

measuring transducer

universal-measuring transducer UMU 100

features

- universal measuring transducer for switchboard assembly, can be snapped up on top cap rail
- width of housing 22,5mm
- universal voltage supply 24VAC/DC...230VAC/250VDC
- universal input for resistance thermometer, thermocouples, current, voltage, potentiometer, linear resistances
- universal output voltage, power supply
- galvanic detachment between input/output and power supply
- power supply for 2-wire transmitter like KMU100
- limit value quick adjustment without parametrizing menu
- helping texts in parametrizing menu
- ticker texts at error message like sensor break, short-circuit a.s.o.
- speech shift for texts
- electrical connection with pluggable coded clamps
- optional 2 relay outputs
- parametrizable by optional front display
- 5 years warranty
- on request equipment can be calibrated in our calibration laboratory. and/or for application at ISO9000 on your specifications calibrated.

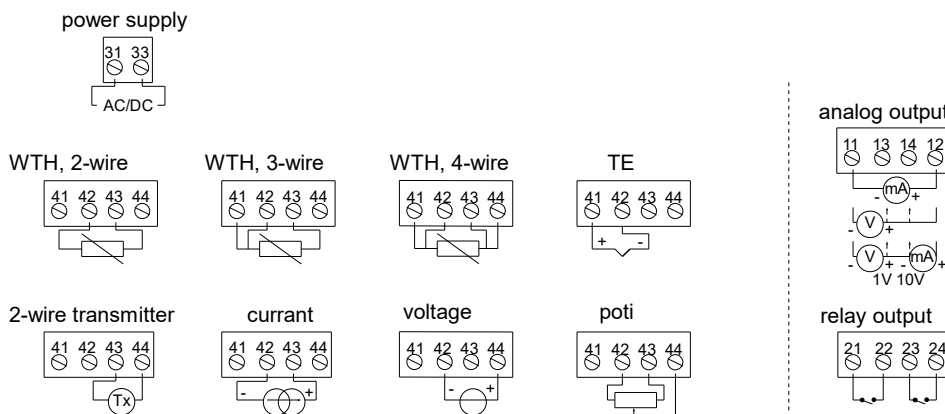


UMU 100-B-B
with UMU-FD



UMU 100-B-B
without UMU-FD

terminal pin assignment



installations- and assembly advice

- vertical and horizontal assembly on one DIN-bar
- because of the low sensible heat equipment can be mounted side by side, 42 equipments needs 1 meter

order-code UMU 100...

order example: UMU100-A-B

limit value relay

- A without limit value relay
- B with 2 limit value relay

analog output

- A without analog output
- B with analog output

order-code parametrization module/front display UMU-FD

order example: UMU-FD

measuring transducer

universal-measuring transducer UMU 100

technical specifications

electrical features:

technical dates apply for following temperature ranges:
-20 °C bis +60 °C

generally features:

universal voltage supply 24...230 VAC±10%
50...60 Hz
24...250 VDC±20%

current consumption max. ≤ 2,5W
cutout 400 mA SB/250 VAC

isolation voltage, test / operation 2,3 kVAC / 250 VAC

communication interface programmable front UMU-FD

signal- / noise proportion Min. 60 dB (0...100 kHz)

reaction time (0...90%, 100...10%):
temperature input ≤ 1 s
mA- / V-input ≤ 400 ms

calibration temperature 20...28 °C

accuracy: higher value of generally value or base value:

generally value		
kind of input	absolute accuracy	temperature koeffizience
all	≤±0,1%of meas.span	≤±0,1%of meas.span °C

base value		
kind of input	basis accuracy	temperature coefficient
mA	≤ ±4 µA	≤ ±0,4 µA/°C
Volt	≤ ±20 µV	≤ ±2 µV/°C
RTD	≤ ±0,2 °C	≤ ±0,01 °C/°C
Lin.R	≤ ±0,1 Ω	≤ ±10 mΩ/°C
TE-Typ: E,J,K,L,NT,U	≤ ±1 °C	≤ ±0,05 °C/°C
TE-Typ: B,R,S, W3,W5,LR	≤ ±2 °C	≤ ±0,2 °C/°C

EMV interference voltage effect	≤±0,5% of meas.span
extended EMV interference resistance: Namur NE 21, criterium A, Burst	≤±1% of meas.span

auxiliary supply:
2-wire-supply (clamp 44...43) 25...16 VDC/0...20 mA
cable cross-section (max.) 1 x 2,5 mm² stranded wire
clamp screw locked torque 0,5 Nm
relative humidity < 95% RF (not cond.)
dimension, with front display (HxBxT) 109 x 23,5 x 116 mm
dimension,without front display (HxBxT) 109 x 23,5 x 104 mm
protection class (housing / clamp) IP50 /IP20
weight 175 g

PT100-, linear resistance- and potentiometer input:

kind of input	min. value	max. value	norm
PT100	-200°C	+850°C	IEC60751
Lin.R	0 Ω	10000 Ω	-
Potentiometer	10 Ω	100 kΩ	-

cable resistance per wire (max.) 50 Ω

power of sensor, PT100 Nom. 0,2 mA
effect of cable resistance (3/4-wire), PT100 < 0,002 Ω / Ω
sensor identification, PT100 Ja
short-circuit identification, PT100 < 15 Ω

TE-input:

type	min. value	max. value	Norm
B	+400°C	+1820°C	IEC 60584-1
E	-100°C	+1000°C	IEC 60584-1
J	-100°C	+1200°C	IEC 60584-1
K	-180°C	+1372°C	IEC 60584-1
L	-200°C	+900°C	DIN 43710
N	-180°C	+1300°C	IEC 60584-1
R	-50°C	+1760°C	IEC 60584-1
S	-50°C	+1760°C	IEC 60584-1
T	-200°C	+400°C	IEC 60584-1
U	-200°C	+600°C	DIN 43710
W3	0°C	+2300°C	ASTM E988-90
W5	0°C	+2300°C	ASTM E988-90
LR	-200°C	+800°C	GOST 3044-84

compensation accuracy (CJC) < ±1 °C
sensor identificaion Ja
sensor error current:
at identification Nom. 2 µA
others 0 µA

power input:
measuring area -1...25 mA
programmable measuring area 0...20 and 4...20 mA
input resistance Nom. 20 Ω + PTC 50 Ω

voltage input:
measuring area -20 mV...12 VDC
programmable measuring area 0...1 / 0,2...1 / 0...5 / 1...5 / 0...10 and 2...10 VDC
Nom. 10 M Ω

input resistance
power output:
signal range (span) 0...20 mA
programmable signal range 0...20 / 4...20 / 20...0 and 20...4 mA
20 mA / 800 Ω / 16 VDC
loading stability ≤0,01% or measuring point / 100 Ω
sensor error current 0 / 3,5 / 23 mA / non
NAMUR NE 43 Upscale 23 mA
NAMUR NE 43 Downscale 3,5 mA
power limitation ≤28 mA

voltage output:
signal area...signal areas 0...10 VDC
programmable 0...1 / 0,2...1 / 0...10 / 0...5 / 1...5 / 2...10 / 1...0 / 1...0,2 / 5...0 / 5...1 / 10...0 / 10...2 V
500 k Ω

loading (min.)
relay output:
maximal voltage 250 VRMS
maximal power 2A /AC or 1A /DC
max. AC effort 500 VA
sensor error operation close/ open/ hold

observed administration directions: Norm:
EMV 2004/108/EG:
irradiation and interference resistance EN 61326
LVD 73/23/EWG EN 61010-1
UL, standard for safety UL 508

technical specifications for parametrization module/frontdisplay

UMU-FD parametrization module/front display

application:

- communication interference to change operative parameter in UMU-XX
- can be plugged from one UMU-XX to the next, to copy dates of the first measuring transducer to the next
- stationary display for visualizing of process dates and status

technical features:

- LCD display with 4 lines; one line with a height of 5,57 mm, two lines with a height of 3,33 mm and one line with constant symbols
- access on programming can be denied with entering of a password. The password will be memorized in the measuring transducer to ensure the highest protect against non authorized changing of configuration.

assembly / installation:

- for attaching at the front of UMU-XX