



## Operating instructions Function description



### multisiso D2-4TI 4-channel Temperature module

15217\_EDEBD0156-4324-1\_EN

System | englisch



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<https://www.kbr.de/en/download/operating-instructions/>

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## 1 Function description temperature module multisio D2-4TI

The hardware of the multisio D2-4TI supports 4 temperature inputs for PT1000 and 5 LEDs.

The module evaluates the measurement values of the temperature probe connected to the terminals 70 and 71.

The module can be accessed by a master device (multisio D6 (from 5D6-ESBS-5DI6RO-1DO) with module bus or via computer with visualenergy via multigate ES/BS) using 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 as a stand-alone unit.

## 2 Temperature module - connection chart

Terminal assignment

Terminal 70: temperature input 1 +

Terminal 71: temperature input 1 -

Terminal 72: temperature input 2 +

Terminal 73: temperature input 2 -

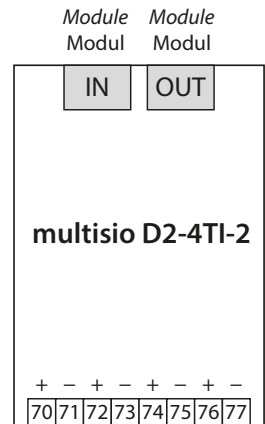
Terminal 74: temperature input 3 +

Terminal 75: temperature input 3 -

Terminal 76: temperature input 4 +

Terminal 77: temperature input 4 -

IN / OUT: Module bus / supply voltage



### 3 Temperature module – LED display

In eBus scanning mode, all 4 input LEDs are flashing. In the module detection mode, the input LEDs generate a running light.

**Assignment:**

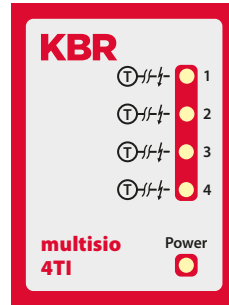
LED1 for: Input 1

LED2 for: Input 2

LED3 for: Input 3

LED4 for: Input 4

Power-LED: Operating voltage supplied



The LEDs at the 4-input temperature module are illuminated if a sensor is connected and the values are measured within the limits set. The LEDs are switched off if no sensor is connected or if the sensor is shorted out. When a limit is violated, the LEDs flash.

### 4 Function of scan button



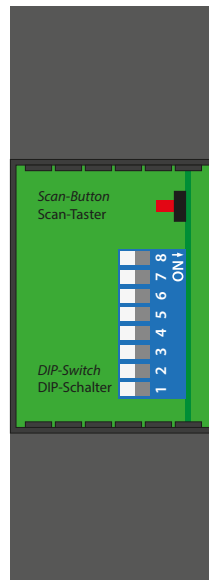
**NOTE**

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

**Switch setting illustrated:**

OFF = white

ON = grey



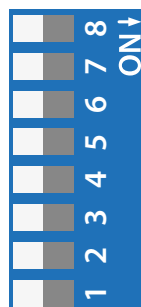
## 5 Function of the DIP Switches

### 5.1 Operating Mode

The multisio D2-4TI can calibrate the connected line for each input. For this, instead of the PT-1000 temperature sensor, a high-precision resistor of 1000 ohms must be connected at the end of the line. The DIP switches 5 to 8 switch the input to the line calibration mode.

**The assignment of the DIP switches to the inputs is as follows:**

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



If the DIP switch is set to Off, the corresponding input is in normal operating mode.  
If the DIP switch is set to On, the corresponding input is in line calibration mode.

#### Depicted Switch Position:

OFF = white

ON = gray

#### Normal Operating Mode

In normal operating mode, the measured input value of the corresponding input is processed further.

#### Line Calibration Mode

In line calibration mode, the line calibration of the corresponding input is carried out based on the state of DIP switches 1 to 4. The assignment of the DIP switches to the inputs is as follows:

- DIP switch 1 switches the line calibration of input 1
- DIP switch 2 switches the line calibration of input 2
- DIP switch 3 switches the line calibration of input 3
- DIP switch 4 switches the line calibration of input 4

If the DIP switch is set to Off, the line calibration is terminated.  
If the DIP switch is set to On, the line calibration is started.

## 5.2 DIP Switch Settings

Operating Mode DIP	State DIP		Meaning	
S5	Off	—	Input 1 = normal operating mode	
	On	S1	Off	Input 1 = End line calibration
			On	Input 1 = Start line calibration
S6	Off	—	Input 2 = normal operating mode	
	On	S2	Off	Input 2 = End line calibration
			On	Input 2 = Start line calibration
S7	Off	—	Input 3 = normal operating mode	
	On	S3	Off	Input 3 = End line calibration
			On	Input 3 = Start line calibration
S8	Off	—	Input 4 = normal operating mode	
	On	S4	Off	Input 4 = End line calibration
			On	Input 4 = Start line calibration

Example: Line Calibration on Input 1

All DIP switches must be set to Off. Turn on the operating voltage. To correctly perform a line calibration on Input 1, the following steps must be carried out in this exact order:

### Remove PT-1000 and connect a 1000 ohm resistor.

- Set DIP switch S5 to On (activate line calibration mode).
- Set DIP switch S1 to On (start line calibration).
- Set DIP switch S1 to Off (end line calibration).
- Set DIP switch S5 to Off (deactivate line calibration mode).

Remove the 1000 ohm resistor and reconnect the PT-1000.



### NOTE

The module requires up to 2 seconds after DIP switch S1 is set to Off to permanently save the determined calibration values. During this time, a power failure will result in incorrect calibration data. The line calibration must then be repeated.

## 6 Technical data

Power supply:		
Via module bus		24 VDC / < 1 W
Connection		Modular connector RJ12:6P6C
Hardware inputs:		
4 temperature inputs	Plug terminal 8-pole	for sensor PT-1000
	Type 1	-20 °C bis +80 °C +/- 1%
	Type 2	-40 °C bis +40 °C +/- 1%
Module bus interface	Serial port	RS-485
	Module bus connection	RJ12 for ready-made KBR system cable, max. length 30 m when placed accordingly
	Transfer rate	38400 Bps
	Bus protocol	KBR module bus
Display	LED	4x messages, 1x operation display
Control unit	DIP-switch	1x 8-way, for wire calibration
	Button	Scan button (module bus)
Mechanical data:		
Top hat rail device	Housing dimensions	90 x 36 x 61 mm (H x W x D)
	Mounting type	Wall mounting on DIN rail, 7.5 mm deep, in accordance with DIN EN 50022.
	Weight	approx. 100 g
Standards and miscellaneous:		
Environmental conditions	Standards	DIN EN 60721-3-3/A2: 1997-07; 3K5+3Z11; (IEC721-3-3; 3K5+3Z11)
	Operating temperature	5 °C ... +55 °C
	Humidity	5 % ... 95 %, non-condensing
	Storage temperature	-25 °C ... +70 °C
Electrical safety	Standards	DIN EN 61010-1/A2: 2001 + B1: 2002-11 + B2: 2004-1; (IEC1010-1/A2)
	Protection type	IP20 with DIN EN 40050 Teil 9:1993-05
	Electromagnetic compatibility	DIN EN 61000-6-3: 2001 + A11: 2004 (IEC61000-6-3) DIN EN 61000-6-2: 2001 (IEC61000-6-2)

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