

12 Channel Isolated Digital I/O Module

The 12 Channel Isolated Digital I/O Expansion Module adds an additional twelve +5 to 24 VDC isolated I/O channels. All of the I/O channels can be individually programmed as either inputs or outputs, or as dedicated (limit, home, etc.) or general purpose.

When used as inputs, these I/O channels have seven programmable digital filter settings ranging from 215 Hz to 27.5 kHz. As outputs, each channel can sink up to 350 mA. The I/O is isolated from the power supply ground.

A 7.5kOhm switch selectable pull-up resistor is provided for each I/O channel. The twelve I/O channels may be pulled up to either the internal +5 VDC supply or an external voltage provided by the user. Protection circuitry includes over temperature, short circuit and inductive current clamp.



Electrical Specifications

Input Voltage Range 0 to +24 Volts
 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 15.A (Thermally Limited)
 Filter Cutoff Frequencies 27.5, 13.7, 6.89, 3.44, 1.72 kHz, 860, 430, 215 Hz

16 Pin Connectors Samtec (S) / Hirose (H)					
Pin #s		Function	Pin #s		Function
1 (S)	15 (H)	V Pull-Up A	9 (S)	7 (H)	V Pull-Up B
2 (S)	16 (H)	I/O Channel 1A	10 (S)	8 (H)	I/O Channel 1B
3 (S)	13 (H)	I/O Channel 2A	11 (S)	5 (H)	I/O Channel 2B
4 (S)	14 (H)	I/O Channel 3A	12 (S)	6 (H)	I/O Channel 3B
5 (S)	11 (H)	I/O Channel 4A	13 (S)	3 (H)	I/O Channel 4B
6 (S)	12 (H)	I/O Channel 5A	14 (S)	4 (H)	I/O Channel 5B
7 (S)	9 (H)	I/O Channel 6A	15 (S)	1 (H)	I/O Channel 6B
8 (S)	10 (H)	I/O Ground A	16 (S)	2 (H)	I/O Ground B

Table 11.12: 12 Channel Isolated I/O Module Pinout

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.

Installing the 12 Channel I/O Module

To Install the Module:

- 1) Remove the two retaining screws (A) from the cover.
- 2) Remove the blank panel (1 or 2) 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 or D) 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.

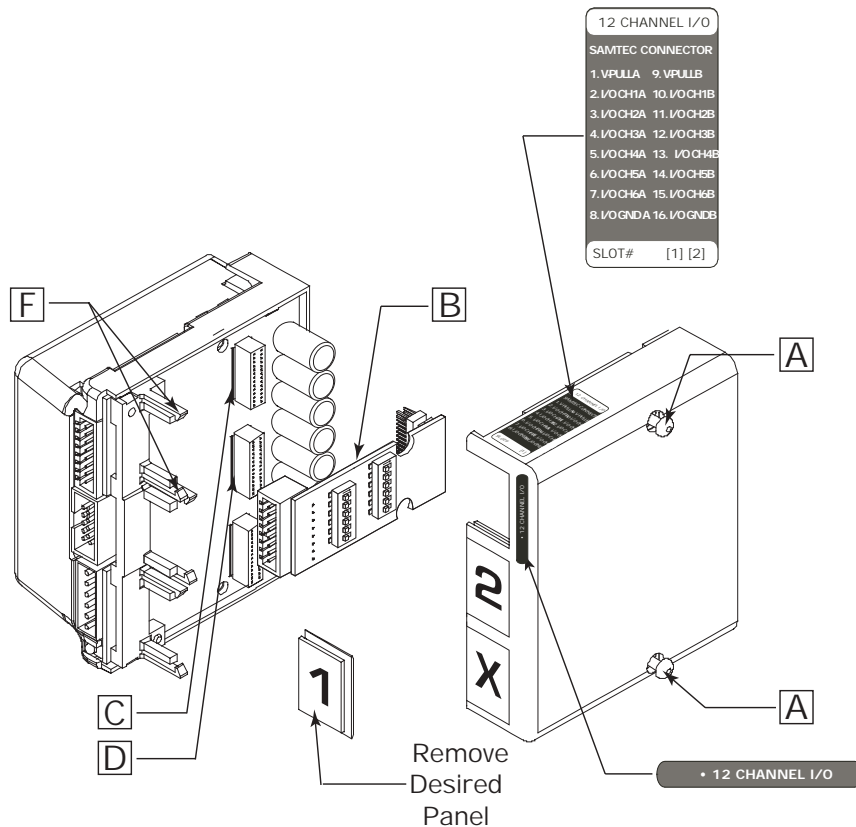


Figure 11.18: Installing the 12 Channel Isolated I/O Module

Pull-up Switches

The Isolated Digital I/O Module is equipped with Pull-up switches which are located on the bottom of the Module. The switches operate in the same manner as the standard Isolated I/O. See Section 10 “Configuring the Isolated Digital I/O” for details.

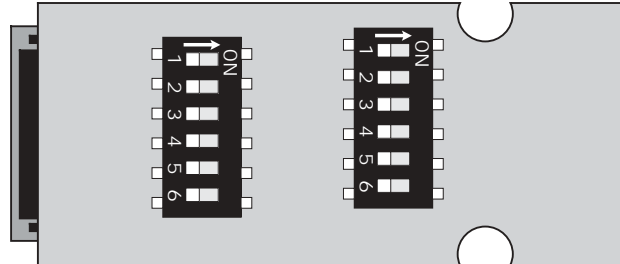


Figure 11.19: 12 Channel I/O Module Pull-up Switches

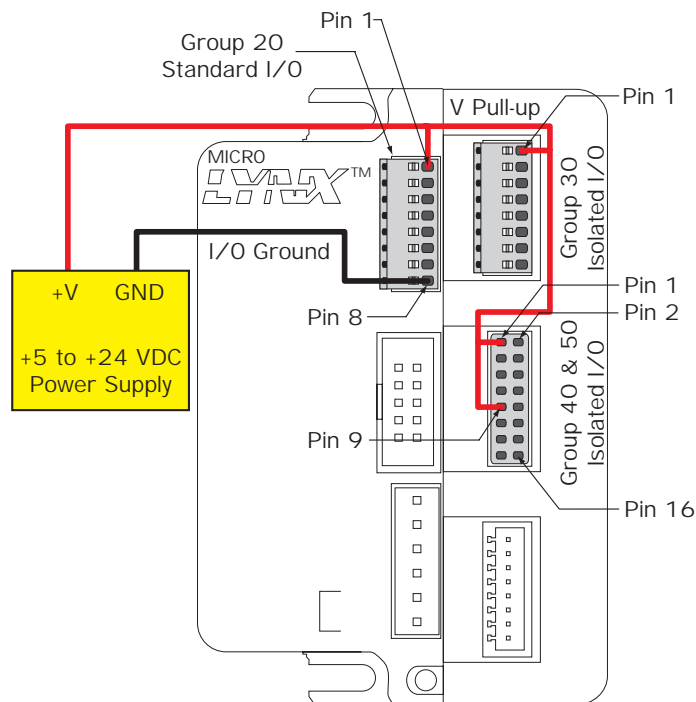


Figure 11.20: Powering Multiple Isolated Digital I/O Modules

NOTE: The Samtec 12 Pin Connector is used in the illustration above. With the Hirose Pin and Receptacle, the physical position of the wires is identical but the Pin numbers are different.

In the illustration above, the Standard Isolated I/O, One Isolated I/O Module, and one 12 Channel I/O Module are shown.

The I/O ground is common internally. Only one ground connection is necessary.

The V Pull-up is NOT common between the modules. This allows the user to power each I/O Group separately if desired.