



## THE FASTEST WAY TO WIRELESS

ConnexLink™ stand-alone radio modules are set up in minutes to cut the cables between RS232 or RS485 devices. Their flexibility and economic price allow users to quickly upgrade wired terminals to cordless operation in industrial, commercial, and residential applications.

Powered by a 125mW 2.4GHz radio or a 1000mW 900MHz radio, each unit is small and easily portable for use in mobile and temporary settings, as well as fixed installations. Optional software enables custom configurations based on user needs.

ConnexLink implements a proprietary communication protocol to provide secure local data transmissions. Because it uses FHSS technology, the data remains reliable over distances of up to 20 miles (32 km) line-of sight (900MHz version). Use of license-free frequency bands ensures that units are ready to use with no further certification requirements. Every unit is backed by a full five-year warranty.

ConnexLink radio modules provide simple elimination of cables with a wireless link replacement. Every unit is backed by a full five-year warranty.

### FEATURES

- Durable industrial-grade enclosure
- Transmits around corners, through walls
- Point-to-point and point-to-multipoint setups
- Extremely cost effective
- Up to 20 mile range
- Simple cable replacement
- Options for 910 MHz and 2.4 GHz

### MARKETS

- Weigh scales
- Process control
- Kiosks and POS
- Data logging
- Electronic signs

global solutions: local support.

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## FLEXIBLE RF PROTOCOL

Laird Technologies' embedded transparent protocol simplifies the integration process by allowing seamless plug-and-play installation. As each unit receives raw data, it manages over-the-air protocol to assure successful communication. Headers, data packet length, and CRCs are not required. Broadcast communication to all devices or address packets to a specific destination using unique MAC addresses embedded in each unit.

| Parameter   | CL024-100   | CL4790-1000   | CL4490-1000   |
|---|---|---|---|
| <b>Network architecture</b>                                 | Server/client   | Peer-to-peer  | Server/client   |
| <b>Standard interface</b>                                   | RS232 (DB9 male)  | RS232 (DB9 male) or RS485                                     | RS232 (DB9 male) or RS485                                     |
| <b>Frequency band</b>                                       | 2.402-2.478 GHz   | 902-928 MHz   | 902-928 MHz   |
| <b>Modulation</b>   | FHSS FSK  | FHSS FSK  | FHSS FSK  |
| <b>Serial interface data rate</b>                           | Up to 288 kbps  | Up to 115.2 kbps  | Up to 115.2 kbps  |
| <b>Output power</b>   | 125mW variable  | 1000mW variable   | 1000mW variable   |
| <b>Input power</b>  | 7Vdc to 26Vdc   | 7Vdc to 18Vdc   | 7Vdc to 18Vdc   |
| <b>Current Consumption (@ 12Vdc)</b>                        | 80mA Tx, 10mA Idle  | 400mA Tx, 40mA Rx   | 400mA Tx, 40mA Rx   |
| <b>Power supply (optional; provided with Starter Packs)</b> | AC transformer to 7.5Vdc via 6-foot cable (183 cm)            | AC transformer to 7.5Vdc via 6-foot cable (183 cm)            | AC transformer to 7.5Vdc via 6-foot cable (183 cm)            |
| <b>Electrical requirements</b>                              | Line voltage 100-120V (230V outside U.S.); Frequency 50-60 Hz | Line voltage 100-120V (230V outside U.S.); Frequency 50-60 Hz | Line voltage 100-120V (230V outside U.S.); Frequency 50-60 Hz |
| <b>Channels</b>   | 79 or 43 selectable   | Up to 32 in U.S.  | Up to 32 in U.S.  |
| <b>Security</b>   | 1-byte system ID  | 1-byte system ID, DES   | 1-byte system ID, DES   |
| <b>Sensitivity</b>  | -95 dB @ full RF data rate                                    | -99 dB @ full RF data rate                                    | -99 dB @ full RF data rate                                    |
| <b>Range (line-of-sight)</b>                                | Up to 4.0 miles (6.4 km)                                      | Up to 20 miles (32 km)  | Up to 20 miles (32 km)  |
| <b>Temperature</b>  | -40° to +85°C   | -40° to +80°C   | -40° to +80°C   |
| <b>Humidity (non-condensing)</b>                            | 10% to 90%  | 10% to 90%  | 10% to 90%  |
| <b>Dimensions</b>   | 4.75 x 2.75 x 1.17 in. (121 x 70 x 30 mm)                     | 4.75 x 2.75 x 1.17 in. (121 x 70 x 30 mm)                     | 4.75 x 2.75 x 1.17 in. (121 x 70 x 30 mm)                     |
| <b>Weight</b>   | < 6 oz (< 170 g)  | < 6 oz (< 170 g)  | < 6 oz (< 170 g)  |
| <b>Antenna; connector</b>                                   | Dipole; RPSMA jack (female)*                                  | Dipole; RPSMA jack (female)*                                  | Dipole; RPSMA jack (female)*                                  |
| <b>Configuration software</b>                               | Optional, for Windows OS                                      | Optional, for Windows OS                                      | Optional, for Windows OS                                      |

## PROTOCOL FEATURES

Features vary by product. Ask a Laird Technologies representative to explain why some features are particular to CL024, CL4790, or CL4490.

## RF PROTOCOL MODES

- a) Communication Unicast (one-to-one addressing) Broadcast (one-to-multiple addressing)
- b) Acknowledgement mode (ACK) API with software ACK indication
- c) Handshaking CTS/RTS, modem mode
- d) Variable baud rates
- e) In-range/session indicator
- f) DES encryption (only on CL4790, CL4490)
- g) Raw data or transmit/receive API
- h) Radio Module configuration: Destination address RF transmit power RF channel Broadcast/addressed
- i) 9-bit serial interface mode
- j) All transceivers FCC approved



\*Higher-gain antenna options are available; contact Laird Technologies for more information.

The details contained within the document are subject to change. Download the product specification from <http://www.lairdtech.com/wireless> for the most current specification.

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### Revision History

| Version | Date       | Changes | Approved By |
|---------|------------|---------|-------------|
| 1.0     | 3 Apr 2013 | Initial | C. Downey   |