

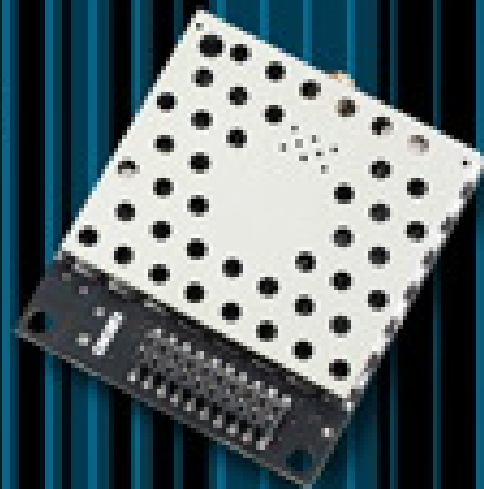
The fastest way to wireless.

High-performance AC4790 transceivers utilize AeroComm's "masterless" protocol, allowing each transceiver to communicate with any other in-range transceiver for true peer-to-peer operation.

Using field-proven 900MHz FHSS technology that needs no additional site licensing*, AC4790s reject interference, enable co-located system operation, increase output power and maintain data integrity.

AC4790's protocol features a dynamic addressing scheme, which simplifies node-to-node communication. The transceiver enables identification of the most efficient transmission path, so OEMs can design routing sequences that optimize the RF network. This makes AC4790 ideal for a wide variety of industrial applications that must rely on smooth, constant data flow.

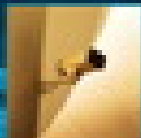
Developer tools and integration support back every transceiver line. Let AeroComm help you find the best fit for your application.



AC4790 Highlights

- **True peer-to-peer protocol.**
- **Ultra-fast sync time (25 msec).**
- **Small form factor: 1.65 x 1.9 inches.**
- **API commands** to control packet routing.
- **Software-controlled sensitivity.**
- **Network node discovery.**
- **Variable output power: 5mW to 1000mW.**

Applications



Commercial Buildings

- Security & fire alarms
- Lighting controls
- Surveillance
- Building automation
- HVAC controls



Field Surveillance

- SCADA
- Oil & gas
- Water & wastewater
- Tank monitoring
- Activity alarms



Utilities Management

- Automatic meter reading
- Load profiling, forecasting
- Data management
- Tampering alerts
- Real-time support



Recreation Areas

- Golf cart tracking
- Score keeping
- Order entry
- Irrigation systems
- Grounds maintenance



Fleet Telemetry

- Vehicle tracking
- Cargo data
- Weigh scales
- Maintenance logs
- Mapping

Specifications

PARAMETER	AC4790-200	AC4790-1000
Interface	20-pin mini connector	20-pin mini connector
Frequency (software selectable)	902-928 MHz (U.S)**	902-928 MHz (U.S)**
Modulation	FHSS FSK	FHSS FSK
Serial interface options	3V or 5V TTL	3V TTL
Serial interface data rate	Up to 115.2 Kbps	Up to 115.2 Kbps
Output power (w/ 3dBi antenna)	5mW-200mW variable	5mW-1000mW variable
Power consumption†	68 mA typical	650 mA typical
Channels	Up to 48 (U.S.)**	Up to 32 (U.S.)**
Security	One-byte system ID, DES	One-byte system ID, DES
Voltage	3.3V-5.5V	pin 10: 3.3V-5.5V; pin 11: 3.3V +/-3%
Sensitivity (adjustable)	-110 dB in "long range" mode	-110 dB in "long range" mode
Range (line-of-sight)	Up to 4 miles (up to 6.5 km) with external antenna	Up to 20 miles (up to 32 km) with high-gain antenna
Temperature	-40° to +80°C	-40° to +80°C
Humidity (non-condensing)	10% to 90%	10% to 90%
Dimensions	1.90 x 1.65 x 0.20 inches (49 x 42 x 5 mm)	1.90 x 1.65 x 0.20 inches (49 x 42 x 5 mm)
Weight	< 0.75 oz (< 21 g)	< 0.75 oz (< 21 g)
Antenna	Integral or external dipole††	External dipole††

* The 900MHz frequency band is approved in the Americas and Australia as an unlicensed spectrum subject to approval by device.
** For products and specifications suited to non-U.S. countries, please contact AeroComm directly.
† Power consumption assumes 50% transmitter on-time.
†† Higher-gain antennas optional.

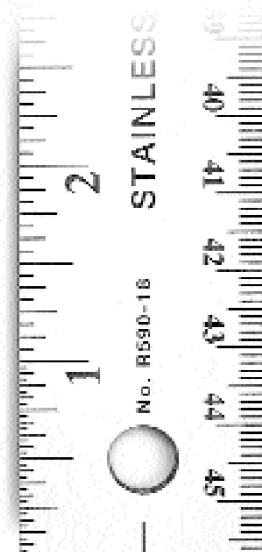
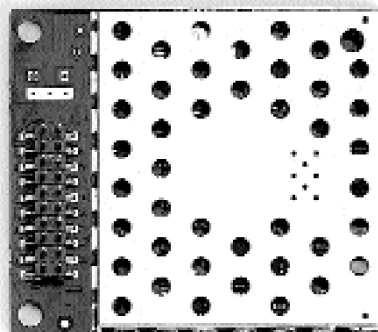


Flexible RF Protocol

AeroComm's RF232™ embedded transparent protocol simplifies the OEM's integration process by allowing for drop-in installation. As each transceiver receives raw data, it manages over-the-air protocol to assure successful communication. Headers, data packet length, and CRCs are not needed.

AC4790's flexible "masterless" topology supports simple cable-replacement up to complex peer-to-peer configurations. Broadcast communication to all transceivers or address packets to a specific destination using unique MAC addresses embedded in each transceiver.

AC4790, Actual Size



Protocol Features

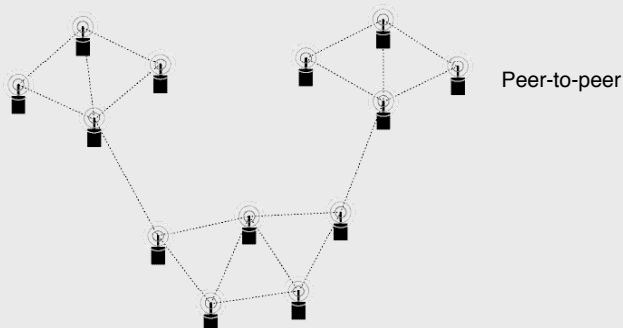
RF PROTOCOL MODES

- a) **Communication**
Unicast (one-to-one addressing)
Broadcast (one-to-many addressing)
- b) **Acknowledgement mode (ACK)**
API with hardware and/or software
ACK indication
- c) **Ultra-fast sync time**
Up to 25 simultaneous conversations
Intelligent self-extending session time
requires only one 25 msec sync
- d) **Remote over-the-air configuration**
- e) **Sensadjust**
Software-controlled RF desensitizer
wards off interference
- f) **Random back-off**
- g) **Network node discovery**
- h) **Dynamic radio data table**
Retains data from up to 8 transceivers

INTERFACE PROTOCOL

- a) **On-the-fly transceiver configuration**
Full API Control
Destination address
RF transmit power
RF Channel
Broadcast/addressed
- b) **Raw data or transmit/receive API**
- c) **Long range mode**
Enables sensitivity control
- d) **A/D, D/A generic I/Os**
- e) **Variable baud rate**
- f) **RF packet size, timeout control**
- g) **Onboard temperature sensor**
- h) **Handshaking**
CTS/RTS
- i) **In-range indicator**
- j) **Error detection**
Onboard CRC
Duplicate packet filtering
- k) **Data encryption standard (DES)**

ARCHITECTURE



Placing Orders

Select features from the list below to identify the appropriate part number. More product lines are available for industrial & commercial applications. Contact AeroComm Sales for details: toll-free 1-800-492-2320, email sales@aerocomm.com.

PART NUMBERS

AC4790-200M

900MHz transceiver, 3.3V-5.5V, TTL serial,
0-10mW, -40° to +80° C, MMCX antenna

AC4790-200A

900MHz transceiver, 3.3V-5.5V, TTL serial,
0-10mW, -40° to +80° C, integral antenna

AC4790-1000M

900MHz transceiver, 3.3V, TTL serial,
5-1000mW, -40° to +80° C, MMCX antenna

AC4790-1x1

See AC4790-1x1 datasheet.

