

# DATA SHEET



## PH485Ux1

RS-485/RS-422 ISOLATED USB ADAPTER

**IPEX**

**(IP Electronix)**

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## 1. INTRODUCTION

**IPEX PH485Ux12** is a USB Adapter that provides a Serial COM Port via its USB connection and is compatible with RS-485 standard devices differential (Data+ & Data-); and RS-422 standard devices differential (TX+, TX- & RX+, RX-) signals. **PH485Ux1** is fully Plug & Play and enables your laptop or workstation with the ability to communicate between a USB port and a RS-485/422 serial peripheral with baud-rate from 300bps to 230400bps.

**PH485Ux1** supports Point-to-Point and Point-to-Multi Point Party Line network topologies. Since RS-485 is a Half-Duplex standard, switching between Transmit and Receive is done automatically and no further signal (such as RTS) is required.

Any external power supply is not required, as **PH485Ux1** takes its power from the USB Bus.

Protection against Surge, ESD and EMI is considered in its design and also has 3kV insulation between USB and RS-485/422 sides.

**PH485Ux1** is designed for industrial usage and is useful for Industrial Automation, Telecommunications, SCADA Systems and DCS Systems ...

**PH485Ux1** comes complete with drivers for Microsoft Windows. Drivers are also available for Linux, Mac OS and Android.

## 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);
- 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:** Phoenix Standard Green Terminal Block on RS-485 side.

### 3. SERIAL INTERFACE (RS-422)

- **Serial Standard:** EIA RS-485, 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 Support 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. USB

- **Compatibility:** USB 1.0, 1.1 and 2.0 Standard Compatible;
- **Speed:** Hi-speed USB 2.0 Supported (up to 480 Mbps);
- **Additional I/O or IRQ:** Not Required;
- **Driver Supported:** Microsoft Windows, Linux, Mac OS and Android (32 & 64 Bits) Operating Systems;
- **Cable:** USB Type A Connector (Type A to Type B cable provided) ;
- **USB Cable Length:** 1.5m;
- **Connector:** USB type B.

### 5. 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.

## 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:** USB Bus Powered, No External Power Supply Needed;
- **Power Consumption:** ~ 0.5W (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:** -40°C to +85°C (+40°F to +185°F);
- **Operating Humidity:** 5% to 95% RH;
- **Storage Temperature:** -40°C to +85°C (-40°F to +185°F).