

# USER'S MANUAL



## PH232Y12

#1 to #2 RS-232 ISOLATED HUB (REPEATER & ISOLATOR and Y-Switch)

**IPEX**

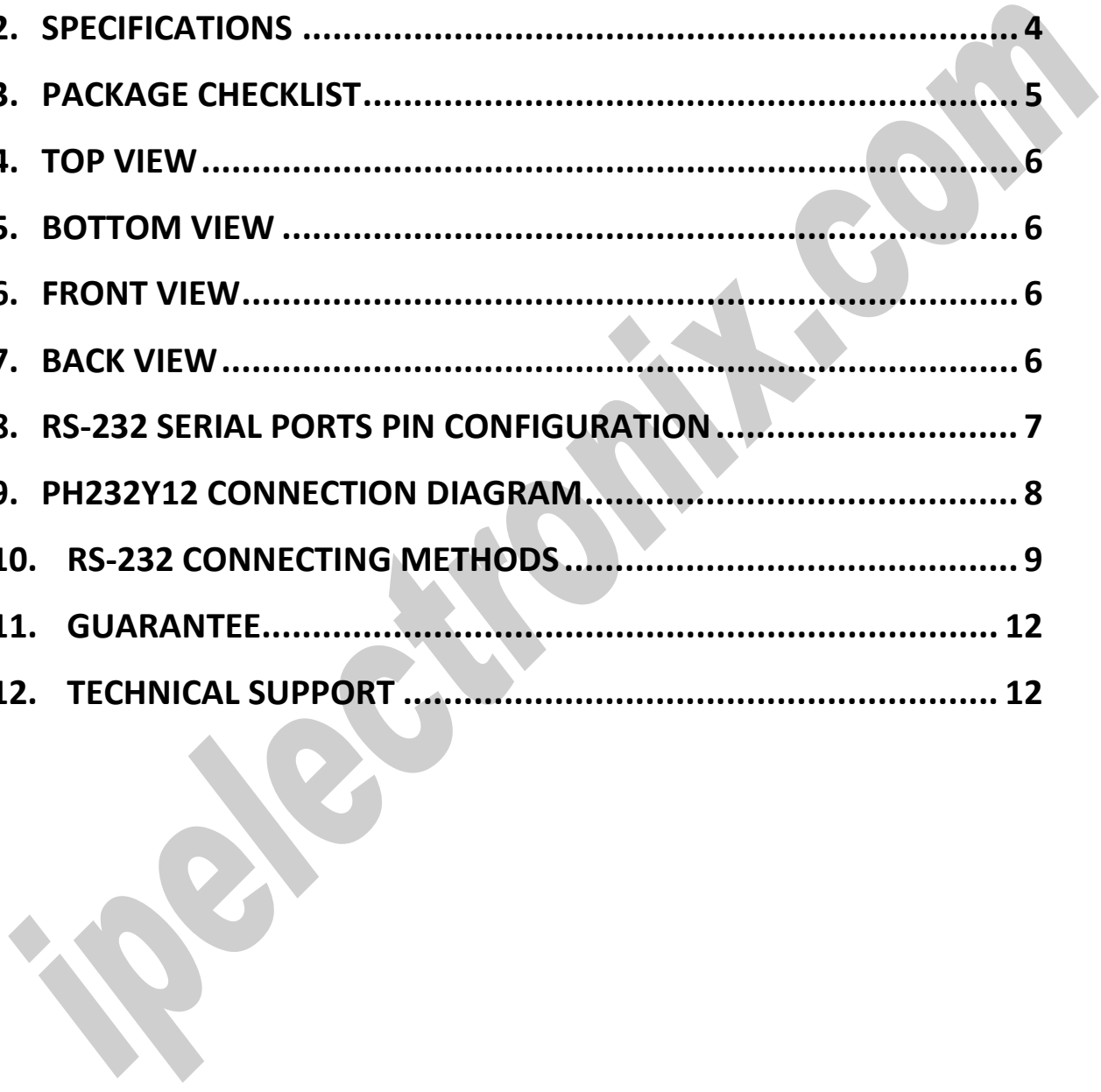
**(IP Electronix)**

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## 1. INTRODUCTION

**IPEX PH232Y12** is a 1 to 2 RS-232 HUB that provides #2 RS-232 (Full Duplex) ports from one single RS-232 port. It works with Baud-Rate from 300bps to 230400bps. Using this device, you can connect a RS-232 line, to 2 different devices.

**PH232Y12** can also be used as a RS-232 Repeater, Amplifier and Y-Switch. All communications are Full-Duplex. In addition, 3kV Optical and Electrical insulations have been used in the design of this device, this means all the ports are insulated from each other, so using this device in the RS-232 line, can be very effective in eliminating electrically and electromagnetically noises. Also, the length of the RS-232 line increases from 15m to 30m (15m on each side).

Protection against Surge, ESD and EMI is considered in its design, so, **PH232Y12** is good for industrial usage and are useful for Industrial Automation, Telecommunications, SCADA systems, DCS systems...

## 2. SPECIFICATIONS

- **RS-232 Repeater**, HUB, Isolator and Amplifier;
- **Number of Ports**: #1 RS-232 to #2 RS-232 Bi-Directional HUB;
- **Serial Standard**: Meets or Exceeds the Requirements of TIA/EIA-232-F and ITU v.28 Standards;
- **RS-232 Signal**: TxD, RxD, GND;
- **RS-232 Parity**: Even, Odd, None, Mark and Space;
- Fully **Plug & Play**;
- **Wide Range Power Supply**: +8V to +48V DC;
- **Serial Transmission Speed** up to 230.4 kbps;
- **Power (Green)** LED Indicator;
- **Transmit (Blue)** and **Receive (Yellow)** LED Indicator;
- **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);
- **Dimensions**: 145mm x 118mm x 27mm (5.70in x 4.65in x 1.06in);
- **Operating Temperature**:  $-10^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$  to  $+158^{\circ}\text{F}$ );
- **1 Year Guarantee** and **5 Years Support**.

### 3. PACKAGE CHECKLIST

Before installing the PH232Y12, verify that the package contains the following items:



1) #1 PH232Y12



2) #1 RS-232 Male to Female Cable



3) #1 Document and Driver CD-ROM



4) #2 DB9 Female Connector



5) #1 220V AC to 12V DC Adaptor



6) #2 Din Rail Brackets with the corresponding screws

NOTE: Notify your sales representative if any of the above items is missing or damaged.

**4. TOP VIEW**



**5. BOTTOM VIEW**



**6. FRONT VIEW**

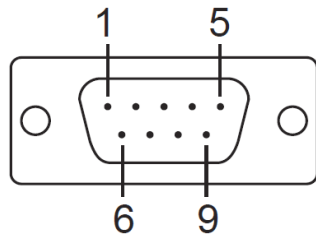


**7. BACK VIEW**



**8. RS-232 SERIAL PORTS PIN CONFIGURATION**

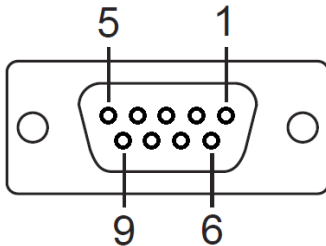
**DB9 Male  
DTE**



| PIN | NAME | TYPE   |
|-----|------|--------|
| 1   | DCD  | INPUT  |
| 2   | RxD  | INPUT  |
| 3   | TxD  | OUTPUT |
| 4   | DTR  | OUTPUT |
| 5   | GND  | GROUND |
| 6   | DSR  | INPUT  |
| 7   | RTS  | OUTPUT |
| 8   | CTS  | INPUT  |
| 9   | RI   | INPUT  |

Data Terminal Equipment (DTE)

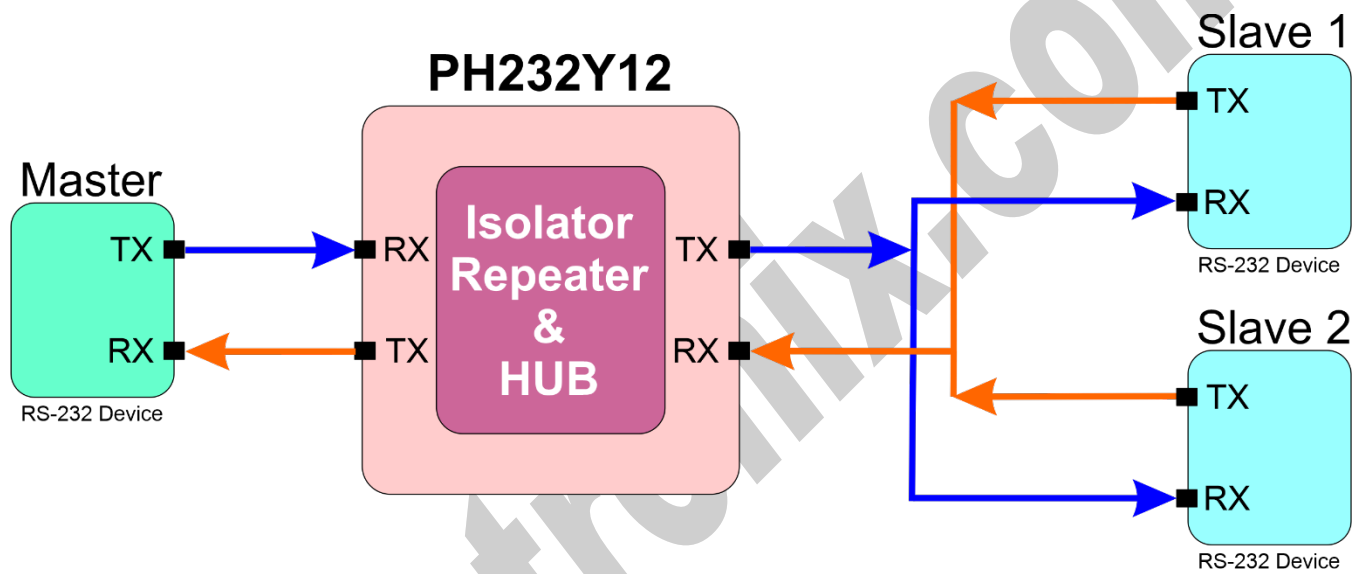
**DB9 Female  
DCE**



| PIN | NAME | TYPE   |
|-----|------|--------|
| 1   | DCD  | OUTPUT |
| 2   | RxD  | OUTPUT |
| 3   | TxD  | INPUT  |
| 4   | DTR  | INPUT  |
| 5   | GND  | GROUND |
| 6   | DSR  | OUTPUT |
| 7   | RTS  | INPUT  |
| 8   | CTS  | OUTPUT |
| 9   | RI   | OUTPUT |

Data Communication Equipment (DCE)

**9. PH232Y12 CONNECTION DIAGRAM**

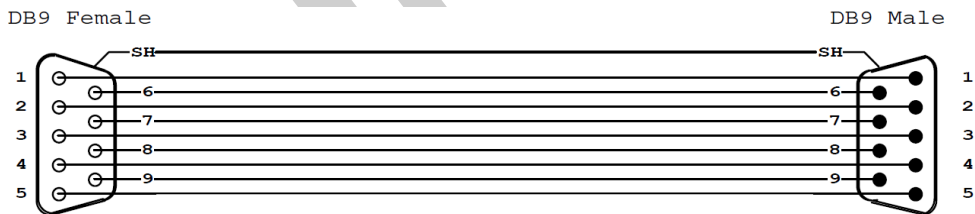




**10. RS-232 CONNECTING METHODS**

**- Modem Connection (to a Modem, any DCE devices)**

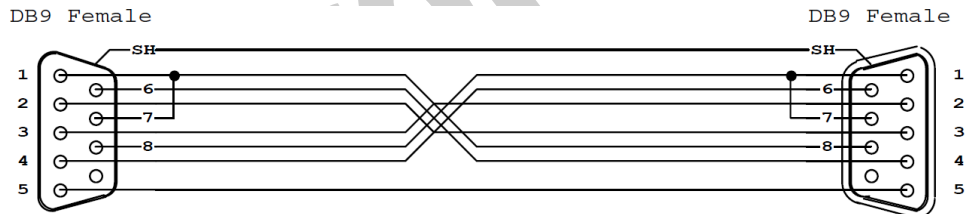
| DTE<br>DB9-Male Pin Number |          | Modem or other DCE devices<br>DB9-Female Pin Number |          |
|----------------------------|----------|---|----------|
| Pin 1: DCD                 | (Input)  | Pin 1: DCD  | (Output) |
| Pin 2: RxD                 | (Input)  | Pin 2: RxD  | (Output) |
| Pin 3: TxD                 | (Output) | Pin 3: TxD  | (Input)  |
| Pin 4: DTR                 | (Output) | Pin 4: DTR  | (Input)  |
| Pin 5: GND                 | (Ground) | Pin 5: GND  | (Ground) |
| Pin 6: DSR                 | (Input)  | Pin 6: DSR  | (Output) |
| Pin 7: RTS                 | (Output) | Pin 7: RTS  | (Input)  |
| Pin 8: CTS                 | (Input)  | Pin 8: CTS  | (Output) |
| Pin 9: RI                  | (Input)  | Pin 9: RI   | (Output) |



**(Modem Cable)**

- **Null Modem Connection (to PC, PLC, RTU or any other DTE devices)**

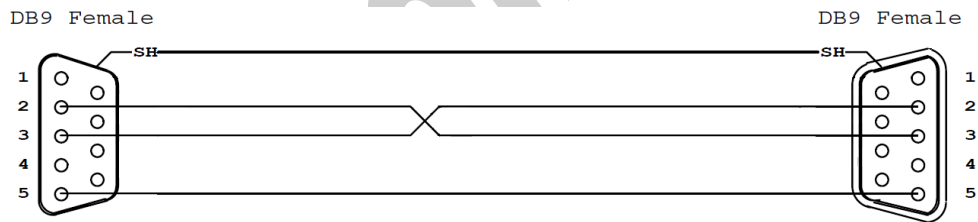
| DTE<br>DB9-Male Pin Number |          | PC,PLC or other DTE devices<br>DB9-Male Pin Number |          |
|----------------------------|----------|--|----------|
| Pin 1: DCD                 | (Input)  | Pin 7: RTS   | (Output) |
| Pin 2: RxD                 | (Input)  | Pin 3: TxD   | (Output) |
| Pin 3: TxD                 | (Output) | Pin 2: RxD   | (Input)  |
| Pin 4: DTR                 | (Output) | Pin 6: DSR   | (Input)  |
| Pin 5: GND                 | (Ground) | Pin 5: GND   | (Ground) |
| Pin 6: DSR                 | (Input)  | Pin 4: DTR   | (Output) |
| Pin 7: RTS                 | (Output) | Pin 8: CTS   | (Input)  |
| Pin 8: CTS                 | (Input)  | Pin 7: RTS   | (Output) |
| Pin 7: RTS                 | (Output) | Pin 1: DCD   | (Input)  |



**(Null Modem Cable)**

- **Simple Null Modem Connection (to PC, PLC... Without Hardware Flow control)**

| DTE<br>DB9-Male Pin Number |          | PC, PLC or other DTE devices<br>DB9-Male Pin Number |          |
|----------------------------|----------|---|----------|
| Pin 2: RxD                 | (Input)  | Pin 3: TxD  | (Output) |
| Pin 3: TxD                 | (Output) | Pin 2: RxD  | (Input)  |
| Pin 5: GND                 | (Ground) | Pin 5: GND  | (Ground) |
|                            |          |   |          |
|                            |          |   |          |
|                            |          |   |          |
|                            |          |   |          |



**(Simple Null Modem Cable (Without Hardware Handshaking))**

## 11. GUARANTEE

All products manufactured by **IPEX** are under warranty regarding defective materials for a period of one year from the date of delivery to the original purchaser.

## 12. TECHNICAL SUPPORT

If you have any technical question or need any technical support, please contact us using this Email address: [support@ipelectronix.com](mailto:support@ipelectronix.com).

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