KBR
Energy Management

# Operating instructions
# Technical Parameters


## multisio D2-1TI2RO
## Temperaturmodul

In our download centre you will find the appropriate instructions for KBR devices.

https://www.kbr.de/en/download/operating instructions/

System | english

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## 1 Funktionsbeschreibung Temperaturmodul multisio D2-1TI2RO

The hardware of the multisio 2D2-1TI2RO supports 1 temperature input for PT1000, 2 floating relay outputs, 5 LEDs and a 8-way DIP switch.

The module evaluates the measurement values of the temperature probe connected to the terminals 50 and 51 and switches the relays according to the limits transferred by the master device.

The relay outputs are used for fan control or as error message relays.

**Example::**

Switching threshold of fan = 28°C / hysteresis = 5°C
Fan relay switches on at 28°C and off at 23°C

Switching threshold of alarm = 50°C / hysteresis = 5°C
Alarm relay switches on at 50°C and off at 45°C

The module can be accessed by a master device (multisio xD6 (from5D6-ESBS-5DI6RO-1DO) with module bus, multicomp with module bus or via computer with VE 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.

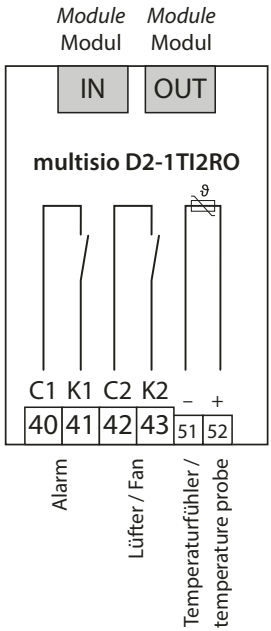
The operating voltage is supplied via the module bus interface. T he module cannot be used on its own.

## 2 Temperature module - connection chart

Terminal 40: Relay input Alarm
Terminal 41: Relay output Alarm
Terminal 42: Relay input Fan
Terminal 43: Relay output Fan

Terminal 51: Temperature input - PT1000
Terminal 52: Temperature input + PT1000

IN / OUT: Module bus / supply voltage

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NOTE

The relay outputs of the module are floating relay outputs.

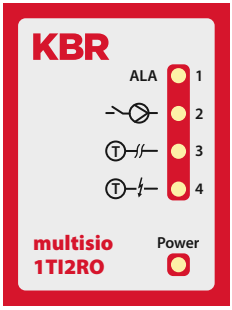
## 3 Temperature module – LED display

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

**Assignment:**

LED1 on: Alarm relay switched (contact open)
LED2 on: Fan relay closed
LED3 on: Temperature probe interrupted
LED4 on: Temperature probe short circuit

Power LED: Operating voltage

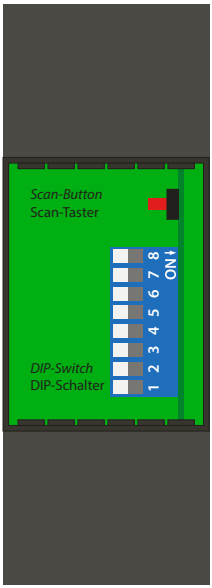



## 4 Function of scan button

NOTE

If the scan button is pressed briefly
(until all LEDs light up for a short time),
the module enters the scanning mode.

**Switch setting illustrated:**
OFF = white
ON = gray

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# 5 Function of the DIP Switches

## 5.1 Operating Mode

The multisio D2-1TI2RO recognizes the operating modes „normal“ and „manual“ for each output. The switching is done via DIP switches 5 to 8.

**The assignment of the DIP switches to the outputs is:**
- DIP switch 5 switches the operating mode of the alarm relay
- DIP switch 6 switches the operating mode of the fan relay
- DIP switch 7 no function
- DIP switch 8 no function

If the DIP switch is set to Off, the corresponding output is in the normal operating mode.
If the DIP switch is set to On, the corresponding output is in the manual operating mode.

**Depicted switch position:**
OFF = white
ON = gray

**Normal Operating Mode**
In the normal operating mode, the state formed in the module is output at the corresponding output.

**Manual Operating Mode**
In the manual operating mode, the state of DIP switches 1 to 4 is output at the corresponding output instead of the state formed in the module. The assignment of the DIP switches to the outputs is:

- DIP switch 1 switches the state of the alarm relay
- DIP switch 2 switches the state of the fan relay
- DIP switch 3 no function
- DIP switch 4 no function

If the DIP switch is set to Off, the output is passive/off.
If the DIP switch is set to On, the output is active/on.

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## 5.2 DIP switch settings

| Operating mode DIP | | Status DIP | | Meaning |
|---|---|---|---|---|
| **S5** | Off | — | — | Alarm relay = normal operating mode |
| | On | **S1** | Off | Alarm relay = manual operating mode passive / off |
| | | | On | Alarm relay = manual operating mode active / on |
| **S6** | Off | — | — | Fan relay = normal operating mode |
| | On | **S2** | Off | Fan relay = manual operating mode passive / off |
| | | | On | Fan relay = manual operating mode active / on |
| **S7** | — | **S3** | — | No function |
| **S8** | — | **S4** | — | No function |

## 6. Technical data

| | | |
|---|---|---|
| **Power supply:** | Via module bus | 24 VDC / ca. 1 W |
| | Connection | Modular connector RJ12:6P6C |
| **Hardware inputs:** | | |
| Temperature input | Measuring range | -20°C bis +100°C +/- 2°C |
| | Plug terminal 2-pole | for PT1000 sensor |
| **Hardware outputs:** | | |
| 2 relay outputs | Plug terminal 4-pole | loating |
| | Contact capacity | 500VA, 2A, 250V 50/60Hz each |
| | Overvoltage category | CAT II |
| Module bus interface: | Serial port | RS-485 |
| | Module bus connection | RJ12 for ready-made KBR system cable, max. length 30 m when placed accordingl |
| | Transfer rate | 38400 Bps |
| | Bus protocol | KBR module bus |
| Display: | LED | 4x messages<br>1x operation display |
| Control unit | DIP switch | 1x 8-way, for manual operation |
| | Button | Scan button (module bus) |

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## 6.1 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 |

## 6.2 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 in accordance with DIN EN 40050 part 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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