

# DATA SHEET



# PH485Y11

RS-485/RS-422 REPEATER & ISOLATOR & AMPLIFIER

**IPEX**

**(IP Electronix)**

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## 1. INTRODUCTION

**IPEX PH485Y11** is a RS-485 and RS-422 Repeater and Isolator. If it is needed to have RS-485/RS-422 network with length more than 1200m or to have more than 32 nodes, using a **PH485Y11** helps you to increase the network length up to 2400m and also to have up to 64 devices connected to it.

**PH485Y11** is compatible with RS-485 standard devices differential Data+ & Data- signals and is fully Plug & Play. It works with a wide range of +8V up to +48V DC power supply with low (about 1W) consumption.

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. **PH485Y11** supports Point-to-Point and Point-to-Multi Point Party Line network topologies.

Protection against Surge, ESD and EMI is considered in its design and also has 3kV insulation between RS-485/RS-422 sides, so **PH485Y11** is good for industrial usage and is useful for Industrial Automation, Telecommunications, SCADA Systems, and 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);
- **Serial Transmission Speed** Up to 921600 bps;
- **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:** 2400m (8000 feet) – 1200m for each side;
- **Loading:** Supported up to 64 Nodes - 32 Nodes for each side;
- **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-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;
- **Serial Transmission Speed** Up to 921600 bps;
- **Protocol:** Differential 4-wire Full-Duplex RS-422;
- **Maximum Communication Distance:** 2400m (8000 feet) – 1200m for each side;
- **Loading:** Supported up to 64 Nodes – 32 Nodes for each side;
- **Plug & Play:** Online Module Insertion and Removal;
- **Transient Suppression** on RS-422 Communication Lines;
- **Connector:** Phoenix Standard Green Terminal Block on each RS-422 side.

### 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 to +48V DC;
- **Power Consumption:** ~ 1W (Max.).

## 7. 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).

## 8. PHYSICAL CHARACTERISTICS (IN THE BOX)

- **Housing:** Carton;
- **Weight:** 430g;
- **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).