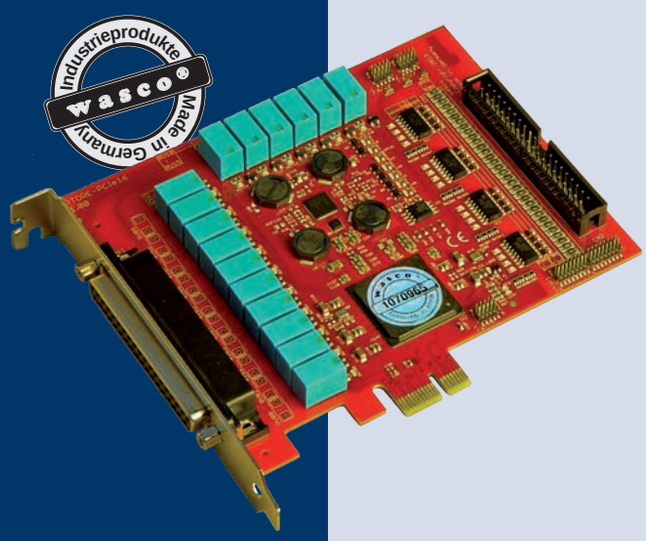
wasco®

OPTORE-PCIe16STANDARD

Digital PCIe I/O Interface Card with 16 Optocoupler Inputs, 16 Relay Outputs and Board Identification



16 optocoupler inputs

16 relay outputs

board identification

SPECIFICATIONS

Optocoupler Inputs
Optocouplers LTV-244 or compatible
16 channels, optically isolated
Galvanic isolation also between every single channel with each two separate connections for each of the channels
Overvoltage protection by protection diodes
Two different jumper selectable input voltage ranges

Range 1	high = 14..30 Volt
	low = 0..2 Volt
Range 2:	high = 5..15 Volt
	low = 0..1 Volt

Input frequency: max. 10 kHz

Relay Outputs
16 channels, galvanically isolated
Galvanic isolation also between every single channel with each two discrete connections for each of the channels
Switching current: 1 A max.
Switching voltage: 50 V
Switching capacity: 60 V
Switching time: max. 5 ms
Release time: max. 2 ms

Connectors
1 * 37-pin Sub-D female connector
1 * 40-pin box header

Bus system
32-bit PCIe-Bus
(data access internal 8 bit or 32 bit)

Dimensions
129 mm x 111 mm (l x b)
6-layer PCB

Other
Control LED for power supply

The wasco® interface board OPTORE-PCIe16STANDARD features 16 digital input channels and 16 digital output channels, each of which are galvanically isolated individually. Inputs are electrically isolated by high-quality optocouplers, the outputs by 16 relays. Additionally the inputs are protected against harmful voltage peaks by protection diodes.
You easily can adjust two different input voltage ranges by setting jumpers. The output relays cope with a switching current of max. 1 A.
The connections of the output relays are connected to a 37-pin Sub-D female socket on the slot bracket of the board. The optocoupler inputs are connected to a 40-pin box header on the board. An optinally available connection cable (set of female connector, ribbon cable and 37pin female sub-D-connector with slot bracket) can relocate the connection to a slot of your PC casing.
The pin assignments are identical to PCI bus card OPTORE-PCI16STANDARD and ISA bus card OPTORE-16STANDARD, a switch to PCIe is therefore easy to implement.
Furthermore, the card comes with a jumper block for card identification in order to distinguish several identical cards in the computer.

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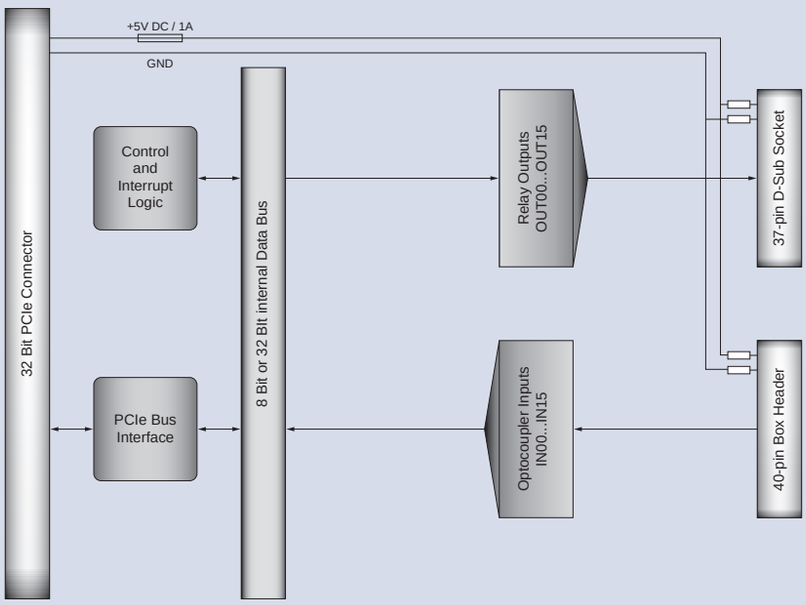
Block Diagram



Pin Assignment

The positive and negative connections of the relays are led to the 37-pin D-Sub socket CN1 individually. Anode and cathode of each input optocoupler is led to a 40-pin box header CN2 for each channel inidvidually. CN1 is mounted to the board's bracket, CN2 is accessible inside the computer only. To obtain optimal connections to peripherals with strain relief optionally a flat ribbon cable is available (see „Suitable Accessories“) .

D-Sub-Socket CN1

GND	37	19	Vcc
GND	36	18	Vcc
OUT15A	35	17	NC
OUT14A	34	16	OUT15E
OUT13A	33	15	OUT14E
OUT12A	32	14	OUT13E
OUT11A	31	13	OUT12E
OUT10A	30	12	OUT11E
OUT09A	29	11	OUT10E
OUT08A	28	10	OUT09E
OUT07A	27	9	OUT08E
OUT06A	26	8	OUT07E
OUT05A	25	7	OUT06E
OUT04A	24	6	OUT05E
OUT03A	23	5	OUT04E
OUT02A	22	4	OUT03E
OUT01A	21	3	OUT02E
OUT00A	20	2	OUT01E
		1	OUT00E

Box Header CN2

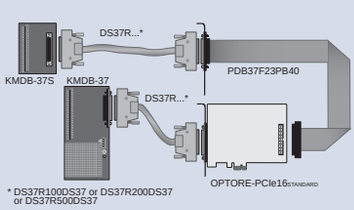
NC	40	39	NC
NC	38	37	Vcc
GND	36	35	Vcc
GND	34	33	NC
IN15-	32	31	IN15+
IN14-	30	29	IN14+
IN13-	28	27	IN13+
IN12-	26	25	IN12+
IN11-	24	23	IN11+
IN10-	22	21	IN10+
IN09-	20	19	IN09+
IN08-	18	17	IN08+
IN07-	16	15	IN07+
IN06-	14	13	IN06+
IN05-	12	11	IN05+
IN04-	10	9	IN04+
IN03-	8	7	IN03+
IN02-	6	5	IN02+
IN01-	4	3	IN01+
IN00-	2	1	IN00+

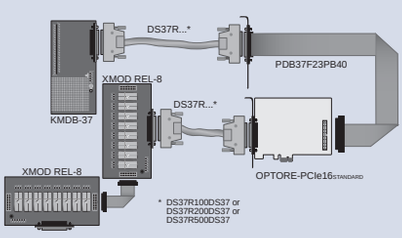
CN2 as D-Sub-Socket (optional)

GND	37	19	Vcc
GND	36	18	Vcc
IN15-	35	17	NC
IN14-	34	16	IN15+
IN13-	33	15	IN14+
IN12-	32	14	IN13+
IN11-	31	13	IN12+
IN10-	30	12	IN11+
IN09-	29	11	IN10+
IN08-	28	10	IN09+
IN07-	27	9	IN08+
IN06-	26	8	IN07+
IN05-	25	7	IN06+
IN04-	24	6	IN05+
IN03-	23	5	IN04+
IN02-	22	4	IN03+
IN01-	21	3	IN02+
IN00-	20	2	IN01+
		1	IN00+

PDB37F13PB40

Connection Technique (Application Examples)





Programming

Windows®:
Driver and program examples for VB.NET, C++.NET, C#.NET
Linux®:
Driver and program examples for C and C++ (see manual)
on enclosed CD or download at:
www.messcomp.com, Section Support - Software

Scope of Delivery

Interface Card OPTORE-PCIe16STANDARD
Manual German (English on request)
Driver and program examples on CD

Order Information

OPTORE-PCIe16STANDARD EDP No A-822200
I/O Card

Suitable Accessories

PDB37F23PB40 EDP No A-497500
Flat ribbon cable (approx. 23 cm) to relocate signals from CN2 (40-pin box header) to a 37pin Sub-D jack with slot bracket (please order 1 pc per plug)

DS37R500DS37 EDP No A-202800
Shielded connection cable (approx. 5 m) to connect KMDB-37 to a 37pin Sub-D jack

DS37R200DS37 EDP No A-202400
Shielded connection cable (approx. 2 m) to connect KMDB-37 to a 37pin Sub-D jack

DS37R100DS37 EDP No A-202200
Shielded connection cable (approx. 1 m) to connect KMDB-37 to a 37pin Sub-D jack

KMDB-37 EDP No. A-2046
Terminal module with a 37-pin screw terminal block with prototype area for soldering, to connect to a 37-pin Sub-D jack

KMDB-37S EDP No A-204910
Terminal module with a 38-pin screw terminal block to connect to a 37pin Sub-D jack

XMOD REL-8 EDP No A-3268
Relay module with eight isolated outputs for switching currents up to 5 A (Connection to the optocoupler outputs, cascading of the modules is possible)

XMOD REL-4 EDP No A-3264
Relay module with four isolated outputs for switching currents up to 5 A (Connection to the optocoupler outputs, cascading of the modules is possible)

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

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