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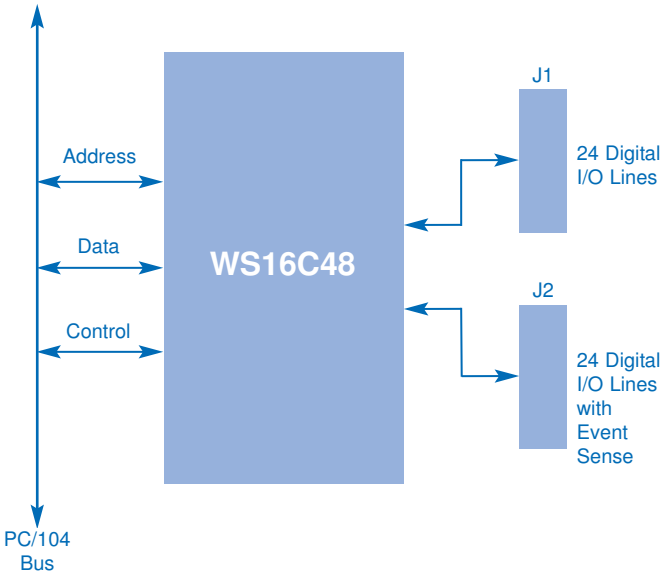
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PCM-UIO48B-G

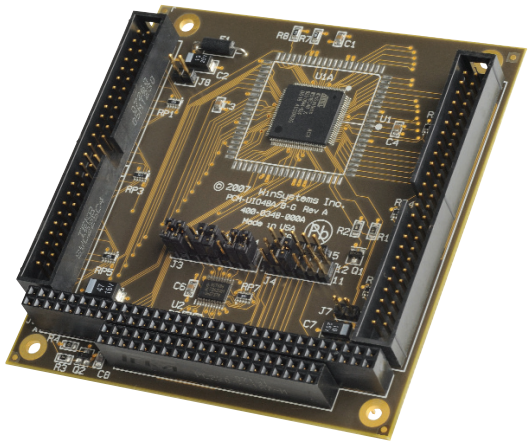
Universal 48-Point Digital I/O with Interruptible Event Sense

Features

- Supports 48 digital I/O lines
- Each line is capable of:
  - Bidirectional operation
  - Input, Output or Output with Read back
  - 12mA Sink Current
- Generates an interrupt on signal change-of-state:
  - Supports 24 event sense lines
  - Software selectable edge polarity for each line
  - Software enabled interrupt for each line
  - Change-of-state latched for each line
- Write-protection mask register for each 8-bit port
- Compatible with industry standard I/O racks
- Fused +5V logic supply for I/O modules
- 8- or 16-bit PC/104 interface
- +5 volt only operation
- -40°C to +85°C Operation
- Direct replacement for PCM-UIO48A-G



PCM-UIO48B-G Block Diagram



Pictured: PCM-UIO48B-G-16

Product Description

The PCM-UIO48B-G is a highly-versatile PC/104 input/output module providing 48 lines of digital I/O. The major feature of this card is its ability to monitor 24 lines for both rising and falling digital edge transitions, latch them and then interrupt the host processor notifying that a change-of-input status has occurred. This is an efficient way of signaling the CPU of real-time events without the burden of polling the digital I/O points.

Parallel I/O Controller - WinSystems has designed a WS16C48 Universal I/O controller ASIC to support the various input/output and interrupt configurations. The WS16C48 supports 48 digital I/O lines addressed through six contiguous registers. A six-bit Write Mask register allows the user to disable Writes on a byte basis to configure the group as a “Read Only” port.

Each I/O line is individually programmable for input, output, or output with Read back operation. The input lines are connected so the current status of its output port can be read from the corresponding input port (Read back). If the port is used as input only, then the corresponding output port bit must be cleared.

Each output channel is latched and has an open collector driver (with a pull-up resistor) capable of sinking

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PCM-UIO48B-G PC/104 Universal Digital I/O Module

12mA of current. This allows direct control of up to 48 opto-isolated signal conditioning modules to a single card for high density I/O support.

Event Sense Operation - Each WS16C48 ASIC supports 24 event sense lines to generate an interrupt when an event occurs. This means that 24 lines of the PCM-UIO48B can sense a positive or negative transition on the input. Transition polarity is programmable and enabled on a bit-by-bit basis. Each lines' transition is latched by the event so that even short duration pulses will be recognized.

The PCM-UIO48B can generate a system interrupt request which can be routed via jumper to IRQ channels 2 - 7 on the 8-bit or the additional five interrupt channel inputs on the 16-bit version. An interrupt ID register is maintained for each line for writing more efficient Interrupt Service Routines.

Sample drivers are downloadable for Linux, Windows XP, and C from the WinSystems' website.

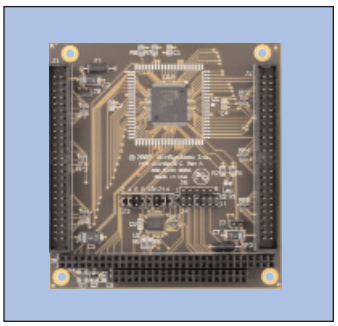
PC/104 Interface - The PCM-UIO48B is a PC/104 compatible stackthrough card which is I/O port mapped on any even 16-byte boundary.

I/O Connectors - The signals from the WS16C48 are wired to two 50-pin connectors, J1 and J2. Each connector supports 24 data lines which are alternated with 24 ground lines for reduced noise and crosstalk. Also, each connector has a 1A fuse on the +5 volt source to supply logic power for I/O module rack.

The PCM-UIO48B's pinout is compatible with the industry standard 4 to 24 position I/O module mounting racks (Opto-22, Crydom, Gordos, etc.). The racks accept AC and DC modules which optically isolate the computer from electrical transients and excessive voltages from the field devices.

Two foot, 50 conductor ribbon cables such as the WinSystems' CBL-115-4 and CBL-129-4 connects the PCM-UIO48B to one I/O rack. Two cables are required to fully utilize this card, one for each rack. The cable will interface directly to a 4, 8, 16 or 24 module rack.

Direct Replacement - The PCM-UIO48B-G is a direct replacement for the PCM-UIO48A and PCM-UIO48A-G.



PCM-UIO48B-G

Technical Specifications

Electrical
PC/104 Bus, 8- or 16-bit stackthrough
Parallel Interface; 48 I/O lines, TTL compatible

Onboard I/O
48 Digital I/O lines, TTL compatible

Expansion Bus
PC/104, 8- or 16-bit support, stackthrough

Power
+5V ±5% at 12mA (excluding rack power with no loads on the outputs)

Environmental
Operational from -40° to +85°C
RoHS compliant: Yes

Mechanical
Dimensions: 3.6" x 3.8" (90mm x 96mm)
Weight: 2.33 oz/ 66 g

Ordering Information

I/O Module

PCM-UIO48B-G-8	48 channel Universal I/O module with 8-bit PC/104 interface
PCM-UIO48B-G-16	16-bit PC/104 interface version

Cables

CBL-115-4	4-ft., Opto rack interface
CBL-129-4	4 ft., ribbon cable, 50 pin. Both ends with 50-pin socket termination

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