resistance thermometer WTR 190

features

- resistance thermometer as room temperature sensor
- closed protective fitting, not perforated
- cleaning resistant materials
- position of screw connection to protection fitting selectable
- sensor break monitoring
- available with: with measuring transducer DMU50 (4..20mA 3-wire/ OLED display)
  with measuring transducer KMU100 (4..20mA 2-wire)
  with measuring transducer KMUS100 (0..10V 3-wire)

product advantages

The WTR 190 is a temperature sensor in a wall-mounted housing. This makes it the right choice for reliably detecting temperatures in rooms or in outdoor areas. Thanks to the robust polyamide housing, the WTR190 can also be used without any problems in blast freezers, deep-freeze warehouses and in aggressive ambient conditions in industry. Optionally, the WTR 190 is available with KMU 100 or KMUS 100. The KMU 100 has a 4..20mA and the KMUS100 a 0..10V output. The WTR190 is also available with DMU 50. The DMU has a 4..20mA output and a high resolution OLED display.

WTR 190-C1-1A2/Pt1000-DMU

WTR 190-A1-1A3-KMU

technical data

- material protective fitting: stainless steel 1.4571 (V4A)
- length of sensor: 45 mm other lengths on request
- connecting box: plastic polyamide
- dimensions: 58 x 64 x 34 mm
- protection class: IP 65 according to DIN 60529
- operating temperature: -50 °C bis +130 °C
  (deviation when using a transmitter)
- torque min. 1,25 Nm up to max. 2,0 Nm

technical data DMU 50

- operating temperature: -30 °C..+70 °C
- operating voltage: U_B = 10..35 V DC
- electricity demand: 7,3 mA (U_B=24V) + 4..20mA output
- input: PT1000 2-wire
- measuring range max.: -100°C bis +650°C
- measuring span min.: 10K
- accuracy: <+-0,1% from final value
- output: 4..20mA 3-wire active (underflow 3,5mA, overflow 20,5mA)
- sensor break: 21mA
- standard configuration: 4mA = -50°C, 20mA = 150°C
  (more temperature range parameterizable)
- max. permissible load: $R_{max}=[(U_B – 6V) / 0,021 A]$ Ω
- display: high-resolution OLED display 0,96 Zoll
- alignment display: 0° oder 180°
- display-digits: 4-digits
- displayrange: -99,9 bis +999,9°C
- electrical connection: 5x terminal connection 1,5 mm²
- configuration: commercial USB Typ C cable (no programming adapter necessary)
  windows application for configuration („pmtKonfigTool")

technical data KMU 100

- operating temperature: -40 °C..+85 °C
- operating voltage: U_B = 10..35 V DC
- electricity demand: 4..20mA output
- input: PT100 2-, 3-, 4- wire
- measuring range max.: -200°C bis +650°C
- Measuring span min.: 10K
- accuracy: <+-0,1% from final value
- output: 4..20mA 2-wire passive (underflow 3,5mA, overflow 21mA)
- sensor break: 22mA
- standard configuration: 4mA = -50°C, 20mA = 150°C
  (more temperature range parameterizable)
- electrical connection: 6x screw terminal 1,5mm²
- configuration: programming adapter PXU01
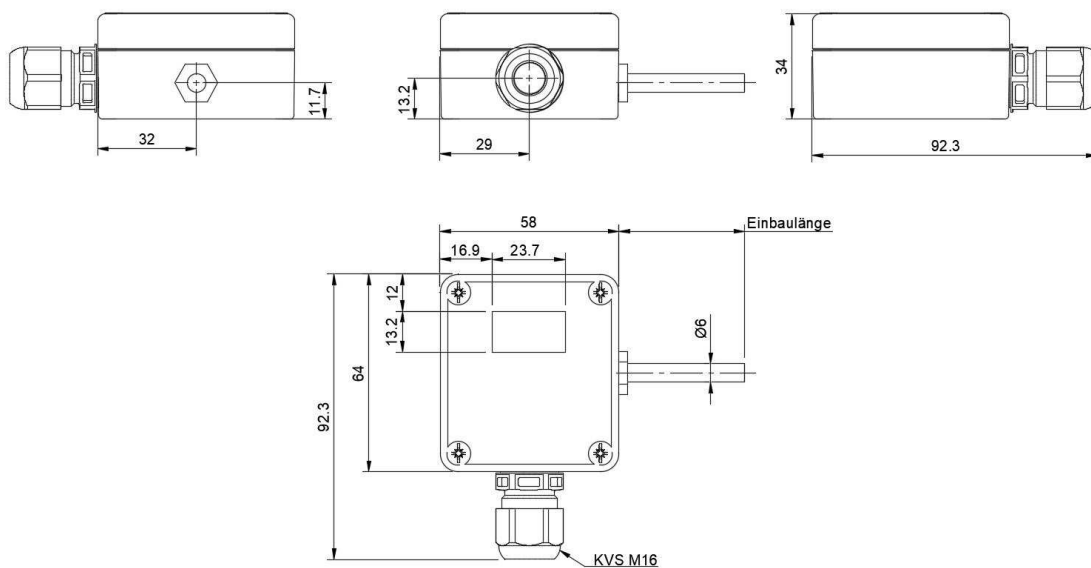 windows application for configuration („PXU01")

resistance thermometer WTR 190

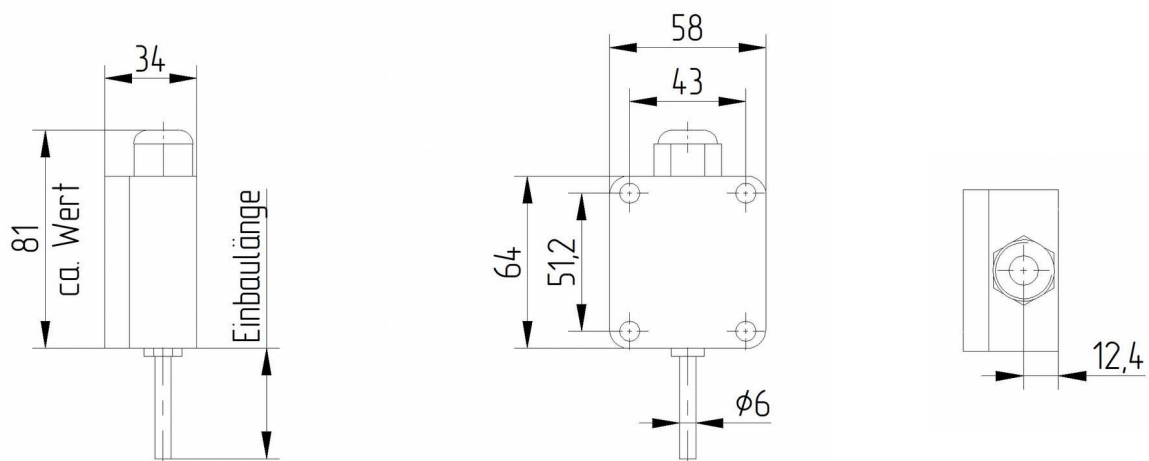### technical data KMUS 100

- operating temperature: -40 °C..+85 °C
- operating voltage: U_B = 15..35 V DC
- electricity demand: max. 10mA
- input: PT100/PT1000 2-, 3-, 4-wire
- measuring range: 12 measuring ranges, see page 3
- accuracy: <+-0,3% from measuring range
- output: 0..10V 3-wire
- sensor break: >10V
- standard configuration: 0V = -20°C, 10V = 150°C
- electrical connection: 6x screw terminal 1,5mm²
- configuration: DIP-switch (12 different measuring ranges)

technical drawing

WTR 190 with DMU 50
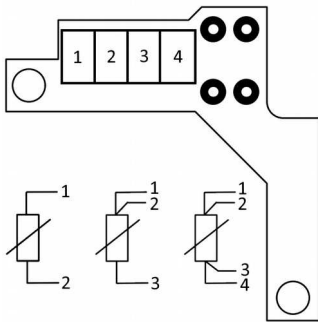

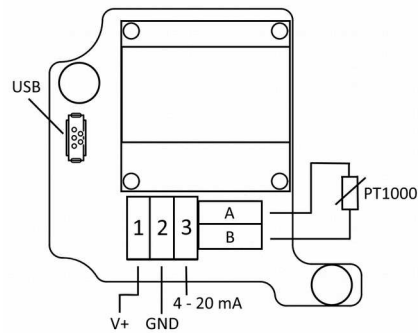**WTR 190 passive/ WTR 190 with KMU 100/ WTR 190 with KMUS 100**

resistance thermometer WTR 190

connection charts
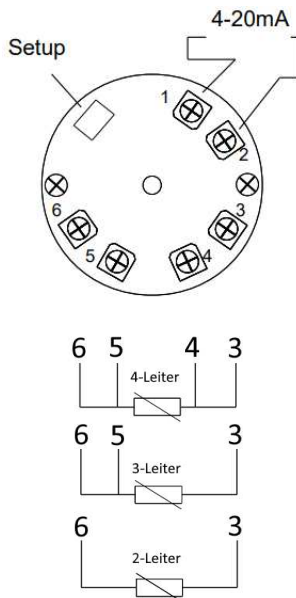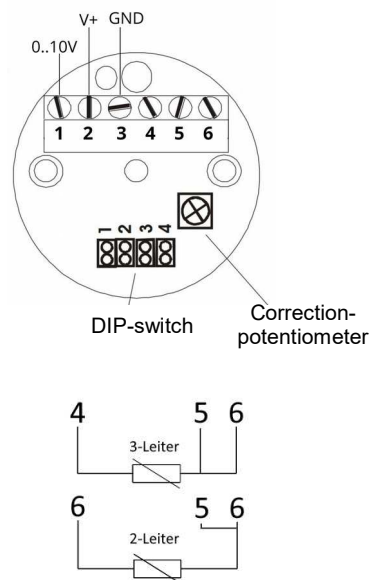
WTR190 passiv

WTR190 with DMU50

WTR190 with KMU100

WTR190 with KMUS100

configuration

If the MUFG is used with a DMU 50, the settings of the DMU can be read out, graphically displayed and changed via the Windows software "pmtKonfigTool". The Windows software can be downloaded from the website www.promesstec.de. The connection between PC and MUFG-DMU can be established with a commercially available USB type C cable.

If the MUFG is used with a KMU 100, the settings of the KMU can be read out, graphically displayed and changed with the parameterization software kit PXU01. In addition to the software, the software kit also includes a programming adapter.

If the MUFG is used with a KMUS 100, the measuring range can be set via four DIP switches. The measuring ranges are listed in the adjacent table. Furthermore, there is a correction potentiometer on the upper side of the head transmitter, which can be used for fine adjustment of the output voltage. A seal secures the potentiometer against accidental adjustment.

No.	measuring range	Dip-swi. 1 2 3 4
MB1:	- 20°C .. +150°C	1-1-1-1
MB2:	0°C .. + 50°C	0-1-1-1
MB3:	0°C .. +100°C	1-0-1-1
MB4:	0°C .. +200°C	0-0-1-1
MB5:	0°C .. +300°C	1-1-0-1
MB6:	0°C .. +400°C	0-1-0-1
MB7:	0°C .. +500°C	1-0-0-1
MB8:	0°C .. +600°C	0-0-0-1
MB9:	- 50°C .. + 50°C	1-1-1-0
MB10:	-100°C .. +100°C	0-1-1-0
MB11:	- 30°C .. + 70°C	1-0-1-0
MB12:	- 40°C .. + 60°C	0-0-1-0

jumper = 1: plugged, jumper = 0: not plugged

Attention: For Pt1000 only the ranges 1..5 are available.

| order-code WTR 190 | order example: WTR 190-C1-1A2-DMU(0..150°C) |

Alignment of screw fitting and protective fitting (sensor)

- A1	Screw connection at top, protective fitting (sensor) downwards	(not possible with DMU)
- B1	Screw connection right, protective fitting (sensor) downwards	(not possible with DMU)
- C1	Bottom screw connection, protective fitting (sensor) to the right	

sensor type and tolerance

- 1A2	1x PT100 2-wire class A
- 1A3	1x PT100 3-wire class A
- 1A4	1x PT100 4-wire class A
- 2A2	2x PT100 2-wire class A
- 2A3	2x PT100 3-wire class A
- 1A2/PT1000	1x PT1000 2-wire (PT1000 with DMU50)
- NI1000	1x NI1000 sensor TK6180
- KTY81-110	1x KTY81-110 Sensor
- KTY81-210	1x KTY81-210 Sensor
- KX	sensor types or tolerances on customer request

optional measuring transducer

- DMU	with measuring transducer DMU50	(PT1000 2-wire, 4..20mA 3-wire, OLED display)
- KMU	with measuring transducer KMU100	(PT100 2-, 3-, 4- wire, 4..20mA 2-wire)
- KMUS	with measuring transducer KMUS100	(PT100/1000 2-, 3-, 4- wire, 0..10V 3-wire)

| order-code parameterization software Kit PXU01 for KMU | order-example: PXU01 |

parameterization software kit PXU01, consisting of
- software on CD
- interface converter to USB-port
- plug adapter for SME and temperature sensor WTR 4XX series