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, lineare 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 clamps

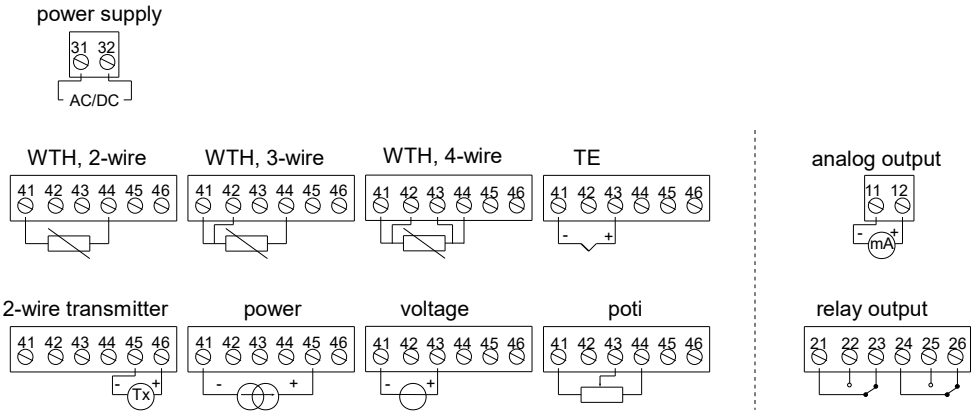
- optional 2 relay outputs (2 changer)
- optional analog output (0/4-20mA)

- 5 years warranty

- equipment can be configurated 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: UDA 100-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

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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	programable front
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 coeffizience
all	≤±0,1% mes.value	≤±0,01%meas.value/°C

basic value		
kind of input	basic accuracy	temperature coeffizience
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

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
input resistance	Nom. 10 M Ω
display:	
display	-1999...9999 (4 numerics)
comma setting	programmable
heigth of digit	13,8 mm
display update	2,2 times / s
input outside of entrance area is inducated with:	described texes
power output:	
signal area (range)	0...20 mA
programmable signal areas	0...20 / 4...20 / 20...0 and 20...4 mA
load (max.)	20 mA / 800 Ω / 16 VDC
load stability	≤0,01% of span / 100 Ω
sensor error activity	0 / 3,5 / 23 mA or no
NAMUR NE 43 Upscale	23 mA
NAMUR NE 43 Downscale	3,5 mA
power bound	≤28 mA
Relay outputs:	
relay functions	must value
hysterese, 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:	**norm:**
EMV 2004/108/EG:	
emission and immunity	EN 61326
LVD 73/23/EWG	EN 61010-1
UL, standard for safety	UL 508

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