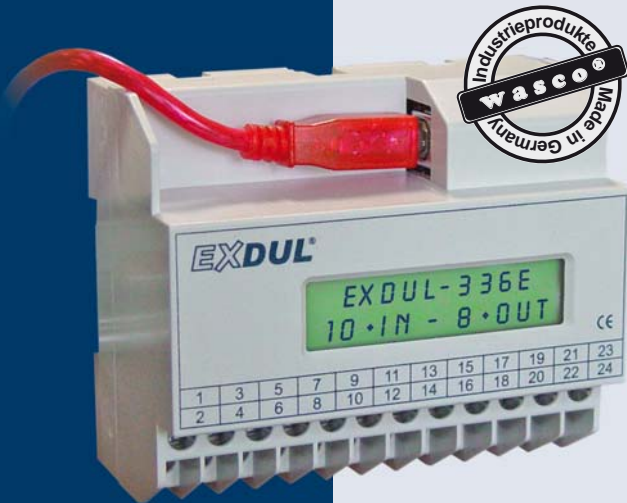


# EXDUL-336E

USB Module with 10 Optocoupler Inputs, 8 Relay Outputs, Counter and LCD Display



10 optocoupler inputs

8 relay outputs

2 16-bit counters

LCD display

USB 2.0 compatible

## SPECIFICATIONS

EXDUL-336E provides 10 digital inputs and 8 digital outputs galvanically isolated by high-quality optocouplers and additional protection diodes. All input optocouplers have integrated schmitt trigger function. Special high power output relays manage a maximum switching current of up to 2 A. One of the ten input optocouplers is programmable and usable as a digital counter if required. An LCD display presents user-specific data, I/O status information or communication data. Connecting to a computer is made quickly and conveniently Plug & Play via a USB interface. The required power supply can be provided via USB port or by an external voltage source. The connections for the external power supply as well as the connections for the input optocouplers and output relays are led to a 24-pin screw terminal block. The compact chassis enables the module to be used as a portable device with a notebook. For mechanical engineering control applications it also allows easy wall mounting or uncomplicated clipping to DIN-EN mounting rails.

### Digital optocoupler inputs

10 input channels with galvanic isolation, common ground connection (cathodes shared)  
 2 of the channels programmable as counter inputs  
 Optocoupler with integrated Schmitt-Trigger function  
 Overvoltage protection diodes  
 Input voltage range  
     high = 10 .... 30 V  
     low = 0 .... 3 V  
 Input frequency max. 10 kHz

### Digital relay outputs

8 channels galvanically isolated  
 Relay contact A with one terminal connection each, relay contact B with shared termination  
 Contact: 1 NO contact  
 Contact current rating: max. 2 A  
 Contact voltage rating: max. 50 V AC / 30 V  
 Contact power rating: max. 100 VA / 60 W  
 Isolation: coil/contact 500 V eff  
 Mechanical lifetime: max. 20 \* 10<sup>6</sup> switching cycles without load  
 Contact lifetime: 2 A, 250 VAC at NO contact, max. 10<sup>5</sup> switching cycles  
 Switching frequency under load: max. 10/ min  
 Switching frequency without load: max. 1200/min  
 Switching time: typ. 5 ms  
 Release time: typ. 2 ms  
 Fall time NO contact: < 1 ms

### Counters

2 programmable digital 16-bit counters (2 of the 10 input optocouplers are assigned)  
 Counting frequency: max. 5 kHz

### LCD Display

Matrix display with 2 lines and 16 columns presenting 16 signs each line  
 Programmable to display communication data, I/O status or user specific data

### Power Supply

+5V via the PC's USB Port. It may be necessary to configure your operating system software to obtain appropriate power requirements.  
 +10 V...+24 V via external power supply

### USB interface

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

### Module connections

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

### USB connecting cable

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

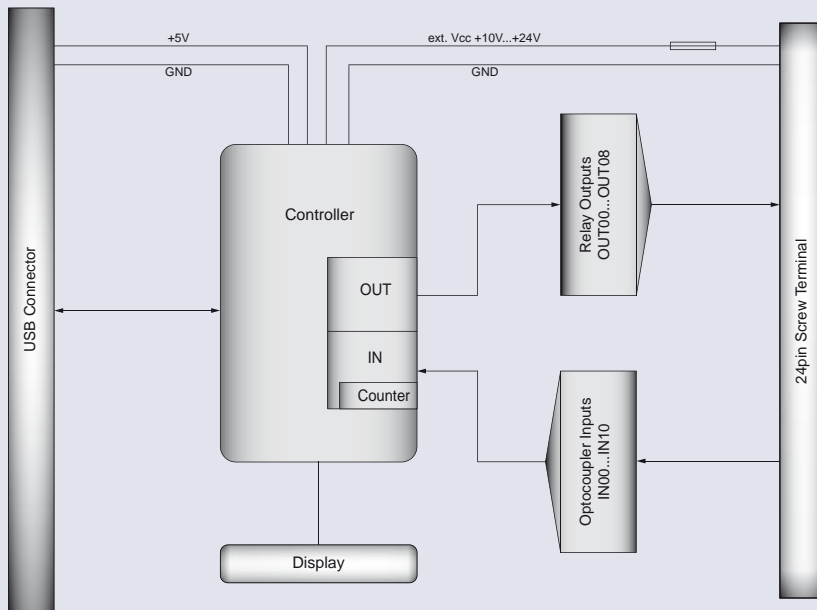
### Product dimensions

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

### Casing

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

## BLOCK DIAGRAM



## PIN ASSIGNMENT

Each single anode of the input optocouplers is individually led to the 24-pin screw terminal block CN1, the cathodes share one screw terminal. Contact B of the output relays also share one screw terminal, whereas each single contact A is fed to individual screw terminals of CN1. Screw terminals Vcc\_EXT and GND\_EXT are allocated for application of an external power supply of 10 ... 24 V.

### Screw terminal CN1

OUT01A	2	1	OUT00A
OUT03A	4	3	OUT02A
OUT05A	6	5	OUT04A
OUT07A	8	7	OUT06A
NC	10	9	OUT00...07B
IN01+	12	11	IN00+ / Counter1
IN03+	14	13	IN02+
IN05+	16	15	IN04+ / Counter2
IN07+	18	17	IN06+
IN09+	20	19	IN08+
NC	22	21	IN00...09-
GND_EXT	24	23	Vcc_EXT

## ASSEMBLY AND APPLICATION OPTIONS



Top-hat Rail Mounting



Wall Mounting



Mobile Use on a Desk

## PROGRAMMING

Driver installation from enclosed CD. The accompanying CD provides sample programs for Microsoft Visual C++, Microsoft Visual Basic 2005 and Microsoft Visual C# 2005

## SCOPE OF DELIVERY

USBModule EXDUL-336E  
USB connection cable (Typ A-B) 3m long  
German Description (English on request)  
Programs for installation and programming examples

## ORDER INFORMATION

EXDUL-336E EDP-No. A-385340  
USB Optocoupler/Relay 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