CP-114UL/UL-I
4-port RS-232/422/485 Universal PCI serial boards with optional 2 kV isolation

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.

Overview
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
- Linux: Linux 2.4.x, 2.6.x, 3.x
- Unix-like Systems: QNX 6, SCO OpenServer, UnixWare 7, Solaris 10, FreeBSD

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
### 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

### Power Requirements
**Input Current**:
- **CP-114UL**: 320 mA @ 5 VDC
- **CP-114UL-I**: 465 mA @ 5 VDC

### MTBF
**Mean Time Between Failures** (MTBF):
- **Time**: 114,223 hrs
- **Standard**: Telcordia (Bellcore) SR-332

### 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

### Dimensions

**CP-114UL**

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<tr>
<th>PIN</th>
<th>RS-232</th>
<th>RS-422</th>
<th>RS-485-4w</th>
<th>RS-485-2w</th>
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<tr>
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<td>RXD</td>
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<td>Data+(B)</td>
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<td>TxD</td>
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<td>Data+(A)</td>
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<td>DTR</td>
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**CP-114UL-I**

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**CBL-M44M9x4-50**

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

**CBL-M44M25x4-50**

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

### 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

### Warranty
**Warranty Period**: 5 years
**Details**: See [www.moxa.com/warranty](http://www.moxa.com/warranty)

### Power Requirements
**Input Current**:
- **CP-114UL**: 320 mA @ 5 VDC
- **CP-114UL-I**: 465 mA @ 5 VDC

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