

evaluation devices

universal-digital display UDA 100

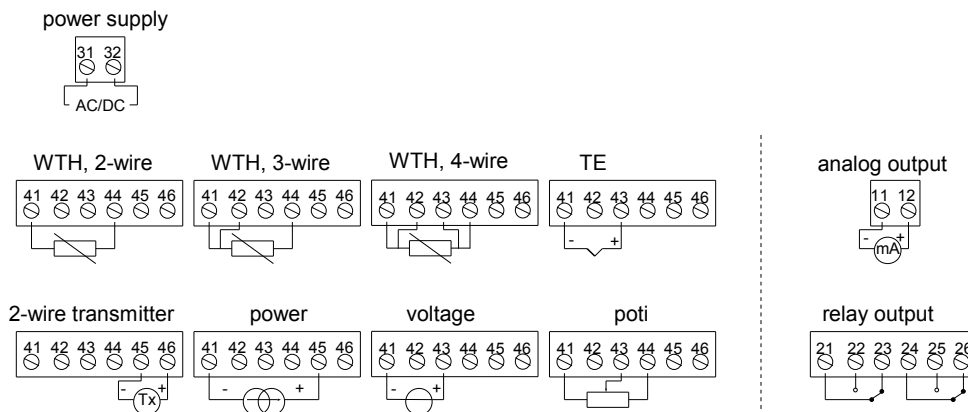
features

- 4-digit 14 segment LED digital display (red display)
 - display area from -1999 to 9999, decimal point programmable
 - universal power supply 24VAC/DC...230VAC/250VDC
 - universal input for resistance thermometer, thermocouples, voltage, power, potentiometer, linear resistance
 - galvanic disconnection between input/output and power supply
 - power supply for 2-wire transmitter e.g. KMU100
 - front programmable about 3 keys
 - limit value quick adjustment without parameterizing menu
 - subsidiary text in parameterizing menu
 - ticker text at error message like sensor break, short circuit a.s.o.
 - protection class IP65 (see installations-and assembly advice)
- electrical connection with pluggable Phoenix clamps
- optional 2 relay outputs (2 changer)
 - optional analog output (0/4-20mA)
- 5 years warranty
- equipment can be configured in our calibration laboratory on request and/or for application at ISO9000 calibrated according to your specifications.



UDA 100-B-B

connection configuration



installation- and assembly advice

- to reach protection class IP65 at front board assembly, the delivered seal has to be installed between the front board cut-out and the equipment. Please avoid needless contusions.

order-code UDA 100...

order example: UDA100-B-B

limit values

- A without limit value
- B with 2 limit values, 2 relay as changer
- C with 4 limit values, 4 relay as changer

analog output

- A without analog output
- B with analog output 0/4-20mA

universal-digital display UDA 100

technical specifications

electrical data:

technical data apply to following temperature ranges:
-20 °C to +60 °C

general data:

universal supply voltage 21,6...253 VAC,
50...60 Hz or
19,2...300 VDC
current consumption max. ≤ 3,5 W
isolation voltage, test / operation 2,3 kVAC / 250 VAC
communication port programmable front 4501
signal- / noise proportion min. 60 dB (0...100 kHz)
reaction time (0...90%, 100...10%):
temperature input 1...60 s
mA- / V- / mV-input 0,4...60 s
calibration temperature 20...28 °C
accuracy: higher value of common value or basic value:

common value		
kind of input	absolute accuracy	temperature coefficient
all	≤±0,1% mes.value	≤±0,01%meas.value/°C

basic value		
kind of input	basic accuracy	temperature coefficient
mA	≤ ±4 µA	≤ ±0,4 µA/°C
volt	≤ ±20 µV	≤ ±2 µV/°C
PT100	≤ ±0,2 °C	≤ ±0,2 °C/°C
Ni100	≤ ±0,3 °C	≤ ±0,03 °C/°C
potentiometer	≤ ±0,1 Ω	≤ ±0,01 Ω/°C
TE-Typ: E,J,K,L,N,T,U	≤ ±1 °C	≤ ±0,05 °C/°C
TE-Typ: B,R,S W3, W5, LR	≤ ±2 °C	≤ ±0,2 °C/°C

EMV interfering voltage effect	≤±0,5%of meas.point
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auxiliary supply:

2-conductor-supply (clamp 44...43) 25...15 VDC/0...20 mA
power lateral cut (max.), pin 41-46 1x1,5 mm² multicore cabel
power lateral cut (max.), others 1x1,5 mm² multicore cabel
clamping torque 0,5 Nm
relative humidity < 95% RF (not cond.)
dimensions (HxBxT) 48 x 96 x 120 mm
dimensions of cut-out 44,50 x 91,5 mm
protection class (front assembly) IP65 (IP67 – housing 8335)
weight 230 g

PT100-, lineare resistance- and potentiometer input:

kind of input	min. value	max. value	norm
PT100	-200°C	+850°C	IEC60751
Ni100	-60 C	+200°C	DIN 43760
Potentiometer	10 Ω	100 kΩ	-

Input for WTH-Types:

PT10, PT20, PT50, PT100, PT200, PT250, PT300, PT400, PT500, PT1000
Ni50, Ni100, Ni120, Ni1000

max. cable resistance per wire, WTH 50 Ω
sensor power, WTH Nom. 0,2 mA
effect of power resistance (3-/4-wire), WTH <0,002 Ω / Ω
sensor error identification, WTH yes
short circuit identification, WTH <15 Ω

TE-input:

type	min. value	max. value	standard
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

comparing compensation (CJC)

via internal sensor < ±1,0 °C
sensor error identifier ao all TE-types Ja <±1,0 °C

sensor error power:

at identification Nom. 2 µA
otherwise 0 µA

power input:

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

sensor error identifier:

loop line break 4...20 mA Ja

voltage input:

measuring area -20 mV...12 VDC
programmable measuring areas 0...1 / 0,2...1 / 0...10 and 2...10 VDC
Nom. 10 M Ω

input resistance

display:
display -1999...9999 (4 numerics)
comma setting programmable
height of digit 13,8 mm
display update 2,2 times / s

input outside of entrance area is inducted with:

described texes

power output:

signal area (range) 0...20 mA
programmable signal areas 0...20 / 4...20 / 20...0 and 20...4 mA
20 mA / 800 Ω / 16 VDC
load (max.) ≤0,01% of span / 100 Ω
load stability 0 / 3,5 / 23 mA or no
sensor error activity 23 mA
NAMUR NE 43 Upscale 3,5 mA
NAMUR NE 43 Downscale ≤28 mA
power bound

Relay outputs:

relay functions must value
hysteresis, in % / counting units 0,1...25 % / 1...2999
on- / off-delay 0...3600 s
maximal voltage 250 VRMS
maximal power 2A /AC
max. AC power 500 VA
maximal power bei 24 VDC 1A
sensor error activity close / open / hold
design changer

marine-authorization:

Det Norske Veritas, Ships & Offshore standard for certification no. 2.4

subject to the regulations:

EMV 2004/108/EG: norm:
emission and immunity EN 61326
LVD 73/23/EWG EN 61010-1
UL, standard for safety UL 508