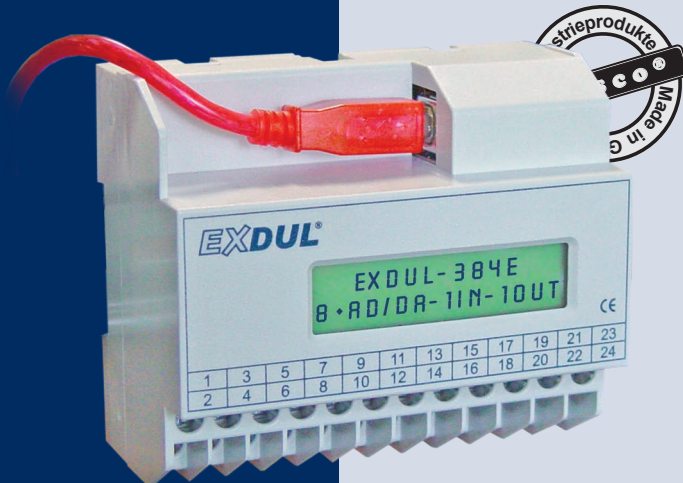


# EXDUL-384E

USB Module with 8 Analog Inputs, 8 Analog Outputs, 1 Optocoupler Input, 1 Optocoupler Output



**8 A/D inputs 16 bit**

8 A/D inputs single-ended  
or  
4 A/D inputs differential

**8 D/A outputs 16 bit**

**1 optocoupler input**

**1 optocoupler output**

**LCD Display**

EXDUL-384E provides either eight single ended or four differential 16-bit A-D input channels. Several bipolar input voltage ranges (+/-0.63 V, +/-1.27 V, +/-2.55 V, +/-5.1 V, +/-10.2V) can be adjusted. The conversion process including the associated configuration of the A/D components (selection of range and channel) is triggered by software commands. The bipolar output voltage ranges (+/-2.55V, +/-5.1V, +/-10.2 V) of all of the eight 16-bit D/A outputs are software-selectable as well. Additionally the module provides one digital input and one digital output which are opto-isolated galvanically by high-quality optocouplers and equipped with additional protection diodes. The special high power output optocoupler copes with a switching current up to 150 mA. The optocoupler input may be programmed and used as an input of a 32-bit counter if required. The programmable LCD display presents digital and analog I/O status information or programmable user-specific data.

## SPECIFICATIONS

### A/D inputs

8 inputs single-ended (se)  
or 4 inputs differential (diff)  
or combined se/diff selectable via software  
Resolution: 16 bit  
Input voltage range bipolar:  
+/-0,63 Volt, +/-1,27 Volt, +/-2,55 Volt,  
+/-5.1 Volt, +/-10.2 Volt  
FIFO: 10000 values  
Input resistor: 500 MΩ  
Over voltage protection: 50V  
Measuring cycle: 100kHz

### D/A outputs

8 outputs  
Resolution: 16 bit  
Output voltage range bipolar  
+/-2.55 Volt, +/-5.1 Volt, +/-10.2 Volt  
Output current: max +/-5 mA

### Optocoupler input

1 bipolar channel, galvanically isolated  
Over voltage protection diodes  
Input voltage range  
high = 10..30 Volt  
low = 0..3 Volt

### Optocoupler output

1 channel, galvanically isolated  
High capacity optocouplers  
Reverse polarity protection  
Output current: max. 150 mA  
Switching voltage: max. 50 V

### LCD Display

Matrix display with 2 lines and 16 columns  
presenting 16 signs each line  
Programmable for presentation of customized data or I/O status display

### Operation voltage

via USB  
or via external power supply  
+10 V...+30 V

### USB interface

USB 2.0 compatible  
USB connection Plug-and-Play (hot pluggable)

### Connection Terminals

1 \* 24-pin screw terminal block  
1 \* USB port type B

### USB connecting cable

1 \* USB plug type A  
1 \* USB plug type B

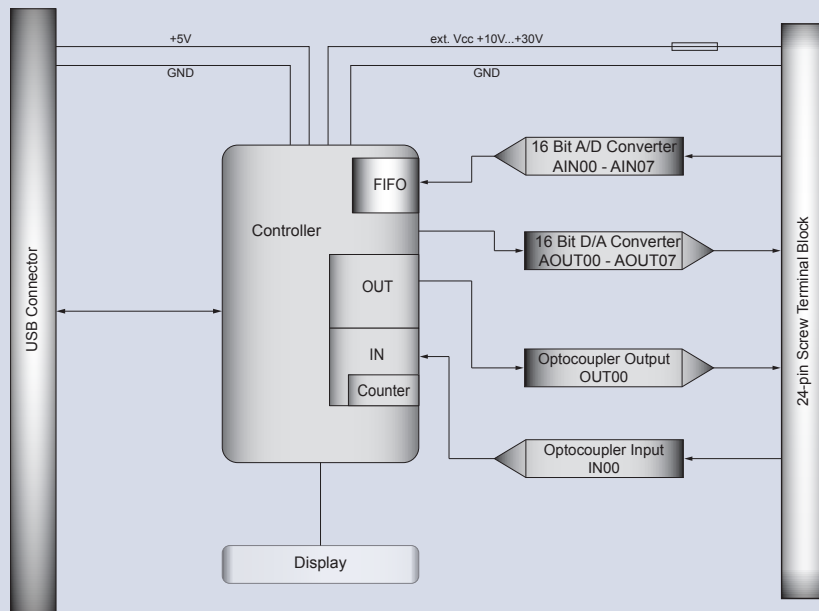
### Dimensions

105 mm x 89 mm x 59 mm (l x b x h)

### Casing

Insulating plastic casing with integrated snap-on technology for DIN EN rail mounting. Suitable for control and engineering technology mounted to control and distribution boxes, surface mounting or mobile use on a desk.

## BLOCK DIAGRAM



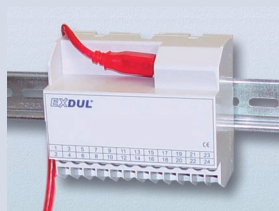
## PIN ASSIGNMENT

Terminals Vcc\_EXT und GND\_EXT are provided for an application of 10 ... 30 V of an external voltage supply.

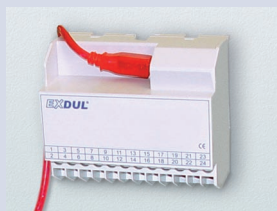
### Screw Terminal CN1

AIN01+	2	1	AIN00+
AIN03+	4	3	AIN02+
AIN05+	6	5	AIN04+
AIN07+	8	7	AIN06+
AOUT01+	10	9	AOUT00+
AOUT03+	12	11	AOUT02+
AOUT05+	14	13	AOUT04+
AOUT07+	16	15	AOUT06+
DAGND	18	17	ADGND
OUT00-	20	19	OUT00+
IN00-	22	21	IN00+ / Counter0
GND_EXT	24	23	Vcc_EXT

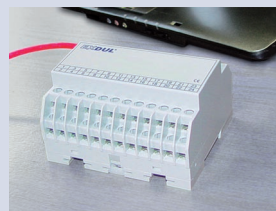
## ASSEMBLY AND APPLICATION OPTIONS



Top-hat Rail Mounting



Wall Mounting



Mobile Use on a Desk

An external power supply or the USB interface powers the module with the required operating voltage. The module provides a 24-pin screw terminal block for connecting the external power supply and the analog or digital inputs and outputs.

The compact chassis enables the module to be used as a portable device with a notebook. For mechanical or control engineering it can also be easily wall mounted or attached to DIN mounting rail.

## PROGRAMMING

### Windows®:

Driver and program examples for Java, VB.NET, C++, .NET, C#.NET, LabView Tutorial

### Linux®:

Driver and program examples for C, C++ and Java (see manual)

on enclosed CD or download at:

[www.messcomp.com](http://www.messcomp.com), Section Support - Software

## SCOPE OF DELIVERY

USB Module EXDUL-384E

USB connection cable (Typ A-B) 3m long

German Description (English on request)

Installation and sample programs

## ORDER INFORMATION

EXDUL-384E

EDP-No. A-381940

USB Optocoupler I/O Module

## SUITABLE ACCESSORIES

### DR-60-24

EDP-No. A-3425

Power supply providing one output 24 V / 2,5 A, closed construction design, contact-protected screw terminals, overload protection by current limitation, Power-On-LED



### F4652-24-Set

EDP-No. A-351024

Industrial high-power relay combination of two change-over contacts 250 V / 8 A and free-wheeling diode, snap-on technology for DIN EN top-hat mounting



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

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