UOTEK UT-890A

UOTEK UT-890A USB to RS-485/422 Serial Converter Instruction Manual

Model: UT-890A | Brand: UOTEK

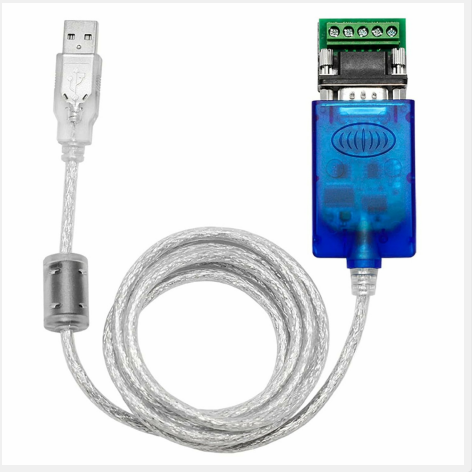


Figure 0: UOTEK UT-890A USB to RS-485/422 Serial Converter

Introduction

The UOTEK UT-890A is a versatile USB to RS-485/422 serial converter designed for reliable data communication. It facilitates the conversion of a USB signal to RS-485 or RS-422 signals, featuring internal zero-delay automatic receiving and transmitting functions. This device is compatible with various communication software and interface hardware, offering a plug-and-play experience for many operating systems.

Key Features:

- Supports RS485 & RS422 interfaces.
- Compatible with Windows XP/7/8/10/CE, Mac, and Linux operating systems.
- Supports 2-wire semi-duplex and 4-wire full-duplex operation.
- Equipped with ±15KV ESD Protection for enhanced durability.
- USB line powered, eliminating the need for an external power supply.
- Automatic hand-shaking protocol supported.
- Remote wake-up and power supply management supported.
- Designed for a wide working environment temperature range: -25°C to 70°C, with relative humidity 5% to 95%.
- Cable length: 5 feet.

Product Features

Core Technology

The UT-890A converter utilizes a high-performance FTDI chipset, ensuring stable and reliable data conversion. This chipset is crucial for maintaining data integrity and compatibility across various systems.

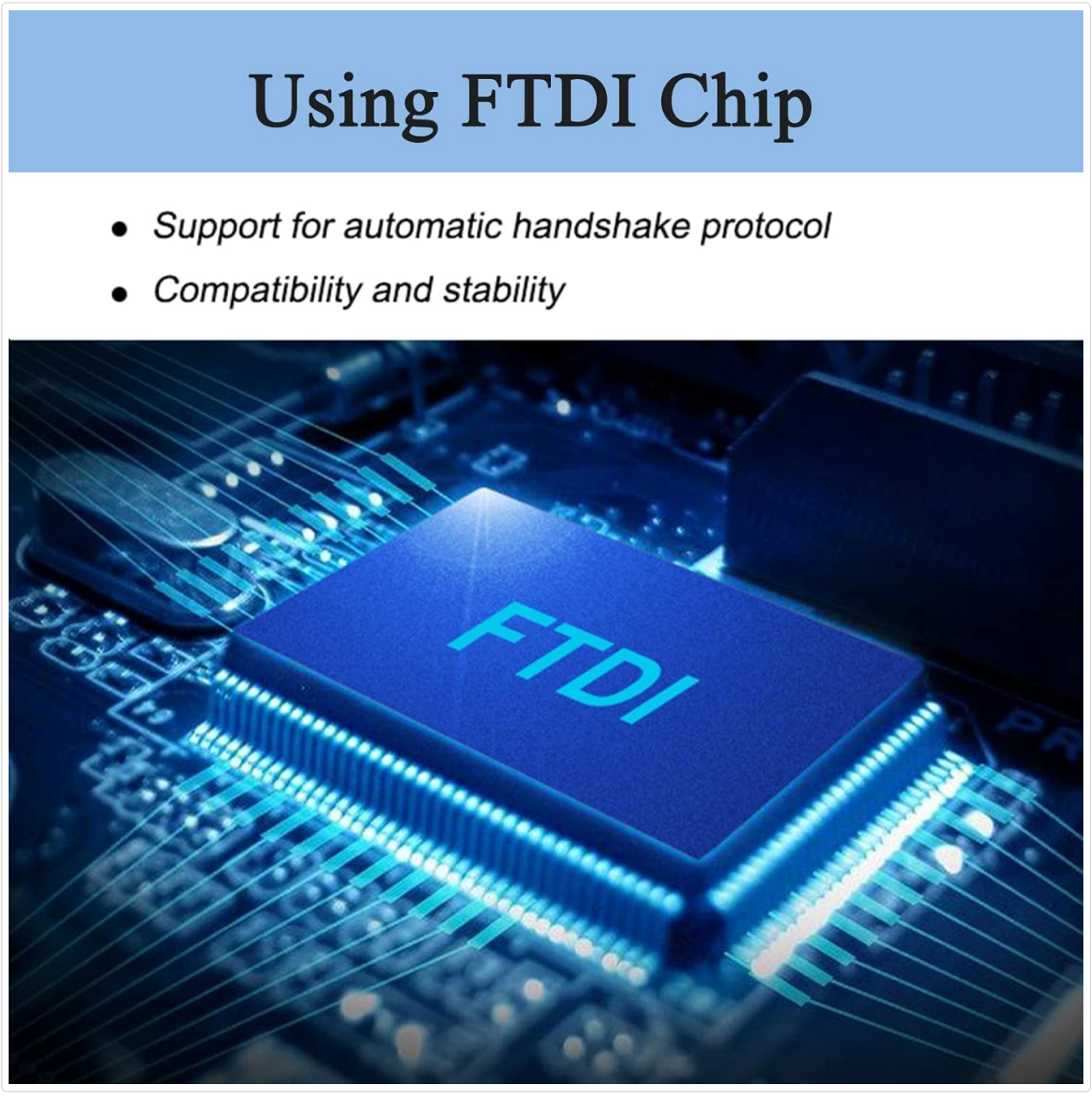


Figure 1: FTDI Chipset Detail

This image provides a detailed view of the FTDI chip, emphasizing its role in supporting automatic handshake protocols and ensuring overall compatibility and stability of the converter.

Durable Connectors

The DB9 connector pins are gold-plated to resist corrosion and high temperatures, ensuring a secure and long-lasting connection for reliable data transmission.

Figure 2: Gold-Plated DB9 Pins

This image highlights the gold-plated pins of the DB9 connector, which are designed to enhance durability and ensure stable electrical contact, resisting corrosion and high temperatures for a more secure connection.

Package Contents

Verify that all items are present in the package:

- 1 x UOTEK UT-890A USB to RS485 RS422 Converter (USB V2.0)
- 1 x Terminal block
- 1 x CD Driver (for older operating systems, drivers may also be available online)

Figure 3: Converter and Terminal Block Components

This image shows the individual components of the UOTEK UT-890A package, including the USB to serial converter and the separate terminal block, illustrating how they connect to form the complete interface.

Setup Instructions

1. Driver Installation

For Windows 8/10 and newer operating systems, the UT-890A converter is generally plug-and-play, meaning drivers will install automatically upon connection. For older operating systems (Windows 95/98/2000/XP, NT-IMAG), or if automatic installation fails, use the provided CD driver. Ensure the correct driver for your operating system is installed before connecting the device.

Figure 4: System Compatibility Overview

This image illustrates the broad operating system compatibility of the UT-890A converter, including various Windows versions, Mac, and Linux, highlighting its versatility for different computing environments.

2. Physical Connection

1. Connect the USB end of the UT-890A converter to an available USB port on your computer.
2. Attach the provided terminal block to the DB9 connector of the UT-890A converter.
3. Connect your RS-485 or RS-422 device to the terminal block, ensuring correct wiring for data transmission (TXD, RXD) and ground (GND). Refer to your device's manual for specific wiring requirements.

Figure 5: Converter with Terminal Block

This image displays the UOTEK UT-890A converter with its USB connector and the attached terminal block, ready for connection to an RS-485 or RS-422 device. The terminal block simplifies wiring for industrial applications.

Operating Instructions

Data Flow and Automatic Control

The UT-890A features an internal zero-delay automatic receiving and transmitting function. This means the converter automatically detects the direction of data flow, eliminating the need for manual control signals. This ensures seamless communication between your computer and the connected RS-485/422 device.

LED Indicators

The converter is equipped with LED indicators to provide visual feedback on its operational status:

- **PWR (Power):** Indicates that the device is powered on and receiving power from the USB port.
- **TXD (Transmit Data):** Flashes when data is being transmitted from the computer through the converter to the serial device.
- **RXD (Receive Data):** Flashes when data is being received by the converter from the serial device and sent to the computer.

Your browser does not support the video tag.

Video 1: UOTEK UT-890A Product Introduction

This video provides a brief introduction to the UOTEK UT-890A converter, demonstrating its features and typical usage scenarios, including the LED indicators for power and data transmission.

Specifications

Feature	Detail
Model	UT-890A
Interface	USB 2.0 (compatible with USB 1.0, 1.1) to RS-485/422 (DB9 connector)
Data Flow Control	Internal zero-delay automatic receiving and transmitting
Handshaking Protocol	Automatic hand-shaking supported
ESD Protection	±15KV ESD Protection
Power Supply	USB line powered (no external power required)
Operating Environment	Temperature: -25°C to 70°C, Humidity: 5% to 95% RH
Supported OS	Windows 95/98/2000/XP/7/8/10/CE, Mac, Linux
Cable Length	5 feet (approximately 1.5 meters)
Data Transfer Rate	Up to 480 Megabits Per Second (USB 2.0 standard)
Dimensions	8.4 x 6.1 x 1.4 inches (product packaging)
Item Weight	4.8 ounces

Figure 6: Internal Cable Structure and Features

This diagram illustrates the robust construction of the UT-890A cable, detailing its tinned copper core, wave filtering shielding, mesh grid, and transparent PVC tube, all contributing to stable and protected data transmission. Key features like USB V2.0 standard, no external power supply, remote wake-up support, and ±15KV ESD protection are also highlighted.

Troubleshooting

- **Device Not Recognized:**
  - Ensure the USB cable is securely connected to both the converter and the computer.
  - Verify that the necessary drivers are installed. For Windows 8/10, drivers should install automatically. For older OS, use the provided CD or download from the manufacturer's website.
  - Try connecting to a different USB port on your computer.
  - Restart your computer and try again.
- **No Data Transmission (TXD/RXD LEDs not flashing):**
  - Check the wiring between the converter's terminal block and your RS-485/422 device. Incorrect wiring is a common cause of communication failure.

- Ensure your serial device is powered on and functioning correctly.
- Verify the communication settings (baud rate, data bits, parity, stop bits) in your software match those of the connected serial device.
- Confirm that the correct COM port is selected in your application software.

- **Intermittent Connection:**
  - Ensure the cable is not excessively bent or damaged.
  - Minimize electromagnetic interference by keeping the converter and cable away from strong electrical fields or other electronic devices.
  - The converter includes magnet rings to suppress interference, ensuring stable communication.
- **ESD Protection Concerns:**
  - While the device offers ±15KV ESD protection, extreme electrical events like lightning strikes can exceed its protective capabilities. Always take appropriate precautions in environments prone to such events.

Maintenance

The UOTEK UT-890A converter is designed for durability and requires minimal maintenance. To ensure optimal performance and longevity:

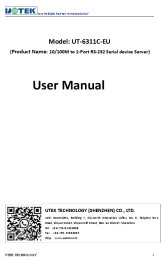
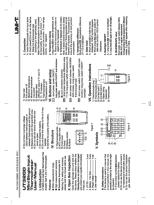
- Keep the device clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Operate the converter within its specified environmental conditions: temperature range of -25°C to 70°C and relative humidity of 5% to 95%.
- Avoid exposing the device to extreme temperatures, direct sunlight, or high humidity.
- Do not attempt to disassemble or modify the converter, as this will void the warranty and may cause damage.
- Ensure connections are secure to prevent accidental disconnections during operation.

Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the UOTEK official website or contact your retailer. Keep your purchase receipt for warranty claims.
Online resources for drivers and additional support may be available on the manufacturer's website.

Related Documents - UT-890A

	UOTEK M10K43 5G CPE: 5G Wireless Data Terminal with WiFi 6 Explore the UOTEK M10K43, a 5G CPE and WiFi 6 smart router system offering high-speed wireless data connectivity. Features Qualcomm SDX62 modem, 2.5G port, MESH support, and dual-mode NSA/SA operation for seamless global broadband.

	[UTEK UT-6311C-EU Serial Device Server User Manual] User manual for the UTEK UT-6311C-EU 10/100M to 1-Port RS-232 Serial Device Server, covering installation, configuration, operation, and troubleshooting.
	[UNI-T UT-PR2060 Low-Noise Power Rail Probe User Manual] User manual for the UNI-T UT-PR2060 Low-Noise Power Rail Probe. Details features, specifications, application scenarios, operating procedures, and maintenance for high-speed electronic system power integrity analysis.
	[UNI-T UT320D Mini Single Input Thermometer User Manual] User manual for the UNI-T UT320D Mini Single Input Thermometer, detailing features, safety instructions, structure, operation, and specifications for accurate temperature measurement.
	[GoodWe UT Series Grid-Tied PV Inverter User Manual] This user manual provides comprehensive information on the GoodWe UT Series Grid-Tied PV Inverter, covering product overview, safety precautions, installation, electrical connection, commissioning, maintenance, and technical parameters. It is intended for trained technical professionals.
	[Icom UT-133 Bluetooth Unit User Manual] User manual for the Icom UT-133 Bluetooth unit, detailing its features, usage precautions, and technical specifications for connecting Bluetooth-enabled devices to Icom wireless equipment.