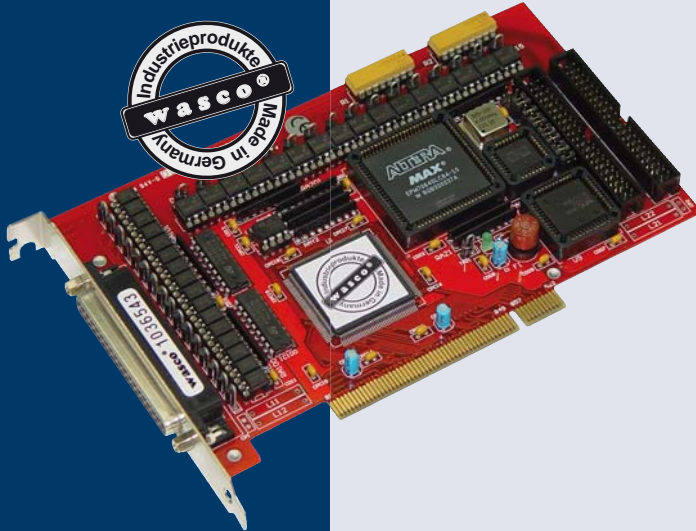


# OPTOIO-PCI16<sub>EXTENDED</sub>

Interrupt Capable Digital PCI I/O Interface Card with  
16 Optocoupler Inputs, 16 Optocoupler Outputs, 24 Inputs/  
Outputs TTL and Timer



16 optocoupler isolated  
digital inputs

16 optocoupler isolated  
digital outputs

24 TTL inputs/outputs

3 \* 16-bit timer/counter

quartz time based

interrupt capable

## SPECIFICATIONS

The **wasco**<sup>®</sup> interface card **OPTO-IO-PCI16<sub>EXTENDED</sub>** provides 16 digital inputs and 16 digital outputs, each of which is galvanically isolated by high-quality optocouplers and additionally protected against harmful over voltage peaks by protection diodes. All input optocouplers have integrated Schmitt Trigger Function. Special high-power output optocouplers manage a maximum switching current of up to 150 mA. You can adjust two different voltage ranges by changing plugged resistor arrays. Triggering the interrupt is possible via eight of the 16 optocoupler inputs or time-dependent across the timer or counter IC, combined with a quartz oscillator. 24 TTL compatible digital inputs/outputs are placed onboard for any other control tasks. The signals of the output optocouplers are led to a 37-pin D-Sub jack. Optocoupler inputs and TTL inputs and outputs are fed to two box headers. Pin assignment and input voltage ranges are compatible with ISA bus card OPTOIO-16<sub>EXTENDED</sub>

### Optocoupler Inputs

Optocoupler: 16 \* PC900V  
16 channels, optically isolated  
8 channels to be interrupt inputs  
Galvanic isolation also between every single channel with each two separate connections for each of the channels  
Overvoltage protection by protection diodes  
Two different input voltage ranges selectable by enclosed pluggable resistor arrays:  
R = 4,7 kΩ: high = 8 to 30 Volt  
low = 0 to 4 Volt  
R = 1,0 kΩ: high = 2.2 to 15 Volt  
low = 0 to 1.5 Volt  
Input frequency: max. 10 kHz

### Optocoupler Outputs

Optocoupler: 16 \* PC853  
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  
Output current max. 150mA  
Voltage collector-emitter: max. 50V  
Voltage emitter-collector: max. 0,1V

### Digital Inputs/Outputs TTL

IC's: 8255 or 71055  
24 channels TTL compatible  
Programming: port A and B in 8-bit groups, Port C in one 8-bit group or in two 4-bit groups to be input or output

### Timer

IC's: 8254 oder 71054  
3 \* 16-bit backward counters  
Counting frequency: max. 8 MHz  
Interrupt triggered time-dependently  
Cycles from quartz oscillator

### Quartz Oszillator

4 MHz

### Connector Plug

1 \* 37-pin D-Sub jack  
2 \* 40-pin box header

### Bus System

32-bit PCI Bus (internal data access 8 bit)

### Power Consumption

+5 V typ. 450 mA

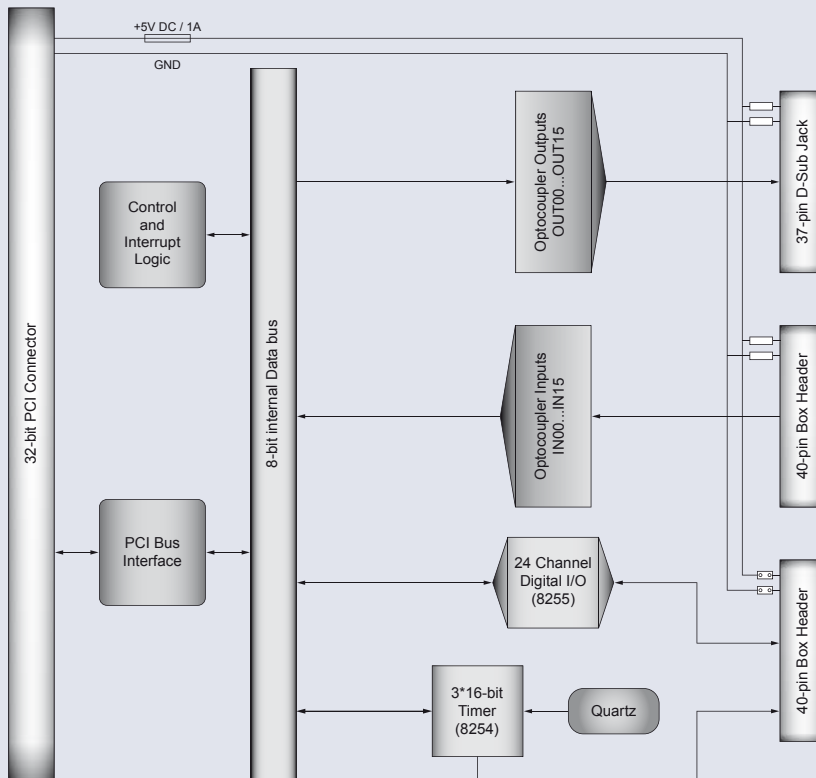
### Dimensions

177 mm x 106,7 mm (l x b)  
4layer multilayer board

### Other

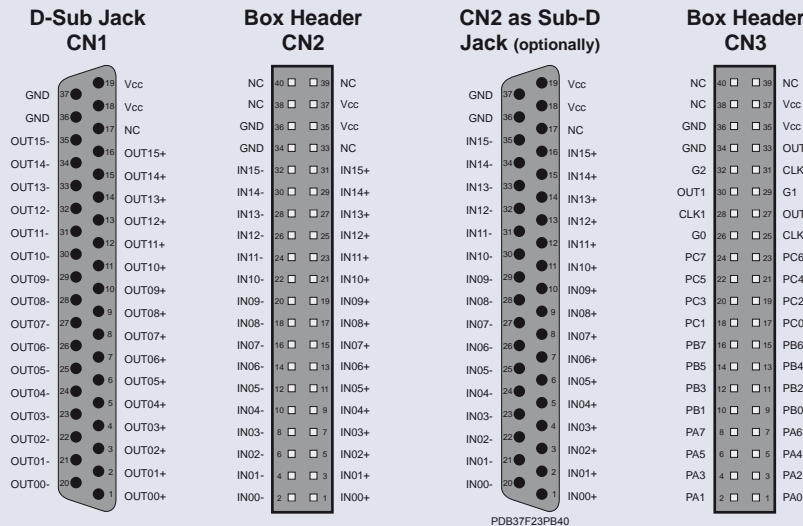
Protection and control LED indicating power supply of timer and I/O components as well as of logic control.  
All IC sockets with gold plated contacts

## BLOCK DIAGRAM

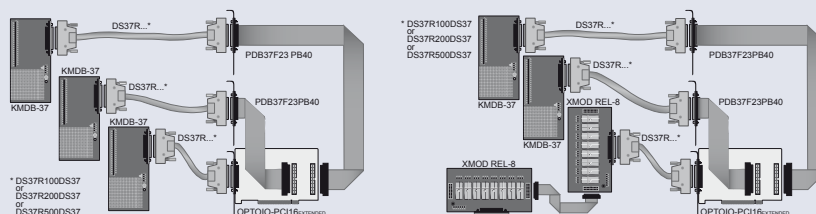


## PIN ASSIGNMENT

Optocoupler outputs are led to the 37-pin Sub-D female jack CN1 (placed on the board's slot bracket), optocoupler inputs to the 40-pin box header CN2. Digital TTL inputs/outputs and timer signals are fed to the 40-pin box header CN3. CN2 and CN3 are accessible inside the computer only. To obtain optimal connections to periphery an optional flat ribbon cable (see „Suitable Accessories“) is available



## CONNECTION TECHNIQUE (APPLICATION EXAMPLES)



## PROGRAMMING

The accompanying CD provides drivers for Windows (please visit [www.wasco.de](http://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 OPTOIO-PCI16<sup>EXTENDED</sup>  
German manual (in English upon request)  
Driver and program examples on CD

## ORDER INFORMATION

OPTOIO-PCI16<sup>EXTENDED</sup> EDP No A-429400  
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-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)



### XMOD SSR-4 EDP No A-3284

Solid State Relay module with four isolated outputs for switching currents up to 5 A (Connection to the optocoupler outputs, cascading of the modules is possible)



### XMOD SSR-2 EDP No A-3282

Solid State Relay module with two 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