CP-102E/CP-102EL PCI Express Multiport Serial Board Quick Installation Guide

First Edition, July 2008

1. Overview

MOXA's new PCI Express multiport serial boards, the CP-102E and CP-102EL, are designed for POS and ATM applications and for use by industrial automation system manufacturers and system integrators. The boards are compatible with all popular operating systems, and each board supports data rates of up to 921.6Kbps and provides full modem control signals, ensuring compatibility with a wide range of serial peripherals. In addition, the CP-102E and CP-102EL's PCI Express "×1" classification allows the boards to be installed in any available PCI Express slot (including ×1, ×2, ×4, ×8, ×16, and ×32).

2. Package Checklist

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

- 1 PCI Express serial board
- Documentation and Software CD
- Quick Installation Guide
- Low Profile Bracket (only for CP-102EL)

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

3. Hardware Installation Procedure

The PCI Express board MUST be plugged into the PC before the driver is installed. Follow these steps to install the board in the PC.

STEP 1: Power off the PC.
STEP 2: Plug the board firmly into an open PCI Express slot.
STEP 3: Fasten the holding screw to fix the control board in place.
STEP 4: Connect the connection cable to CP-102EL.
STEP 5: Power on the PC; the BIOS will automatically set the IRQ and I/O address.

4. Software Installation Information

The board MUST be plugged in before installing the driver. See the previous section for instructions on how to install the board in your PC. Refer to the PCI Express Board User's Manual for detailed instructions on installing the drivers for this board.

P/N: 1802001023230

NOTE: The following procedure shows how to install the CP-102E driver

Windows 2008/Vista (32-bit/64-bit) Driver Installation

1. After powering on your PC, Windows 2008 will automatically detect the PCIe board.
2. Insert the PCIe software CD in your CD-ROM drive.
3. Select **Locate and install driver software (recommended)**.
4. After selecting **Search for driver software in this location**, select the **Include subfolders**, and then click **Browse**. If the system is a 32-bit (x86) platform, navigate to the **\CP-102E\Software\Windows 2008_Vista\x86** folder on the CD, if the system is 64-bit (x64) platform, navigate to the **\CP-102E\Software\Windows 2008_Vista\x64** folder on the CD, and then click **Next** to continue.
5. Click **Install this driver software anyway** in response to any warnings that the software has not passed Windows Logo testing.
6. After the board has been installed, the installation wizard will guide you through the port installation procedure. Port installation procedure is complete when Port 0 has been set up.
7. Use the **Device Manager** to check the installation of the board and ports. Click the + sign next to **Hardware**, and then check **Multi-port serial adapters** and **Ports (COM & LPT)**. If there are warning marks, such as a question mark or exclamation point in front of the board or port icons, examine the **Event Log** to determine the problem.

Windows 2003/XP (32-bit/64-bit) Driver Installation

1. After powering on your PC, Windows 2003/XP will automatically detect the PCIe board.
2. Insert the PCIe software CD in your CD-ROM drive.
3. Select **Install from a list or specific location (Advanced)**.
4. After selecting **Search for the best driver in these locations**, select the **Include this location in the search**, and then click **Browse**. If the system is a 32-bit (x86) platform, navigate to the **\CP-102E\Software\Windows XP_2003\x86** folder on the CD, if the system is 64-bit (x64) platform, navigate to the **\CP-102E\Software\Windows XP_2003\x64** folder on the CD, and then click **Next** to continue.
5. Click **Continue Anyway** in response to any warnings that the software has not passed Windows Logo testing.
6. After the board has been installed, the installation wizard will guide you through the port installation procedure, starting with port 0.
7. Use the **Device Manager** to check the installation of the board and ports. Click the + sign next to **Hardware**, and then check **Multi-port serial adapters** and **Ports (COM & LPT)**. If there are warning marks, such as a question mark or exclamation point in front of the board or port icons, examine the **Event Log** to

determine the problem.

Windows 2000 Driver Installation

1. After powering on your PC, Windows 2000 will automatically detect the PCIe board.
2. Insert the PCIe software CD in your CD-ROM drive.
3. Select **Search for a suitable driver for my device (recommended)**.
4. Under **Optional search location**, select **specify a location**. Navigate to the **\CP-102E\Software\Windows 2K** folder on the software CD.
5. Click **Continue Anyway** in response to any warnings that the software has not passed Windows Logo testing.
6. After the board has been installed, the installation wizard will guide you through the port installation procedure, starting with port 0.
7. Use the **Device Manager** to check the installation of the board and ports. Click the + sign next to **Hardware**, and then check **Multi-port serial adapters** and **Ports (COM & LPT)**. If there are warning marks, such as a question mark or exclamation point in front of the board or port icons, examine the Event Log to determine the problem.

Linux Driver Installation

1. Execute the following commands from the Linux prompt:
   #mount /dev/cdrom /mnt/cdrom
   #cd /
   #mkdir moxa
   #cd /moxa
   #cp /mnt/cdrom/<driver directory>/
   driv_linux_smart_vx.x_build_yymmddhh.tgz .
   #tar –xzvf driv_linux_smart_vx.x_build_yymmddhh.tgz
2. #cd mxser
   #make clean; make install
3. #cd /moxa/mxser/driver
   #./msmknod
4. #modprobe mxupcie
5. Use the Moxa diagnostic utility to verify the driver status:
   #cd /moxa/mxser/utility/diag
   #./msdiag
6. Use the Moxa terminal utility to test the tty ports:
   #cd /moxa/mxser/utility/term
   #./msterm

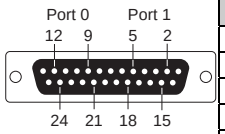
5. Pin Assignments

CP-102EL has one female DB25 connector on the board, and CP-102E has two male DB9 connectors on the board. In this section, we give the on-board connectors, pin assignments, and male DB9 pin assignments for the cable CBL-M25M9x2-50 used with CP-102EL.

Female DB25

- CP-102EL on-board connector

Female DB25

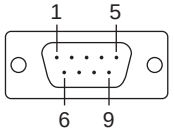


Pin Number	RS-232 Signals	
	Port 0	Port 1
1	---	
2		DCD
3		GND
4		CTS
5		RxD
6	---	
7	---	
8	---	
9	DTR	
10	DSR	
11	RTS	
12	TxD	
13	---	
14	---	
15		DTR
16		DSR
17		RTS
18		TxD
19	---	
20	---	
21	DCD	
22	GND	
23	CTS	
24	RxD	
25	---	

Male DB9

- CP-102E on-board connector (2 connectors, for Port 0 and 1)
- Device-side connector for cable CBL-M25M9x2-50 (for CP-102EL)

Male DB9



Pin Number	RS-232 Signals
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	---

6. Specifications

Hardware	
Connectors	CP-102E: DB9 male x 2 CP-102EL: Female DB25
Comm. Controller	16C550C compatible
Interface	
Bus Interface	PCI Express x 1
Number of Ports	2
Max No. of Boards	4
Signals	
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
Performance	
Baudrate	50 bps to 921.6 Kbps
Configuration	
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
I/O address/IRQ	BIOS assigned
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, XON/XOFF
Environmental Limits	
Operating Temperature	0 to 55°C (32 to 132°F)
Operating Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)
ESD Protection	Embedded 15 KV ESD Protection
Regulatory Approvals	EN55022, EN55024, EN61000-3-2, EN61000-3-3, EN61000-6-2, IEC-61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, FCC Part 15 Class B
Warranty	5 years

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