KBR Energy Management

User manual
Technical parameters

multisio

Module with 4 digital inputs

D2-4DI-2

Your partner for network analysis

System | Englisch

In our download centre you will find the appropriate instructions for KBR devices.
https://www.kbr.de/en/download/operating instructions/

22074_EDEBDA0243-3724-1_EN

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

22074_EDEBDA0243-3724-1_EN

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.

22074_EDEBDA0243-3724-1_EN

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:

- Digital 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.

22074_EDEBDA0243-3724-1_EN

2 Description of functions multisio D2-4DI-2 digital input module

The hardware of the multisio D2-4DI-2 supports 4 digital inputs, 5 LEDs and an 8-pin DIP switch.

If a switch connected to the digital input is closed, the module detects it as active. An open switch is detected as passive.

Ensure that the polarity is correct when you connect the electronic switches. The four input LEDs indicate the state of the digital inputs and the power LED indicates whether the power is on or off.

The multisio D2-4DI-2 manages the digital inputs with two different methods you can choose from. Each input can be configured individually as a pulse counter input or state controlled input.

The module can be accessed by a master device (multisio D6-x (D6-ESBS-5DI6RO-1DO-5 or higher) with module bus, multicomp 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 Digital input module connection diagram

Terminal assignment

Terminal 50: Digital input 1 +

Terminal 51: Digital input 1 -

Terminal 52: Digital input 2 +

Terminal 53: Digital input 2 -

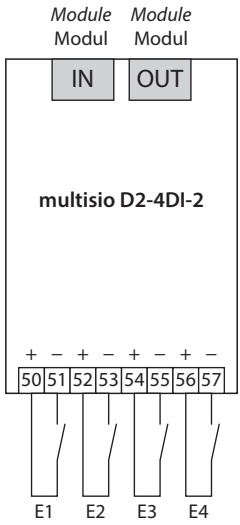
Terminal 54: Digital input 3 +

Terminal 55: Digital input 3 -

Terminal 56: Digital input 4 +

Terminal 57: Digital input 4 -

IN/OUT: Module bus/supply voltage



22074_EDEBDA0243-3724-1_EN

4 Digital 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:

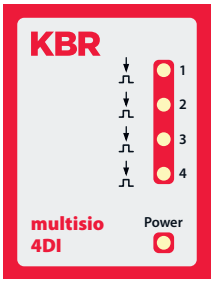
LED1 for input 1

LED2 for input 2

LED3 for input 3

LED4 for input 4

Power LED on:
Operating voltage
is applied



The LEDs on the digital input module indicate the current state of the digital input. If the input is active, the LED is on. If the input is passive, the LED is off.

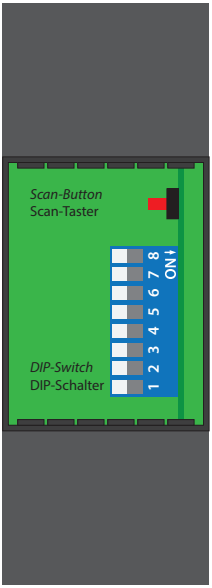
5 Scan button function

NOTE

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

Illustrated switch setting:

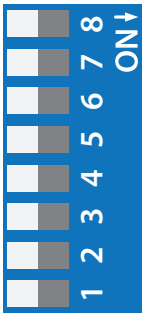
OFF = white
ON = gray



22074_EDEBDA0243-3724-1_EN

6 DIP switch function

6.1 Operating mode



For every input, the **multisio D2-4DI-2** has the two operating modes "normal" and "manual", which are activated with DIP switches 5 to 8.

The DIP switches are assigned to the inputs as follows:

- DIP switch 5 determines the operating mode of input 1
- DIP switch 6 determines the operating mode of input 2
- DIP switch 7 determines the operating mode of input 3
- DIP switch 8 determines the operating mode of input 4

If the DIP switch is set to **OFF,** the respective input is in normal operating mode. If the DIP switch is set to **ON**, the respective input is in manual operating mode.

Illustrated switch setting:

OFF = white

ON = gray

Normal operating mode

In normal operating mode, the current state of the associated input is further processed.

Manual operating mode

In manual operating mode, the state of DIP switches 1 to 4 is processed instead of the state of the respective input. The DIP switches are assigned to the inputs as follows:

- DIP switch 1 determines the state of input 1
- DIP switch 2 determines the state of input 2
- DIP switch 3 determines the state of input 3
- DIP switch 3 determines the state of input 3

If the DIP switch is set to **OFF**, the input state passive/off is used. If the DIP switch is set to **ON**, the input state active/on is used.

22074_EDEBDA0243-3724-1_EN

6.2 DIP switch settings

DIP operating		State DIP		Explanation
S5	OFF	—	—	Input 1 = normal operating mode
	ON	S1	OFF	Input 1 = manual operating mode passive/off
			ON	Input 1 = manual operating mode active/on
S6	OFF	—	—	Input 2 = normal operating mode
	ON	S2	OFF	Input 2 = manual operating mode passive/off
			ON	Input 2 = manual operating mode active/on
S7	OFF	—	—	Input 3 = normal operating mode
	ON	S3	OFF	Input 3 = manual operating mode passive/off
			ON	Input 3 = manual operating mode active/on
S8	OFF	—	—	Input 4 = normal operating mode
	ON	S4	OFF	Input 4 = manual operating mode passive/off
			ON	Input 4 = manual operating mode active/on

22074_EDEBDA0243-3724-1_EN

7 Technische Daten:

Power supply:	Via module bus	24 V DC/approx. 2 W
	Connection	Modular connector RJ-12:6P6C
Hardware inputs:		
4 digital inputs:	S0 compatible	< 2 mA = aus, > 10 mA = ein
	Output voltage	< 24 VDC, Polarität beachten
	Output current	<= 15 mA
	Pulse length	min. 30 ms
	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
Display:	LED	4x message 1x operation display
Control unit:	DIP switch	Configuration with 8 inputs
	Button	Scan button (module bus)
Mechanical data::		
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. 70 g

22074_EDEBDA0243-3724-1_EN

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: 2014-09
EMC	Standards	DIN EN 61000-6-2:2006-03 + amendment 1:2011-03 DIN EN 61000-6-3:2011-09 + amendment1:2012-11 DIN EN 61326-1:2013-07

22074_EDEBDA0243-3724-1_EN

22074_EDEBDA0243-3724-1_EN

KBR GmbH

Am Kiefernschlag 7
D-91126 Schwabach

P +49 (0) 9122 6373 - 0
F +49 (0) 9122 6373 - 83
E info@kbr.de

www.kbr.de

22074_EDEBDA0243-3724-1_EN