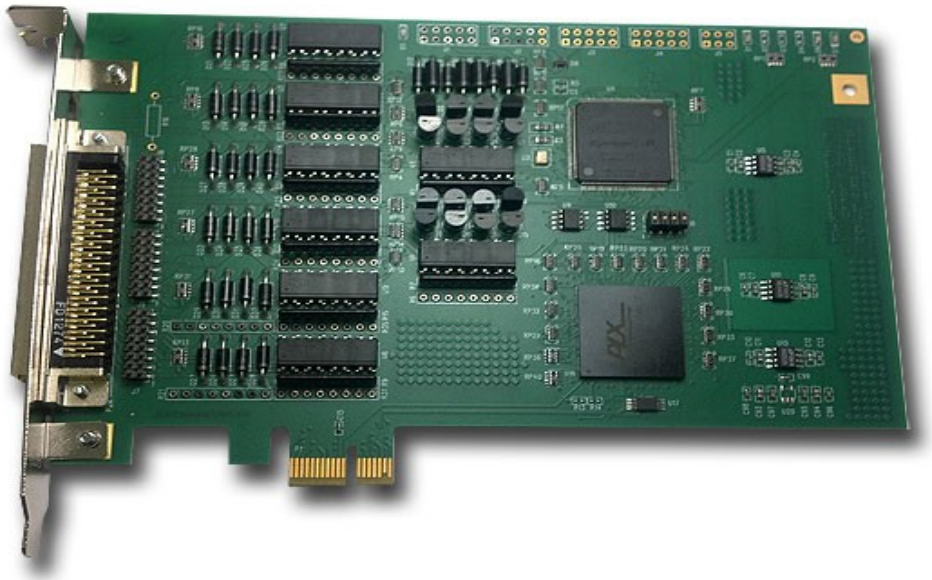
General Standards Corporation

High Performance Bus Interface Solutions

PCIe-OPTO32C

32 Optically Coupled Channels

24 Inputs, 8 Outputs



Features Include:

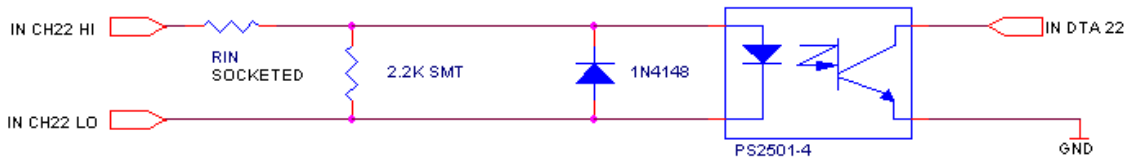
- 24 optically isolated inputs
- Selectable input voltage range thru use of field replaceable bias resistors.
- 8 optically isolated outputs - 4 normal outputs, 4 diode clamped
- Software Programmable clock debounce rate
- Software Programmable Change of State detection. Rising edge or falling edge per input channel
- Software Programmable Interrupts on any or all Change of State bit(s)
- Software Pre-loadable Event counter on Input Bit 23
- Programmable Interrupt on event counter overflow
- Built in Self-Test Features.
- Programmable Little Endian / Big Endian swapping
- PCI cycles Asynchronous to local bus cycles
- Software Controlled Test LED
- VxWorks™ driver available
- Also available as OPTO32C-12V-CONTACT
- True PCIe form factor

General Standards Corporation
8302A Whitesburg Drive · Huntsville, AL 35802
Phone: (256)880-8787 or (800)653-9970
FAX: (256)880-8788
Email: sales@generalstandards.com

Functional Overview:

The PCIe-OPTO32C board has 32 optically-coupled digital I/ O channels consisting of 8 outputs and 24 inputs. Each channel is electrically isolated (1000 Volts) from the PCI host processor board. Change-of-State Interrupts allow for an interrupt to the PCI host to be generated from any level change on any input. Built-in-self-test, selectable debounce times, input pulse counter, and I/ O voltages to 50 Volts makes for a versatile digital interface board.

Figure 1 Input Channels 0-23, Typical



MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

❑ Power Requirements

Power Consumption: 200mA @ 5V Typical
Isolation Voltage – 5000 V
Current Transfer Ratio – 80-600%
VCEO (Max) – 80
Typical Ton/Toff – 3/5 uSec.

❑ Physical Characteristics

Height: 4.12 in
Depth: 0.500 in
Width: 4.721 in

❑ Environmental Specifications

Ambient Temperature Range:	Operating: 0 to +55 degrees Celsius Storage: -40 to +85 degrees Celsius
Relative Humidity:	Operating: 0 to 80%, non-condensing Storage: 0 to 95%, non-condensing
Altitude:	Operation to 10,000 ft.

❑ Cooling Requirements

Conventional air-cooling; 200 LPFM (typical mezzanine environment).

PCI INTERFACE

❑ **Compatibility:** Conforms to PCI Specification 2.1.
Supports "plug-n-play" initialization.
Provides a single multifunction interrupt.
Supports FIFO DMA transfers as bus master.

ORDERING INFORMATION

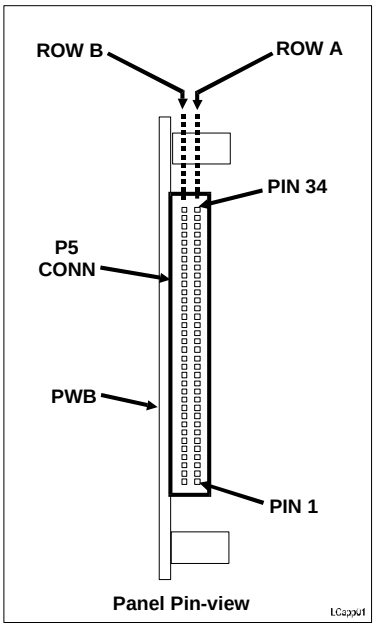
Contact factory for other input voltage options, including a mix of different input voltages. The Input Voltage specified is the minimum voltage required to guarantee that a logic '1' is detected. The Input Resistance is selected via a SIP resistor and can be swapped out by the user; there is one SIP resistor for each group of four channels.

Part #	Input Voltage	Input Resistance	Input Current
PCIe-OPTO32C-5V	5V	2,200 Ohms	23 milli-Amps
PCIe -OPTO32C-12V	12V	5,100 Ohms	23 milli-Amps
PCIe -OPTO32C-28V	28V	12,000 Ohms	23 milli-Amps
PCIe -OPTO32C-48V	48V	20,000 Ohms	23 milli-Amps

General Standards Corporation
8302A Whitesburg Drive · Huntsville, AL 35802
Phone: (256)880-8787 or (800)653-9970
FAX: (256)880-8788
Email: sales@generalstandards.com

SYSTEM I/O CONNECTIONS

Pin #	PA2, Row A, Signal Names:	Pin #	PB2, Row B, Signal Names:
1	IN CH00 HI	35	IN CH17 HI
2	IN CH00 LO	36	IN CH17 LO
3	IN CH01 HI	37	IN CH18 HI
4	IN CH01 LO	38	IN CH18 LO
5	IN CH02 HI	39	IN CH19 HI
6	IN CH02 LO	40	IN CH19 LO
7	IN CH03 HI	41	IN CH20 HI
8	IN CH03 LO	42	IN CH20 LO
9	IN CH04 HI	43	IN CH21 HI
10	IN CH04 LO	44	IN CH21 LO
11	IN CH05 HI	45	IN CH22 HI
12	IN CH05 LO	46	IN CH22 LO
13	IN CH06 HI	47	IN CH23 HI
14	IN CH06 LO	48	IN CH23 LO
15	IN CH07 HI	49	LOG OUT CH0 HI
16	IN CH07 LO	50	LOG OUT CH0 LO
17	IN CH08 HI	51	LOG OUT CH1 HI
18	IN CH08 LO	52	LOG OUT CH1 LO
19	IN CH09 HI	53	LOG OUT CH2 HI
20	IN CH09 LO	54	LOG OUT CH2 LO
21	IN CH10 HI	55	LOG OUT CH3 HI
22	IN CH10 LO	56	LOG OUT CH3 LO
23	IN CH11 HI	57	PWR OUT CH4 HI
24	IN CH11 LO	58	PWR OUT CH4 LO
25	IN CH12 HI	59	PWR OUT CLAMP 4
26	IN CH12 LO	60	PWR OUT CH5 HI
27	IN CH13 HI	61	PWR OUT CH5 LO
28	IN CH13 LO	62	PWR OUT CLAMP 5
29	IN CH14 HI	63	PWR OUT CLAMP 6
30	IN CH14 LO	64	PWR OUT CH6 HI
31	IN CH15 HI	65	PWR OUT CH6 LO
32	IN CH15 LO	66	PWR OUT CLAMP 7
33	IN CH16 HI	67	PWR OUT CH7 HI
34	IN CH16 LO	68	PWR OUT CH7 LO



The 68-pin DSUB (user I/O interface) connector (PLUG) is mounted at the front edge of the board. The part number is P50E-068DDP-SRI-TG, manufacturer, Robinson Nugent. The mating part number is 3M Corporation P50-068-DDS-EA connector with P50-068-STR-BSK backshell
Contact GSC for factory built cables of any desired length. See Table above for pin-out.

General Standards Corporation
8302A Whitesburg Drive · Huntsville, AL 35802
Phone: (256)880-8787 or (800)653-9970
FAX: (256)880-8788
Email: sales@generalstandards.com