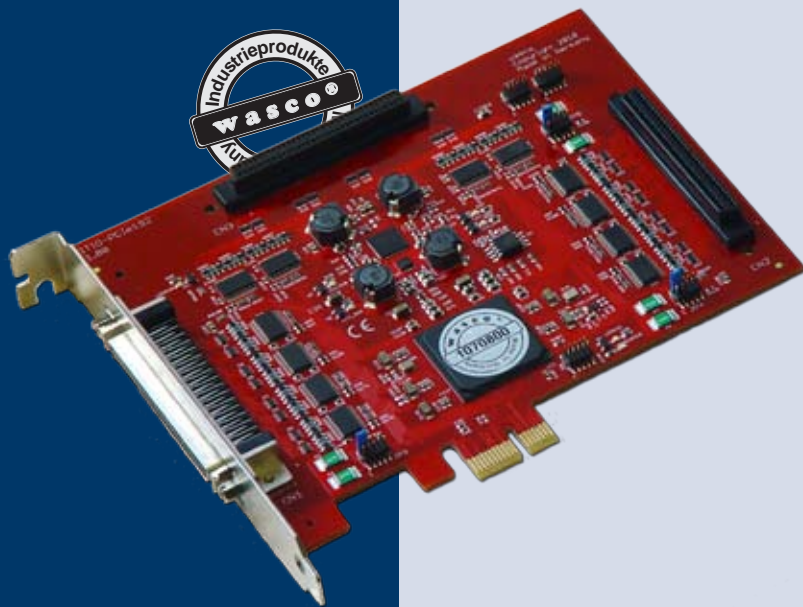


WITIO-PCIe192_{ULTRA}

Digital PCIe I/O Board with 192 Inputs/Outputs



- 192 inputs / outputs,
- levels 3,3V/5V adjustable
- 32 counter 32-bit
- 2 timers
- 8 OC-Units
- 2 IC-Units
- interrupt-capable
- quartz time base
- board identification

The **WITIO-PCIe192_{ULTRA}** (Boardname: wasco-PCIe8296) features 192 digital inputs/outputs adjustable to input/output levels of 3,3V or 5V by jumpers. The channels can be programmed in groups of eight channels each as input or output. Every input channel is interrupt-capable and has a programmable digital filter (0 up to 65535 μ s). Additionally, one of the 32 counter (32Bit) or one of the two IC-Units (e.g. period or pulse duration measurement) can be linked to each input channel via software. For applications requiring a PWM or a simple, high-resolution pulse generation, eight OC-Units are provided. These can be linked to the first eight output channels of each connector. Additionally, the **WITIO-PCIe192_{ULTRA}** features two programmable and interrupt-capable quartz-time-based timers. The board is suitable for input and output applications not requiring galvanic isolation. The internal data bus of this board is organized 32 bit, each read or write access to the inputs and outputs is implemented as a 32-bit access.

SPECIFICATIONS

Inputs / Outputs

Channels: 192
Output levels 3.3V/5V, adjustable by jumpers
All of the inputs with programmable input filters, edge interrupt and change interrupt
Output current: 5 mA per channel
Programmable in 8-bit-groups to be input or output

Output Compare Unit

8 OC units linkable to the first 8 output channels of each connector
Resolution 32 bit [1 μ s]
Generation of PWM
Generation of discrete pulses

Input Capture Unit

2 IC units, linkable to all of the inputs
Resolution 32 bit [1 μ s]
Measurement of period and pulse duration

Counters

32 counters, linkable to all of the inputs
Resolution 32 bit

Timers

2 timers
Resolution 32 bit [1 μ s]

Quartz crystal oscillator

4 MHz

Board Identification

Jumper block with five pairs of contact pins

Connection plug

3 * 68-pin SCSI socket

Bus system

32-bit PCIe Bus (32 bit data access)

Dimensions of the Board

137 mm x 111 mm (l x h)

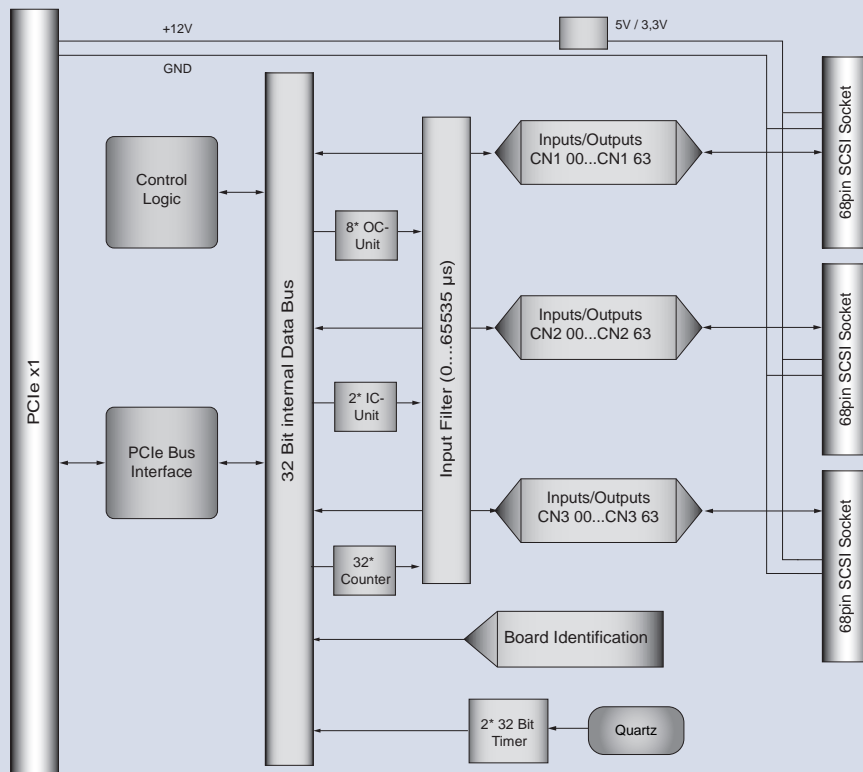
Other

Safety and Control LEDs indicating power supply

APPLICATIONS

- On/off events
- Detection of contact states
- Binary data acquisition
- Process control
- Data acquisition of BCD coded instruments
- Counting function
- Timed IRQ's

BLOCK DIAGRAM



PIN ASSIGNMENT

64 digital channels, internal power supply (3,3V or 5V) and the PC's ground are led to the 68-pin SCSI socket CN1 mounted to the boards edge slot bracket. The remaining digital inputs and outputs are fed to the two 68pin SCSI sockets CN2 and CN3, 64 channels each.

SCSI-II Socket CN1

CN1 GND	65 □ □ 34	CN1 VCC	66 □ □ 35
CN1 GND	67 □ □ 36	CN1 VCC	68 □ □ 37
CN1 PH7	69 □ □ 38	CN1 PH6	70 □ □ 39
CN1 PH5	71 □ □ 40	CN1 PH4	72 □ □ 41
CN1 PH3	73 □ □ 42	CN1 PH2	74 □ □ 43
CN1 PH1	75 □ □ 44	CN1 PH0	76 □ □ 45
CN1 PG7	77 □ □ 46	CN1 PG6	78 □ □ 47
CN1 PG5	79 □ □ 48	CN1 PG4	80 □ □ 49
CN1 PG3	81 □ □ 50	CN1 PG2	82 □ □ 51
CN1 PG1	83 □ □ 52	CN1 PG0	84 □ □ 53
CN1 PF7	85 □ □ 54	CN1 PF6	86 □ □ 55
CN1 PF5	87 □ □ 56	CN1 PF4	88 □ □ 57
CN1 PF3	89 □ □ 58	CN1 PF2	90 □ □ 59
CN1 PF1	91 □ □ 60	CN1 PF0	92 □ □ 61
CN1 PE7	93 □ □ 62	CN1 PE6	94 □ □ 63
CN1 PE5	95 □ □ 64	CN1 PE4	96 □ □ 65
CN1 PE3	97 □ □ 66	CN1 PE2	98 □ □ 67
CN1 PE1	99 □ □ 68	CN1 PE0	100 □ □ 69
CN1 PD7	101 □ □ 70	CN1 PD6	102 □ □ 71
CN1 PD5	103 □ □ 72	CN1 PD4	104 □ □ 73
CN1 PD3	105 □ □ 74	CN1 PD2	106 □ □ 75
CN1 PD1	107 □ □ 76	CN1 PD0	108 □ □ 77
CN1 PC7	109 □ □ 78	CN1 PC6	110 □ □ 79
CN1 PC5	111 □ □ 80	CN1 PC4	112 □ □ 81
CN1 PC3	113 □ □ 82	CN1 PC2	114 □ □ 83
CN1 PC1	115 □ □ 84	CN1 PC0	116 □ □ 85
CN1 PB7	117 □ □ 86	CN1 PB6	118 □ □ 87
CN1 PB5	119 □ □ 88	CN1 PB4	120 □ □ 89
CN1 PB3	121 □ □ 90	CN1 PB2	122 □ □ 91
CN1 PB1	123 □ □ 92	CN1 PB0	124 □ □ 93
CN1 PA7	125 □ □ 94	CN1 PA6	126 □ □ 95
CN1 PA5	127 □ □ 96	CN1 PA4	128 □ □ 97
CN1 PA3	129 □ □ 98	CN1 PA2	130 □ □ 99
CN1 PA1	131 □ □ 100	CN1 PA0	132 □ □ 101

SCSI-II Socket CN2

CN2 GND	65 □ □ 34	CN2 VCC	66 □ □ 35
CN2 GND	67 □ □ 36	CN2 VCC	68 □ □ 37
CN2 PH7	69 □ □ 38	CN2 PH6	70 □ □ 39
CN2 PH5	71 □ □ 40	CN2 PH4	72 □ □ 41
CN2 PH3	73 □ □ 42	CN2 PH2	74 □ □ 43
CN2 PH1	75 □ □ 44	CN2 PH0	76 □ □ 45
CN2 PG7	77 □ □ 46	CN2 PG6	78 □ □ 47
CN2 PG5	79 □ □ 48	CN2 PG4	80 □ □ 49
CN2 PG3	81 □ □ 50	CN2 PG2	82 □ □ 51
CN2 PG1	83 □ □ 52	CN2 PG0	84 □ □ 53
CN2 PF7	85 □ □ 54	CN2 PF6	86 □ □ 55
CN2 PF5	87 □ □ 56	CN2 PF4	88 □ □ 57
CN2 PF3	89 □ □ 58	CN2 PF2	90 □ □ 59
CN2 PF1	91 □ □ 60	CN2 PF0	92 □ □ 61
CN2 PE7	93 □ □ 62	CN2 PE6	94 □ □ 63
CN2 PE5	95 □ □ 64	CN2 PE4	96 □ □ 65
CN2 PE3	97 □ □ 66	CN2 PE2	98 □ □ 67
CN2 PE1	99 □ □ 68	CN2 PE0	100 □ □ 69
CN2 PD7	101 □ □ 70	CN2 PD6	102 □ □ 71
CN2 PD5	103 □ □ 72	CN2 PD4	104 □ □ 73
CN2 PD3	105 □ □ 74	CN2 PD2	106 □ □ 75
CN2 PD1	107 □ □ 76	CN2 PD0	108 □ □ 77
CN2 PC7	109 □ □ 78	CN2 PC6	110 □ □ 79
CN2 PC5	111 □ □ 80	CN2 PC4	112 □ □ 81
CN2 PC3	113 □ □ 82	CN2 PC2	114 □ □ 83
CN2 PC1	115 □ □ 84	CN2 PC0	116 □ □ 85
CN2 PB7	117 □ □ 86	CN2 PB6	118 □ □ 87
CN2 PB5	119 □ □ 88	CN2 PB4	120 □ □ 89
CN2 PB3	121 □ □ 90	CN2 PB2	122 □ □ 91
CN2 PB1	123 □ □ 92	CN2 PB0	124 □ □ 93
CN2 PA7	125 □ □ 94	CN2 PA6	126 □ □ 95
CN2 PA5	127 □ □ 96	CN2 PA4	128 □ □ 97
CN2 PA3	129 □ □ 98	CN2 PA2	130 □ □ 99
CN2 PA1	131 □ □ 100	CN2 PA0	132 □ □ 101

SCSI-II Socket CN3

CN3 GND	65 □ □ 34	CN3 VCC	66 □ □ 35
CN3 GND	67 □ □ 36	CN3 VCC	68 □ □ 37
CN3 PH7	69 □ □ 38	CN3 PH6	70 □ □ 39
CN3 PH5	71 □ □ 40	CN3 PH4	72 □ □ 41
CN3 PH3	73 □ □ 42	CN3 PH2	74 □ □ 43
CN3 PH1	75 □ □ 44	CN3 PH0	76 □ □ 45
CN3 PG7	77 □ □ 46	CN3 PG6	78 □ □ 47
CN3 PG5	79 □ □ 48	CN3 PG4	80 □ □ 49
CN3 PG3	81 □ □ 50	CN3 PG2	82 □ □ 51
CN3 PG1	83 □ □ 52	CN3 PG0	84 □ □ 53
CN3 PF7	85 □ □ 54	CN3 PF6	86 □ □ 55
CN3 PF5	87 □ □ 56	CN3 PF4	88 □ □ 57
CN3 PF3	89 □ □ 58	CN3 PF2	90 □ □ 59
CN3 PF1	91 □ □ 60	CN3 PF0	92 □ □ 61
CN3 PE7	93 □ □ 62	CN3 PE6	94 □ □ 63
CN3 PE5	95 □ □ 64	CN3 PE4	96 □ □ 65
CN3 PE3	97 □ □ 66	CN3 PE2	98 □ □ 67
CN3 PE1	99 □ □ 68	CN3 PE0	100 □ □ 69
CN3 PD7	101 □ □ 70	CN3 PD6	102 □ □ 71
CN3 PD5	103 □ □ 72	CN3 PD4	104 □ □ 73
CN3 PD3	105 □ □ 74	CN3 PD2	106 □ □ 75
CN3 PD1	107 □ □ 76	CN3 PD0	108 □ □ 77
CN3 PC7	109 □ □ 78	CN3 PC6	110 □ □ 79
CN3 PC5	111 □ □ 80	CN3 PC4	112 □ □ 81
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CN3 PA5	127 □ □ 96	CN3 PA4	128 □ □ 97
CN3 PA3	129 □ □ 98	CN3 PA2	130 □ □ 99
CN3 PA1	131 □ □ 100	CN3 PA0	132 □ □ 101

One 68-pin SCSI-II socket at the board's slot plate and two 68-pin SCSI-II sockets providing each 64 channels enable connection to the peripherals. The pin assignment of all connectors of the WITIO-PCIe192ULTRA are identical to the assignments of PCI-bus cards WITIO-PCI32STANDARD and WITIO-PCI64EXTENDED, a switch to PCIe is thus easily feasible. Furthermore, the card provides a jumper block for card identification in order to distinguish several identical cards in your system.

PROGRAMMING

The accompanying CD provides drivers for Windows (please visit www.wasco.de to monitor available s/w versions) and sample programs for Turbo-C®, Delphi, Borland C++, C++ Builder, Microsoft Visual Basic, VB.NET, C++ and C#.NET

SCOPE OF DELIVERY

Interface Card WITIO-PCIe192ULTRA
German Manual (in English on request)
Driver and program examples on CD

ORDER INFORMATION

WITIO-PCIe192ULTRA EDP No A-864810
I/O Card

SUITABLE ACCESSORIES

DS68R500DS68 EDP No A-492800

Special twisted and shielded connection cable (approx. 5 m) with 68-pin SCSI-II plugs on both sides to connect KMDB-68 or any other KM modules



DS68R200DS68 EDP No A-492400

Special twisted and shielded connection cable (approx. 2 m) with 68-pin SCSI-II plugs on both sides to connect KMDB-68 or any other KM modules



DS68R100DS68 EDP No A-492200

Special twisted and shielded connection cable (approx. 1 m) with 68-pin SCSI-II plugs on both sides to connect KMDB-68 or any other KM modules



KMDB-68 EDP No A-494800

Terminal module with a 68-pin screw terminal block to connect to a 68-pin SCSI-II socket



DSS68HLK EDP-No A-555340

SCSI plug with hood, 68pin (half grid) with solder connection for cables



For more detailed information about the here listed and other accessories we refer to the corresponding data sheets