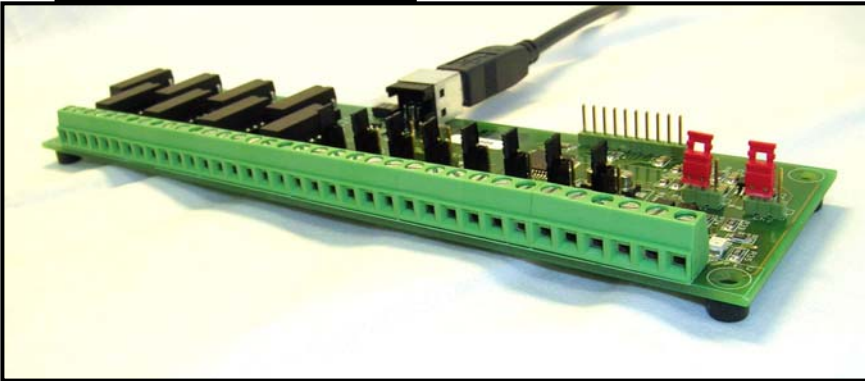


## Specification

# USB I/O



### USB I/O features:

- 8 AI
- 2 AO
- 8 galvanic separated DI/DO
- 13 DI/DO
- PWM output
- Pulse generator
- Pulse counter
- Frequency measurement
- UART

USB I/O is a module for data acquisition and transmission of digital and analog signals. With the USB-bus plug-and-play function it is easy to control and communicate through computer.

# Specification

## Analog input

Lines:	8 SE
Resolution:	10-bits
Input range:	0-5 V
Input impedance:	270 $\Omega$ 1,4 nF
Throughput:	8 kS/s <sup>1</sup>

## Analog output

Lines:	2
Resolution:	10-bits
Output range:	0-5 V $\pm$ 5%
Linearity error:	1 LSB
DA-type:	PWM 46 kHz

## Digital I/O

### *Low current*

Lines:	13 I/O
Logic:	TTL
Throughput:	8 kS/s
Extra:	8 selectable pull up/down

### *High voltage*

Lines:	8 pcs galvanic separated
Standard features:	4 pcs IGBT relay 4 pcs optocoupler
Voltage ratings:	220 V AC
Current ratings:	1 A
Effect:	200 W for IGBT
Opto voltage:	5-24V
Option:	Opto and relays can be used

## PWM output

Lines:	2 channels
Resolution:	10-bits
Frequency range:	3 kHz – 2,4 MHz
Limits:	Combined AO

## Pulsgenerator

Lines:	1 channel. Selectable output
Pulse type:	Square wave
Frequency range:	1 Hz – 3 kHz

# Specification

## Pulse counting

Lines: 1 channel  
Resolution: 32 bits  
Maximal frequency: 800 kHz

## Frequency measurement

Lines: 1 channel  
Frequency range: 35 Hz – 1 MHz  
Pulse width: < 100 kHz

## UART

Lines: 1 in- and 1 output  
Baud rate<sup>2</sup>: Selectable: 4 800, 9 600, 19 200, 38 400  
and 57 600 baud  
RS232: Prepared for communication

## Design

USB type: USB 2.0 Full speed  
USB standard: HID – no driver needed  
Power: Provided via USB-port  
Port protection: OVP  
External indication: Controllable LEDs  
Operating temperature range: 0-70°C  
Size: 200x56x18 mm (LxWxH)

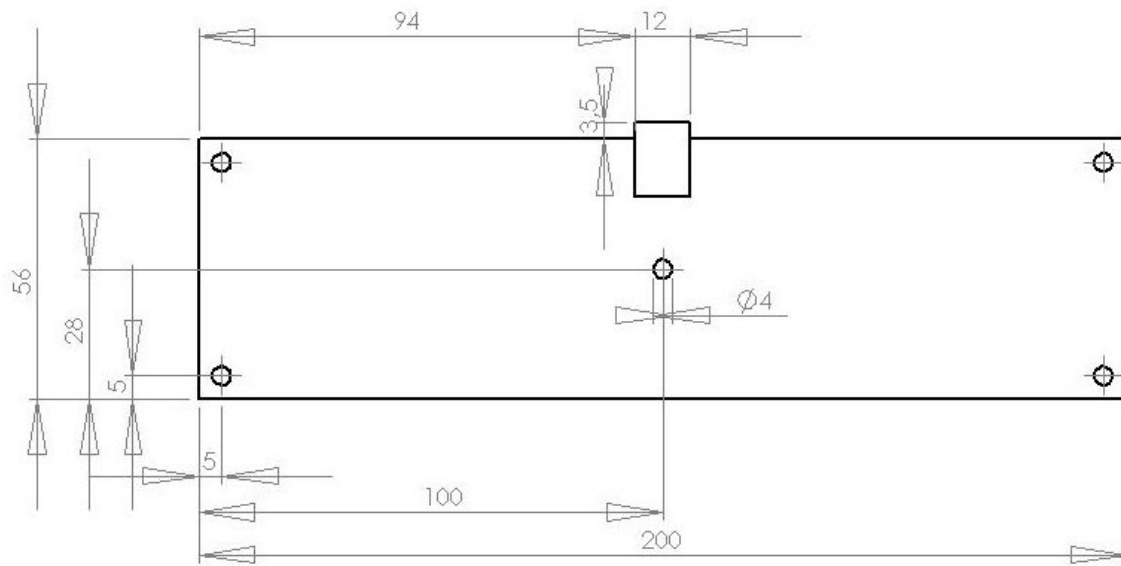
## Software

Drivers: Not needed for Windows  
Driver available for Linux  
Programming language: C++ or Visual Basic  
Software: Supports LabVIEW

<sup>1</sup> S/s states samples (8-bits) transferred per second.

<sup>2</sup> Transfer rate (b/s).

## Dimensions



**Motion Control**

We create and develop electronics

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