

Features

- 8 OPTICALLY-ISOLATED NON-POLARIZED INPUTS
- 8 FET OUTPUTS (HIGH/LOW-SIDE)
- 8 LVTTTL I/O LINES PROGRAMMABLE AS INPUTS OR OUTPUTS IN GROUPS OF 4 LINES
- ALL INPUTS SUPPORT CHANGE-OF-STATE (CoS) IRQs

Isolated Digital Inputs

Number	8
Type	Non-polarized, optically isolated from each other and from the computer
Voltage	0-8V low, 12-48V high
Isolation	500V channel-to-ground and channel-to-channel
Resistance	20KΩ in series with opto-coupler
Filter Response	Rise-time 4.7 ms Fall-time 4.7 ms
No-Filter Response	Rise-time 10 μs Fall-time 30 μs
Filter Jumpers	When "ON" enables filter for isolated inputs

FET Outputs

Number	8
Type	High/Low Side Power MOSFET Switch. Protected against short-circuit, over-temp, ESD; drives inductive loads.
Voltage Range	H (High-side) 6-48VDC (customer supplied) L (Low-side) 5-48VDC (customer supplied)
Current Rating	High Side 1.0A maximum Low Side 0.5A maximum
Turn On time	90μsec (typical)
Turn Off time	110μsec (typical)

Digital I/O Lines 8 LVTTTL in groups of 4

Digital Inputs	Logic High Logic Low	2.0V to VCCIO (3.3VDC, 5VDC tolerant) 0V to 0.8V
Digital Outputs	Logic High Logic Low	2.0V (min) 24mA source 0.55V (max) 24mA sink

Environmental

Temperature	Operating Storage	0°C to 70° -65° to 150°C
Humidity		5% to 95%, non-condensing
Power required	From MPCIE bus	+3.3VDC @ 360mA (typical)

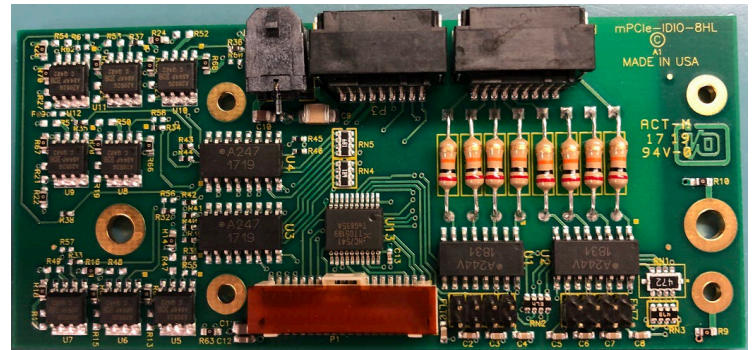
Programming

Model	Vendor ID	Device ID
mPCIe-IDIO-8HL	0x494F (ASCII for "IO")	0x0110
mPCIe-IDIO-8H	0x494F	0x0111
mPCIe-IDIO-8L	0x494F	0x0112

Register Map: I/O Registers at BAR [2]		
Register offset (decimal)	Write Operation	Read Operation
FETs [+0]	FET 0-7 output	FET 0-7 read-back
Isolated Inputs [+1]	unused	Bits 0-7 input
TTL 0-3 and 4-7 [+16]	Digital Output	Digital Input
TTL Control [+17]	Configure Port I/O	Read I/O Config.
IRQ Control [+40]	En- / Dis-able IRQ	
IRQ Clear/Status [+41]	Clear IRQ	IRQ Status

See mPCIe-IDIO-8 manual for further register details.

mPCIe-IDIO-8HL mPCIe-IDIO-8H mPCIe-IDIO-8L



Hardware

P2 & P3 I/O connectors	18-pin latching
On-module	Molex 5054481871
Mating	Molex 5054321801
J1 Power connector	2-pin latching
On-module	Molex 0430450200
Mating	Molex 430250200

Pin	Function	Pin	Function
1	INA0	2	INB0
3	INA1	4	INB1
5	INA2	6	INB2
7	INA3	8	INB3
9	INA4	10	INB4
11	INA5	12	INB5
13	INA6	14	INB6
15	INA7	16	INB7
17	N/C	18	N/C

P2 Isolated Inputs

Pin	Function	Pin	Function
1	OUT7/LOAD7	2	OUT6/LOAD6
3	OUT5/LOAD5	4	OUT4/LOAD4
5	OUT3/LOAD3	6	OUT2/LOAD2
7	OUT1/LOAD1	8	OUT0/LOAD0
9	GROUND	10	GROUND
11	LVTTTL 0	12	LVTTTL 1
13	LVTTTL 2	14	LVTTTL 3
15	LVTTTL 4	16	LVTTTL 5
17	LVTTTL 6	18	LVTTTL 7

P3 Isolated FET Outputs and LVTTTL I/O's

Pin	Function	Pin	Function
1	RETURN	2	VBB

J1 Power Connector (Compliance Voltage for FETs)

Models

This manual applies to the following models

mPCIe-IDIO-8HL	8 Isolated Input, 8 High/Low-Side FET Output mPCIe Card
mPCIe-IDIO-8H	8 Isolated Input, 8 High-Side FET Output mPCIe Card
mPCIe-IDIO-8L	8 Isolated Input, 8 Low-Side FET Output mPCIe Card

These models are full-length "F1" mPCIe devices (30mm x 50.95mm) and include a required 9" 40-conductor cable connected to an Isolation Module. The Isolation Module is 1.614" x 3.614" for broad installation compatibility. All units are RoHS compliant.

Included in your package:

- Isolation Module
- 9" 40-pin cable
- Digital I/O mPCIe card