

Security

High-speed Data Communication



FastLinc™ 900MHz & 2.4GHz Modems Support Real-time Video & SCADA on a Single Network

By

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Abstract: Data-Linc offers speeds up to 54Mbps for not only the license-free 2.4GHz (FastLinc FLC830E) ISM band but also the 900MHz (FLC910E) band using OFDM technology that offers both high speed and resistance to multipath fading. An ideal solution for video and SCADA on a single, cost-effective network.



900MHz FLC910E

- Provides exceptionally high data rates (up to 54 Mbps) in the less saturated 900MHz band
- Offers long range data transfer—up to 14 miles (22.5 km) LOS, farther with Repeaters and/or high-gain antenna
- POE compatible
- Adapts to high-noise environments
- Supports 256-AES encryption
- Features data prioritization capability through QoS
- Reduces LOS issues and minimizes multi-path fading

2.4GHz FLC830E

- Offers long range data transfer—up to 14.5 km (9 miles) LOS, farther with Repeaters
- Provides exceptionally high data rates (up to 54 Mbps)
- Adapts to high-noise environments
- Supports 256-AES encryption
- Features data prioritization capability through QoS
- Reduces LOS issues and minimizes multi-path fading
- EU version available— ETSI & CE Mark compliant
- IEEE 802.11bg compliant— FLC810E, FLC810E+ and FLC820G backward compatibility

The FastLinc FLC910E & FLC830E High-speed Radio Modems

The FLC910E and FLC830E members of the FastLinc Family utilize OFDM technology, a new option in data transmission— Orthogonal Frequency Division Multiplexing— to offer speeds up to 54Mbps in both the 2.4GHz and 900MHz bands. FastLinc FLC modems also perform exceptionally well in noisy RF environments. An additional benefit of the 900MHz version is that it operates in the less crowded 900 MHz ISM band.

Like all wireless products, line-of-sight (LOS) is required. Range may be extended by employing Repeaters and/or high-gain antenna. The exceptional speed (up to 54 Mbps) supports data transfer on a single network for real-time security/surveillance where SCADA is also required. Additionally, both provide the user with data prioritization through QoS (Quality of Service), permitting user-adjusted preferential data service for reduced data latency— the transmission time for a data packet to travel from point A to point B.

The combination of these outstanding features has produced an extremely robust and reliable data communication product with exceptional performance, ideal for plant floor performance as the OFDM technology reduces LOS issues and multi-path fading caused by RF reflection that can be particularly troublesome for plant-floor data transfer— conditions that constrain data rates and reliability in typical high-speed data systems. Both FastLinc FLC910E and FLC830E also support modern encryption standards (AES, TKIP, WEP, etc.) for enhanced security.

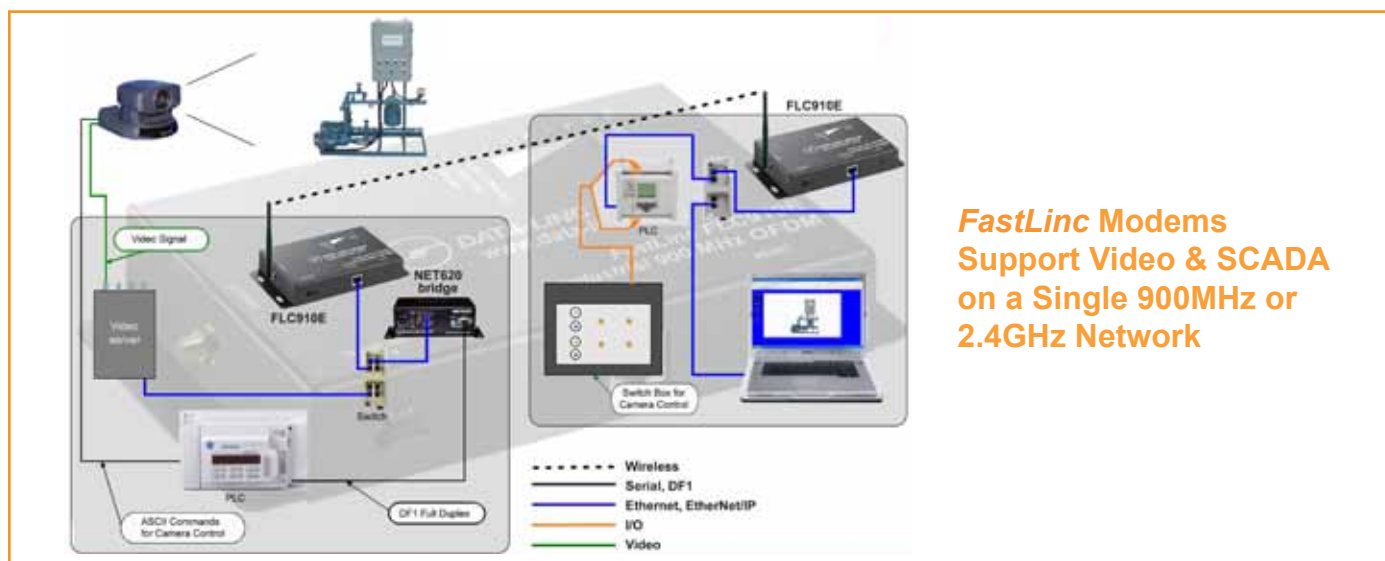
For long distances, challenging plant-floor LOS issues and high data rates, the FastLinc option is the ultimate solution... easy to install, cost-effective network design and robust, reliable data transfer.

* A robust data transfer technology, supporting high-speeds and uniquely employed in the 900MHz band by DATA-LINC GROUP

FastLinc FLC High-speed Modems Specifications Matrix

Feature	FLC910E	FLC830E	FLC830E-EU
Operating Frequency	License-free, 900 MHz	License-free, 2.4GHz FCC 2.412-2.462 GHz (CH 1 - CH 11) TELEC 2.412-2.472 GHz (CH 1 - CH 13) ETSI 2.412-2.472 GHz (CH 1 - CH 13)	License-free, 2.4GHz FCC 2.412-2.462 GHz (CH 1 - CH 11) TELEC 2.412-2.472 GHz (CH 1 - CH 13) ETSI 2.412-2.472 GHz (CH 1 - CH 13)
Maximum Range (LOS with yagi antennas)	14 mi (22.5 km) @ 6 Mbps, 0.8 mi (1.2 km) @ 54 Mbps	14.5 km/9 mi @ 1 Mbps (802.11b) 10.5 km/6.5 mi @ 6 Mbps (802.11g) 1.2 km/0.75 mi @ 54Mbps (802.11g)	1.3 km/0.8 mi @ 1 Mbps (802.11b) 0.96 km/0.6 mi @ 6 Mbps (802.11g) 145 m/160 yd @ 54Mbps (802.11g)
RF Output Power	316 mW 54 Mbps, 25dB 6 Mbps, 20dB	200 mW (23 dBm)	< 100 mW (20 dBm)
Channels	3	Channels 11 (USA); 13 (other countries)	13
PN Source	155-09862-004 140402	155-09855-007B 140415	155-09855-007B 140415

FastLinc Shared Features			
Included: CD User Manual, Test Antenna, Ethernet Cable Power Supply, Quick Start Guide			
Receiver Sensitivity	-72 dBm @ 54 Mbps -92 dBm @ 6 Mbps	Connections	
Modulation	CCK, OFDM	Antenna	SMA connector (female) Nominal Impedance: 50 Ω
Spreading Code	Direct Sequence	Ethernet	10/100 Base-T Auto-MDIX
Occupied bandwidth	5 MHz, 10 MHz or 20 MHz	Power	10-28 VDC 3-pin pluggable terminal block max 250 mA @ 24 VDC max 1100 mA @ 12 VDC
RF Data Transmission Rate	6, 9, 12, 24, 36, 48 or 54 Mbps	Indicators— Status LED's	Power, Status, LAN (Link-Act), LAN (100), WLAN, RSSI* in SA mode (5 stages)
RF Encryption	AES, TKIP, WEP, WPA, WPA2	Enclosure	
Operating Modes	Base Station, Station Adaptor, and Interbuilding with Repeating	Standard	18-gauge steel with mounting flanges
Data Throughput (Depending on range and link quality)	1 Mbps to 20 Mbps	Dimensions	7.6 x 5.6 in (19.3 x 14.3 cm)
Operating Environment		With mounting flanges	9.4 x 5.6 in (23.9 x 14.3 cm)
Temperature	-40° to 167°F (-40° to 75°C)	Included	Optional DIN rail mounting flanges
Humidity	0 to 95% non-condensing	Shipping Weight	Approx 1.8 lb (0.82 kg)



*Receiver Signal Strength Indicators Specifications subject to change without notice. ©2014 DATA-LINC GROUP. All rights reserved.