

MicroLYNX Expansion Modules

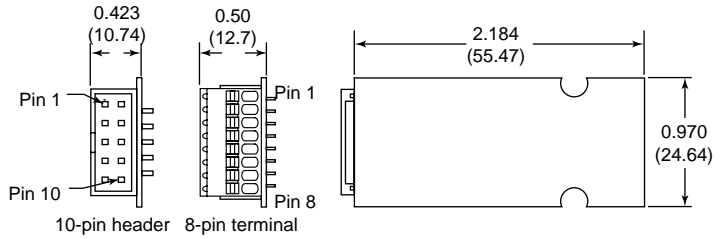


Environmental Specifications

Ambient Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +70°C
Humidity (non-condensing)	0 to 90%

Mechanical Specifications

Dimensions in inches (mm)



Isolated Digital I/O Module

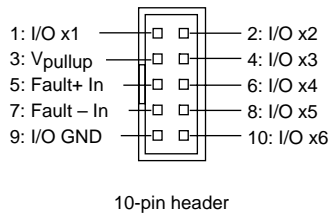
Number Allowed: 3
Slots Allowed: Any

Electrical Specifications

Input voltage range	TTL up to +24 VDC
Output voltage range	Up to +24 VDC
Input low level	< 1.5 V
Input high level	> 3.5 V
Open circuit input voltage (pull-up switch ON)	4.5 V
Open circuit input voltage (pull-up switch OFF)	0 V
Load supply voltage (transient protected @ 60 V)	28 VDC Max.
FET on resistance	2 Ω Max.
Sink current (continuous)	350 mA
Max. group sink (thermally limited)	1.5 A
Filter cutoff frequencies	27.5, 13.7, 6.89, 3.44, 1.72 kHz 860, 430, 215 Hz

Pin Configuration

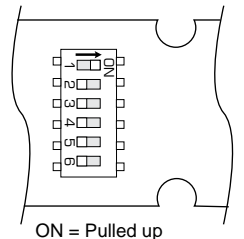
Slot 1: x = 3
Slot 2: x = 4
Slot 3: x = 5



Pull up Switches

The pull up switches are located on the bottom side of the expansion module and are used to set the I/O points as sinking or sourcing.

These should be configured to the desired state prior to installing the expansion module.



Notes and Warnings

Installation, configuration and maintenance must be carried out by qualified technicians only. You must have detailed information to be able to carry out this work. This information can be found in the user manuals.

- Unexpected dangers may be encountered when working with this product!
- Incorrect use may destroy this product and connected components!

The user manuals are not included, but may be obtained from the Internet at: <http://www.imshome.com/downloads/manuals.html>.

Required for Setup

The MicroLYNX I/O modules are available with two connector options: an 8-pin pluggable terminal or 10-pin header, with the exception of the 12-Channel I/O module, which has a 16-pin connector available in two styles. For interfacing to these connectors we recommend:

Isolated I/O, High Speed Differential I/O and Analog Modules

8-pin terminal:
22 AWG shielded twisted pairs.

10-pin header:
Ribbon cable: Digikey P/N MC10G-300-ND
Connector shell: AMP P/N 3-1437026-4

12-Channel I/O Module

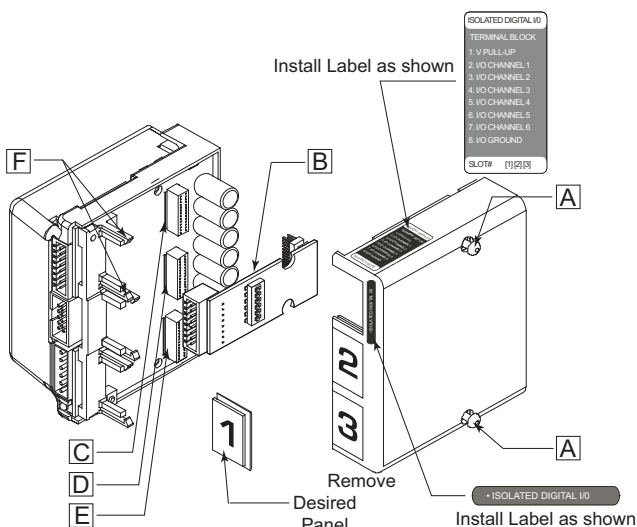
16-pin Hirose
Socket Crimp Terminal: DF11-2428SC
Receptacle: DF11-16DS-2C

16-pin header:
Samtec IDC ribbon cable: TCSD-08-S-XX-01-N

Installation

The table below defines the number of module types allowed and the MicroLYNX expansion slots into which they may be installed.

Module	# allowed	Slots		
		1	2	3
Isolated Digital I/O	3	Y	Y	Y
High Speed Differential I/O	2	N	Y	Y
12-Channel I/O	1	Y	Y	N
Analog Input/Joystick	1	Y	Y	Y
Analog Output	3	Y	Y	Y



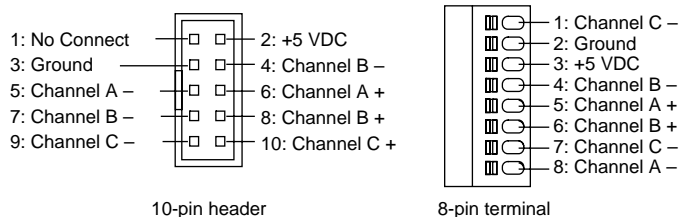
High Speed Differential I/O Module

Number Allowed: 2
Slots Allowed: Slot 2, Slot 3

Electrical Specifications

Differential input threshold	-0.2 to +0.2 V	
Input hysteresis	60 millivolts typical	
Input common mode range	-6 to +6 V	
Open circuit input voltage	Positive input	4.3 V
	Negative input	1.4 V
Output voltage (each output) no load (6 mA load)	Logic 0	0.5 V (0.8 V)
	Logic 1	4.5 V (4.2 V)
Short circuit current	250 mA Max.	
Filter cutoff frequencies	5.00, 2.50, 1.25 MHz 625, 313, 156, 78.1, 39.1 kHz	

Pin Configuration



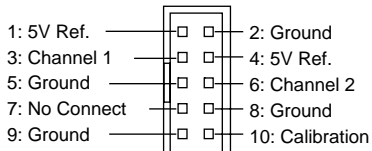
Analog Input/Joystick Module

Number Allowed: 1
Slots Allowed: Any

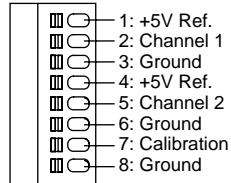
Electrical Specifications

Analog input voltage range	0 to +5 V
Resolution	12 Bits
Offset	±3 LSB
Integral linearity error	±2 LSB
Differential linearity error	±3/4 LSB
Absolute max. Voltage at inputs	±24 V
Joystick reference voltage	+5 V
Calibration reference voltage	+4.096 V
Calibration reference voltage tolerance	±2 %
Filter cutoff frequency	658 Hz

Pin Configuration



10-pin header



8-pin terminal

Analog Output Module

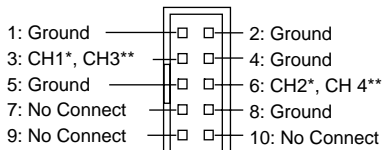
Number Allowed: 3
Slots Allowed: Any

Note that the output channel number will vary depending on the slot number into which the module is installed.

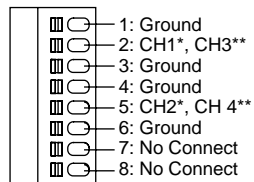
Electrical Specifications

Analog output voltage range	0 to +5 V (50 mA max.)
Resolution	12 Bits
Offset	±3 LSB
Integral linearity error	±2 LSB
Differential linearity error	±3/4 LSB

Pin Configuration



10-pin header



8-pin terminal

* Slots 1 and 2
** Slot 3

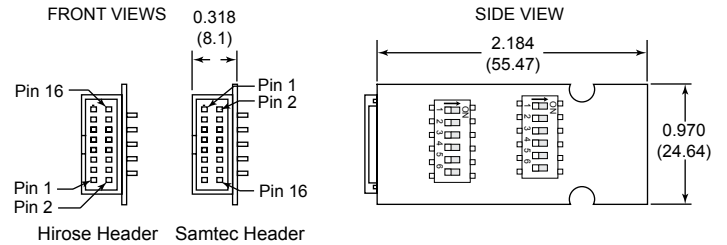
12-Channel I/O Module

Number Allowed: 1
Slots Allowed: Slot 1, Slot 2

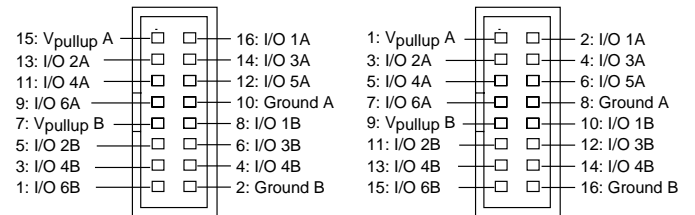
Electrical Specifications

Input voltage range	TTL up to +24 VDC
Output voltage range	Up to +24 VDC
Input low level	< 1.5 V
Input high level	> 3.5 V
Open circuit input voltage (pull-up switch ON)	4.5 V
Open circuit input voltage (pull-up switch OFF)	0 V
Load supply voltage (transient protected @ 60 V)	28 VDC Max.
FET on resistance	2 Ω Max.
Sink current (continuous)	350 mA
Max. group sink (thermally limited)	1.5 A
Filter cutoff frequencies	27.5, 13.7, 6.89, 3.44, 1.72 kHz 860, 430, 215 Hz

Mechanical Specifications



Pin Configuration



Hirose Header

Samtec Header

Pull up Switches

The pull up switches are located on the bottom side of the expansion module and are used to set the I/O points as sinking or sourcing.

These should be configured to the desired state prior to installing the expansion module.

