

## Gearmo USA-FTDI4X

# Gearmo 4 Port USB to Serial RS232 Adapter (Model USA-FTDI4X) Instruction Manual

Brand: Gearmo | Model: USA-FTDI4X

## 1. INTRODUCTION

The Gearmo 4 Port USB to Serial RS232 Adapter is designed to connect multiple legacy DB-9 serial devices to modern USB-equipped computers. This adapter utilizes a high-performance FTDI chipset, ensuring reliable data transfer and broad operating system compatibility. It is suitable for various applications, including POS systems, barcode scanners, industrial controls, and digital signage.



Figure 1: Overview of the Gearmo 4 Port USB to Serial RS232 Adapter.

## 2. KEY FEATURES

- **4-Port RS232 Connectivity:** Easily adds four standard serial ports to your desktop or laptop.
- **FTDI Chipset:** Utilizes a high-performance FTDI chipset for stable and reliable communication.

- **ESD and Surge Protection:** Built-in protection against static electricity and surges up to 15kV ensures reliable data transfers and protects connected equipment.
- **Plug-and-Play Installation:** USB interface allows for easy installation without requiring IRQ, DMA, or I/O port resources.
- **COM Port Retention:** Automatically re-assigns the same COM port value if the adapter is disconnected and reconnected to the host computer.
- **Broad OS Compatibility:** Supports Windows 7, 8, 10, 11, Linux, and macOS 10.X.
- **LED Indicators:** Power (PWR), Receive Data (RXD), and Transmit Data (TXD) LEDs for activity monitoring.



Figure 2: Detail of the four DB9 serial connectors.



Figure 3: The adapter's central unit, highlighting its data communication and protection features.

### 3. USAGE SCENARIOS

This adapter is ideal for connecting a wide range of serial devices to modern computer systems. Common applications include:

- Printers
- Scanners
- Modems
- CNC Machines
- PLC Controllers
- Digital Cameras
- GPS and PDA Devices
- Other legacy serial equipment with DB9 female connectors



## Connect Your Serial Devices

Easily add 4 standard serial ports to your desktop, laptop or other system.



Figure 4: Examples of serial devices compatible with the adapter.

## 4. SETUP AND INSTALLATION

### 4.1 Connecting the Adapter

1. Connect the DB9 male connectors of the Gearmo adapter to the DB9 female serial ports on your peripheral devices.
2. Plug the USB Type-A connector of the adapter into an available USB port on your computer (desktop, laptop, or other mobile device).



Figure 5: Connecting the USB adapter to a computer.



Figure 6: The adapter fully connected to a laptop, ready for use.

## 4.2 Driver Installation

The Gearmo USA-FTDI4X adapter is designed for plug-and-play operation on most modern operating systems (Windows 7, 8, 10, 11, Linux, macOS 10.X). In most cases, drivers will install automatically upon connection.

If automatic installation does not occur or if you are using an older operating system, a driver disc is included with the product. You may also download the latest drivers from the official Gearmo website.

Your browser does not support the video tag.

Video 1: An official product video demonstrating the features and connectivity of the 4-Port USB 2.0 RS-232 FTDI Serial Adapter.

## 5. OPERATING INSTRUCTIONS

### 5.1 COM Port Retention

The adapter features COM port retention, meaning that once a COM port is assigned to a serial device, it will retain that assignment even if the adapter is disconnected and reconnected, or if the computer is restarted. This ensures consistent configuration for your serial applications.

## 5.2 LED Indicators

The central hub of the adapter includes LED indicators to monitor activity:

- **PWR (Power):** Indicates that the adapter is receiving power from the USB port.
- **RXD (Receive Data):** Flashes when data is being received by the adapter from a connected serial device.
- **TXD (Transmit Data):** Flashes when data is being transmitted by the adapter to a connected serial device.

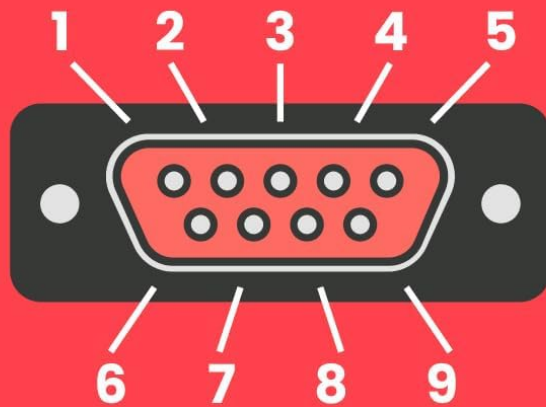
These LEDs allow for easy monitoring of data flow and can assist in troubleshooting connection issues.

## 6. SPECIFICATIONS

Feature	Detail
Model Number	USA-FTDI4X
Connector Type	USB Type A (Host), DB9 Male w/ Screws (Device)
Number of Ports	4 x RS232 Serial
Chipset	FTDI (FT4232)
Cable Length	3 feet (approx. 0.91 meters) for each serial cable, 1 foot (approx. 0.3 meters) for USB cable
Baud Rates	Up to 921.600 Bps
Data Buffer	Dual 16-byte hardware data buffer (up/down stream)
OS Support	Windows 7, 8, 10, 11, Linux, macOS 10.X (also older Windows versions)
Protection	ESD and Surge Protection up to 15kV
Power Source	USB Powered (no external power required)
Product Dimensions	36 x 1.5 x 0.5 inches (approx. 91.4 x 3.8 x 1.3 cm)
Item Weight	6.2 ounces (approx. 175.8 grams)

### 6.1 RS-232 Pin-Out Diagram





## RS-232 Pin-Out

PIN	RS-232
1	Data Carrier Detect (DCD)
2	Receive Data SIN (RXD)
3	Transmit Data SOUT (TXD)
4	Data Terminal Ready (DTR)
5	Signal Ground (GND)
6	Data Set Ready (DSR)
7	Request to Send (RTS)
8	Clear to Send (CTS)
9	Ring Indicator (RI)

Figure 7: Standard RS-232 DB9 Pin-Out.

## 7. MAINTENANCE

To ensure the longevity and optimal performance of your Gearmo USB to Serial Adapter, follow these general maintenance guidelines:

- Keep the adapter and cables clean and free from dust. Use a soft, dry cloth for cleaning.
- Avoid exposing the adapter to extreme temperatures, humidity, or direct sunlight.
- Do not bend or crimp the cables excessively, as this can damage internal wiring.
- Store the adapter in a safe place when not in use to prevent physical damage.

## 8. TROUBLESHOOTING

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If you encounter issues with your Gearmo USB to Serial Adapter, consider the following troubleshooting steps:

- **No Device Detected:** Ensure the USB connector is fully inserted into your computer's USB port. Try a different USB port or a different computer to rule out port issues.
- **Driver Issues:** Verify that the correct drivers are installed. Check your operating system's Device Manager (Windows) or System Information (macOS/Linux) for the adapter and its driver status. Reinstall drivers if necessary.
- **Communication Errors:** Check all serial cable connections to your peripheral devices. Ensure the baud rate and other serial port settings in your application match those of the connected device. Monitor the RXD and TXD LEDs on the adapter for data activity.
- **COM Port Conflicts:** While the adapter supports COM port retention, conflicts can sometimes arise with other virtual COM ports. In Device Manager, you can manually change the assigned COM port number if needed.
- **Intermittent Connection:** Ensure cables are not damaged and connections are secure. Avoid using excessively long USB extension cables, which can sometimes lead to signal degradation.

## 9. WARRANTY INFORMATION

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For detailed warranty information regarding your Gearmo 4 Port USB to Serial RS232 Adapter, please refer to the warranty card included with your product or visit the official Gearmo website. Warranty terms and conditions may vary.

## 10. SUPPORT

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Gearmo provides engineering support for its products. If you require technical assistance, CAD files, mechanical drawings, or datasheets for integration or project needs, please contact Gearmo customer support through their official website or the contact information provided with your product documentation.

For additional resources and product updates, visit the [Gearmo Store on Amazon](#).