

ioLink 1[®]

2.4 GHz



modem front (indoor unit)



RF unit (outdoor unit)



modem back (AC Power)



modem back (DC Power)

BENEFITS

Superior Performance	Reliable as wireline and more since it is virtually interference immune to atmospheric conditions such as rain or snow.
Cost-effective	Low initial outlay ensures short payback on investment. No monthly recurring business leased line fees. Own and control your network.
Speed to Market	Plug and play. No need to lay cable.
Fast and Easy to Install	Network management, standard interfaces and smart engineering allow for quick startup.
Portable	Compact and rugged equipment. If your organization moves to a different location your systems can move with you.

KEY ADVANTAGES

- Simple Network Management Protocol (SNMP) for remote monitoring and network control.
- Forward Error Correction (FEC) to increase link reliability.
- FEC Yellow Alarm, which while correcting the signal pattern, also provides predictive notification of degradation in signal quality.
- Easy to install and align the antenna, because the RSSI signal is provided at the output of the RF unit and readily measured by a volt meter.
- Easy to troubleshoot, as two separate receive and transmit cables carry the IF signal.
- Provides clear and robust communications for 25 miles or more depending on RF propagation conditions.
- Offers quick turn-around on investment and savings on recurring leased line charges.
- Supports T1 or E1 rates (1.544 Mbps or 2.048 Mbps).
- Is virtually immune to interference such as rain, snow, fog and other climatic conditions.
- Provides standard interface (DSX-1 or G.703) for simple and easy installation.
- Operates in the precertified 2.4 GHz or 5.7 GHz ISM bands.

The most important advantage of ioWave products is scalability. Once a link is installed, there is no need to change the RF unit, the cables, or the antenna, in order to increase throughput. This means that users can upgrade their 1T1/E1 to 4T1/E1, simply by swapping the modem unit (indoor unit). Thus, users can preserve their investment and pay for the added throughput only when necessary.



PRODUCT SPECIFICATIONS* FOR THE ioLink 1 – 2.4 GHz

RF UNIT

Electrical

Output Power	+15 dBm (LP) / +25 dBm (HP)
Frequency Range	2400 to 2483.5 MHz
Frequency Selection	2412 MHz and 2452 MHz (Plan A) 2430 MHz and 2470 MHz (Plan B)
Bandwidth	22 MHz
IF Transmit Frequency	110 MHz
IF Receive Frequency	70 MHz
Receive Level	-30 dBm (no error) to -90 dBm (1E-6 BER)
Max Receive Level	0 dBm (no damage)
Receive Sensitivity (at 1E-6 BER)	-90 dBm (T1), -86 dBm (E1)
Processing Gain	>10 dB

Connector Interfaces

To Antenna	Type N Female
To Modem	Type TNC Female (2x)
Cable Length	0-500 ft. *lengths vary with chosen grade of cable



MODEM UNIT

Electrical

Modulation	DQPSK
Spreading Method	Direct Sequence
Code Length	10/T1, 11/E1
Number of Stored Codes	4
FEC	3/4 Rate Convolutional Coding for T1 only

Connector Interfaces

To RF Unit Type	TNC Female (2x)
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User Data

DSX-1	RJ-48C, Female (100 Ohm)
ITU G.703	Type BNC Female (75 Ohm) (2x) (120 Ohm factory ordered)

Monitor and Control

NMS	DB-9, Male (RS232)
Summary Fault	Form-C Relay

Data Interface

Interfaces	DSX-1 (T1), G.703 (E1)
Data Rates	1544 (T1), 2048 (E1) kbps
Line Codes	T1: AMI, B8ZS; E1: AMI, HDB3
Line Build-Out	0-655 ft.

Diagnostics

Front Panel	LEDs, Keypad, LCD
Monitor/Control	Local via keypad, Remote via RS232, SNMP – complaint agent

Power

AC Connector	EIA, 3 prong, Male
AC Voltage	Universal 90-260 VAC, 50/60 Hz
DC Connector	Terminal Block 16 AWG (factory ordered)
DC Voltage	-36 to -72 VDC (factory ordered)
Power Consumption	Typical 25 W (LP), 30 W (HP); Maximum 30 W (LP), 35 W (HP)

ENVIRONMENTAL

	MODEM	RF
Operational Temperature	0° C to + 60° C	-40° C to + 60° C
Storage	-20° C to + 60° C	-40° C to + 60° C
Humidity	0-95% Non-Condensing	0-95% Non-Immersion Rain (4 in/hr)

MECHANICAL

	MODEM	RF
Width	17"	12"
Height	1.75"	4.125"
Depth	13"	12" (14" baseplate)
Weight	6 lb. (2.7 kg)	10 lb. (5 kg)

* product specifications may change without notice

