

THE FASTEST WAY TO WIRELESS

Compact, low-cost 868MHz radio modules can replace miles of cable in harsh industrial environments. Using field-proven technology that needs no additional ETSI (Europe) licensing, OEMs with little or no previous RF experience can easily make existing systems wireless.

AC4486s feature a number of on-the-fly control commands, providing OEMs with a very versatile interface for any application. The modules can be used as direct wire replacements, requiring no special host software for communication. All synchronization and RF system data transmission/reception is performed by the radio module.

AC4486s operate in a point-to-point or point-to-multipoint, client/server or peer-to-peer architecture. They are (socket-compatible network-wide) with 2.4GHz and 900MHz models, preserving OEMs' hardware/software investments while providing solutions that meet different market, regulatory and environmental needs.

FEATURES

- Approved for European use
- Seamless cable-to-radio module replacement
- High 868MHz data rate: 76.8 Kbps
- Small form factor: 1.65 x 1.9 inches
- Operates in -40°C to +80°C temperatures
- Socket-compatible with 2.4GHz models

MARKETS

- Recreation Areas
- Pool & Spa Control
- Point of Sale
- Gaming Devices
- Utilities Management

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FLEXIBLE RF PROTOCOL

Laird Technologies' embedded transparent protocol simplifies the OEM's integration process by utilizing drop-in installation. As each radio module receives raw data, it manages its over-the-air protocol to assure successful communication. Headers, data packet length, and CRCs are not required. The RF232 supports simple cable-replacement to complex peer-to-peer configurations; and broadcast communication to all radio modules or address packets to a specific destination using unique MAC addresses embedded in each radio module.

SPECIFICATIONS

| Parameter | AC4486-5 |
|--------------------------------------|--|
| Interface | 20-pin mini connector |
| Frequency | 869.7-869.65 MHz |
| Modulation | FSK |
| Serial interface options | 3V TTL |
| Serial interface data rate | Up to 115.2 Kbps |
| Output power (w/ 2dBi antenna) | 5mW variable |
| Power consumption (transmit/receive) | 40mA typical |
| Security | One-byte system ID |
| Sensitivity (w/ 2dBi antenna) | -100 dB typical @ 76.8 Kbps RF Data Rate |
| Voltage | 3.3V nominal +/-2%, +/-30mV |
| Range | Up to 1000 meters line of sight |
| Temperature | -40° to +80°C |
| Humidity (non-condensing) | 10% to 90% |
| Dimensions | 1.90 x 1.65 x 0.20" (49 x 42 x 5 mm) |
| Weight | < 0.75 oz (< 21 g) |
| Antenna | External MMCX connector |

ORDERING INFORMATION

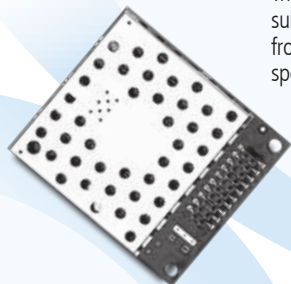
| | |
|--------------------------|---|
| AC4486 - 5M | 868MHz transceiver, TTL serial RS232, 0-250mW, -40° to +80° C, MMCX antenna |
| AC4486 - 5M - 485 | 868MHz transceiver, TTL serial RS485, 0-250mW, -40° to +80° C, MMCX antenna |
| AC4486 - 5A | 868MHz transceiver, TTL serial RS232, 0-250mW, -40° to +80° C, integral antenna |
| AC4486 - 5A - 485 | 868MHz transceiver, TTL serial RS485, 0-250mW, -40° to +80° C, integral antenna |

RF PROTOCOL MODES

- a) Communication
 - Unicast (one-to-one addressing)
 - Broadcast (one-to-multiple addressing)
- b) Acknowledgement mode (ACK)
 - API with hardware and/or software
 - ACK indication

INTERFACE PROTOCOL

- a) On-the-fly radio module configuration:
 - Destination address
 - RF transmit power
 - Broadcast/addressed
- b) 9-bit serial interface mode
- c) A/D, D/A generic I/Os
- d) Variable baud rate
- e) RF packet size, timeout control
- f) Onboard temperature sensor
- g) Handshaking, CTS/RTS
- h) In-range indicator
- i) Error detection
 - Onboard CRC
 - Duplicate packet filtering
- j) Data encryption standard (DES)



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

LWS-SPEC-AC4486 0309

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