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MOXA PCI Express Multiport Serial Board Series Installation Guide

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Technical Support Contact Information **www.moxa.com/support**

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)
    1. Unzip and execute the .exe file
    2. Follow the instructions to install the drivers
- For Linux

  Execute the following commands from the Linux prompt:

    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. Install the driver: #cd mxser #./mxinstall

3. Verify the driver status Use the Moxa diagnostic utility to verify the driver status: #cd /moxa/mxser/utility/diag #./msdiag

4. Test the tty port Use the Moxa terminal utility to test the tty ports: #cd /moxa/mxser/utility/term #./msterm

Intelligent RS-485

The following models support the intelligent RS-485 feature:

- CP-134EL-A-I without a cable
- CP-134EL-A-I-DB9M
- CP-134EL-A-I-DB25M
- CP-138E-A-I without a cable
- CP-118E-A-I without a cable
- CP-116E-A without a cable

If your multiport serial board is one of the above models, and has an RS-485 2W interface, then you could follow the sections below to complete the intelligent RS-485 setting.

NOTE

The other PCIe multiport serial boards don't support the intelligent RS-485 feature.

For Windows OS

1. Go to the device management to complete the model properties setting.
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. 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 change for the bias resistor and termination resistor.

For Linux

Follow these steps to configure the Intelligent RS-485 in Linux

1. Detect the configurations of the port by the following command: #./muestty -g /dev/ttyMUE1#cd /
2. Use the following command to run diagnosis to see if the setting is correct. #./muestty -d /dev/ttyMUE1
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
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
5. Do the diagnosis again: #./muestty -d /dev/ttyMUE1

Pin Assignments

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

DB9 male
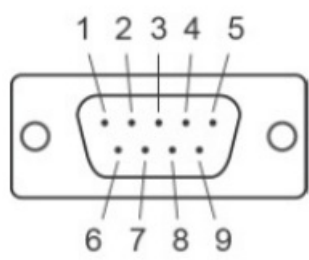
Pin	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS

CP-132EL/CP-132EL-I Male DB9 (Device side)

DB9 male
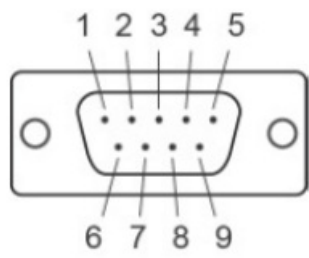
Pin	RS-422/ RS-485-4W	RS-485-2W
1	TxD-(A)	–
2	TxD+(B)	–
3	RxD+(B)	Data+(B)
4	RxD-(A)	Data-(A)
5	GND	GND
6	–	–
7	–	–
8	–	–

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	–	–	–

Male DB25 (CBL-M44M25x4-50)
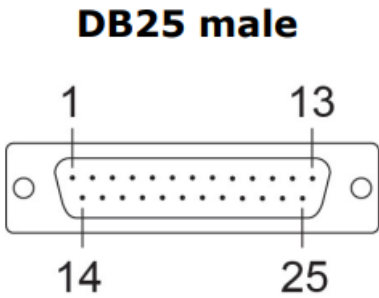
Pin	RS-232	RS-422/ RS-485-4W	RS-485-2W
2	TxD	RxD+(B)	Data+(B)
3	RxD	TxD+(B)	–
4	RTS	–	–
5	CTS	–	–
6	DSR	–	–
7	GND	GND	GND
8	DCD	TxD-(A)	–
20	DTR	RxD-(A)	Data-(A)

CP-118E-A-I / CP-138E-A-I Male DB9 (CBL-M78M9x8-100)

DB9 male
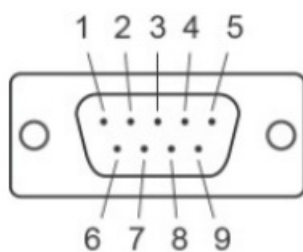
1 2 3 4 5

6 7 8 9

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	–	–

Male DB25 (CBL-M78M25x8-100)
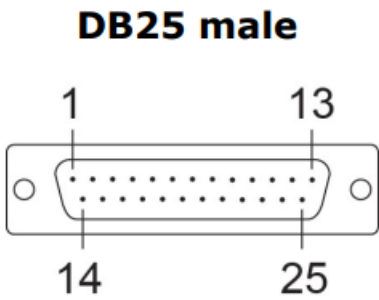
Pin	RS-232	RS-422/ RS-485-4W	RS-485-2W
2	TxD	RxD+(B)	Data+(B)
3	RxD	TxD+(B)	–
4	RTS	–	–
5	CTS	–	–
6	DSR	–	–
7	GND	GND	GND
8	DCD	TxD-(A)	–
20	DTR	RxD-(A)	Data-(A)

CP-134EL-A-I Male DB9 (CBL-M44M9x4-50)

DB9 male
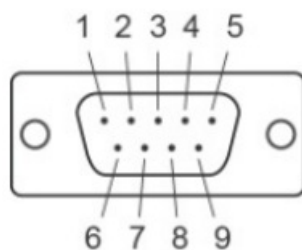
1 2 3 4 5

6 7 8 9

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	–	–

Male DB25 (CBL-M44M25x4-50)

DB25 male
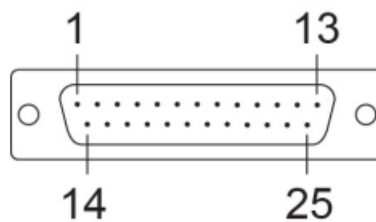
1   13
14   25

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-116E-A Male DB9 (OPT8-M9+ / CBL-M68M9x8-100)
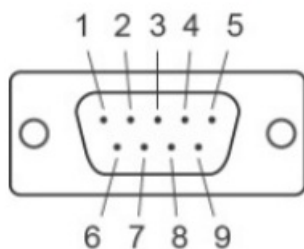
Pin	RS-232	RS-422/ RS-485-4W	RS-485-2W
1	DCD	TxD-(A)	–
2	RxD	TxD+(B)	–
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	–	–
7	RTS	–	–
8	CTS	–	–

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

DB25 male
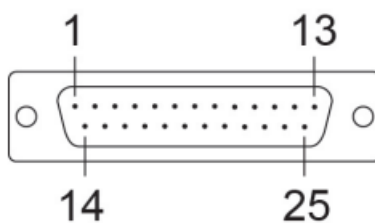
Pin	RS-232	RS-422/ RS-485-4W	RS-485-2W
2	TxD	RxD+(B)	Data+(B)
3	RxD	TxD+(B)	–
4	RTS	–	–
5	CTS	–	–
6	DSR	–	–
7	GND	GND	GND
8	DCD	TxD-(A)	–
20	DTR	RxD-(A)	Data-(A)

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	–	–

(User Guide)
(This equipment has KC approval for use in industrial environments and could possibly interfere with household equipment.)

- **Type of Equipment**
  - Class A Equipment (Broadcasting and Communication Equipment for Industrial and Commercial Use)
- **User Guide**
  - This equipment is the EMC conformity equipment (Class A) for Industrial and Commercial Use. The
    seller or user should take note of this as this equipment can be used in places that exclude homes.

Documents / Resources

PCI Express Multiport
Serial Board Series
Quick Installation Guide

Version 2.4, January 2023

Technical Support Contact Information
www.moxa.com/support

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MOXA PCI Express Multiport Serial Board Series [pdf] Installation Guide
CP-102N-I-T, CP-102E, CP-102EL, CP-132EL, CP-132EL-I, CP-114EL, CP-114EL-I, CP-102N-I-T PCI Express Multiport Serial Board, PCI Express Multiport Serial Board, Multiport Serial Board, Serial Board, Board

References

- ✉ **Moxa - Your Trusted Partner in Automation**

- ✉ **Moxa - Support**

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