



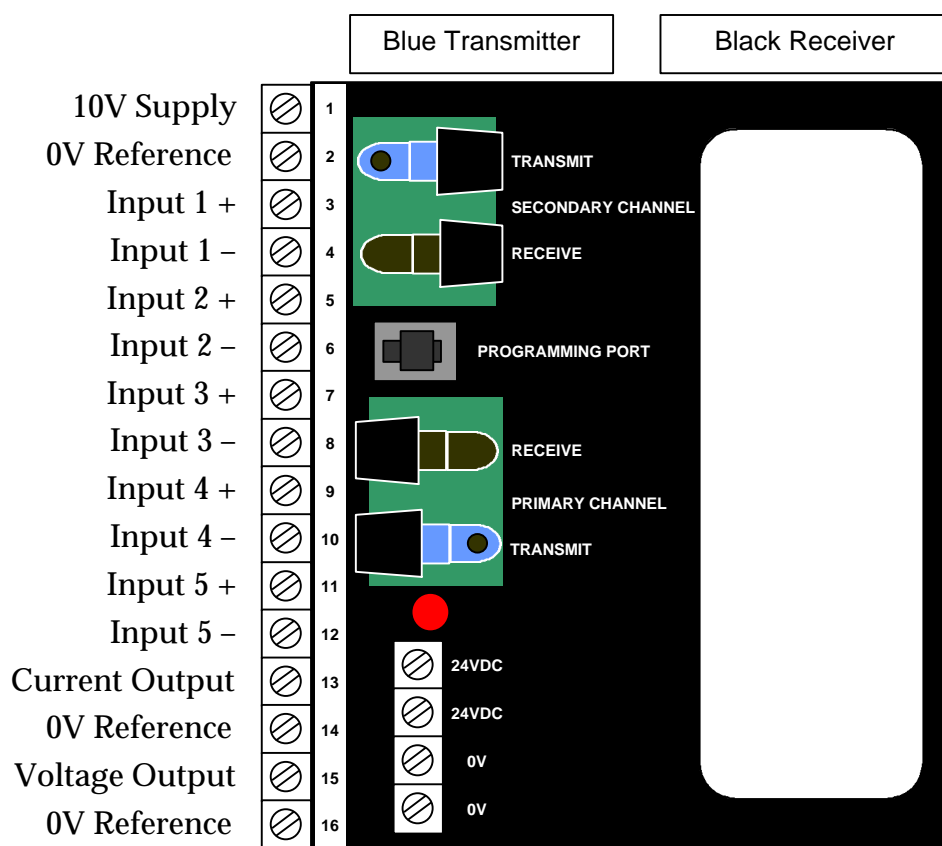
## L5201 Analog I/O Module

### GENERAL DESCRIPTION

The L5201 *LINK* Analog I/O Module is an intelligent device that provides five differential analog inputs and one analog output which can be configured for either voltage or current.

The inputs are differential and accept voltages between 0 V and +10 V. The single analog output may be configured either as a 0–10 V voltage output or as a 4–20 mA current output. The 10V supply can provide up to 20 mA.

The L5201 *LINK* Analog I/O Module may be configured to perform a wide variety of control processing functions (including PID loops, diameter calculation, taper/tension calculation, winder control, draw calculation, etc).



#### NOTE

This module has the new insert and twist fiber optic terminals that do not require any connectors. Cut off the end of the fiber using termination kit LA385204, insert into the terminal, twist and tighten.

#### WARNING

If retrofitting an old *LINK* 1 module: The primary channel terminals now face downward and the secondary channel terminals face upward. This orientation is opposite to that of the old red and black T&B terminals.



## **L5201 Analog I/O Module**

### **TECHNICAL SPECIFICATIONS**

<b>Environmental</b>		
Temperature	0 – 50 °C	
Humidity	90% non-condensing	
<b>Power Supply</b>		
Voltage	20 – 28 VDC (24 V nominal)	
Current	150 mA max	
<b>Inputs</b>		
Range	0 – 10 V	Note 4
Impedance	500 k $\Omega$	
Resolution	0.1 % (10 bits)	
Absolute accuracy	0.5 %	
Fastest Scan time	3 ms	Note 5
<b>Voltage Output</b>		
Range	0 – 10 V	Note 2
Current capability	5 mA max	
Resolution	0.1 % (10 bits)	
Absolute accuracy	0.5 %	
Fastest Scan time	3 ms	Note 5
<b>Current Output</b>		
Range	4 - 20 mA	Notes 2 , 3
Voltage capability	12 V max	
Resolution	0.1 % (10 bits)	
Absolute accuracy	0.5 %	
Fastest Scan time	3 ms	Note 5
<b>Fiber optics</b>		
Transmit length	Maximum 20 meters (66 feet)	
Intensity Range	-13 dBm to -27 dBm	

Note 1..... Not applicable.

Note 2..... Only the voltage **or** the current output may be active at one time.

Note 3..... The current output may be calibrated to provide a 0 – 20 mA output.

Note 4..... The inputs are protected at -0.5V and +30 V.

Note 5..... Effective scan time is constrained by system performance.



## L5202 Digital I/O Module

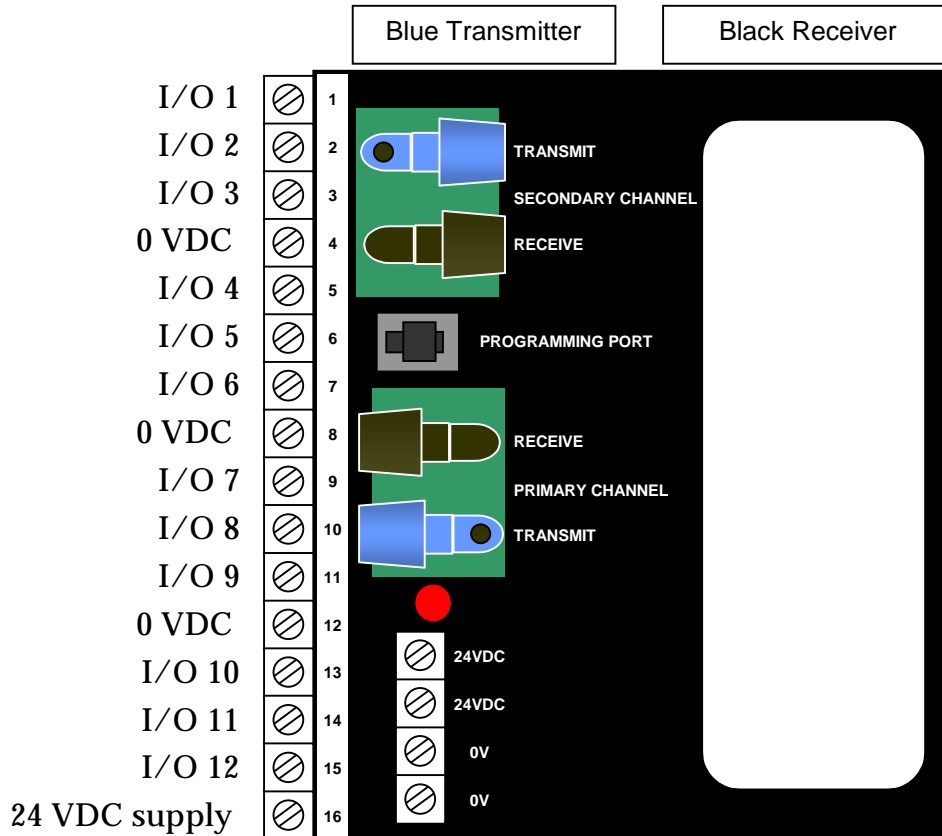
### GENERAL DESCRIPTION

The L5202 *SSD LINK* Digital I/O Module is an intelligent device providing 12 digital I/O points for use with 24 VDC logic.

In input mode, the I/O terminals provide a 6mA pull-up current. In output mode, each I/O terminal sources 6 mA when high and sinks up to 90 mA when low.

The L5202 can measure frequency and count events on terminal I/O 1. Refer to *SSD LINK* Application Note HR351009 for notes on using the frequency input.

The L5202 *LINK* Digital I/O Module may be configured to perform a wide variety of control processing functions (including relay logic replacement, timing, counting, complex sequencing, etc). Information from the module is available to other modules in the *SSD LINK* system.



### NOTE

This module has the new insert and twist fiber optic terminals that do not require any connectors. Cut off the end of the fiber using termination kit LA385204, insert into the terminal, twist and tighten.

### WARNING

If retrofitting an old *LINK 1* module: The primary channel terminals now face downward and the secondary channel terminals face upward. This orientation is opposite to that of the old red and black T&B terminals.



## L5202 Digital I/O Module

### TECHNICAL SPECIFICATIONS

<b>Environmental</b>		
Temperature	0 – 50 °C	
Humidity	90% non-condensing	Note 1
<b>Power Supply</b>		
Voltage	20 – 28 VDC (24 V nominal)	
Module Current	150 mA max	
Pullup Supply Curr.	100 mA max	Note 2
<b>Input Mode</b>		
Low input	4.5 V max	
High input	16.5 V min	Note 3
Type	Current source pull-up	Note 2
Source current	5 mA min	
<b>Output Mode (High)</b>		
Voltage	20 V min	Note 2
Source current	5 mA min	
<b>Output Mode (Low)</b>		
Voltage	2.1 V max	Note 2
Sink current	90 mA max	
<b>Fastest Scan time</b>	1 ms	Note 4
<b>Frequency Counter Input</b>		
Input Frequency	65 kHz max.	
Low voltage	1.7 V max (0 V nominal)	
High voltage	3.0 V min (5 V nominal)	Note 5
Duty Cycle	50% nominal	
<b>Fiber optics</b>		
Transmit Length	Maximum 20 meters (66 feet)	
Intensity Range	-13 dBm to -27 dBm	

Note 1 .....Not applicable.

Note 2.....Note that 24 VDC must be **supplied** to terminal 16.

Note 3.....The absolute maximum voltage that may be applied to any terminal is 28 V.

Note 4.....Effective scan time is constrained by software execution time.

Note 5.....High voltage for frequency input may rise to 28 V without damaging hardware.

## L5203 Serial Module

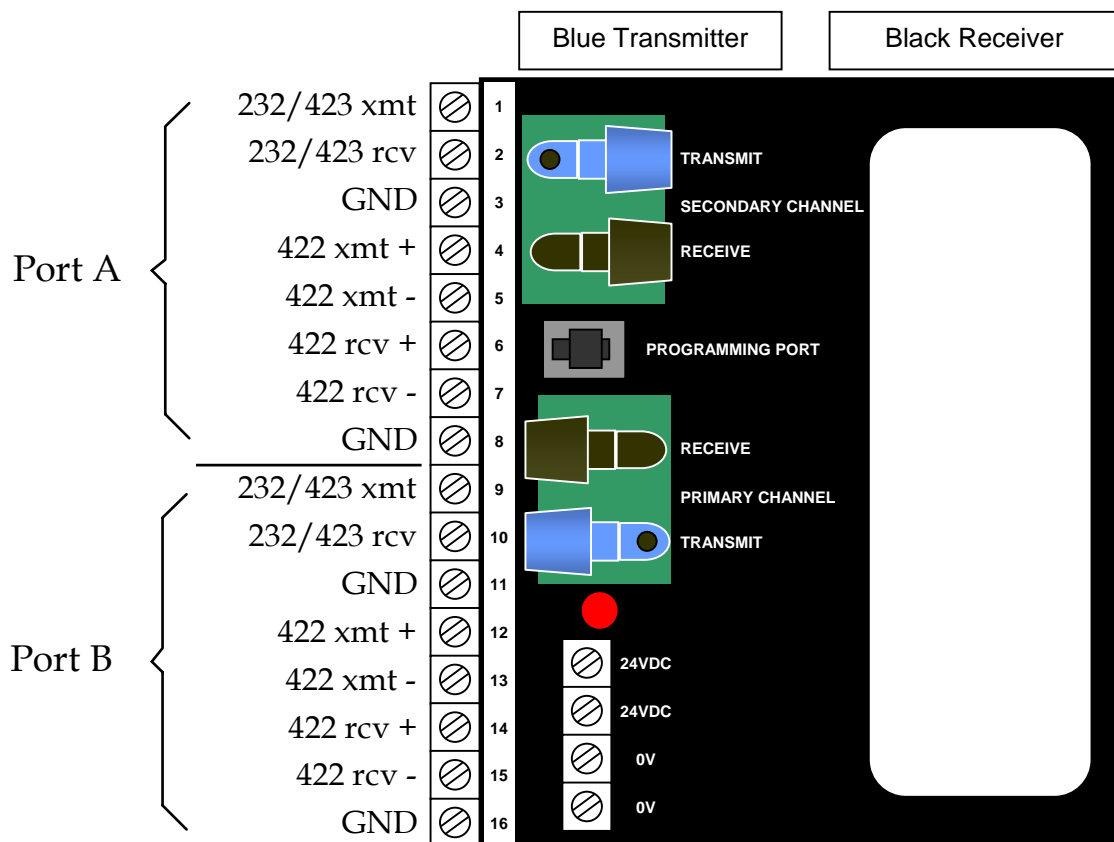
### GENERAL DESCRIPTION

The L5203 *LINK* Serial I/O Module is an intelligent device that provides two serial ports for data communication.

Each port may be configured for RS-232, RS-422, and RS-423, electrical interfaces at asynchronous data rates up to 57,600 baud.

The L5203 *LINK* Serial I/O Module is intended to provide an interface between the SSD *LINK* system and serial devices such as counters, line printers, ticket printers, gauges, temperature controllers, as well as supervisory systems.

The serial protocol is defined by the 'library' software installed in the module.



#### NOTE

This module has the new insert and twist fiber optic terminals that do not require any connectors. Cut off the end of the fiber using termination kit LA385204, insert into the terminal, twist and tighten.

#### WARNING

If retrofitting an old LINK 1 module: The primary channel terminals now face downward and the secondary channel terminals face upward. This orientation is opposite to that of the old red and black T&B terminals.



## L5203 Serial Module

### Technical Specifications

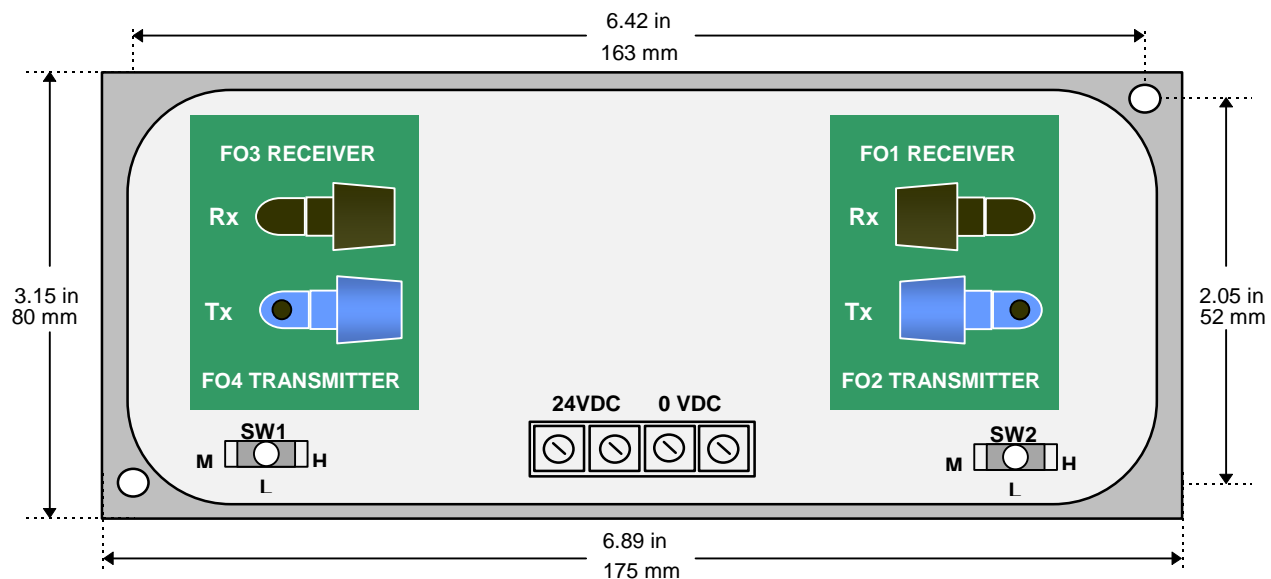
<b>Environmental</b>	
Temperature	0 – 50 °C
Humidity	90% non-condensing
<b>Power Supply</b>	
Voltage	20 – 28 VDC (24 V nominal)
Current	150 mA max
<b>Fiber optics</b>	
Transmit length	Maximum 20 meters (66 feet)
Intensity Range	-19 dBm to -27 dBm

## L5206-2-00 LINK Repeater

### GENERAL DESCRIPTION

The L5206-2-00 LINK Repeater receives and retransmits data on the LINK fiber optic network. The LINK Repeater is housed in a NEMA 4 enclosure suitable for mounting outside equipment enclosures or in unprotected environments.

The L5206-2-00 supports the transmission of two LINK channels. Either a primary and secondary channel pair, or two discrete primary channels may be retransmitted.



### TECHNICAL SPECIFICATIONS

#### Environmental

Operating temperature	0°C to 50°C
Storage temperature	-10 °C to +70 °C
Humidity	85% R.H. in a dry, non-condensing environment
Enclosure Rating	NEMA 4, IP-66 (with appropriate waterproof 1/2 inch NPT fittings)

#### Supply

Supply Voltage	20 to 28 VDC (24VDC nominal)
Current Consumption	55 mA maximum
Power Dissipation	1.5 Watts maximum
Power Terminals	14 to 22 gauge (0.5 to 1.5 mm <sup>2</sup> ) wire size

#### Fiber Optic Channels

Transmission Distance	Selected by toggle switches. SW1 controls FO4 transmitter and SW2 controls FO2 transmitter
LOW (center position)	up to 66 feet (20 meters)
MEDIUM (left position)	66 to 131 feet ( 20 to 40 meters)
HIGH (right position)	131 to 197 feet ( 40 to 60 meters)

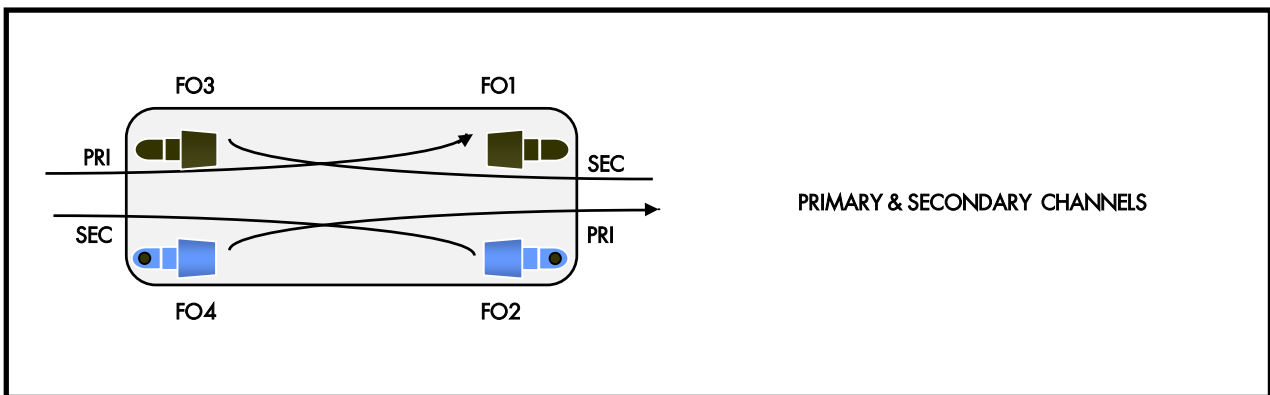
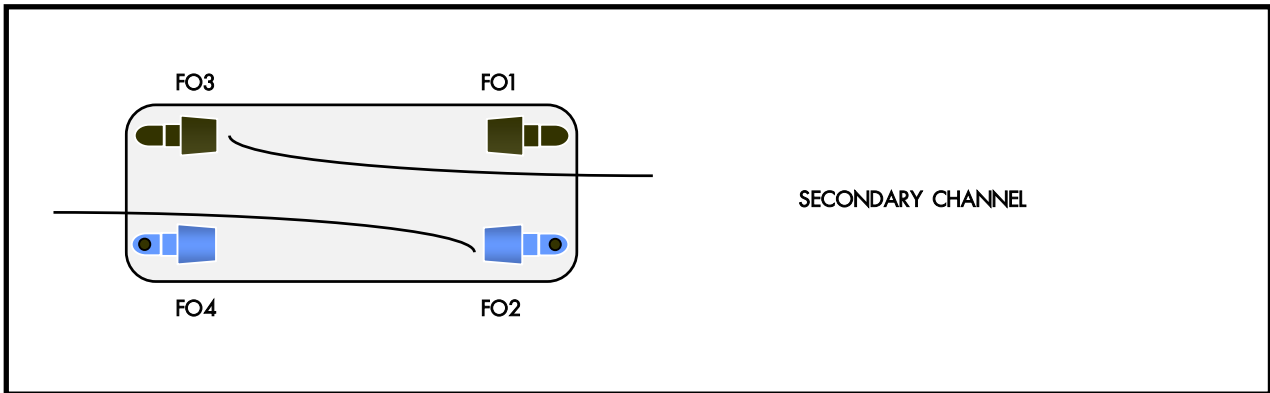
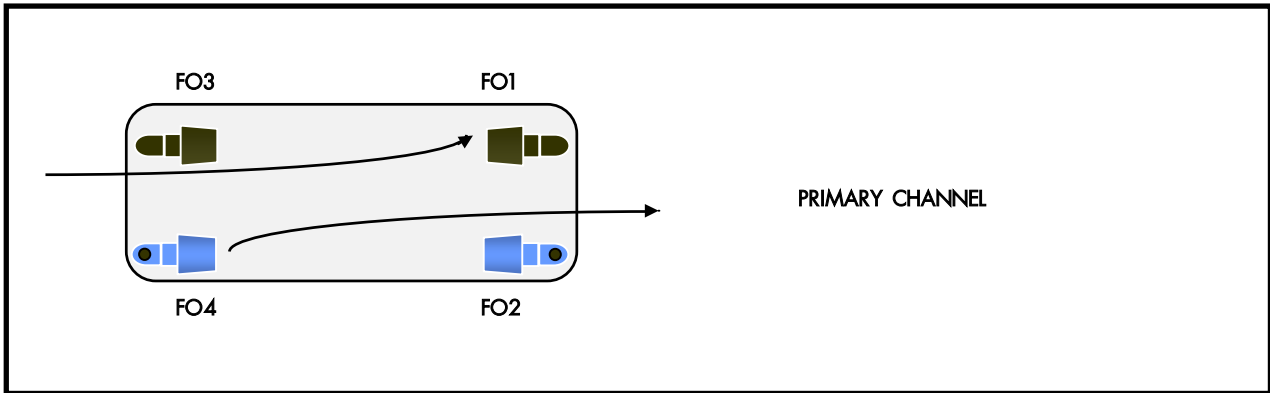
#### Physical

Height	6.89 inches (175 mm)
Width	3.15 inches (80 mm)
Depth	2.32 inches (59 mm)
Weight	1.35 lbs (0.61 kg)

# L5206-2-00 LINK Repeater

## Connection Diagrams

The fiber optic cable connections for each channel are shown below. Note that the arrow denotes the direction of transmission in the fiber, from transmitter to receiver. Each channel is completely independent and hence, can be used either as primary or a secondary channel.



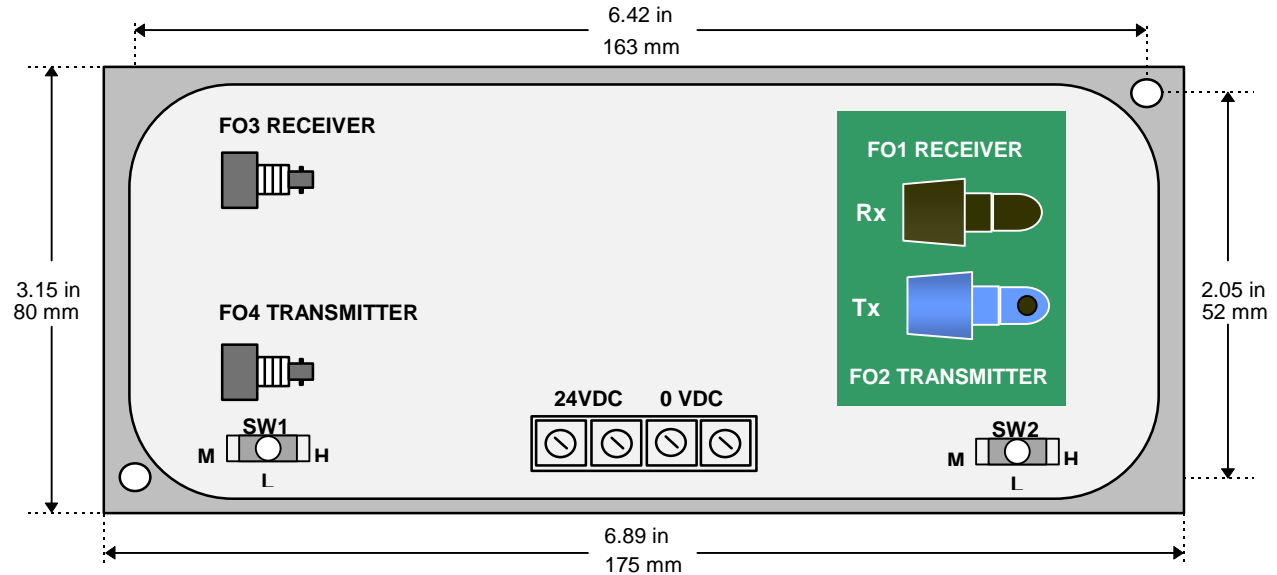


## L5206-2-02 Acrylic/Glass LINK Repeater

### GENERAL DESCRIPTION

The L5206-2-02 LINK Repeater receives data over acrylic fiber optic medium and retransmits it in the glass fiber optic medium on the LINK fiber optic network. It can also be used to convert glass medium data to acrylic. The LINK Repeater is housed in a NEMA 4 enclosure suitable for mounting outside equipment enclosures or in unprotected environments.

The L5206-2-02 supports the transmission of two LINK channels. Either a primary and secondary channel pair, or two discrete primary channels may be retransmitted.



### TECHNICAL SPECIFICATIONS

#### Environmental

Operating temperature	0°C to 50°C
Storage temperature	-10 °C to +70 °C
Humidity	85% R.H. in a dry, non-condensing environment
Enclosure Rating	NEMA 4, IP-66 (with appropriate waterproof 1/2 inch NPT fittings)

#### Supply

Supply Voltage	20 to 28 VDC (24VDC nominal)
Current Consumption	55 mA maximum
Power Dissipation	1.5 Watts maximum
Power Terminals	14 to 22 gauge (0.5 to 1.5 mm <sup>2</sup> ) wire size

#### Fiber Optic Channels

Acrylic Medium	Insert and twist connector. 1000 micron core fiber with 2mm acrylic jacket fiber optic cable
Glass Medium	ST type connector. 62.5 or 200 micron core glass fiber optic cable
Transmission Distance	Selected by toggle switches. SW1 (controls FO4 glass transmitter) and SW2 (controls FO2 acrylic transmitter)

	Acrylic		Glass	
	1000 mic	62.5 mic	200 mic	
LOW (center position)	20 m	200 m	1000 m	
MEDIUM (left position)	40 m	200 m	1000 m	
HIGH (right position)	60 m	1500 m	3000 m	

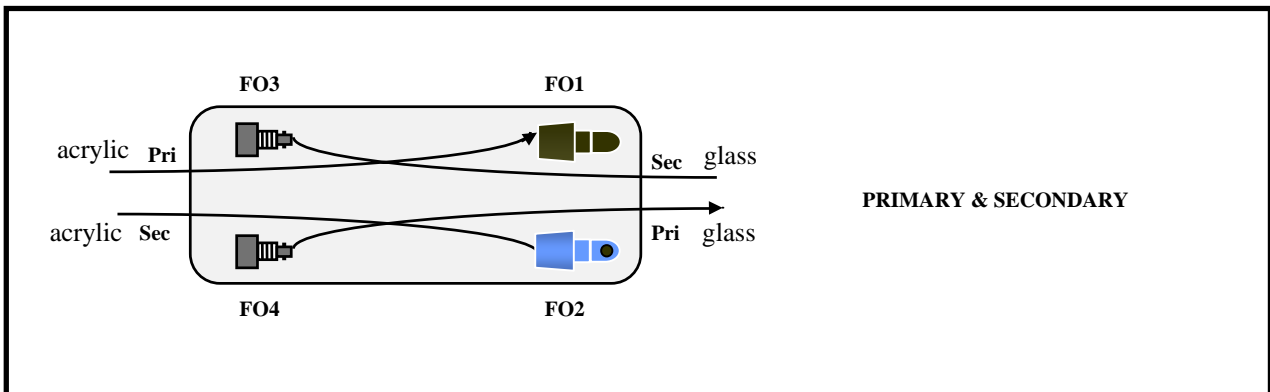
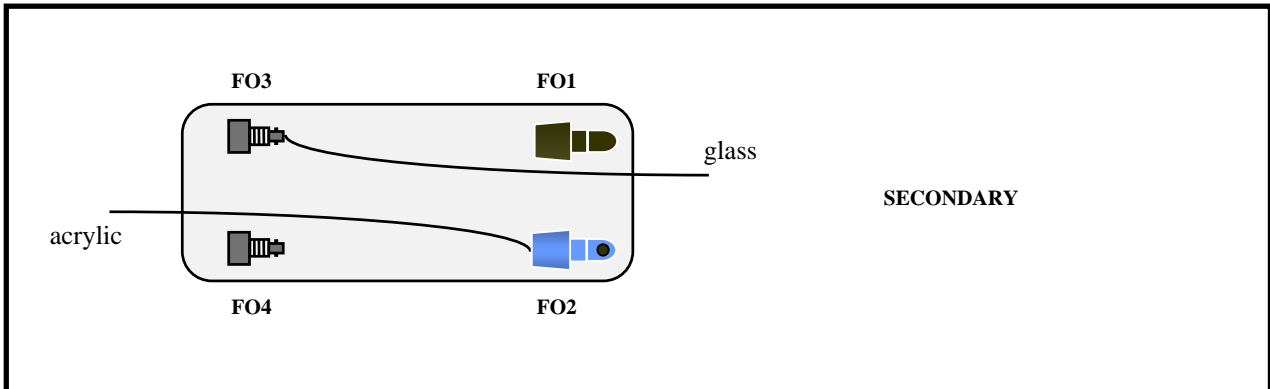
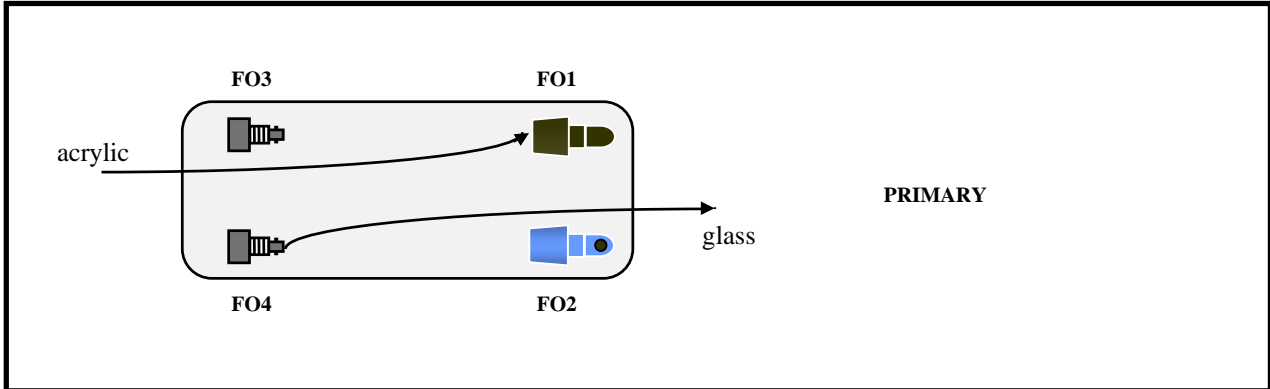
#### Physical

Height	6.89 inches (175 mm)
Width	3.15 inches (80 mm)
Depth	2.32 inches (59 mm)
Weight	1.35 lbs (0.61 kg)

## L5206-2-02 Acrylic/Glass LINK Repeater

### CONNECTION DIAGRAMS

The fiber optic cable connections for each channel are shown below. Note that the arrow denotes the direction of transmission in the fiber, from transmitter to receiver. Each channel is completely independent and hence, can be used either as a primary or a secondary channel.



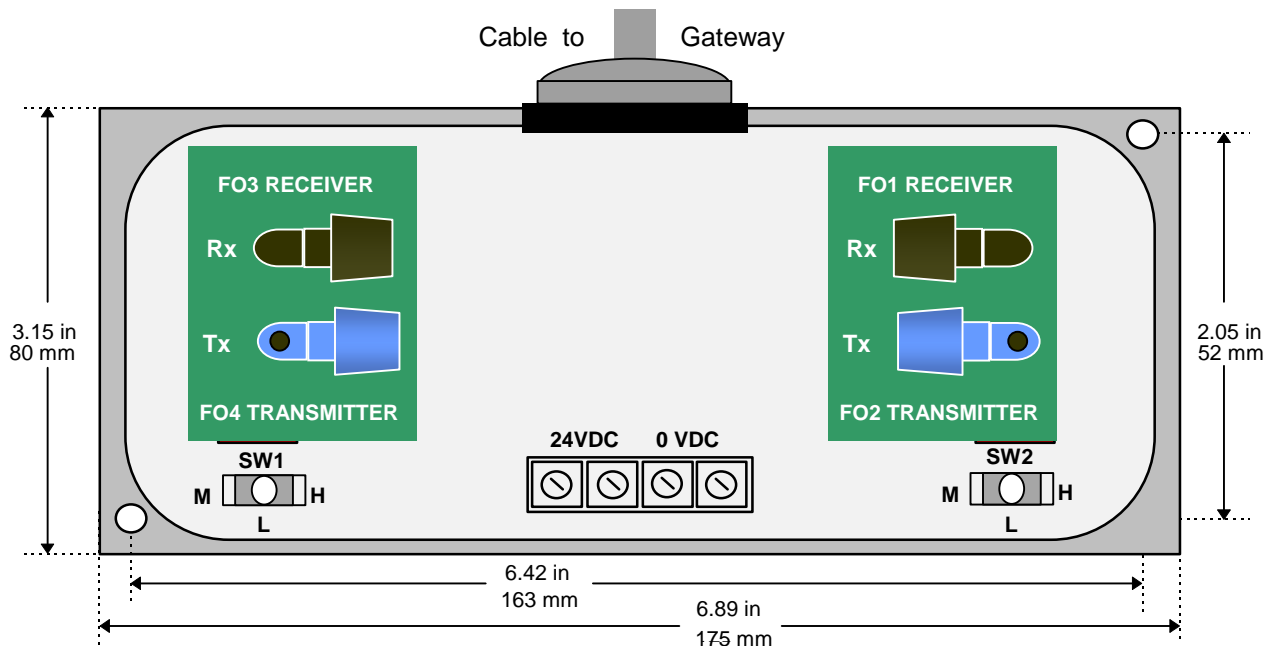
## L5206-2-01 LINK Gateway Repeater

### GENERAL DESCRIPTION

The L5206-2-01 LINK Gateway Repeater receives and retransmits data between the LINK fiber optic network and all LINK Gateways. The gateway is connected via a shielded cable (CM350901) to the repeater's DB25 connector. The L5206-2-01 behaves identically to a simple repeater when the gateway is absent. When a gateway is connected to the repeater, network data is routed through the gateway to include it in the LINK network ring.

The *LINK* Repeater is housed in a NEMA 4 enclosure suitable for mounting outside equipment enclosures or in unprotected environments.

The L5206-2-01 supports the transmission of two *LINK* channels. Either a primary and secondary channel pair, or two discrete primary channels may be retransmitted.



### TECHNICAL SPECIFICATIONS

#### Environmental

Operating temperature	0°C to 50°C
Storage temperature	-10 °C to +70 °C
Humidity	85% R.H. in a dry, non-condensing environment
Enclosure Rating	NEMA 4, IP-66 (with appropriate waterproof 1/2 inch NPT fittings)

#### Supply

Supply Voltage	20 to 28 VDC (24VDC nominal)
Current Consumption	55 mA maximum
Power Dissipation	1.5 Watts maximum
Power Terminals	14 to 22 gauge (0.5 to 1.5 mm <sup>2</sup> ) wire size

#### Fiber Optic Channels

Connectors	Insert and twist connector. 1000 micron fiber with 2mm acrylic jacket fiber optic cable
Transmission Distance	Selected by toggle switches. SW1 controls FO4 transmitter and SW2 controls FO2 transmitter
LOW (center position)	up to 66 feet (20 meters)
MEDIUM (left position)	66 to 131 feet ( 20 to 40 meters)
HIGH (right position)	131 to 197 feet ( 40 to 60 meters)

#### Physical

Height	6.89 inches (175 mm)
Width	3.15 inches (80 mm)
Depth	2.32 inches (59 mm)
Weight	1.35 lbs (0.61 kg)

## L5206-2-01 LINK Gateway Repeater

### CONNECTION DIAGRAMS

The fiber optic cable connections for each channel are shown below. Note that the arrow denotes the direction of transmission in the fiber, from transmitter to receiver. Each channel is completely independent and hence, can be used either as a primary or a secondary channel.

<p><b>Primary Channel</b></p>	<p><b>Network Topology</b></p>	<p><b>Effect when gateway is disconnected</b></p>
	<p>Simple</p>	<p>Network ring is broken</p>
<p><b>Main Ring</b></p>	<p><b>Network Topology</b></p>	<p><b>Effect when gateway is disconnected</b></p>
	<p>Tapped</p>	<p>Network ring is preserved *</p>
<p><b>Primary Channel</b></p>	<p><b>Network Topology</b></p>	<p><b>Effect when gateway is disconnected</b></p>
	<p>Redundant</p>	<p>Network ring is preserved</p>
<p><b>Main Ring</b></p>	<p><b>Network Topology</b></p>	<p><b>Effect when gateway is disconnected</b></p>
	<p>Auxiliary Tapped</p>	<p>Network ring is preserved *</p>

\* NOTE. Losing a fiber optic signal at either receiver breaks both rings.

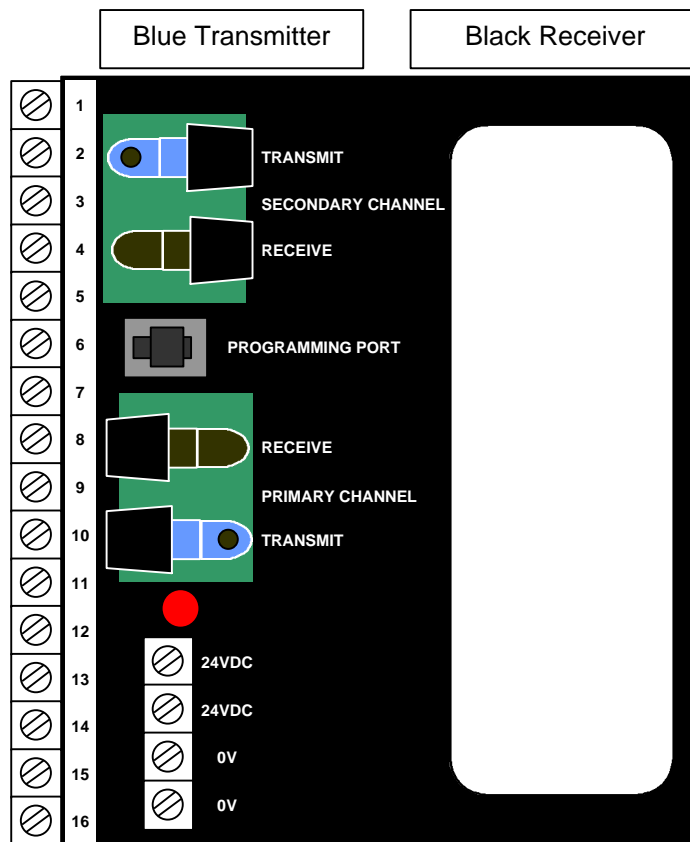


## **L5207 Processor Module**

### **GENERAL DESCRIPTION**

The L5207 *LINK* Processing Module is an intelligent device that provides data and signal processing resources to the *LINK* system.

This module has no real-world I/O capability. All of its inputs and outputs pass over the network.



#### **NOTE**

This module has the new insert and twist fiber optic terminals that do not require any connectors. Cut off the end of the fiber using termination kit LA385204, insert into the terminal, twist and tighten.

#### **WARNING**

If retrofitting an old LINK 1 module: The primary channel terminals now face downward and the secondary channel terminals face upward. This orientation is opposite to that of the old red and black T&B terminals.



## **L5207 Processor Module**

### **TECHNICAL SPECIFICATIONS**

<b>Environmental</b>		
Temperature	0 – 50 °C	
Humidity	90% non-condensing	
<b>Power Supply</b>		
Voltage	20 – 28 VDC (24 V nominal)	
Current	150 mA max	
<b>Fiber optics</b>		
Transmit length	Maximum 20 meters (66 feet)	
Intensity Range	-13 dBm to -27 dBm	



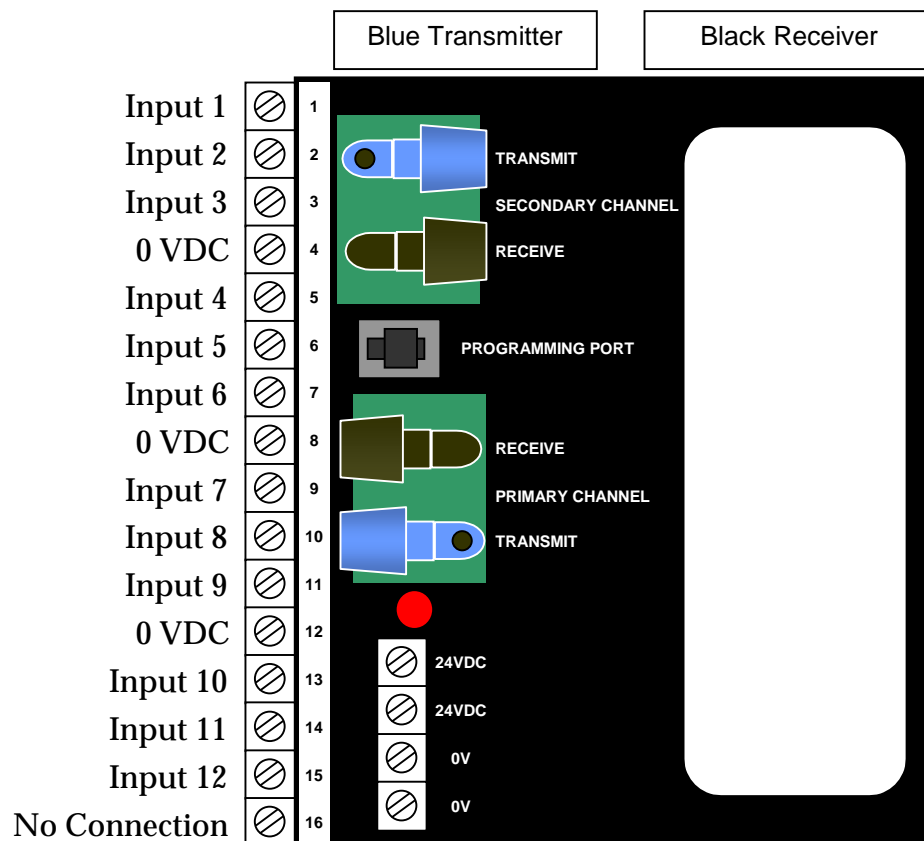
## ***L5209 Digital Input Module***

### **GENERAL DESCRIPTION**

The L5202 *SSD LINK* Digital I/O Module is an intelligent device providing 12 digital input points for use with 24 VDC logic.

Each input presents an input impedance of approximately 3.5 kΩ to ground. The L5209 can measure frequency and count events on terminal Input 1. Refer to *SSD LINK* Application Note HR351009 for notes on using the frequency input.

The L5209 *LINK* Digital Input Module may be configured to perform a wide variety of control processing functions (including relay logic replacement, timing, counting, complex sequencing, etc). Information from the module is available to other modules in the *SSD LINK* system.



### **NOTE**

This module has the new insert and twist fiber optic terminals that do not require any connectors. Cut off the end of the fiber using termination kit LA385204, insert into the terminal, twist and tighten.

### **WARNING**

If retrofitting an old LINK 1 module: The primary channel terminals now face downward and the secondary channel terminals face upward. This orientation is opposite to that of the old red and black T&B terminals.



## L5209 Digital Input Module

### TECHNICAL SPECIFICATIONS

<b>Environmental</b>		
Temperature	0 – 50 °C	
Humidity	90% non-condensing	
<b>Power Supply</b>		
Voltage	20 – 28 VDC (24 V nominal)	
Current	150 mA max	
<b>Inputs</b>		
Low input	4.5 V max	
High input	16.5 V min	Note 3
Type	Resistive pull-down to ground	Note 2
Scan time	1 ms	Note 4
<b>Frequency Counter Input</b>		
Input Frequency	65 kHz max.	
Low voltage	1.7 V max ( 0 V nominal)	
High voltage	3.0 V min ( 5 V nominal)	Note 5
Duty Cycle	50% nominal	
<b>Fiber optics</b>		
Transmit length	Maximum 20 meters (66 feet)	
Intensity Range	-13 dBm to -27 dBm	

Note 1 .....Not applicable.

Note 2 .....Input impedance approximately 3.5 k•.

Note 3 .....The absolute maximum voltage that may be applied to any terminal is 28 V.

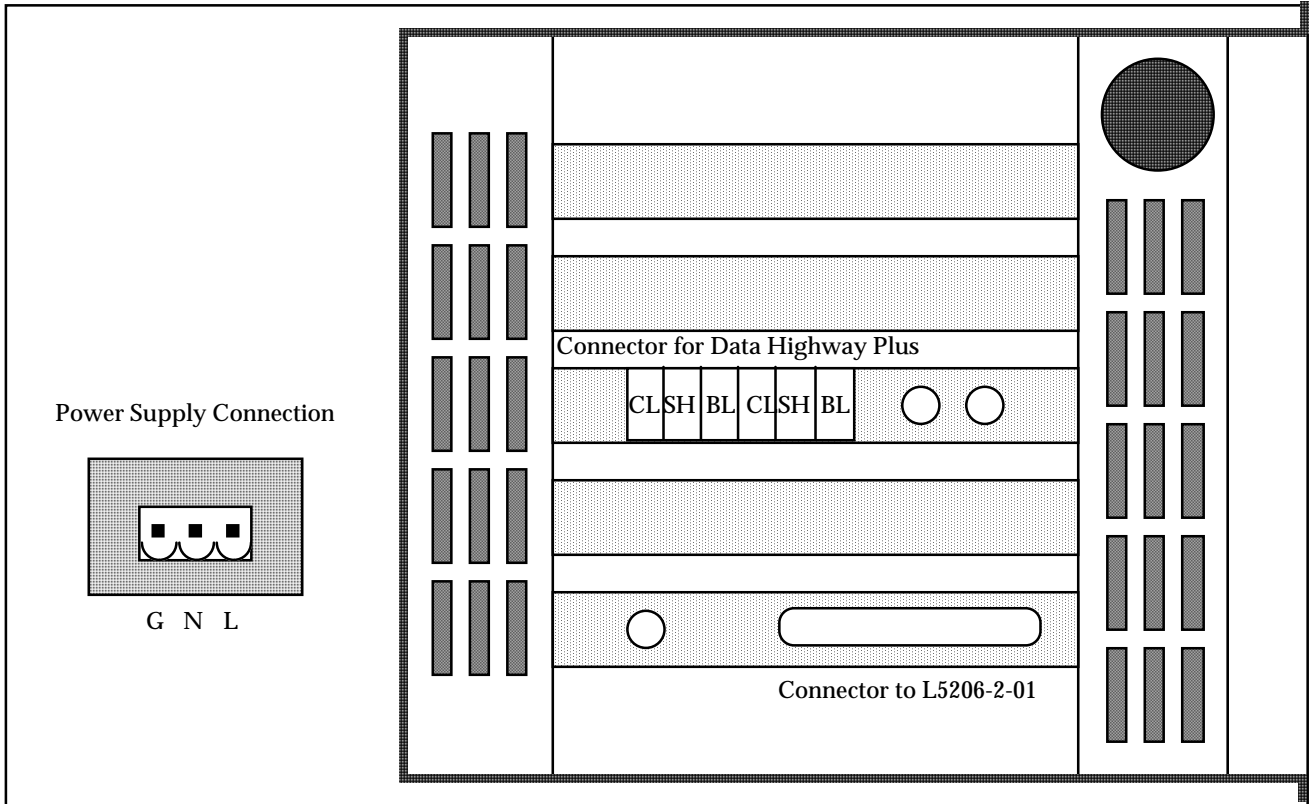
Note 4 .....Effective scan time is constrained by software execution time.

Note 5 .....High voltage for frequency input may rise to 28 V without damaging hardware.





Module Model Number	L5210 - DHP
Module Name	Data Highway Plus Gateway Module



Refer to the *LINK* Overview manual (HA350678) for general information on this module.

Module Description	<p>The L5210 - DHP Gateway Module is a device which provides a communications interface between an <i>SSD Link</i> network and an Allen Bradley Data Highway Plus network. Connectivity between the two communications networks may be configured using SSD's ConfigEd software through a remote SSD Link module.</p> <p>The L5210-DHP supports PLC5 logical binary addressing on the Data Highway Plus network. The PLC5 Typed Read, Typed Write, Word Range Read, Word Range Write, and Read-Modify-Write commands are supported. Transfer of multiple elements is supported for up to 220 bytes.</p> <p>An L5206-2-01 Gateway Repeater Module is required for access to the <i>SSD Link</i> fiber optic network.</p>
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Note.....*Data Highway Plus* and *PLC5* are registered trademarks of the Allen Bradley Company.



**Technical Details**

<b>Environmental</b>		
Temperature	0 – 50 °C	Note 1
Humidity		
<b>Power Supply</b>		
Voltage	80 - 260 VAC	
Current	1 A max	Note 1

Note 1.....This is a preliminary specification and is subject to change.

Contact your SSD sales engineer, local representative or the factory for more information on this product.

Note.....*Data Highway Plus* and *PLC5* are registered trademarks of the Allen Bradley Company.