DTECH

IOT5096I USB to RS232 6kV Opto-Isolated Serial Cable

Scan QR Code to Download Product Driver

I. Product Description

This product is a general-purpose USB2.0 to RS232 signal isolation conversion cable, complying with USB2.0 and RS232 TIA/EIA standards, which converts single-ended USB signals into standard RS232 signals. Designed as a high-performance serial conversion cable for harsh field environments, it adopts full-signal optoelectronic isolation technology with an isolation voltage up to 6000Vrms, completely blocking ground loop currents and surge interference to protect equipment and data security.

Widely applied in industrial automation, power systems, medical equipment, security monitoring, vehicle/marine systems, laboratory instruments, building control systems, etc.

II. Product Parameters

1.Compliant with USB2.0, RS232 and EIA/TIA RS232 standards; supports hot-plugging.

2.Baud rate: 300bps~921600bps (auto-adaptable).

3.Supports MODEM handshake signals: DCD, RXD, TXD, DTR, GND, DSR, RTS, CTS, RI.

4.Data bits: 7, 8; Stop bits: 1, 2; Parity bits: Even, Odd, None, Mark, Space.

5.Transceiver buffer: 768-byte receiving buffer, 256-byte transmitting buffer.

6.ESD protection: ±8KV contact discharge per IEC61000-4-2;
±15KV air discharge per IEC61000-4-2.

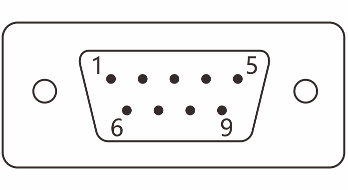
7.Isolation voltage protection: 6000Vrms.

8.Supported systems: Windows XP/7/8/10/11, Mac, Linux (driver-free for kernel 4.5 and above), Android.

9.Operating environment: -40℃~70℃, relative humidity 5%~95%.

10.Cable material: Double-shielded with braided mesh and aluminum foil for strong anti-interference performance; twisted-pair USB data cable ensures more stable signal transmission.

III. Interface Description



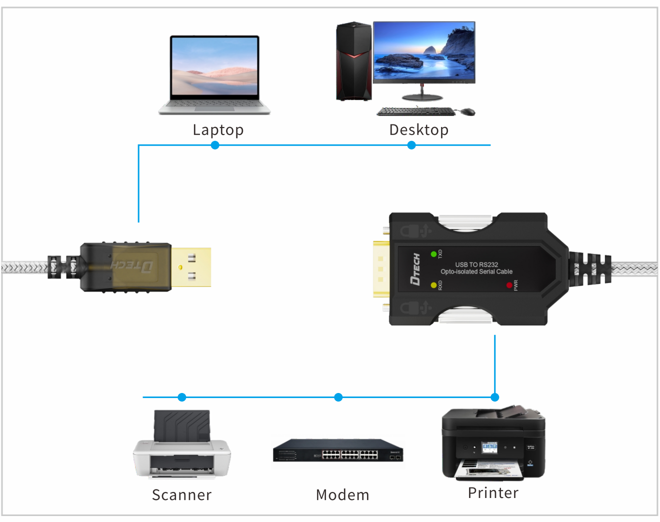
DB9 Male Pin Definition

DB9 needle	Output signal	Signal description
1	DCD	Carrier detection
2	RXD	Receive data from external devices
3	TXD	Send computer data to external devices
4	DTR	The data terminal is ready. When this pin is high, it notifies the modem that data transmission is possible.
5	GND	Signal ground, used for grounding
6	DSR	Data device is ready. When this pin is high, it notifies the computer that the modem is ready for data communication.
7	RTS	Request to send, controlled by the computer, to notify the modem to immediately send data to the computer
8	CTS	Clear to send, controlled by themodem, to notify the computer to send the data to the modem
9	RI	Ringing reminder, modem notification The computer has an incoming call

Indicator Light Description

Indicator Signal	Function Description	Indicator Description
PWR	Power Indicator	The indicator stays steadily on when the USB end of the product is connected to a computer.
RXD	Data Reception	The indicator lamp flashes when the device receives incoming data.
TXD	Data transmission	The indicator flashes when the device transmits data.

IV. Product Connection Schematic Diagram



V. Product Application Scenarios

Industrial sites feature strong high-frequency harmonic interference from motors, contactors and frequency converters. Ordinary serial cables are prone to garbled data, disconnection and connection failures. This cable adopts optoelectrical isolation to cut off ground potential difference and circulating current, preventing damage to computer USB ports and device serial ports. With 6kV high-voltage lightning and surge protection, it resists static electricity in workshops and instantaneous high-voltage pulses from power grids. Stable communication without packet loss is achieved even under mixed strong-weak power wiring and long-distance wiring, enabling safer, more stable and more durable on-site debugging.

VI. Product Accessories

1.1 × Product Unit

VII. Troubleshooting

1.Communication Failure

A. Check whether the USB connection is correct.

B. Check whether the RS232 connection is correct.

C. Check if USB power supply is normal.

D. Check whether the receive indicator flashes during data reception.

E. Check whether the transmit indicator flashes during data transmission.

2.Data Loss or Errors

A. Verify that the baud rate and data format are consistent on both ends of the communication devices.

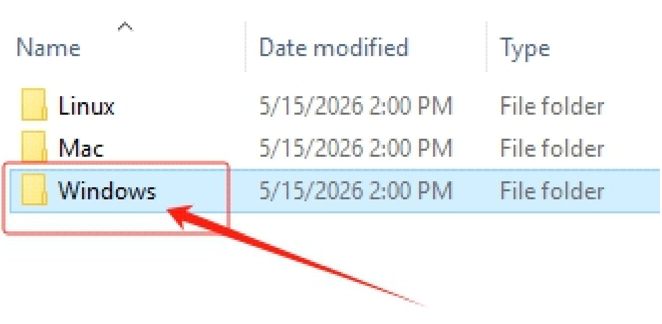
3.Question mark or exclamation mark appears next to serial port (COMX)

A. This indicates the driver is not installed correctly. Delete the device and reinstall the driver.

VIII. Product Driver Installation Guide

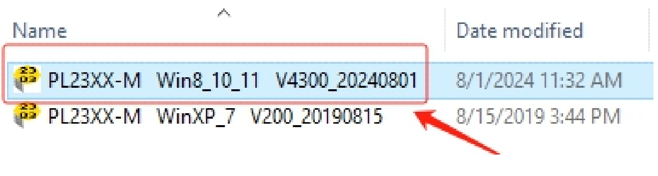
Take Windows 10 64-bit operating system as an example

Step 1: Open the driver folder and select the "windows" folder



```
Name        Date modified         Type
Linux       5/15/2026 2:00 PM     File folder
Mac         5/15/2026 2:00 PM     File folder
Windows     5/15/2026 2:00 PM     File folder
```

Step 2: Select the corresponding system version, then double-click the installation package to start installation.



```
Name                                    Date modified
PL23XX-M_Win8_10_11_V4300_20240801      8/1/2024 11:32 AM
PL23XX-M_WinXP_7_V200_20190815          8/15/2019 3:44 PM
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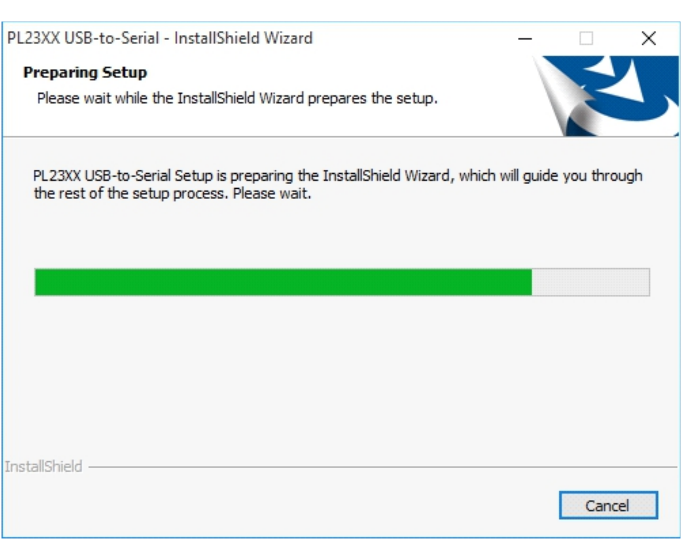


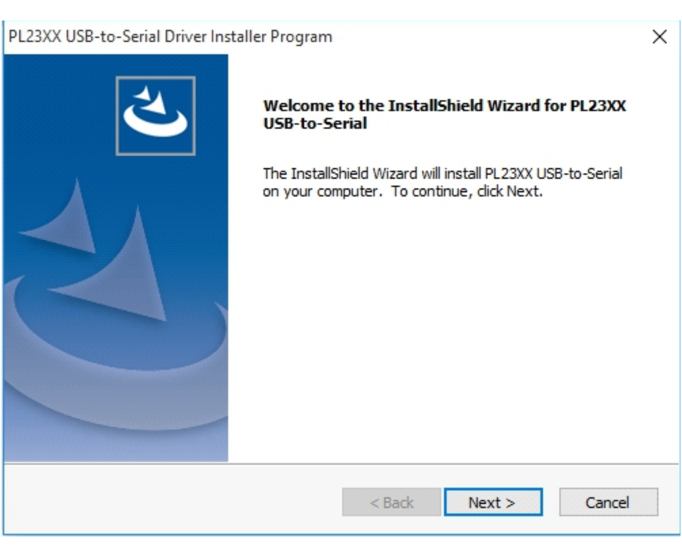
PL23XX USB-to-Serial - InstallShield Wizard

Preparing Setup

Please wait while the InstallShield Wizard prepares the setup.

PL23XX USB-to-Serial Setup is preparing the InstallShield Wizard, which will guide you through the rest of the setup process. Please wait.

Step 3: Click "Next>" to proceed to the next step.

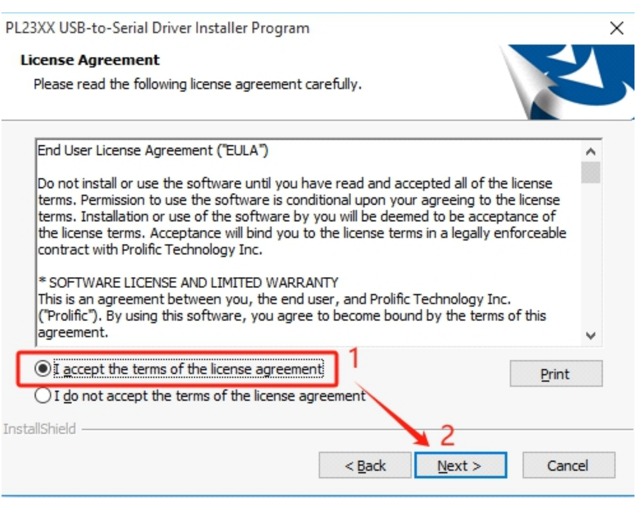


PL23XX USB-to-Serial Driver Installer Program

Welcome to the InstallShield Wizard for PL23XX USB-to-Serial

The InstallShield Wizard will install PL23XX USB-to-Serial on your computer. To continue, click Next.

Step 4: Check "I accept the terms of the license agreement", then click "Next>" to proceed.



PL23XX USB-to-Serial Driver Installer Program

License Agreement

Please read the following license agreement carefully.

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Do not install or use the software until you have read and accepted all of the license terms. Permission to use the software is conditional upon your agreeing to the license terms. Installation or use of the software by you will be deemed to be acceptance of the license terms. Acceptance will bind you to the license terms in a legally enforceable contract with Prolific Technology Inc.

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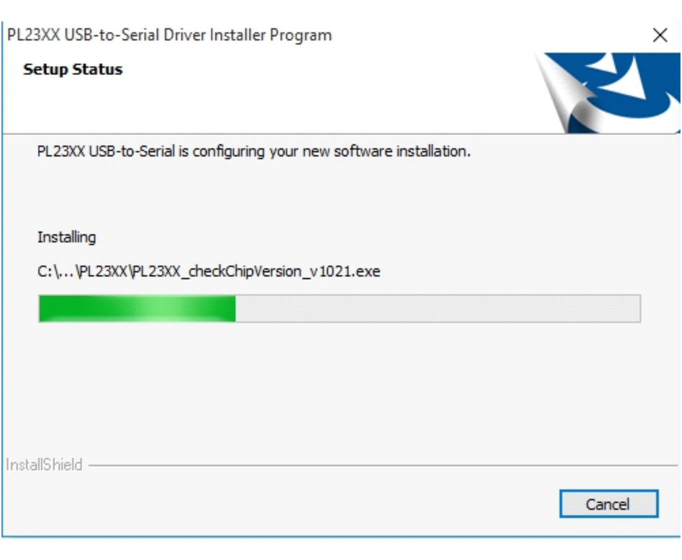
● I accept the terms of the license agreement

○ I do not accept the terms of the license agreement

Step 5: After the installation progress is completed, click "Finish" to complete the installation.



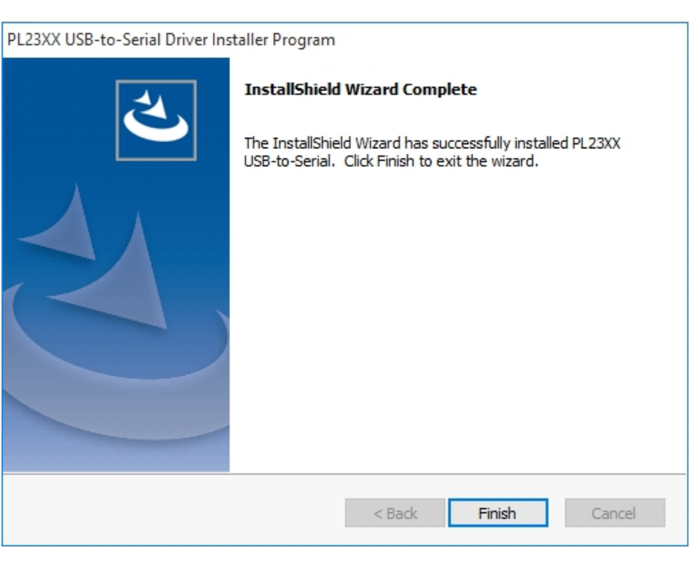
PL23XX USB-to-Serial Driver Installer Program

Setup Status

PL23XX USB-to-Serial is configuring your new software installation.

Installing

C:\...\PL23XX\PL23XX_checkChipVersion_v1021.exe



PL23XX USB-to-Serial Driver Installer Program

InstallShield Wizard Complete

The InstallShield Wizard has successfully installed PL23XX USB-to-Serial. Click Finish to exit the wizard.

Product Warranty Card

Customer Information

Model:	
Date of purchasel:	
User telephone:	
User address:	
Distributor:	
Agency address:	
User telephone:	Dealer stamp valid

Intenance Records

Repair times	Date	Fault	Treatment measures	Repair work NO.

Electronic products are guaranteed for one year, and other products are guaranteed for two years. Damage caused by human factors or product burnout caused by improper operation is not included in the scope of warranty.