

DATA SHEET



PH232T485Y11

RS-232/TTL UART to RS-485/422 ISOLATED CONVERTER

IPEX

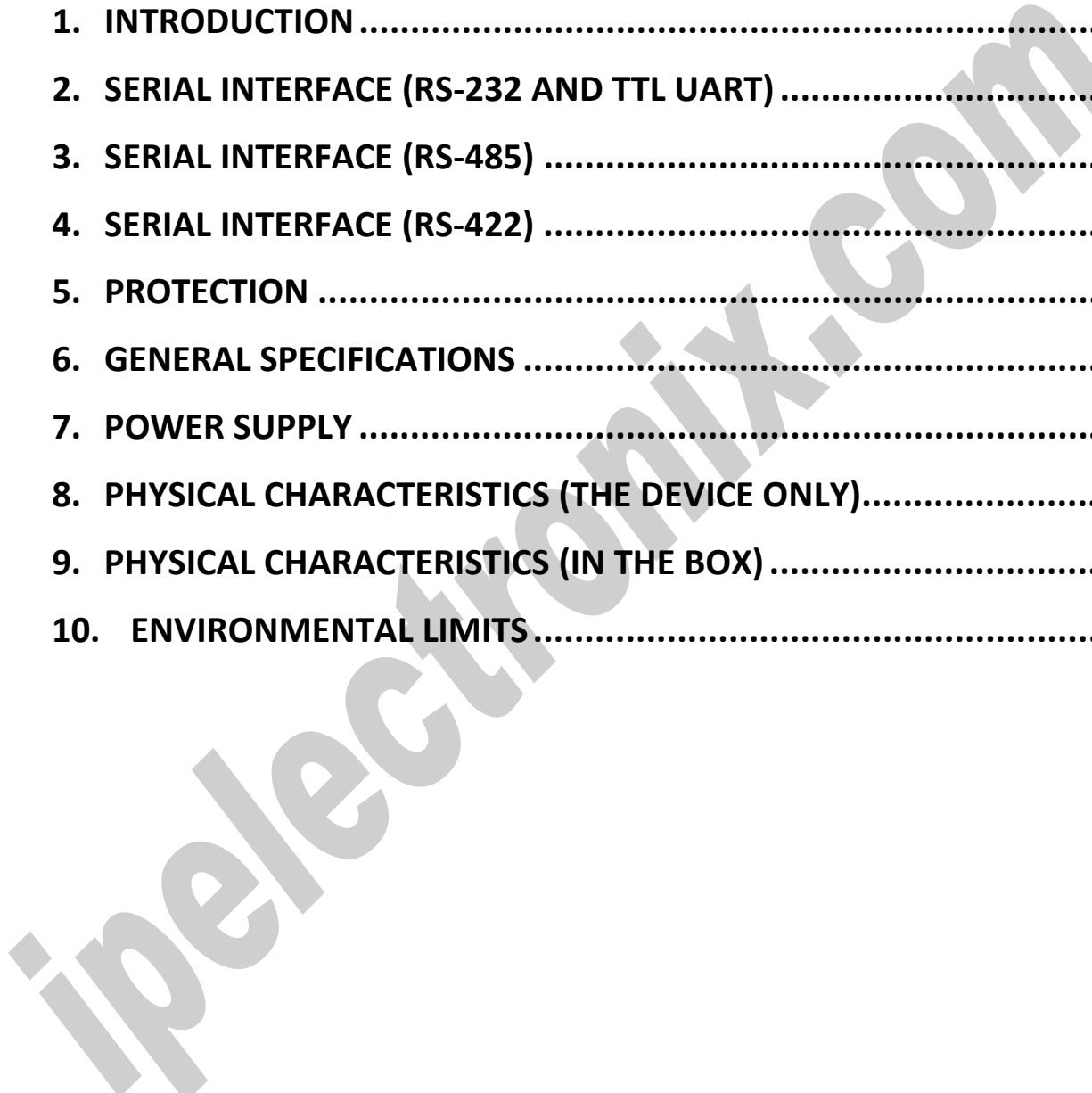
(IP Electronics)

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CONTENTS

1. INTRODUCTION	4
2. SERIAL INTERFACE (RS-232 AND TTL UART)	4
3. SERIAL INTERFACE (RS-485)	4
4. SERIAL INTERFACE (RS-422)	5
5. PROTECTION	5
6. GENERAL SPECIFICATIONS	5
7. POWER SUPPLY	6
8. PHYSICAL CHARACTERISTICS (THE DEVICE ONLY).....	6
9. PHYSICAL CHARACTERISTICS (IN THE BOX).....	6
10. ENVIRONMENTAL LIMITS	6



1. INTRODUCTION

IPEX PH232T485Y11 is a Bi-Directional RS-232/TTL UART to RS-485 and RS-422 Converter that converts RxD & TxD 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

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. **PH232T485Y11** supports Point-to-Point and Point-to-Multi Point Party Line network topologies.

There are 3kV Optical and Electrical isolations 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, **PH232T485Y11** is good for industrial usage and is useful for Industrial Automation, Telecommunications, SCADA Systems, DCS Systems and ...

2. SERIAL INTERFACE (RS-232 and TTL UART)

- **Serial Standard:** EIA RS-232 Standard
- **RS-232 Signal (Full Handshake Support):** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND;
- **TTL UART:** Supports TTL TxD, RxD signals, useful to directly connect to a Microcontroller;
- **Baud Rate Type:** Auto Switching Baud Rate;
- **Baud Rates:** 1200 to 921600 bps;
- **Data Bits:** 7, 8;
- **Stop Bits:** 1, 1.5, 2;
- **Parity:** None, Even, Odd, Space, Mark;
- **Flow Control:** RTS/CTS, XON/XOFF;
- **Connector:** DB9 Female (DCE) for RS-232 and 3 Pin Terminal Connector for TTL UART;
- **Maximum Communication Distance:** 15m;
- **Flow Control:** RTS/CTS, XON/XOFF.

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);
- **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:** 5.08mm Standard Green Terminal Block on RS-485 side.

4. 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:** 5.08mm Standard Green Terminal Block on RS-422 side.

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:** +9VDC to +48VDC;
- **Power Consumption:** ~ 1.8W (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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