UPort 1200/1400/1600 Series Quick Installation Guide

USB-to-Serial Converter

Version 9.4, October 2021

Technical Support Contact Information
www.moxa.com/support

⚠️ **WARNING**

1. This unit is not intended for consumer use. It will only be shipped to manufacturers or factories.
2. The DC source should come from a class external adapter or a 12 to 48 VDC safety extra-low voltage (SELV) limited power source (LPS), using a transfer device.
3. This unit should be installed or set up by a qualified service person.

Overview

Moxa's USB-to-serial product provides a wide range of easy-to-use solutions for adding Windows COM ports, macOS, and Linux tty ports through the USB port of a computer.

The UPort 1200/1400/1600 series are the following models:

- UPort 1250: 2-port RS-232/422/485 USB-to-serial converter
- UPort 1250I: 2-port RS-232/422/485 USB-to-serial converter w/ isolation protection
- UPort 1410: 4-port RS-232 USB-to-serial converter
- UPort 1450: 4-port RS-232/422/485 USB-to-serial converter
- UPort 1450I: 4-port RS-232/422/485 USB-to-serial converter w/ isolation protection
- UPort 1610-8: 8-port RS-232 USB-to-serial converter
- UPort 1650-8: 8-port RS-232/422/485 USB-to-serial converter
- UPort 1610-16: 16-port RS-232 USB-to-serial converter
- UPort 1650-16: 16-port RS-232/422/485 USB-to-serial converter

Before connecting UPort USB-to-serial converters to your computer's USB port, we recommend installing the UPort driver first. To do this, follow the installation procedure described in the "Installing the UPort 1200/1400/1600 Driver" section below. The installation procedure was done on a PC running a Windows platform. UPort converters can be connected to any upstream type A USB port that is on the PC host or on an upstream hub. UPort converters are hot pluggable, and therefore there is no need to power down your computer prior to installation.

After installing the driver, connect the UPort to an upstream host or hub. The **Found New Hardware** wizard will locate the appropriate drivers automatically. Once the drivers are found, various windows will pop up as the UPort's serial port is being installed. When the Found **New Hardware Wizard** finishes installing the UPort, use the operating system's **Device Manager** to check and/or modify the port settings. The new COM port will be listed under **Ports (COM & LPT)**.

Ordering Information

Package Checklist

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

- 1 UPort 1200/1400/1600 USB-to-serial converter
- USB cable: CBL-USBA/B-100
- 100 to 240 VAC power adapter (excluding the UPort 1250/1410)
- 1 power cord suitable for your region (**UPort 1600-16 models only**)
- 1 serial adapter: mini DB9F-to-TB (excluding UPort 1410/1610 series)
- **WK-45-01:** 19-inch rackmount L brackets (2 L-shaped plates with 8 M3 x 8 mm screws for the **UPort 1600-16 models only**
- Quick installation guide (printed)
- Warranty card

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

Optional accessory:

DIN-rail kits:

- **DK-UP1200:** DIN rail (25 x 48.3 mm) with 2 screws (FMS M3 X 6); for the **UPort 1200 models**.
- **DK-UP-14168:** DIN rail with 2 plates (89 x 19 mm) and 6 screws (FMS M3 x 5 mm); for the **UPort 1400 (V1.5.0) and 1600-8 (V1.4.0) models.**

Wall-mounting Kits:

- **WK-35-02:** Wall-mounting kit with 2 plates (35 x 24 mm) and 6 screws (FMS M3 x 4 mm); for the **UPort 1200 models.**
- **WK-UP-14168:** Wall-mounting kit with 2 plates (35 x 44 mm) and 6 screws (FMS M3 x 4 mm); for the **UPort 1400 and UPort 1600-8 models**.

Rack-mounting Kits:

- **WK-45-01:** Rack-mounting kit with 2 L-shaped plates (44 x 57.5 mm) and 8 screws (FMS M3 x 8 mm); for the **UPort 1600-16 models**.

NOTE The operating temperature of the power adapter in the box is from 0 to 40°C. If your application is not in this range, please use UL-listed power adapter (the power output meets SELV and LPS and is rated 12 to 48 VDC, the minimum current is 580 mA or 5 VDC, the minimum current is 0.5 A, min. 55°C).

NOTE If you are using a Class I adapter, the power cord should be connected to a socket outlet with a earthing connection.

Refer to the table below to see whether external power is needed for your UPort. If applicable, connect the UPort to an external power source.

	UPort 1250	UPort 1250I	UPort 1400	UPort 1600-8	UPort 1600-16
Bus Power	✓	–	✓	–	–
External Power (adapter)	–	✓	✓	✓	–
External Power (cord)	–	–	–	–	✓

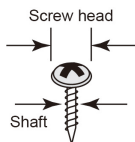**Power Input Specifications**

UPort 1250	5 VDC (bus power), 360 mA
UPort 1250I	12 to 48 VDC, 200 mA (max. in 12 VDC)
UPort 1410/1450	12 to 48 VDC, 260 mA (max. in 12 VDC); 5 VDC (bus power), 0.5 A
UPort 1450I	12 to 48 VDC, 360 mA (max. in 12 VDC)
UPort 1600-8	12 to 48 VDC, 580 mA (max. in 12 VDC)
UPort 1600-16	100 to 240 VAC, 220 mA, 47-63 Hz (max. in 100 VAC)

Hardware Installation Procedure

The UPort 1200/1400/1600 models come with two metal attachment plates to attach the UPort model to a wall or the inside of a cabinet. First, use two screws per bracket to attach the brackets at the rear of the UPort model. Next, use two screws per bracket to attach the UPort model to a wall or cabinet.

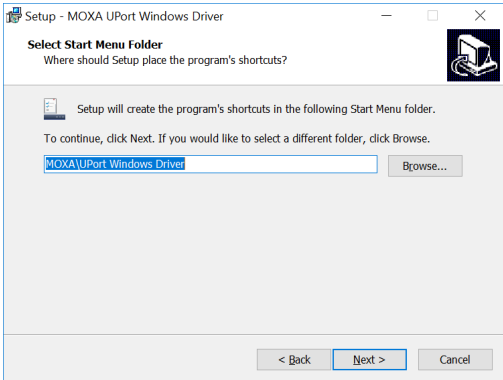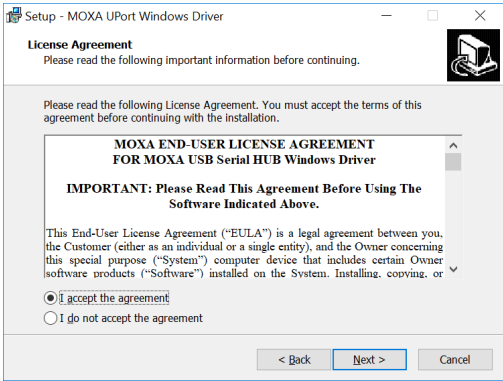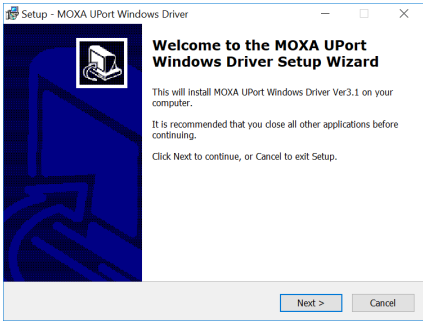The heads of the screws and shaft size maximum size are defined as below:

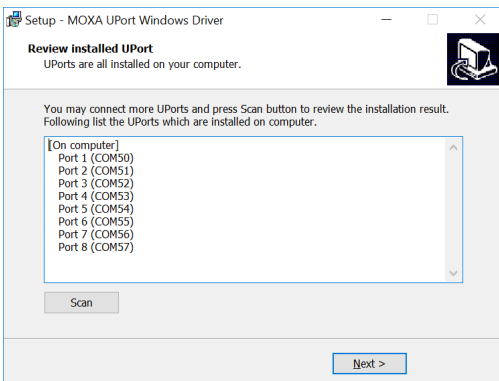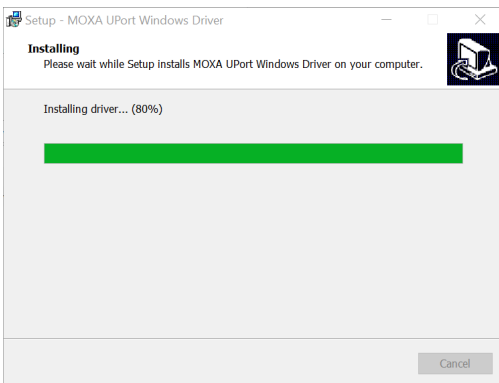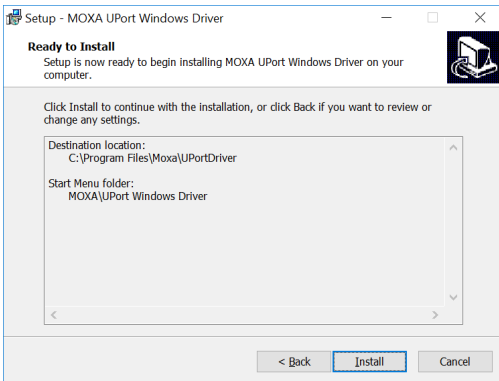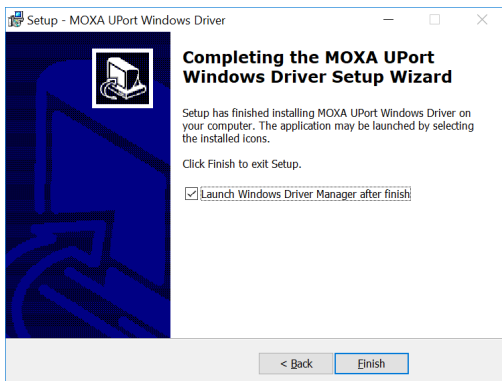|	Screw head	Shaft
UPort 1200	4.0 mm	3.0 mm
UPort 1400	4.0 mm	3.0 mm
UPort 1600-8	4.0 mm	3.0 mm
UPort 1600-16	8.0 mm	3.0 mm

Screw head

Shaft

Installing the UPort 1200/1400/1600 Driver

1. Connect the UPort to the PC using the USB cable.
2. After turning your PC's power on, Windows will automatically detect the UPort.
3. Run the Setup program that you may find on Moxa's support website http://www.moxa.com/support/. Click **Next** to start

installing the driver.

Setup - MOXA UPort Windows Driver

Ready to Install
Setup is now ready to begin installing MOXA UPort Windows Driver on your computer.

Click Install to continue with the installation, or click Back if you want to review or change any settings.

Destination location:
    C:\Program Files\Moxa\UPortDriver

Start Menu folder:
    MOXA\UPort Windows Driver

< Back   Install   Cancel

Setup - MOXA UPort Windows Driver

Installing
Please wait while Setup installs MOXA UPort Windows Driver on your computer.

Installing driver... (80%)

Cancel

Setup - MOXA UPort Windows Driver

Review installed UPort
UPorts are all installed on your computer.

You may connect more UPorts and press Scan button to review the installation result. Following list the UPorts which are installed on computer.

[On computer]
    Port 1 (COM50)
    Port 2 (COM51)
    Port 3 (COM52)
    Port 4 (COM53)
    Port 5 (COM54)
    Port 6 (COM55)
    Port 7 (COM56)
    Port 8 (COM57)

Scan

Next >

Installing the macOS Driver

For macOS 10.12 and later, follow the steps below to install the driver

1. Enter recovery mode.
2. Disable System Integrity Protection (SIP) by typing 'csrutil disable' in the terminal.
3. Return to normal mode.
4. Launch the UPort driver installer and finish the installation procedure.
5. Enter recovery mode again.
6. Enable System Integrity Protection (SIP) by typing 'csrutil enable' in the terminal.
7. Return to normal mode.

For detailed instructions, please refer to the UPort 1200/1400/1600 User's Manual on the product webpage or the 'readme.txt' in the driver installation package.

Installing the Linux Driver Linux Kernel

Execute the following commands from the Linux prompt:

```
# CD /moxa
# tar xvfz driv_linux_uport_[VERSION]_[BUILD].tgz
Find "Makefile" in /moxa/mxuport, then run
# make install
# modprobe mxuport
```
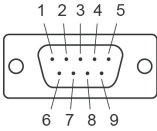
For further information, please refer to readme.txt that comes with the driver.

Serial Port Pin Assignments

The serial ports on the UPort 1200/1400/1600 have DB9 male connectors. Refer to the following table below for the RS-232 and RS-422/485 pin assignments.

Male DB9

Pin	RS-232	RS-422/ RS-485 4W	RS-485 2W
1	DCD	TxD-(A)	–
2	RxD	TxD+(B)	–
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	–	–
7	RTS	–	–
8	CTS	–	–
9	–	–	–