



## User manual Technical parameters

**multisio**

**Module with  
4 analog inputs**

**D2-4AI-2**



**Your partner for  
network analysis**

## Dear customer

Thank you for choosing a KBR product.

To familiarize yourself with the operation and configuration of the device, we recommend that you read this manual carefully. This way, you will be able to use of the entire range of functions that this high-quality product has to offer.

The individual chapters explain the technical details of the device and show how to properly install and start it up to prevent damage.

This user manual is included in the scope of delivery of the device and must be accessible to the user at all times (e.g. in the switchgear cabinet). Even if the device is resold to third parties, the manual remains an inherent part of the device.

Although the utmost care has been taken in putting together this user manual, errors may still occur. We would be very grateful if you could notify us of any errors or unclear descriptions you may notice. The form included in the appendix to this manual can be used to send us corrections or suggested improvements.

Yours sincerely,

KBR GmbH Schwabach

This user manual contains notes that you have to observe for your personal safety and to prevent damage to the equipment. These notes are identified by a warning sign or information symbol, depending on the degree of hazard they warn about.



### DANGEROUS VOLTAGE

means that death, major injury or substantial property damage may occur if the appropriate safety measures are not taken.



### CAUTION

means that minor injuries or property damage may occur if the appropriate safety precautions are not taken.



### NOTE

is an important piece of information on the product, product handling or the respective part of the user manual to which special reference is made.

## Disclaimer

The contents of this manual have been checked to concur with the described hardware and software components. However, deviations may occur, meaning that no guarantee can be made for complete agreement with the documentation. The specifications given in this manual are checked on a regular basis; necessary corrections will be included in the next revision.

We appreciate your corrections and comments.

## Safety notes

In order to prevent operating errors, handling of the device has been kept as simple as possible. This will enable you to use the device very quickly. In your own interest, however, read the following safety notes carefully.

## Product liability

### **You have purchased a high-quality product.**

Only components of the highest quality and maximum reliability are used.

Each device is subject to long-term testing before it is delivered. For details on product liability, please refer to our general terms and conditions for electronic equipment.

The warranty on device properties applies only if the device has been operated in accordance with its intended use!

## Disposal

Devices that are faulty, obsolete or no longer used must be properly disposed of.

If required, we will dispose of the devices for you.

## Scope of delivery

### **Included in the scope of delivery:**

- Analog input module
- Connector set
- User manual

# 2 Installing the device

The housing of the transducer attachment is designed for mounting in the cabinet to 35 mm standard rail. The module is snapped on the standard rail.

## 2 Description of functions multisisio D2-4AI-2 analog input module

The hardware of the multisisio D2-4AI-2 supports four analog inputs and five LEDs.

With its four analog measuring inputs, it can measure currents from 0 to 20 mA and voltages from 0 to 10 V.

The four input LEDs indicate the state of the analog inputs and the power LED indicates whether the power is on or off.

The module can be accessed by a master device (multisisio D6...x (D6-ESBS-5DI-6RO-1DO-5 or higher) with module bus or a computer with VE using multisys D2-ESBS-3 / multisys D2- BSES-3) via the module bus interface.

The master device has to configure the module and read out the data acquired by the module for further processing.

The operating voltage is supplied via the module bus interface. The module cannot be used on its own.

## 3 Analog input module connection diagram

### Terminal assignment

Terminal 70: Analog input 1 +

Terminal 71: Analog input 1 -

Terminal 72: Analog input 2 +

Terminal 73: Analog input 2 -

Terminal 74: Analog input 3 +

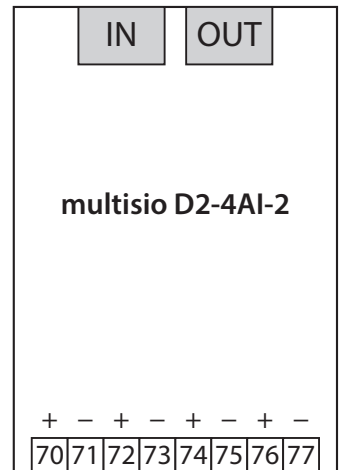
Terminal 75: Analog input 3 -

Terminal 76: Analog input 4 +

Terminal 77: Analog input 4 -

IN/OUT: Module bus/power supply

Module    Module  
Modul    Modul



## 4 Analog input module LED display

In the scan mode of the KBR module bus, all 4 input LEDs flash.

In module detection mode, the input LEDs flash in sequence.

**The LEDs represent:**

LED1 for input 1

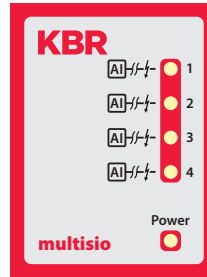
LED2 for input 2

LED3 for input 3

LED4 for input 4

Power LED on:

Operating voltage  
is applied



The LEDs on the module with 4 digital inputs turn on when an analog input signal is detected and the measured values are within the set limits.

The LEDs go out if no analog encoder is connected or if the encoder is short-circuited. The LEDs flash if the value exceeds or falls below a limit.



### NOTE

For operation at the multisio D6...x (D6-ESBS-5DI6RO1DO-5 and higher) base device, the module is always set up for 0-20 mA/0-10 V, meaning that the LEDs of inputs 1-4 are always on.

The multisio D6...x base device makes the conversion to 4-20 mA/2-10 V.

## 5 Scan button function



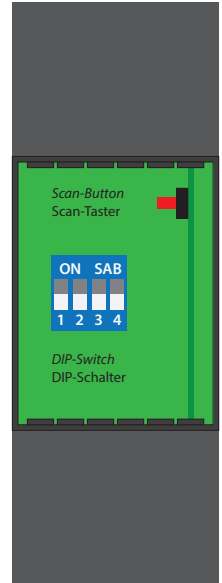
### NOTE

If the scan button is pressed briefly, the module enters the scan mode.

### Illustrated switch setting:

OFF = white

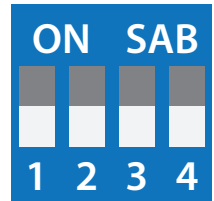
ON = gray



## 6 DIP switch function

Switching inputs 1 to 4:

Switch set to OFF:	Switch set to ON:
S1 = 0 / 2 – 10V	S1 = 0 / 4 – 20mA
S2 = 0 / 2 – 10V	S2 = 0 / 4 – 20mA
S3 = 0 / 2 – 10V	S3 = 0 / 4 – 20mA
S4 = 0 / 2 – 10V	S4 = 0 / 4 – 20mA



## 7 Technical data:

<b>Power supply:</b>	Via module bus	24 V DC/approx. 1.3W
	Connection	Modular connector RJ-12:6P6C
<b>Hardware inputs:</b>		
4 analog inputs:	Measuring range	0/4 - 20 mA, 0/2 - 10 V
	Plug-in terminal, 8-pin	
Module bus interface:	Serial interface	RS-485
	Module bus connection	RJ-12 for ready-made KBR system cable, max. length 30 m if correctly placed
	Transmission speed	38400 Bps
	Bus protocol	KBR module bus
<b>Display:</b>	LED	4x message 1x operation display
<b>Control unit:</b>	DIP switch	Configuration with 4 inputs
	Button	Scan button (module bus)
<b>Mechanical data:</b>		
DIN rail device:	Housing dimensions	90 x 36 x 61 mm (H x W x D)
	Mounting type	Wall mounting on 7.5 mm deep DIN rail, in accordance with DIN EN 50022. Suitable for distribution board mounting
	Weight	Approx. 100 g



**Ambient conditions / electrical safety**

Ambient conditions	Standards	DIN EN 60721-3-3/A2: 1997-07; 3K5+3Z11; (IEC721-3-3; 3K5+3Z11)
	Operating temperature	K55 (-5°C .... +55°C)
	Humidity	5 % ... 95 %, non-condensing
	Storage temperature	K55 (-25°C .... +70°C)
	Operating altitude	0 to 2000 m above sea level
Electrical safety (used with base device)	Standards	DIN EN 61010-1: 2011-07
	Protection class	I
	Overvoltage category	CAT III
	Rated surge voltage	4kV
Protection type	Standards	IP20 in accordance with DIN EN 60529:
EMC	Standards	DIN EN 61000-6-2:2006-03 + amendment 1:2011-03 DIN EN 61000-6-3:2011-09 + amendment 1:2012-11 DIN EN 61326-1:2013-07

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Lined area for notes



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