DATA-LINC GROUP



For coverage from process to perimeter

Global



Think DATA-LINC for the world's broadest line of industrial grade modems ~ world class worldwide



INDUSTRIAL DATA COMMUNICATION APPLICATIONS

INTERFACING WITH ROCKWELL AUTOMATION EQUIPMENT

- Seamless connectivity with Allen-Bradley PLCs
- Ethernet/IP and Modbus TCP/IP, and DF1/Modbus RTU compatibility
- Stand-alone modems available in both 2.4 GHz and 900 MHz license-free ISM bands— long and shorter range wireless FHSS (frequency hopping spread spectrum), 802.11 DSSS (direct sequence spread spectrum), high-speed OFDM, Ethernet, serial and protocol to I/O, as well as wire modems
- Factory pre-configuration available for easy installation
- Bundled solutions for customer convenience
- Reliable, worry-free data communication— even in harsh environments
- Global Encompass Partner of Rockwell Automation

Introduction

Data-Linc Group designs and manufactures industrial data communication devices. Data-Linc Group is dedicated to providing the broadest line of superior quality, high performance modems, data communications peripherals and systems for any industrial application—including harsh environments with extended operating temperatures.

Industries

Data-Linc Group products have been successful in providing continuous data communication in water/wastewater, utility/ power, oil/petrochemical, metals, mining, transportation, stone/aggregate/ quarrying, cement/concrete, pulp/paper, food & beverage, material handling and bio-pharmaceutical industries and other markets.



Application Engineering

Data-Linc Group provides unsurpassed application engineering and customer service. Data-Linc Group application engineers provide worldwide comprehensive requirements analysis to recommend the best data communication solution possible. Because of this in-depth analysis, Data-Linc Group can custom pre-configure each modem and cable to ensure fast and convenient installation.

Data-Linc Group technical services staff provide no-cost support and project assistance to ensure complete customer satisfaction. Data-Linc Group can often simulate PLC communication

Compatibility

Data-Linc stand-alone modems are ideal for interfacing with all Rockwell Automation equipment requiring Ethernet/IP, Ethernet and DF1/Modbus RTU serial and our unique protocol to wireless I/O point-to-point and point-to-mulitpoint connectivity.

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INTERFACING DATA-LINC MODEMS WITH ALLEN-BRADLEY PLCS

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STEEL SCRAP YARD - STEEL WALL OBSTRUCTION

Allen-Bradley Equipment Communicating via DATA-LINC SRM Ethernet Radio Modems Allows Any of Six Crane Operators to Control Mobile Scrap Cars

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OVERCOMING RANGE AND LOS CHALLENGES

A Cost-effective Solution to Obtain Line-of-Sight in a Protocal to Wireless I/O with Wire Extender Network Using Allen-Bradley Equipment Communicating via DATA-LINC Dual Range Modems With Repeaters and/or Directional Antennas to Increase Range and Overcome Obstructions

One Protocol Master supports up to 16 Remotes (384 I/O points)
Each wireless I/O Remote offers 8 discrete in and 8 discrete out;
4 analog in and 4 analog out

 Wired CIX/EXR Remote expands available I/O points at a given site Remote Units can serve asRepeater/Remote to extend range or obtain Line-of-Sight (LOS)
One message instruction for all "reads" and one message instruction for all "writes" per Remote – for minimal ladder programming

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 Simultaneous EtherNet/IP and DF 1 communications

 Robust FHSS technology for both 900MHz & 2.4GHz connectivit
 Long-range and lower power, lower range, lower cost versionscompatible in a single network

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SCADA WATER DISTRIBUTION - REPEATER/REMOTE

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Allen-Bradley SLC 500 Series Communicating via DATA-LINC SRM Family Wireless Serial Modems



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SHIPPING: TUG TO BARGE SHORT-RANGE WIRELESS I/O Allen-Bradley SLC 500 Series Communicating via DATA-LINC PlantLinc Short-range Wireless Protocol to I/O

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Lights and other devices on the barge are controlled by the PLC on the tug. The data is transferred to the protocol Master PLR6435 from the wireless Remote I/O PLR6430 modem, translated from I/O to protocol without additional equipment. The Tug Control Room PLC is connected to the Ethernet and/or serial ports on the PLR6435 Master that, in more complex applications, can communicate wirelessly with up to 16 PLR6430 I/O Remotes for a total of 384 I/O points.





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REAL-TIME A-V MONITORING OF SCADA AND PERIMETER ON THE SAME NETWORK

ALLEN-BRADLEY PLC FOR PROCESS AND CAMERA MONITORING AND CONTROL ON ONE 900 MHz, HIGH-SPEED FLC910E NETWORK



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Approximately 42 DLM4500s and 21 Allen Bradley SLC 5/04 & SLC 5/05 PLCs transfer data from 20 stations to easily monitor and control pump activity using 16 Allen Bradley PanelView 1000 & 700 HMI displays

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Twenty pumping and metering stations in Michigan had been in operation for decades. The aged system suffered so many failures that it had the dubious distinction of having one of the worst sewage spill records in the state. Along with concerns about safety and the environment, fines and maintenance costs had become prohibitive. The Michigan consulting engineering firm worked with the county to design a solution for "the worst" station. The result was so successful that the design was adopted as the standard and extended to include the remaining sites.

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DATA-LINC GROUP Product Selection Matrix - Wireless & Wire

Wireless Product	Interface Type	Configurable as	Maximum RF Data Rate	Freq Band & Modulation	Data Encryption	RF Power Output	Max Distance w/LOS (Line-of Sight) up to			
SmartSpectrum Radio Modems (SRM)										
SRM6030	Serial RS232/	Master/Remote/ Repeater/Repeater- Remote	154 Kbps	900 MHz FHSS	AES-256 bit	1W	25+ miles (40+ km)			
SRM6130	RS485			2.4GHz FHSS		500mW 100mW	10 miles (16 Km) 3.4 miles (5.6Km)			
SRM6230	Ethernet	Master/Remote/ Repeater/Repeater- Remote	154 Kbps	900 MHz FHSS	AES-256 bit	1W	25+ miles (40+ km)			
SRM6330	10/100Mbps			2.4GHz FHSS		500mW 100mW	10 miles (16 Km) 3.4 miles (5.6Km)			
Communication Int	terface I/O Extender	(CIX) Protocol to I/O	& I/O to I/O							
CIX6435	Serial RS232/ RS485 &	Protocol Master (for	154 Kbps	900 MHz FHSS	AES, TKIP, WEP, WPA, WPA2	1W	25+ miles (40+ km)			
CIX5435	E-net 10/100Mbps	CIX & PLR I/O Remotes)		2.4GHz FHSS		500mW 100mW	10 miles (16 Km) 3.4 miles (5.6Km)			
CIX6430		Master/Remote/ Repeater/Repeater- Remote	154 Kbps	900 MHz FHSS	AES, TKIP, WEP, WPA, WPA2	1W	25+ miles (40+ km)			
CIX6530	Discrete/Analog I/O			2.4GHz FHSS		500mW 100mW	10 miles (16+ Km) 3.4 miles (5.6Km)			
CIX/EXR	Discrete/Analog I/O	Wire Extender for CIX and PLR Remote								
PlantLinc Lower Ra	ange (PLR)									
PLR6030	Serial RS232/	Master/Remote/ Repeater/Repeater- Remote	154 Kbps	900 MHz FHSS	AES-256 bit	500mW	5 miles (8 km)			
PLR6130	RS485			2.4GHz FHSS		250mW	2 miles (3.2Km)			
PLR6230	Ethernet	Master/Remote/ Repeater/Repeater- Remote	154 Kbps	900 MHz FHSS	AES-256 bit	500mW	5 miles (8 km)			
PLR6330	10/100Mbps			2.4GHz FHSS		250mW	2 miles (3.2Km)			
PLR6435	Serial RS232/ RS485 &	Protocol Master (for PLR I/O Remotes)	154 Kbps	900 MHz FHSS	AES, TKIP, WEP, WPA, WPA2	500mW	5 miles (8 km)			
PLR6535	E-net 10/100Mbps			2.4GHz FHSS		250mW	2 miles (3.2Km)			
PLR6430	Discrete/Analog I/O	Master/Remote/ Repeater/Repeater- Remote	154 Kbps	900 MHz FHSS	AES, TKIP, WEP, WPA, WPA2	500mW	5 miles (8 km)			
PLR6530				2.4GHz FHSS		250mW	2 miles (3.2Km)			
CIX/EXR	Discrete/Analog I/O	Extender for Master or Remote PLR								
FastLinc High-spee	ed Ethernet (FLC)									
FLC910E*	Ethernet 10/100Mbps	Base Station/Station Adapter/Repeater/ Interbuilding Repeat	up to 54 Mbps	900 MHz DSSS OFDM	AES, TKIP, WEP, WPA, WPA2	316 mW	14 miles (22 km)			
FLC830E*	Ethernet 10/100Mbps	Base Station/Station Adapter/Repeater/ Interbuilding Repeat	up to 54 Mbps	2.4 GHz DSSS OFDM 802.11b/g	AES, TKIP, WEP, WPA, WPA2	200 mW @ 802.11b 802.11g	.11b up to 10 mi (16 km) .11g up to 7 mi (11 km)			

* FLC910E & FLC830E support large bandwidth SCADA and real-time video for cost-effective coverage from process to perimeter. Contact DATA-LINC for availability.

Wired Product	Version	Interface	Maximum Data Rate	Line Type	Architecture	Distance up to
DLM4000	_	Serial RS232, RS485 or 422	19.2 Kbps	Dial-Up/Leased Line/Dedicated Wire	Point-to-point	Unloaded line 20 mi (32 km); unlimited loaded lines & dial-up
DLM4500	_	Serial RS232, RS485 or 422	19.2 Kbps	Dial-Up/Leased Line/Dedicated Wire	Point-to-point	
LLM1100	v.23/Bell 202	RSR232 (RS422/ RS485 available)	1200 Bps	Leased Line/Dedicated Wire	Point-to-point Point-to-multipoint	

Product offerings and specifications may change without notice. Please contact *DATA-LINC* for the latest updates. PN 149-09901-012 160318 DATA-LINC GROUP • 1125 12th Ave NW, Suite B-2 • Issaquah, WA 98027 • Phone: 425-882-2206 • Fax: 425-867-0865 • www.data-linc.com •



YOUR PROPOSED NETWORK SKETCH

For No Cost Project Assistance: Concact us, and let us help: sales@data-linc.com, 425-882-2206

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For Industrial Data Communication

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