

# Universal PCI Smart Serial Board

## Quick Installation Guide

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**Version 1.1, December 2019**

### **Technical Support Contact Information** **[www.moxa.com/support](http://www.moxa.com/support)**

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**P/N: 1802001142326**



## Overview

Moxa's Universal PCI (UPCI) multiport serial boards can be installed in PCI or PCI-X slots and support both 3.3V and 5V PCI/PCI-X.

## Package Checklist

UPCI board are shipped with the following items:

- 1 Moxa UPCI multiport serial board
- Low-profile bracket (low-profile models only)
- Quick installation guide (printed)
- Warranty card

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

## Hardware Installation Procedure

The Universal PCI board **MUST** be plugged into the PC before the driver is installed.

Follow the steps below:

1. **Select serial transmission mode.** This step is for certain models listed below. If your product on hand is not included, please directly go to step2.  
If your model is CP-112UL Series/CP-114UL Series/CP-118U Series/CP-132UL Series/CP-134U Series/CP-138U Series, you will need to set onboard DIP switches for each port.  
(Refer to "**Dip Switch Settings**" section to complete the DIP switches setting)
2. **Install the board.** Power off the PC and then plug the board firmly into any open PCI or PCI-X expansion slot.
3. **Plug the connection cable into the board's connector.** (Refer to "**Pin Assignments**" section for the cable pin assignment).
4. **Start system and verify the driver initialization.**

## Software Installation Information

1. **Get the driver at [www.moxa.com](http://www.moxa.com).** Based on the OS type, choose the corresponding driver.
2. **Installing the driver:**
  - **For Windows OS** (Take the installation of Win7 as an example)
    - 2.1. Unzip and execute the .exe file
    - 2.2. Follow the instructions to install the drivers
  - **For Linux**  
Execute the following commands from the Linux prompt:
    - 2.1. Get the driver at [www.moxa.com](http://www.moxa.com) and unzip the file:  
#cd /  
#mkdir moxa  
#cd moxa  
#cp /<driver  
directory>/driv\_linux\_smart\_<version>\_build\_<build\_date  
>.tgz .

```
#tar -zxvf
driv_linux_smart_<version>_build_<build_date>.tgz
```

- 2.2. Install the driver:
 

```
#cd mxser
#./mxinstall
```
- 2.3. Verify the driver status
 

Use the Moxa diagnostic utility to verify the driver status:

```
#cd /moxa/mxser/utility/diag
#./msdiag
```
- 2.4. Test the tty port
 

Use the Moxa terminal utility to test the tty ports:

```
#cd /moxa/mxser/utility/term
#./msterm
```

## DIP Switch Settings

### CP-112UL Series/CP-112UL-I Series

Mode	S1	S2	S3
RS-232	ON	–	–
RS-422	OFF	ON	–
4-Wire RS-485	OFF	OFF	ON
2-Wire RS-485	OFF	OFF	OFF

### CP-114UL Series/CP-114UL-I Series

Mode	S1	S2	S3
RS-232	–	–	ON
RS-422	–	ON	OFF
4-Wire RS-485	ON	OFF	OFF
2-Wire RS-485	OFF	OFF	OFF

### CP-118U Series/CP-118U-I Series

Mode	S1	S2	S3
RS-232	–	–	ON
RS-422	–	ON	OFF
4-Wire RS-485	ON	OFF	OFF
2-Wire RS-485	OFF	OFF	OFF

### CP-132UL Series

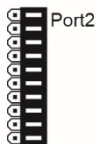
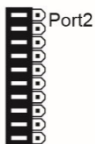
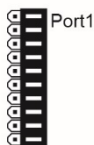
Mode	S1	S2	Illustration
RS-422	–	OFF	
2-Wire RS-485	ON	ON	
4-Wire RS-485	OFF	ON	

## CP-134U Series/CP-134U-I Series

RS-422  
RS-485 RS-232



RS-422  
RS-485 RS-232



**RS-422 or RS-485 mode:**  
Use the jumper to cover the two columns on the left of the jumper pins.

**RS-232 mode:** Use the jumper to cover the two columns on the right of the jumper pins.

## CP-138U Series/CP-138U-I Series

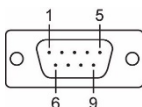
Mode	S1	S2
RS-422	-	ON
4-Wire RS-485	ON	OFF
2-Wire RS-485	OFF	OFF

## Pin Assignments

### CP-102U Series

#### Male DB9 RS-232

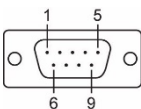
Pin	Signal
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS



## CP-102UL Series

### Female DB25 RS-232

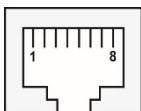
Pin	Signal	Pin	Signal
1	-	14	-
2	DCD1	15	DTR1
3	GND	16	DSR1
4	CTS1	17	RTS1
5	RxD1	18	TxD1
6	-	19	-
7	-	20	-
8	-	21	DCD0
9	DTR0	22	GND
10	DSR0	23	CTS0
11	RTS0	24	RxD0
12	TxD0	25	-
13	-	-	-



## CP-104JU Series

### RJ45 (RS-232)

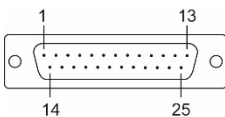
Pin	Signal
1	DSR
2	RTS
3	GND
4	TxD
5	RxD
6	DCD
7	CTS
8	CTR



## CP-104UL

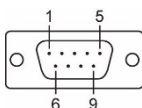
### Male DB25 (CBL-M44M25x4-50)

Pin	Signal
2	TxD
3	RxD
4	RTS
5	CTS
6	DSR
7	GND
8	DCD
20	DTR

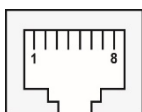


**(CBL-M44M9x4-50)****(OPT4-M9A)**

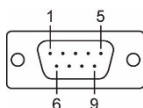
Pin	Signal
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS

**Male DB9****RJ45 (OPT4-RJ45A)**

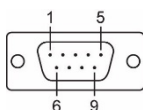
Pin	Signal
1	DSR
2	RTS
3	GND
4	TxD
5	RxD
6	DCD
7	CTS
8	DTR

**8-pin RJ45****CP-112UL Series****Male DB9 (CBL-M25M9x2-50)**

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	-	-	-

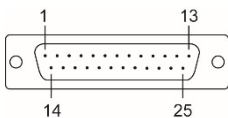
**CP-114UL Series****Male DB9 (CBL-M44M9x4-50)**

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	-	-	-

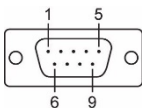


**Male DB25 (CBL-M44M25x4-50)**

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

**CP-118UI Series/CP-138U-I Series****Male DB9 (CBL-M78M9x8-100)**

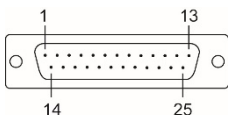
Pin	RS-232	RS-422/ RS-485-4W	RS-485-2W
1	DCD	TxD-(A)	-
2	RxD	TxD+(B)	-
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	-	-
7	RTS	-	-
8	CTS	-	-
9	-	-	-



\*CP-118U-I Series only

**Male DB25 (CBL-M78M25x8-100)**

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



\*CP-118U-I Series only

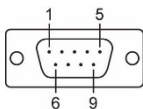
## CP-118U Series/CP-138U Series

### Male DB9

*(CBL-M62M9x8-100, OPT8-M9 is for CP-118U and CP-138U)*

*(CBL-M78M9x8-100 is for CP-118U-I and CP-138U-I)*

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	-	-	-

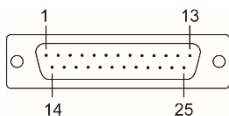


### Male DB25

*(CBL-M62M25x8-100, OPT8B is for CP-118U and CP-138U)*

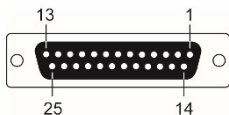
*(CBL-M78M25x8-100 is for CP-118U-I and CP-138U-I)*

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



### Female DB25 (OPT8A/S)

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

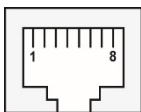


\*CP-118U Series only



## RJ45 (OPT8-RJ45)

Pin	Signal
1	DSR
2	RTS
3	GND
4	TxD
5	RxD
6	DCD
7	CTS
8	DTR

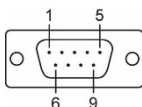


\*CP-118U Series only

## CP-132UL Series/CP-132UL-I Series

### Male DB9 Connector: Device-side Pin Assignments

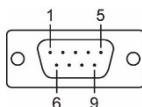
Pin	RS-232	RS-422/ RS-485-4W	RS-485-2W
1	TxD-(A)	TxD-(A)	-
2	TxD+(B)	TxD+(B)	-
3	RxD+(B)	RxD+(B)	Data+(B)
4	RxD-(A)	RxD-(A)	Data-(A)
5	GND	RxD-(A)	GND
6	RTS-(A)	GND	-
7	RTS+(B)	-	-
8	CTS+(B)	-	-
9	CTS-(A)	-	-



## CP-134U Series

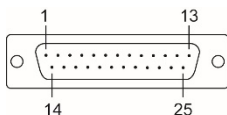
### Male DB9 (CBL-M44M9x4-50)

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



### Male DB25 (CBL-M44M25x4-50)

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

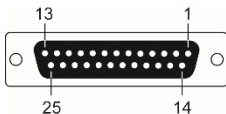


## CP-168U Series

### RS-232 Cable Wiring for OPT8A/B/C/D/S

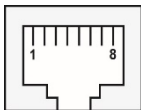
#### **OPT8A/S (DCE, DB25 Female)**

Pin	Signal
2	RxD
3	TxD
4	CTS
5	RTS
6	DTR
7	GND
8	DCD
20	DSR



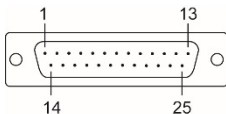
#### **OPT8-RJ45 (8-pin)**

Pin	Signal
1	DSR
2	RTS
3	TxD
4	GND
5	RxD
6	DCD
7	CTS
8	DTR



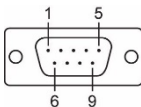
#### **OPT8B/C (DCE, DB25 Male)**

Pin	Signal
2	TxD
3	RxD
4	RTS
5	CTS
6	DSR
7	GND
8	DCD
20	DTR



#### **OPT8-M9, OPT8D (DTE, DB9 Male)**

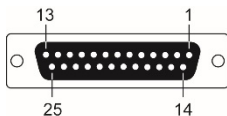
Pin	Signal
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS



## RS-422 Cable Wiring for OPT8F

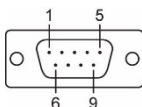
### OPT8F/Z (DB25 Female)

Pin	Signal
2	RxD+(B)
3	TxD+(B)
14	RxD-(A)
16	TxD-(A)
7	GND



## RS-422/485 Cable Wiring for OPT8K

Pin	RS-422/ RS-485- 4W	Pin	RS-485-2W
2	RxD+(B)	2	Data+(B)
3	TxD+(B)	14	Data-(A)
14	RxD-(A)	7	GND
16	TxD-(A)		
7	GND		



## POS-104UL Series

### Male DB9 (CBL-M44M9x4-50)

Pin	Signal
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI/5V/12V

