Multi Point Party Line network topologies.

There are 3kV Optical and Electrical insulations have between RS-232/TTL UART and RS-485/422 sides, thus using this device in the RS-485/RS-422 line, can be very effective in eliminating electrically and electromagnetically noises.

Protection against Surge, ESD and EMI is considered in its design, so, **PH232T485Y12** is good for industrial usage and is useful for Industrial Automation, Telecommunications, SCADA Systems, DCS Systems and ...

## 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;
- 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:** DB9 Male.

### 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);
- 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:** DB9 Male.

### 4. PROTECTION

- **Isolation Protection:** 3kV Instantaneous, 500V DC Continuous;
- **Surge Protection:** Embedded 1500W Surge Protection;
- **Magnetic Isolation:** 1.5 kV Built-in;
- **ESD Protection:** 15 kV Built-in.

### 5. GENERAL SPECIFICATIONS

- Power (**Green**) LED Indicator;
- Transmit (**Blue**) LED Indicator;
- Receive (**Yellow**) LED Indicator;
- **Guarantee Period:** 1 Year;
- **Warranty Period:** 5 years.

### 6. POWER SUPPLY

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

### 7. PHYSICAL CHARACTERISTICS (THE DEVICE ONLY)

- **Housing:** Metal;
- **Weight:** 350g;

- **Dimensions:** 145mm x 118mm x 27mm (5.70in x 4.65in x 1.06in).

## 8. PHYSICAL CHARACTERISTICS (IN THE BOX)

- **Housing:** Carton;
- **Weight:** 630g;
- **Dimensions:** 200mm x 135mm x 65mm (7.87in x 5.31in x 2.56in).

## 9. 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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