

Isolated Digital I/O Module

The Isolated Digital I/O can be expanded to 24 lines. Expansion to this level would require the use of all three slots. The I/O groups are slot dependent. The slots will yield the following groups as numbered:

- Slot 1 Group 30
- Slot 2 Group 40
- Slot 3 Group 50

The Isolated Digital I/O Module expands the capabilities of the MicroLYNX to include application features such as:

- 1) Six +5 to +24 VDC Isolated Input Channels
- 2) I/O Lines Software Configurable as Inputs or Outputs
- 3) I/O user definable as Dedicated or General Purpose
- 4) Programmable Digital Filtering for Inputs



Electrical Specifications

Input Voltage Range	0 to +24 VDC
Input Low Level	< 1.5 Volts
Input High Level	> 3.5 Volts
Open Circuit Input Voltage	
Pull-up Switch ON	4.5 Volts
Pull-up Switch OFF	0 Volts
Load Supply Voltage	28 VDC Maximum
	(Transient protected at 60 volts)
FET On Resistance	2W Maximum (T _j =125°C)
Continuous Sink Current	350 mA max each output
	(T _a = 25°C)
Maximum Group Sink	1.5 A (Thermally Limited)
Filter Cutoff Frequencies	27.5, 13.7, 6.89, 3.44, 1.72 kHz, 860, 430, 215 Hz

Pin #	Connector Option					
	8 Position Phoenix			10 Pin Header		
	Slot 1	Slot 2	Slot 3	Slot 1	Slot 2	Slot 3
1	V _{pullup}	V _{pullup}	V _{pullup}	IO 31	IO 41	IO 51
2	IO 31	IO 41	IO 51	IO 32	IO 42	IO 52
3	IO 32	IO 42	IO 52	V _{pullup}	V _{pullup}	V _{pullup}
4	IO 33	IO 43	IO 53	IO 33	IO 43	IO 53
5	IO 34	IO 44	IO 54	N.C.	N.C.	N.C.
6	IO 35	IO 45	IO 55	IO 34	IO 44	IO 54
7	IO 36	IO 46	IO 56	N.C.	N.C.	N.C.
8	I/O GND	I/O GND	I/O GND	IO 35	IO 45	IO 55
9				I/O GND	I/O GND	I/O GND
10				IO 36	IO 46	IO 56

Table 11.2: Isolated Digital I/O Group and Line Locations by Connector Option and Slot

I/O Configuration

Inputs and Outputs as well as digital filtering are configured in the same manner as the Standard I/O (Group 20). Please refer to Section 10 “Configuring the Isolated Digital I/O” for details.

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Slot 1	Group 30
Slot 2	Group 40
Slot 3	Group 50

Installing The Isolated Digital I/O Module

To install the Isolated Digital I/O Expansion Module in your MicroLYNX perform the following in accordance with Figure 11.1.

To Install the Module:

- 1) Remove the two retaining screws (A) from the cover.
- 2) Remove the blank panel (1, 2, or 3) from the desired slot you want to use.
- 3) Carefully press the Expansion Module (B) into place by plugging the 28 pin connector into the desired receptacle (C, D, or E) and snapping it into place under the retaining clips (F).
- 4) Reinstall the MicroLYNX cover.
- 5) Affix the labels supplied with the Module as shown.

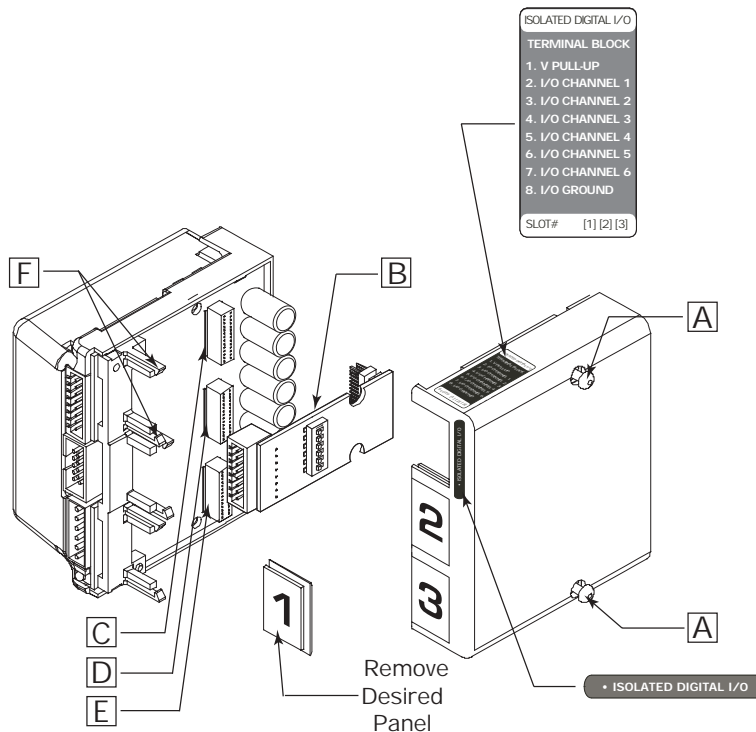


Figure 11.1: Installing the Isolated Digital I/O Expansion Module

Using the Isolated Digital I/O

The Isolated Digital Expansion I/O operates in the very same manner as the standard isolated I/O. The only differences are the location of the pull-up switches, and the method of supplying an external pull-up voltage.

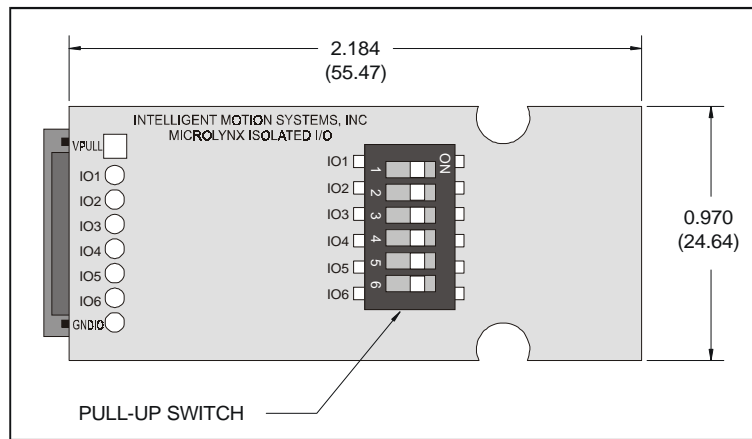


Figure 11.2: The Isolated Digital I/O Module, Bottom View

The pull-up switches are located on the bottom of the expansion board. They operate in the same fashion as the standard I/O set pull-ups. Configuring and using these switches is detailed in Section 10 of this document. Another key difference is the method by which an external pull-up voltage is supplied to the I/O. While the I/O Ground is common to each Isolated Digital I/O Module installed (both the Differential I/O Module and the Analog Input/ Joystick Module have separate, non-isolated grounds) V-PULLUP is **NOT** common. This allows you to power each I/O group independently if you choose.

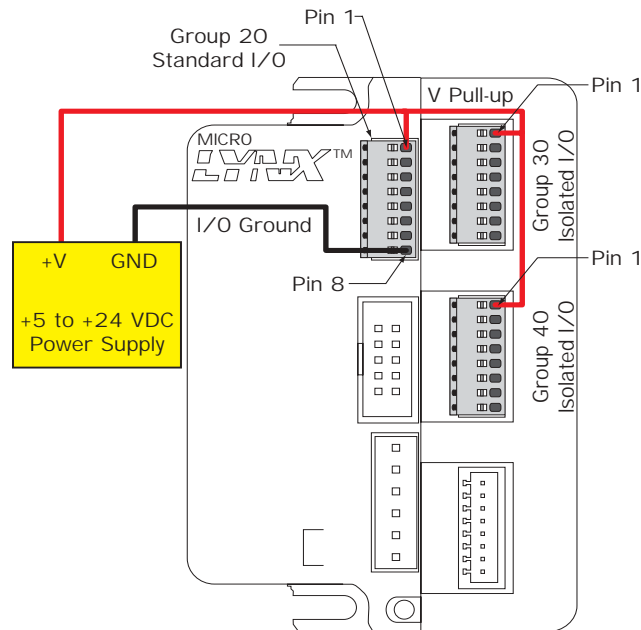


Figure 11.3: Powering Multiple Isolated Digital I/O Modules

The expansion isolated digital I/O is configured and controlled by the IOS variable and the IO instructions in the same manner as the standard I/O set. The only difference is in how the lines and groups are addressed.

See Section 10 for instructions on using the isolated I/O

If digital filtering is used (IOF variable) it must be configured for each group separately.