PCI Express Multiport Serial Board Series Quick Installation Guide

Version 2.1, December 2019

Overview

Moxa's new PCI Express Multiport Serial Boards series is designed for POS and ATM applications and for use by industrial automation system manufacturers and system integrators.

Package Checklist

Before installing the PCI Express board, verify that the package contains the following items:

- 1 MOXA multiport serial board (1 PCI Express board or 1 PCI Express-A Intelligent 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 PCI Express board MUST be plugged into the PC before the driver is installed.

Follow the steps below.

1. **Install the board.** Power off the PC and then plug the board firmly into any open PCI Express slot.
2. **Plug the connection cable into the board's connector.** (Refer to **Pin Assignments** for the cable pin assignment).
3. **Start system and verify the driver initialization.**

Software Installation Information

1. **Get the driver at www.moxa.com.** Base on the OS type, choosing 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** 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

3. **Intelligent RS-485** (If your multiport serial board is CP-102E/CP-102EL, CP-132EL/CP-132EL-I, or CP-114EL/CP-114EL-I, then your software installation is completed. On the other hand, if your multiport serial board is PCI Express-A, and with interface RS-485-2W, then you should follow this section to complete the intelligent RS-485 setting.)

- **For Windows OS**
  - ➢ 3.1. Go to the device management to complete the model properties setting.
  - ➢ 3.2. Click **Start Diagnosis**. (It should be RS-485-2W).
    If the status is **OK**, nothing further needs to be done.
    If the status is **Waveform Distortion**, **Data Error**, or **Receive Reflect Signal**, go to next step to do the auto tuning
  - ➢ 3.3. Auto Tuning
    Still in the **Properties Settings** page, click on the COM number that shows the error message.
    Click **Auto Tuning**.
    Click **OK** to apply the setting adjustment for the Bias Resistor and Termination Resistor.

- **For Linux**
 Follow these steps to configure the Intelligent RS-485 in Linux
  - ➢ 3.1. Detect the configurations of the port by the following command:
    #./muestty -g /dev/ttyMUE1#cd /
  - ➢ 3.2.Use the following command to run diagnosis to see if the setting is correct.
    #./muestty -d /dev/ttyMUE1
  - ➢ 3.3. If the alarm status shows **OK**, nothing further needs to be done. If the alarm status shows **Fail**, then there are problems with the setting. Do the auto-tuning process with the following command
    #./muestty -a /dev/ttyMUE1
  - ➢ 3.4. Manually configure the Pull Up/Down resistor and the terminator resistor with the assigned values:
    #./muestty –p (assigned value) /dev/ttyMUE1
    #./muestty –t (assigned value) /dev/ttyMUE1
  - ➢ 3.5. Do the diagnosis again:
    #./muestty -d /dev/ttyMUE1

Pin Assignments

CP-102E / CP-102EL

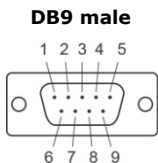#### Male DB9 (CBL-M25M9x2-50 for CP-102EL)

Pin	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS

DB9 male
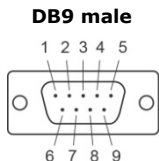
CP-132EL/CP-132EL-I

Male DB9 (Device side)

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

DB9 male

CP-114EL/CP-114EL-I

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	DCD	–	–
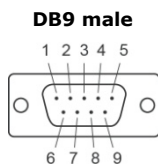
DB9 male

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)

DB25 male

CP-118E-A-I / CP-138E-A-I

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	–	–

DB9 male
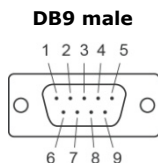
Male DB25 (CBL-M78M25x8-100)

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)

DB25 male
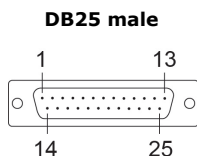
CP-134EL-A-I

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	–	–

DB9 male

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)

DB25 male
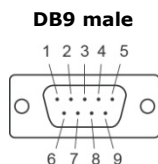
CP-116E-A

Male DB9 (OPT8-M9+ / CBL-M68M9x8-100)

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	–	–

DB9 male
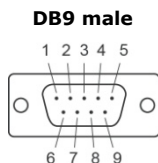
Male DB25 (OPT8B+ / CBL-M68M25x8-100)

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)

DB25 male
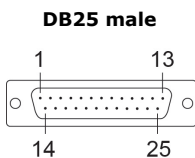
Female DB25 (OPT8A+/S+)

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	–	–

DB25 female