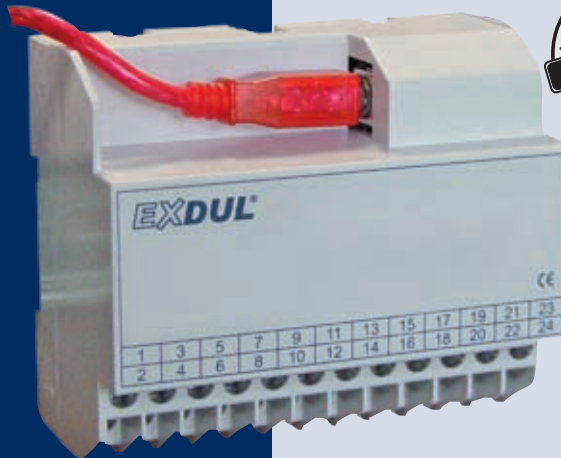


EXDUL-371S

USB Module with 8 Analog Inputs, 2 Analog Outputs, 3 Optocoupler Inputs, 2 Optocoupler Outputs and Counter



8 A/D inputs 12 bit

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

2 D/A outputs 12 bit

3 optocoupler inputs

2 optocoupler outputs

1 counter 16 bit

EXDUL-371S provides either eight single ended or four differential 12-bit A/D input channels. You can adjust the input voltage ranges to be unipolar (0-5 V, 0-10 V) as well as bipolar (+/-2.5 V, +/-5 V, +/-10 V). The conversion process including configuration of the A/D components (selection of range and channel) is triggered by software commands. It is also possible to select output voltage ranges of both of the two 12-bit D/A outputs either unipolar (0-5 V, 0-10 V) or bipolar (+/-5 V, +/-10 V) via software.

Additionally the module provides three digital inputs and two digital outputs, each of which is galvanically isolated by high-quality optocouplers and equipped with additional protection diodes. One of the digital inputs can be used as a 16-bit counter. All input optocouplers are fitted with integrated schmitt trigger function. Special high power output optocouplers manage a maximum switching current up to 150 mA. An external power supply powers the module with the required operating voltage. The module provides a 24-pin screw terminal block for connecting the external power supply as well as the analog/digital inputs and outputs.

SPECIFICATIONS

A/D inputs

8 inputs single-ended (se)
or 4 inputs differential (diff)
or combined se/diff selectable via software
Resolution: 12 bit
Input voltage range:
unipolar: 0..5 Volt, 0..10 Volt
bipolar: +/-5 Volt, +/-10 Volt
Absolute Accuracy: typ 0.1 % +/- 1 LSB
Input resistor: unipolar 42 kΩ
bipolar 31 kΩ
Over voltage protection: 20V
Measuring cycle: max. 1 ms

D/A outputs

2 outputs
Resolution: 12 bit
AA: typ 0.1 % +/- 1 LSB
Output voltage range
unipolar: 0..5 Volt, 0..10 Volt
bipolar: +/-2.5 Volt, +/-5 Volt, +/-10 Volt
Output current: max +/-5 mA

Optocoupler inputs

3 channels, galvanically isolated
programmable to be counter input
Optocouplers with integrated schmitt trigger function
Over voltage protection diodes
Input voltage range
high = 10..30 Volt
low = 0..3 Volt
Input frequency: max. 10 kHz

Optocoupler outputs

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

Counter

1 programmable digital 16-bit counter (allocated to the first optocoupler input)
counting frequency: max. 5 kHz

Operation voltage

+18 V...+36 V (external power supply)

USB Interface

Compatible with USB 2.0
USB Connection Plug and Play (hot-pluggable, connectable during operating system)

Connection Terminals

1 * 24-pin screw terminal block
1 * USB socket Type B

USB connection lines

1 * USB plug Type A
1 * USB plug Type B

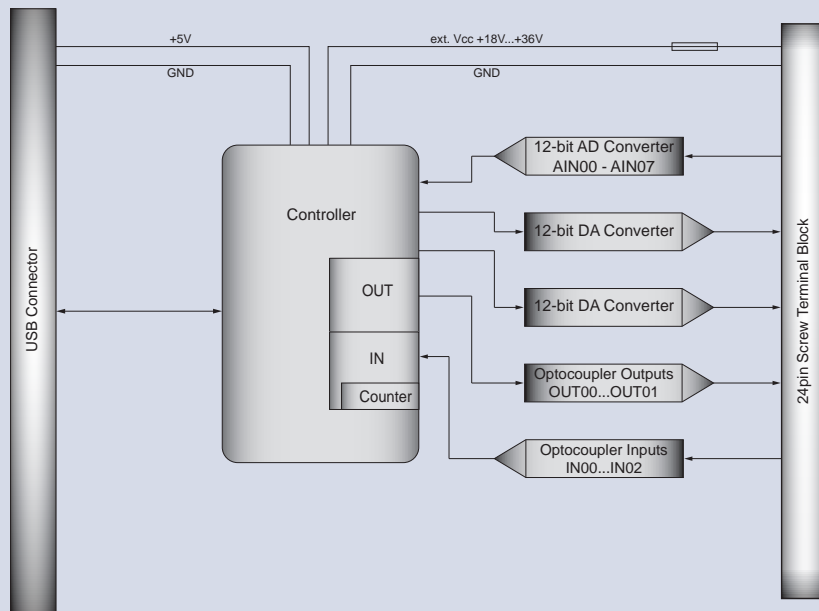
Dimensions

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

Casing

Insulating plastic casing with integrated snap-in 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 18 ... 36 V external voltage supply.

Screw-Terminal CN1

AIN01+	2	1	AIN00+
AIN03+	4	3	AIN02+
AIN05+	6	5	AIN04+
AIN07+	8	7	AIN06+
DAGND	10	9	ADGND
AOUT01+	12	11	AOUT00+
OUT00-	14	13	OUT00+
OUT01-	16	15	OUT01+
IN00-	18	17	IN00+ / counter
IN01-	20	19	IN01+
IN02-	22	21	IN02+
GND_EXT	24	23	Vcc_EXT

ASSEMBLY AND APPLICATION OPTIONS



Top-hat Rail Mounting



Wall Mounting



Mobile Use on a Desk

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

Driver installation from the enclosed CD. Information about the supported Windows versions is available in section support of www.wasco.de.

Sample programs for Microsoft Visual C++, Microsoft Visual Basic 2010 and Microsoft Visual C# 2005 are included on CD.

SCOPE OF DELIVERY

USB Module EXDUL-371S

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

German Description (English on request)

Installation and example programs

ORDER INFORMATION

EXDUL-371S

EDP-No. A-381710

USB Optocoupler I/O Module

SUITABLE ACCESSORIES

DR-60-24

EDP-No. A-3425

Switching power supply providing one output 24 V / 2,5A, closed 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 with two change-over contacts 250 V / 8 A and free-wheeling diode, snap-in 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