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



© 2021 Moxa Inc. All rights reserved.

P/N: 180201400001C



WARNING

- 1. This unit is not intended for consumer use. It will only be shipped to manufacturers or factories.
- 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 12501: 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	\checkmark	-	~	-	-
External Power (adapter)	-	\checkmark	\checkmark	\checkmark	-
External Power (cord)	-	-	-	-	\checkmark

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



Installing the UPort 1200/1400/1600 Driver

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

installing the driver.



Hetup - MOXA UPort Windows Driver License Agreement Please read the following important information before continuing. Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation. Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation. NoXA END-USER LICENSE AGREEMENT FOR MOXA USB Serial HUB Windows Driver HDORTANT: Please Read This Agreement Before Using The Software Indicated Above. This End-User License Agreement ("EULA") is a legal agreement between you, the Customer (either as an individual or a single entity), and the Owner concerning software routest ("System") computer device that includes certain Owner software routest ("System") installed on the System. Installing. copying. or @ I accept the agreement	otu			Vindows Drive	er			-		
Please read the following important information before continuing. Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation. MOXA END-USER LICENSE AGREEMENT FOR MOXA USB Serial HUB Windows Driver Information of the agreement ("EULA") is a legal agreement between you, this special guoves ("Systems Indicated Above. This End-User License Agreement ("EULA") is a legal agreement between you, this special guoves ("Systems") compute diverse that induces certain Owner or single entity), and the Owner concerning this special guoves ("Systems") compute diverse that induces certain Owner or software products ("Software") installed on the System. Installing. conving. or la ccept the agreement I do not accept the agreement	ciu	р - МОХ	A UPORT V							
agreement before continuing with the installation. MOXA END-USER LICENSE AGREEMENT FOR MOXA USB Serial HUB Windows Driver IMPORTANT: Please Read This Agreement Before Using The Software Indicated Above. This End-User License Agreement ("EULA") is a legal agreement between you, the Customer (either as an individual or a single entity), and the Owner concerning this special propose ("System") computer device that induces certain Owner software products ("Software") installed on the System. Installing. copying. or of accept the agreement I do not accept the agreement Generation Generatio				ving important i	nformatior	before con	tinuing.			6
FOR MOXA USB Serial HUB Windows Driver IMPORTANT: Please Read This Agreement Before Using The Software Indicated Above. This End-User License Agreement ("EULA") is a legal agreement between you, the Customer (either as an individual or a single entity), and the Owner concerning this special purpose ("System") computer device that includes certain Owner observations of the agreement I go not accept the agreement I go not accept the agreement I go not accept the agreement Cancert etup - MOXA UPort Windows Driver — etect Start Menu Folder Where should Setup place the program's shortcuts? Image: Setup will create the program's shortcuts in the following Start Menu Folder. To continue, dick Next. If you would like to select a different folder, dick Browse.							ept the t	erms of t	his	
Software Indicated Above. This End-User License Agreement ("BULA") is a legal agreement between you, the Customer (either as an individual of a single entity), and the Owner concerning this special purpose ("System") computer device that includes certain Owner software products ("Software") installed on the System. Installing, copying, or indicated the agreement of the agre										^
he Customer (either as an individual or a single entity), and the Owner concerning this special puppes ("System") computer device that includes certain Owner software products ("Software") installed on the System. Installing, copying, or I accept the agreement I do not accept the agreement		IMP	ORTANI				Before	Using T	he	
I go not accept the agreement		he Custo his speci	mer (either ial purpose	as an individua ("System") c	al or a sing	le entity), ar device that	id the Or includes	vner con certain	cerning Owner	
< Back Next > Cancent of the select a different folder, dick Browse. To continue, dick Next. If you would like to select a different folder, dick Browse.	(I accep	t the agree	ment						
etup - MOXA UPort Windows Driver elect Start Menu Folder Where should Setup place the program's shortcuts? Setup will create the program's shortcuts in the following Start Menu folder. To continue, click Next. If you would like to select a different folder, click Browse.	() I <u>d</u> o no	ot accept th	e agreement						
Elect Start Menu Folder Image: Comparison of the program's shortcuts? Image: Setup will create the program's shortcuts in the following Start Menu folder. To continue, click Next. If you would like to select a different folder, click Browse.										
elect Start Menu Folder Where should Setup place the program's shortcuts? Image: Setup will create the program's shortcuts in the following Start Menu folder. To continue, dick Next. If you would like to select a different folder, dick Browse.						< <u>B</u> ack	Ne	xt >	(Cance
Where should Setup place the program's shortcuts? Image: Setup will create the program's shortcuts in the following Start Menu folder. To continue, dick Next. If you would like to select a different folder, dick Browse.	otu	n - MOX	(A LIPort V	Windows Drive		< <u>B</u> ack	Ne	xt >		Cancel
To continue, click Next. If you would like to select a different folder, click Browse.					er	< <u>B</u> ack	Ne			Cancel
	ele	ect Start	Menu Fol	der			Ne			Cancel
MOXA\UPort Windows Driver Browse	ele	ect Start Vhere sho	Menu Fol ould Setup (der place the progra	am's shorte	uts?		-		Cancel
	ele	ect Start Vhere sho	Menu Fol puld Setup p up will crea	Ider place the progra ate the program	am's shortc	uts?	wing Sta	 rt Menu f	ölder.	Cancel
	iele V	ect Start Vhere sho Set	Menu Fol ould Setup y up will crea ue, click Net	lder place the progra ate the program xt. If you would	am's shortc	uts?	wing Sta		older.	©_
	iele V	ect Start Vhere sho Set	Menu Fol ould Setup y up will crea ue, click Net	lder place the progra ate the program xt. If you would	am's shortc	uts?	wing Sta		older.	©_
	iele V	ect Start Vhere sho Set	Menu Fol ould Setup y up will crea ue, click Net	lder place the progra ate the program xt. If you would	am's shortc	uts?	wing Sta		older.	©_
	iele V	ect Start Vhere sho Set	Menu Fol ould Setup y up will crea ue, click Net	lder place the progra ate the program xt. If you would	am's shortc	uts?	wing Sta		older.	6
	iele V	ect Start Vhere sho Set	Menu Fol ould Setup y up will crea ue, click Net	lder place the progra ate the program xt. If you would	am's shortc	uts?	wing Sta		older.	6
	iele V	ect Start Vhere sho Set	Menu Fol ould Setup y up will crea ue, click Net	lder place the progra ate the program xt. If you would	am's shortc	uts?	wing Sta		older.	
	iele V	ect Start Vhere sho Set	Menu Fol ould Setup y up will crea ue, click Net	lder place the progra ate the program xt. If you would	am's shortc	uts?	wing Sta		older.	6

🕼 Setup - MOXA UPort Windows Driver	-		×
Ready to Install Setup is now ready to begin installing MOXA UPort Windows Drive computer.	er on your	c	D
Click Install to continue with the installation, or click Back if you we change any settings.	ant to revie	w or	
Destination location: C:\Program Files\Moxa\UPortDriver			`
Start Menu folder: MOXA\UPort Windows Driver			
			,
<		>	
< <u>B</u> ack	[nstall	Car	ncel
		_	~
Betup - MOXA UPort Windows Driver	_		×
Installing Please wait while Setup installs MOXA UPort Windows Driver on yo	our compute	er. (Ð
Installing driver (80%)			

🕼 Setup - MOXA UPort Windows Driver	-		\times
Review installed UPort UPorts are all installed on your computer.			Ð
You may connect more UPorts and press Scan button to revie Following list the UPorts which are installed on computer.	ew the installat	ion result.	
[On computer] Port 1 (COM50) Port 2 (COM51) Port 3 (COM52) Port 4 (COM53) Port 5 (COM55) Port 7 (COM56) Port 8 (COM57)			~
Scan			
	<u>N</u> ext >]	

Cancel

🕼 Setup - MOXA UPort Windo	ws Driver — 🗆 🗡
	Completing the MOXA UPort Windows Driver Setup Wizard
	Setup has finished installing MOXA UPort Windows Driver on your computer. The application may be launched by selecting the installed icons.
	Click Finish to exit Setup.
	⊠ Launch Windows Driver Manager after finish
	< <u>B</u> ack <u>E</u> inish

Installing the macOS Driver

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

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

NOTE For UPort with DB Male Serial Ports, you may refer to DB9 Male Ports pin assignment section to loop back pin 2 and pin 3 for the RS-232 interface to carry out a self-test on the device.

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	-	-	-