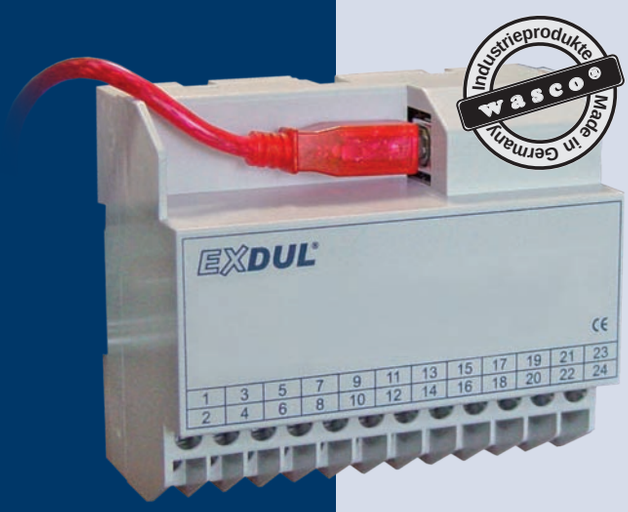
wasco®

# EXDUL-316S

**USB Module with 10 Optocoupler Inputs, 8 Optocoupler Outputs and Counter**




**10 optocoupler inputs**

**8 optocoupler outputs**

**2 16-bit counters**

**USB 2.0 compatible**

The module EXDUL-316S features ten digital inputs and eight digital outputs each of which are galvanically isolated by top-quality optocouplers and fitted with additional protection diodes. All input optocouplers have integrated Schmitt trigger function. Special high power output optocouplers have a maximum switching current of 150 mA. Two of the ten optocoupler inputs are programmable and usable as digital counters if required. 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 module has a 24-pin screw terminal for the input/output connections and external power supply (if required). The compact chassis enables the module to be used as a portable device with a notebook. For mechanical engineering control applications it can also easily be attached to DIN mounting rail.


Phone: +49.8071.9187.0
Fax: +49.8071.9187.40
www.messcomp.com/info@messcomp.com

## SPECIFICATIONS

### Digital Optocoupler Inputs
10 channels galvanically isolated, common ground connection (cathodes shared)
2 of the channels programmable as counter inputs
optocouplers with integrated Schmitt-Trigger function
Overvoltage protection diodes
Input voltage ranges
high = 10 .... 30 V
low = 0 .... 3 V
Input frequency max. 10 kHz

### Digital Optocoupler Outputs
8 output channels galvanically isolated
Common ground (emittors shared)
High-capacity optocouplers
Reverse polarity protection diodes
Output current: max. 150mA
Switching voltage: max. 50 V

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

### Power Supply
+5V via USB Port or
+10 V...+24 V via external power supply

To power the device via USB port it may be necessary to configure your operating system software to obtain appropriate power requirements.

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

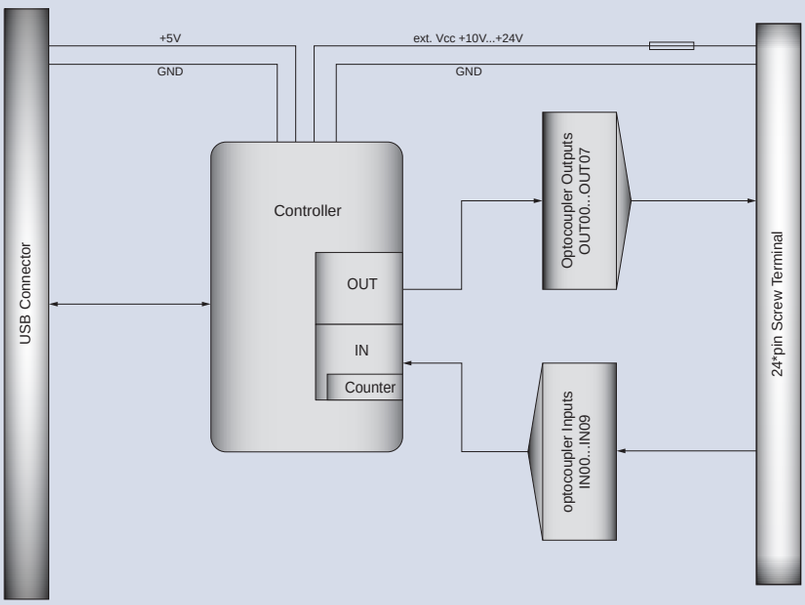
### Module connections
1 * 24pin screw terminal
1 * USB port type B

### 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



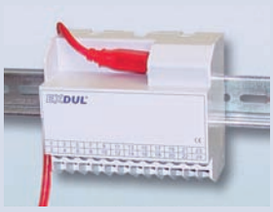

## Pin Assignment

Each single anode of the input optocouplers is individually led to the 24-pin screw terminal block CN1, the cathodes share one screw terminal. The emittor connections of the output optocouplers also share one screw terminal, whereas each single collector connection is fed to individual screw terminals of CN1. Screw terminals Vcc_EXT and GND_EXT are provided for application of an external power supply of 10 ... 24 V.

**Screw Terminal CN1**

| | | | |
|---|---|---|---|
| OUT01- | 2 | 1 | OUT00- |
| OUT03- | 4 | 3 | OUT02- |
| OUT05- | 6 | 5 | OUT04- |
| OUT07- | 8 | 7 | OUT06- |
| OUT00...07+ | 10 | 9 | NC |
| 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

USB Module EXDUL-316S
USB connection cable (Type A-B), 3 m
German Description (English on request)
Programs for installation and programming examples

## Order Information

**EXDUL-316S** **EDP-No. A-384320**
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