

# Digital indicator with multi-function input

## For panel mounting, 48 x 24 mm

### Model DI32-1

WIKA data sheet AC 80.13

#### Applications

- Machine building and plant construction
- Machine tools
- Test benches
- General industrial applications

#### Special features

- Multi-function input for standard signals, resistance thermometers and thermocouples (23 calibrated input configurations)
- Compact design: 48 x 24 x 52 mm (67 mm with plug-in terminal)
- 2 transistor switching outputs, output type freely selectable
- MIN/MAX memory and tare function
- Linearisation with up to 5 programmable points possible

#### Description

##### Compact dimensions

The model DI32-1 digital indicator, due to its compact dimensions, is particularly suited to applications with limited mounting space.

##### For the widest range of input signals

It features a multi-function input with 23 different input configurations. The appropriate input signal can be selected through the terminal assignment and entering the corresponding parameters into the instrument configuration. Thus, the instrument can be used for the display of measured values from transmitters with current and voltage signals as well as those from resistance thermometers and thermocouples. Furthermore, it is possible to use the indicator for the measurement of frequency and rotational speed and also as an up or down counter.



Digital indicator model DI32-1

##### Added value through a multitude of functions

The model DI32-1 features two transistor switching outputs. Their switch behaviour, hysteresis and switching delays are parameterisable independently of each other.

In addition, the indicator is characterised by further useful features. These include the ability to query MIN/MAX values through simple operation of the control keys, a tare function and also the possibility for the linearisation of sensor values with up to five programmable points.

All configuration and programming can be carried out through the control keys on the front.

## Display

### Principle

7-segment LED, red, 4-digit

### Character size

10 mm

### Indication range

-1999 ... 9999

## Input

### Number and type

1 multi-function input

### Input signals

see table under "Accuracy specifications / Measuring error"  
(page 3)

### Input configuration

Selectable via terminal connections and menu-driven programming

### Signal limits for pulse and reset inputs

TTL: Low < 2 V, high > 3 V

NPN: Low < 0.8 V, high via resistor

PNP: Low < 6 V, high > 8 V

NAMUR: Low < 1.5 mA / high > 2.5 mA

Reset: Active < 0.8 V

## Switching output

### Number and type

2 semiconductor switching outputs, not galvanically isolated

### Switch behaviour

Low side, NPN: max. DC 28 V, 100 mA

High side, PNP:  $U_+$  - 3 V, 100 mA

## Voltage supply

### Power supply

DC 9 ... 28 V, not galvanically isolated

### Power consumption

≤ 1 W

## Case

### Material

PC polycarbonate, black, UL94V-0

Sealing: EPDM, 65 Shore, black

### Ingress protection (per IEC 60529/EN 60529)

Front: IP 65

Rear: IP 00

### Dimensions

W x H x D: 48 x 24 x 52 mm

(with plug-in terminal T = 67 mm)

### Panel cutout

45.0<sup>+0.6</sup> x 22.2<sup>+0.3</sup> mm

### Weight

approx. 100 g

### Mounting

Screw-type mounting brackets for wall thicknesses to 5 mm

## Operating conditions

### Permissible ambient temperatures

Operation: -20 ... +50 °C

Storage: -30 ... +70 °C

### Humidity

0 ... 85 % r.h. annual mean without condensation

## Accuracy data

### Measuring error

Input signal	Measuring range	Resolution	Measuring error in % of the measuring range <sup>1)</sup>
Voltage	0 ... 10 V (Ri > 100 kΩ)	≥ 14 bit	0.2 % ± 1 digit
Voltage	0 ... 2 V (Ri > 10 kΩ)	≥ 14 bit	0.2 % ± 1 digit
Voltage	0 ... 1 V (Ri > 10 kΩ)	≥ 14 bit	0.2 % ± 1 digit
Voltage	0 ... 50 mV (Ri > 10 kΩ)		0.2 % ± 1 digit
Current	4 ... 20 mA (Ri ~ 125 Ω)		0.2 % ± 1 digit
Current	0 ... 20 mA (Ri ~ 125 Ω)		0.2 % ± 1 digit
Pt100, 3-wire	-50 ... +200 °C	0.1 °C / 0.1 °F	0.5 % ± 1 digit
Pt100, 3-wire	-200 ... +850 °C	1 °C / 1 °F	0.5 % ± 1 digit
Pt1000, 2-wire	-200 ... +850 °C	1 °C / 1 °F	0.5 % ± 1 digit
Thermocouple type K	-270 ... +1,350 °C	1 °C / 1 °F	0.3 % ± 1 digit
Thermocouple type S	-50 ... +1,750 °C	1 °C / 1 °F	0.3 % ± 1 digit
Thermocouple type N	-270 ... +1,300 °C	1 °C / 1 °F	0.3 % ± 1 digit
Thermocouple type J	-170 ... +950 °C	1 °C / 1 °F	0.3 % ± 1 digit
Thermocouple type T	-270 ... +400 °C	1 °C / 1 °F	0.3 % ± 1 digit
Thermocouple type R	-50 ... +1,768 °C	1 °C / 1 °F	0.3 % ± 1 digit
Thermocouple type B	+80 ... +1,820 °C	1 °C / 1 °F	0.3 % ± 1 digit
Thermocouple type E	-270 ... +1,000 °C	1 °C / 1 °F	0.3 % ± 1 digit
Thermocouple type L	-200 ... +900 °C	1 °C / 1 °F	0.3 % ± 1 digit
Frequency	0 ... 10 kHz	0.001 Hz	
Frequency, NPN	0 ... 3 kHz	0.001 Hz	
Frequency, PNP	0 ... 1 kHz	0.001 Hz	
Speed	0 ... 9,999 1/min	0.001 1/min	
Counter	0 ... 9,999 (prescaler up to 1,000)		

1) Measuring error valid for measuring time of 1 second

### Temperature drift

100 ppm/K

### Measuring time

0.01 ... 20.0 seconds, adjustable

### Measuring rate

approx. 1/s for temperature sensors

approx. 100/s for standard signals

## Electrical connection

### Connection

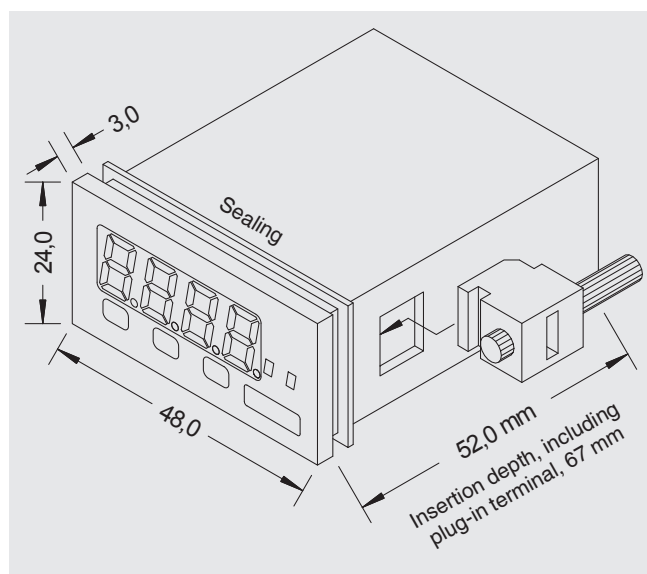
Removable plug-in terminal, 9-pin

Wire cross-section up to 1.5 mm<sup>2</sup>

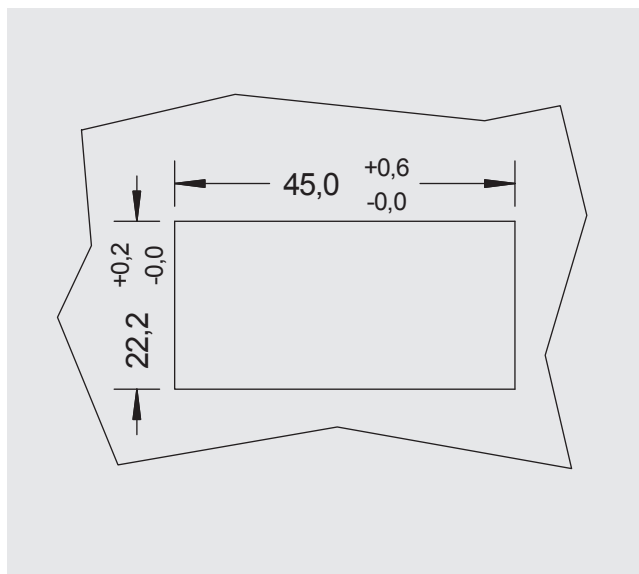
### Terminal configuration

9-pin terminal block								
Signal inputs				Power supply (not galvanically isolated)		Switching outputs (not galvanically isolated)		
9	8	7	6	5	4	3	2	1
DC 1 V	50 mV	GND	DC 10 V	U-	U+	GND	OUT2	OUT1
DC 2 V	TC	Pt100	Freq. PNP				NPN	NPN
mA	Pt100	Pt1000					PNP	PNP
Frequency	Reset							
Pt100								
Pt1000								

## Dimensions in mm



## Panel cutout in mm



## CE conformity

### EMC directive

2004/108/EC, EN 61326 emission (group 1, class B) and  
interference immunity (industrial application)

## Ordering information

Order no.: 14110042

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