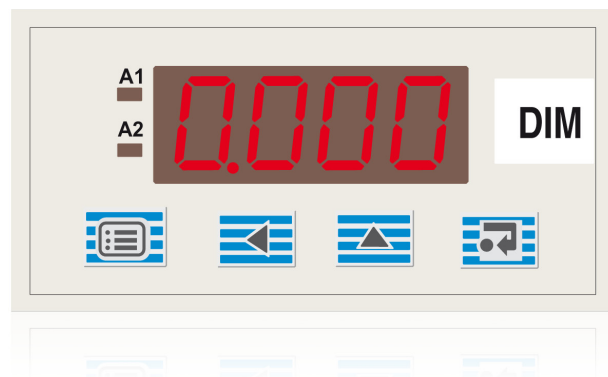


Digital Indicator DS 96/48 P

Digital Indicator DS 96/48 PK



Inputs

- Direct current, direct voltage
- Thermocouple
- Resistance thermometer

Programmable via front keys or PC software

RS 232 interface

Limit contacts

LED technology, changeable brightness

Minimum/maximum storage

Technical data

Indication

Display
 LED; color red; 13 mm character size

Maximum reading
 ± 1999 Digit at DS 96/48 P
 -1999...9999 Digit at DS 96/48 PK

Readout overflow
 „OFL“

Measuring range overflow
 „Err“

Decimalpoint position
 programmable (not for temperature inputs)

Measuring cycle
 0.2...9.9 s

Deviation
 DS 96/48 P: 0.1 % of measuring value ± 1 digit at 23 °C
 DS 96/48 PK: 0.05 % of measuring value ± 1 digit at 23 °C

Display alarms
 2 x LED; A1, A2, alternatively min. or max.
 Hysteresis, response time programmable

Display control

Last digit of display
 2-steps, 5-steps, fixed 0, last digit off

Complete indication
 optional hold or display blanking, segment test

Min./max. storage standard

Input

at DS 96/48 P

Current, voltage
 ± 2 mA...200 mA DC, ± 0.2 V...50 V DC

Input resistance
 100 Ω at 20 mA, > 150 kΩ at 2 V

at DS 96/48 PK

Current: -40 mA...+200 mA DC, min. span 2 mA

Voltage
 -10 V...+50 V DC, min. span 0,2 V

Input resistance
 100 Ω at 20 mA, > 150 kΩ at 2 V

Resistance thermometer
 2-, 3-, 4-wire circuit adjustable via menu
 Pt 100 DIN -199.9...+850.0 °C
 Ni 100 DIN -60.0...+180 °C

Thermocouple

J, K, R, S, B, E, L, T, U, N (programmable via PC;
 in preparation)

Reference junction internal or external
 0...50 °C (programmable via PC; in preparation)

Power supply

DC voltage
 18...32 V DC, approx. 1.8 W

AC voltage
 24/115/230 V AC, 50...60 Hz, approx. 3 VA

Environmental capabilities

Working temperature: 0...50 °C
 Storage temperature: -25...+65 °C
 Relative humidity: 75 % annual average, no condensation

Housing

Dimension (W x H x D)
 96 mm x 48 mm x 130 mm

Panel cutout
 92 mm^{+0.8 mm} x 45 mm^{-0.5 mm}

Material: plastic ABS

Type of protection: case IP 52, terminals IP 20

Weight: approx. 0.4 kg

Connection
 Plug-in screw terminals for 1.5 mm²

Standards

EMV, safety data
 EN 55011-B, EN 61010-1, EN 50082-1

Options

Transmitter supply
 24 V DC, max. 25 mA unregulated

2 alarm relays A1, A2
 Relay output 4 A, 250 V
 NO or NC operation
 assigned to LED A1, A2

Interface (in preparation)
 RS 232 for configuration and viewing of values and parameters
 (at DS 96/48 P = optional; at DS 96/48 PK = standard)

Connection diagram at DS 96/48 P

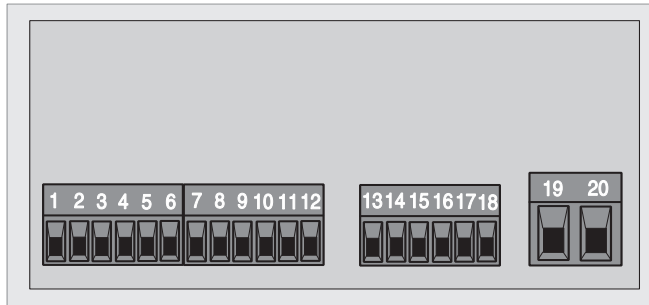
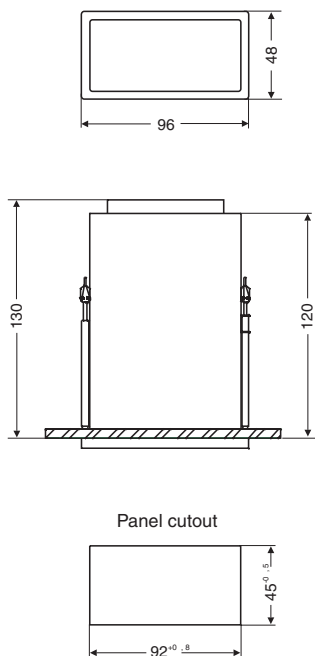
1 Tx (serial interface)	11 Transmitter supply (+)
2 Rx (serial interface)	12 Transmitter supply (-)
3 Segment test	13 A1 common
4 Hold/Blanking	14 open
5 Programming disable	15 closed
6 Digital Gnd (terminals 1...5)	16 A2 common
7 Input: U (+)	17 open
8 Input: (-)	18 closed
9 Input: I (+)	19 N, DC (-)
10 free	20 L1, DC (+)

Connection diagram at DS 96/48 PK

1 Tx (serial interface)	11 Transmitter supply (+)
2 Rx (serial interface)	12 Transmitter supply (-)
3 Segment test	13 A1 common
4 Hold/Blanking	14 open
5 Programming disable	15 closed
6 Digital Gnd (terminals 1...5)	16 A2 common
7 Input: U(+), TC(+), Pt100 (I-)	17 open
8 Input: U(-), I(-), TC(-), Pt100 (U-)	18 closed
9 Input: I(+), Pt100 (U+)	19 N, DC (-)
10 Input: Pt100 (I+)	20 L1, DC (+)

Technical data

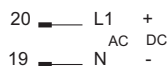
Dimensional drawing
(dimensions in mm)



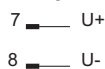
Back view of instrument

Connection diagram

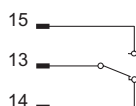
Power supply



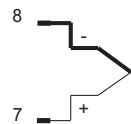
Measuring input
Voltage



Limit value 1
(option)



Thermocouple



Segment test



Current

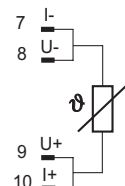


Limit value 2
(option)



Resistance thermometer Pt 100 / Ni 100

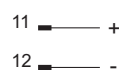
2-wire



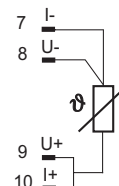
Display storage
(Hold)



Transmitter
supply (option)



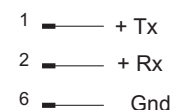
3-wire



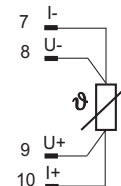
Display blanking



Analogue output
(option)



4-wire



Relay contact positions are shown for de-energized state.

Ordering information												
										Catalog No		Code
Digital Indicator DS 96/48 P or DS 96/48 PK										V33264A-		
Instrument type												
DS 96/48 P (3 ¹ / ₂ digits: ±1999)										1		
DS 96/48 PK (4 digits: -1999 bis +9999)										2		
Measuring range (DS 96/48 P)												
0...2 V DC										1	1	0
0...20 V DC										1	2	0
0...2 mA DC										1	3	0
0...20 mA DC										1	4	0
4...20 mA DC										1	5	0
other range (specify code no. 300)										1	6	0
Measuring range (DS 96/48 PK)												
0...2 V DC										2	1	0
0...20 V DC										2	2	0
0...2 mA DC										2	3	0
0...20 mA DC										2	4	0
4...20 mA DC										2	5	0
other range (specify code no. 300)										2	6	0
Pt 100 -199,9 ... +850,0 °C										2	7	
Ni 100 -60,0 ... +180,0 °C										2	8	
Type J -210 ... +1200 °C										2	J	
Type K -250 ... +1372 °C										2	K	
Type R -50 ... +1769 °C										2	R	
Type S -50 ... +1769 °C										2	S	
Type B +200 ... +1820 °C										2	B	
Type E -100,0 ... +999,9 °C										2	E	
Type L -100,0 ... +900,0 °C										2	L	
Type T -140,0 ... +400,0 °C										2	T	
Type U -199,9 ... +600,0 °C										2	U	
Type N -250 ... +1300 °C										2	N	
Reference junction (only thermocouples)												
not applicable										0		
internal										1		
external 0 °C (32 °F)										2		
external 20 °C (68 °F)										3		
external 50 °C (122 °F)										4		
Decimal point (fixed with DS 96/48 PK with temperature input)												
without										0		
000,0										1		
00,00										2		
0,000										3		
Transmitter power supply												
without										0		
with										1		
Alarm relays												
without										0		
2 alarm relays										1		
Display control												
hold										1		
blanking										2		
Power supply												
230 V AC										1		
115 V AC										2		
24 V AC										3		
24 V DC										4		
RS 232 interface (with DS 96/48 PK standard)												
without										0		
with (in preparation)										1		

Continue see next page

Continue ordering information												
										Catalog No		Code
Digital Indicator DS 96/48 P or DS 96/48 PK										V33264A-		
Front frame												
RAL 9002 ABB-Design (lightgrey)										1		
RAL 9005 (black)										2		
Dimensions												
without										0		
according table (specify code no. 400)										4		
on demand (specify code no. 500)										5		
Manual (supplied copy)												
German										D		
English										E		
Further ordering information												
Measuring range in clear, max. ± 200 mA, max. ± 50 V										300		
Dimensions according table, distinguishing tags s. b.										400		
Dimensions on demand, in clear, max. 5 digits										500		
Additional Operating Manuals												
German										Z2D		
English										Z2E		

¹⁾ 1 copy in German included in the basic supply; no specification required; extra Operating Manuals must be paid (please specify number)

Dimensional labelling													
Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code		
	kW	06	A	12	MN	18	m ³	24	N	30	ppm	36	
V	01	MW	07	mA	13	%	19	g	25	bar	31	K	37
mV	02	Ω	08	μA	14	‰	20	kg	26	m/min	32	l/h	38
kV	03	mΩ	09	°C	15	cm	21	t	27	U/min	33	t/h	39
mW	04	kΩ	10	°∠	16	mm	22	m ³ /h	28	δ	34	Hz	40
W	05	MΩ	11	kN	17	m	23	pH	29	mbar	35		

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