

# CP-114UL/UL-I

**4-port RS-232/422/485 Universal PCI serial boards with optional 2 kV isolation**



- Over 700 kbps data throughput for top performance
- 128-byte FIFO and on-chip H/W, S/W flow control
- Universal PCI compatible with 3.3/5 V PCI and PCI-X
- Serial communication speed up to 921.6 kbps
- Drivers provided for a broad selection of operating systems, including the latest Windows and Linux
- Easy maintenance with on-board LED display
- Wide temperature model available for -40 to 85°C environments



## Overview

Moxa's CP-114UL/UL-I series of multiport serial boards are designed to be used by industrial automation system integrators for long distance, multipoint, PC-based data acquisition applications. On-chip Automatic Data Direction Control for precision RS-485 communication requires precise timing control to enable and disable the line driver. The Moxa Turbo Serial Engine™ chip that powers the CP-114UL/UL-I

boards come with on-chip ADDC®, which makes RS-485 as easy to use as RS-232. In RS-485 mode, the serial port can connect up to 31 daisy-chained RS-485 devices within a range of 1.2 km. For long distance RS-485 communication, 2 kV electrical isolation protections are available to prevent equipment damage.

## Drivers Provided for Windows, Linux, and Unix

Moxa continues to support a wide variety of operating systems, and the CP-114UL/UL-I boards are no exception. Reliable Windows

and Linux/Unix drivers are provided for all Moxa boards, and other operating systems, such as WEPOS, are also supported for embedded integration.

## Specifications

### Hardware

**Comm. Controller:** MU860 (16C550C compatible)

**Bus:** 32-bit Universal PCI

**Connector:** DB44 female

### Serial Interface

**Number of Ports:** 4

**Serial Standards:** RS-232/422/485

**Max. No. of Boards per PC:** 8

**Electrical Isolation:** 2 kV (CP-114UL-I only)

### Performance

**Baudrate:** 50 bps to 921.6 kbps (supports non-standard baudrates)

### Serial Communication Parameters

**Data Bits:** 5, 6, 7, 8

**Stop Bits:** 1, 1.5, 2

**Parity:** None, Even, Odd, Space, Mark

**Flow Control:** RTS/CTS, XON/XOFF, RTS Toggle (RS-232 only)

### Serial Signals

**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

**RS-422:** TxD+(B), TxD-(A), RxD+(B), RxD-(A), GND

**RS-485-4w:** TxD+(B), TxD-(A), RxD+(B), RxD-(A), GND

**RS-485-2w:** Data+(B), Data-(A), GND

### Physical Characteristics

#### Dimensions:

CP-114UL: 64.4 x 120 mm (2.53 x 4.72 in)

CP-114UL-I: 64.4 x 130 mm (2.53 x 5.12 in)

### Driver Support

**Windows:** Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows Server 2008 R2/2012/2012 R2/2016 (x64), DOS, Windows Embedded CE 5.0/6.0, Windows XP Embedded

**Linux:** Linux 2.4.x, 2.6.x, 3.x

**Unix-like Systems:** QNX 6, SCO OpenServer, UnixWare 7, Solaris 10, FreeBSD

*Note: Please refer to Moxa's website for the latest driver support information.*

### Environmental Limits

#### Operating Temperature:

Standard Models: 0 to 55°C (32 to 131°F)

Wide Temp. Models: -40 to 85°C (-40 to 185°F)

**Storage Temperature:** -40 to 85°C (-40 to 185°F)

**Ambient Relative Humidity:** 5 to 95% (non-condensing)

### Standards and Certifications

**EMC:** EN 55032/24

**EMI:** CISPR 32, FCC Part 15B Class B

#### EMS:

CP-114UL:

IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV

IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m

CP-114UL-I:

IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV

IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m

IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV

IEC 61000-4-5 Surge: Power: 2 kV

IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m

IEC 61000-4-8 PFMF

IEC 61000-4-11

**MTBF** (mean time between failures)

Time: 114,223 hrs

Standard: Telcordia (Bellcore) SR-332

**Power Requirements**

Input Current:

CP-114UL: 320 mA @ 5 VDC

CP-114UL-I: 465 mA @ 5 VDC

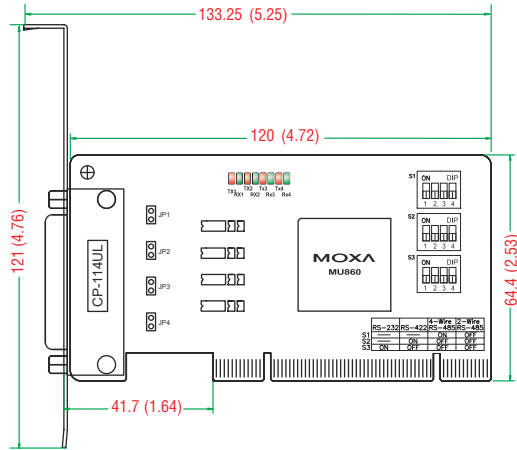
**Warranty**

Warranty Period: 5 years

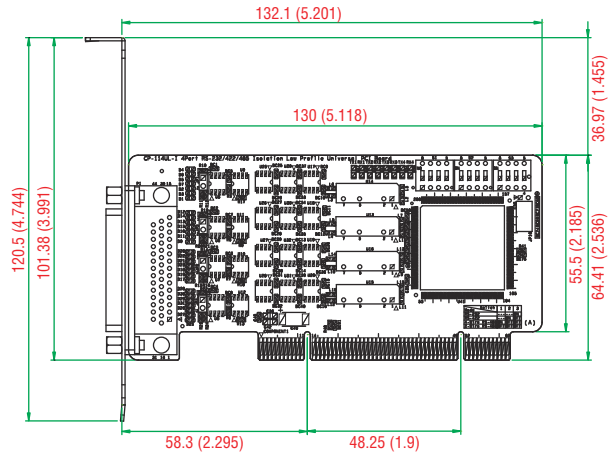
Details: See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Dimensions**

**CP-114UL**



**CP-114UL-I**



Unit: mm (inch)

**Ordering Information**

**Available Models**

**CP-114UL:** 4-port RS-232/422/485 low profile Universal PCI board, 0 to 55°C operating temperature

**CP-114UL-DB9M:** 4-port RS-232/422/485 low profile Universal PCI serial board, 0 to 55°C operating temperature (CBL-M44M9x4-50 cable included)

**CP-114UL-DB25M:** 4-port RS-232/422/485 low profile Universal PCI serial board, 0 to 55°C operating temperature (CBL-M44M25x4-50 cable included)

**CP-114UL-I:** 4-port RS-232/422/485 low profile Universal PCI serial board with electrical isolation, 0 to 55°C operating temperature

**CP-114UL-I-DB9M:** 4-port RS-232/422/485 low profile Universal PCI serial board with electrical isolation, 0 to 55°C operating temperature (CBL-M44M9x4-50 cable included)

**CP-114UL-I-DB25M:** 4-port RS-232/422/485 low profile Universal PCI serial board with electrical isolation, 0 to 55°C operating temperature (CBL-M44M25x4-50 cable included)

**CP-114UL-T:** 4-port RS-232/422/485 low profile Universal PCI serial board, -40 to 85°C operating temperature

**CP-114UL-I-T:** 4-port RS-232/422/485 low profile Universal PCI serial board with electrical isolation, -40 to 85°C operating temperature

**Connection Options** (can be purchased separately)

**Low Profile Bracket:** Bracket for DB44 connector (1490000001000)

**CBL-M44M9x4-50:** M44 to 4 x DB9-M cable, 50 cm

**CBL-M44M25x4-50:** M44 to 4 x DB25-M cable, 50 cm

**Package Checklist**

- 1 CP-114UL or CP-114UL-I board
- Low profile bracket
- 1 connection cable (optional)
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

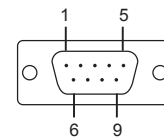
**CBL-M44M9x4-50**

DB44 male to DB9 male x 4 (50 cm cable)



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	-	-	-
7	RTS	-	-	-
8	CTS	-	-	-
9	-	-	-	-

**DB9 male**



**CBL-M44M25x4-50**

DB44 male to DB25 male x 4 (50 cm cable)



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	-	-	-
5	CTS	-	-	-
6	DSR	-	-	-
7	GND	GND	GND	GND
8	DCD	TxD-(A)	TxD-(A)	-
20	DTR	RxD-(A)	RxD-(A)	Data-(A)
22	-	-	-	-

**DB25 male**

