

# Digital indicator for panel mounting

## With multi-function input

### Model DI25

WIKA data sheet AC 80.02

#### Applications

- Plant construction
- Machine tools
- Plastics technology and processing
- Ventilation and air-conditioning
- General industrial applications

#### Special features

- Multi-function input for current and voltage signals as well as thermocouples and resistance thermometers
- Ingress protection IP66 (at the front)
- Two or three freely programmable alarm outputs as standard (depending on the instrument version)
- 4 ... 20 mA analogue output signal as standard
- HOLD function

#### Description

The model DI25 digital indicator is a multi-function, competitively priced instrument for a wide variety of measuring tasks.

The multi-function input has 18 different input configurations, which can be selected via the rear connections and also by selection of the appropriate input signal within the instrument configuration.

In this way it is possible to connect both transmitters with current or voltage signals and resistance thermometers or thermocouples to the same instrument.

The measured values can be retransmitted for further processing via an analogue output signal (4 ... 20 mA).



Digital indicator model DI25

The basic version of the DI25 indicator features three alarm outputs. Instruments with the optional DC 24 V transmitter power supply have two alarm outputs available.

With the high IP66 ingress protection at the front, the DI25 digital indicator is also suitable for use under harsh environmental conditions.

All configuration and programming can be carried out through the front-panel keys.

## Indication

### Principle

7-segment LED

### Actual value display (PV display)

4 ½-digit, red, character size 16 mm

### Set value display (SV display)

4 ½-digit, green, character size 10 mm

### Indication range

-2000 ... 10000

## Input

### Number and type

1 x multi-function input for resistance thermometers, thermocouples and standard signals

### Input configuration

Selectable via terminal connections and menu-driven programming

### Resistance thermometers

Pt100, JPt100, 3-wire, max. permissible resistance per connection lead: 10 Ω

### Thermocouples

- Types K, J, R, S, E, T, N, PL-II, C (W/Re5-26): max. permissible external resistance: 100 Ω
- Type B: max. permissible external resistance: 40 Ω

### Standard signals (DC)

- 0 ... 20 mA, 4 ... 20 mA: Input resistance 50 Ω, max. 50 mA DC
- 0 ... 1 V: Input resistance > 1 MΩ, max. 5 V DC, max. internal resistance of voltage source: 2 kΩ
- 0 ... 5 V, 1 ... 5 V, 0 ... 10 V: Input resistance > 100 kΩ, max. 15 V DC, max. internal resistance of voltage source: 100 Ω

### Measuring time

125 ms

## Analogue output

### Output signal

4 ... 20 mA, load ≤ 550 Ω

### Accuracy

±0.3 % of the output span

### Transmitter power supply (option)

DC 24 V ± 3V, max. 30 mA

## Voltage supply

### Power supply

AC 100 ... 240 V (permissible voltage: AC 85 ... 264 V), 50/60 Hz

AC/DC 24 V (permissible voltage: AC/DC 20 ... 28 V), 50/60 Hz

### Power consumption

max. 10 VA

### Insulation resistance

min. 10 MΩ for DC 500 V

### Electrical connection

Screw terminals

## Switching output

### Number and type

2 switch contacts (relays) <sup>1)</sup>

3 switch contacts (relays)

<sup>1)</sup> Instruments with integrated transmitter power supply do not feature the alarm output 2.

### Alarm types of switching outputs

- High alarm
- High alarm with standby
- Low alarm
- Low alarm with standby
- High-low alarm (only for switch contact 3)

### Switch behaviour

Normally closed or normally open, can be set via keyboard

### Load capacity

AC 250 V, 3 A (resistive load)

### Switching cycles

max. 100,000

### Hysteresis

Adjustable

Thermocouples and resistance thermometers:

0.1 ... 1,000 °C

Standard signals: 1 ... 1,000 (with a scaling of the input with one decimal point, this is taken over by the hysteresis).

### HOLD function

Selectable: Instantaneous/minimum or maximum value

Activation of the HOLD function via connection terminals

## Case

### Material

Polycarbonate, black

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

Front: IP66

Read: IP00

### Dimensions

96 x 48 x 110 mm

### Weight

approx. 300 g

### Mounting

Screw-type mounting bracket for wall thicknesses from

1 ... 8 mm

## Permissible ambient conditions

### Operating temperature

0 ... 50 °C

### Storage temperature

-20 ... +50 °C

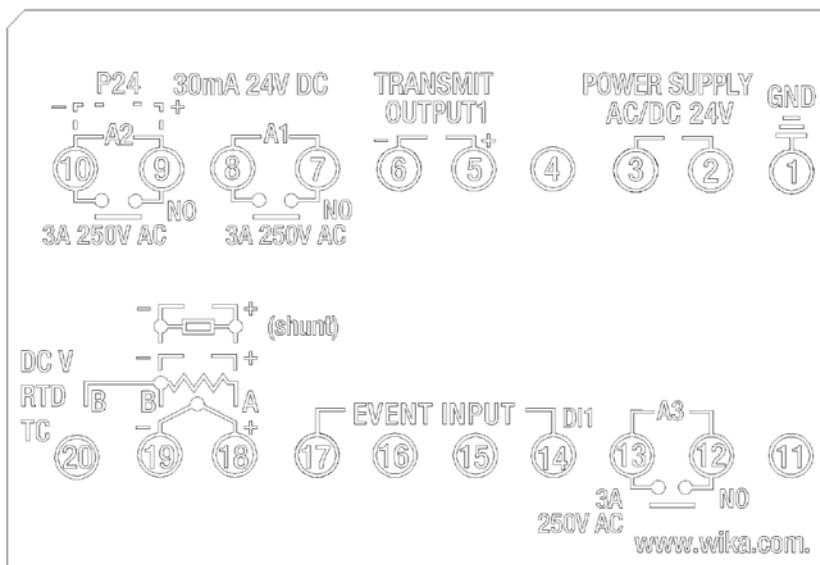
### Relative humidity

35 ... 85 % r. h. annual mean without condensation

## Accuracy/measuring errors of the input signals

| Input signals                  | Measuring span       |                      | Measuring error in % of the span |                           |
|--------------------------------|----------------------|----------------------|----------------------------------|---------------------------|
|                                |                      |                      | Standard                         | Exception                 |
| <b>Current signals</b>         |                      |                      |                                  |                           |
| 0 ... 20 mA                    | -2000 ... 10000      |                      | ±0.2 % ±1 digit                  | -                         |
| 4 ... 20 mA                    | -2000 ... 10000      |                      | ±0.2 % ±1 digit                  | -                         |
| <b>Voltage signals</b>         |                      |                      |                                  |                           |
| 0 ... 1 V                      | -2000 ... 10000      |                      | ±0.2 % ±1 digit                  | -                         |
| 0 ... 5 V                      | -2000 ... 10000      |                      | ±0.2 % ±1 digit                  | -                         |
| 1 ... 5 V                      | -2000 ... 10000      |                      | ±0.2 % ±1 digit                  | -                         |
| 0 ... 10 V                     | -2000 ... 10000      |                      | ±0.2 % ±1 digit                  | -                         |
| <b>Thermocouples</b>           |                      |                      |                                  |                           |
| Type K, NiCr-Ni                | -200 ... +1,370 °C   | -320 ... +2,500 °F   | ±0.2 % ±1 digit                  | ≤ 0 °C: ±0.4 % ±1 digit   |
|                                | -199.9 ... +400.0 °C | -199.9 ... +750.0 °F | ±2 K                             | ≤ 0 °C: ±0.4 % ±1 digit   |
| Type J, Fe-CuNi                | -200 ... +1,000 °C   | -320 ... +1,800 °F   | ±0.2 % ±1 digit                  | ≤ 0 °C: ±0.4 % ±1 digit   |
| Type R, PtRh-Pt                | 0 ... 1,760 °C       | 0 ... 3,200 °F       | ±0.2 % ±1 digit                  | ≤ 200 °C: ±6 K            |
| Type S, PtRh-Pt                | 0 ... 1,760 °C       | 0 ... 3,200 °F       | ±0.2 % ±1 digit                  | ≤ 200 °C: ±6 K            |
| Type B, PtRh-PtRh              | 0 ... 1,820 °C       | 0 ... 3,300 °F       | ±0.2 % ±1 digit                  | ≤ 300 °C: without details |
| Type E, NiCr-CuNi              | -200 ... +800 °C     | -320 ... +1,500 °F   | ±0.2 % ±1 digit                  | ≤ 0 °C: ±0.4 % ±1 digit   |
| Type T, Cu-CuNi                | -199.9 ... +400.0 °C | -199.9 ... +750.0 °F | ±2 K                             | ≤ 0 °C: ±0.4 % ±1 digit   |
| Type N, NiCrSi-NiSi            | -200 ... +1,300 °C   | -320 ... +2,300 °F   | ±0.2 % ±1 digit                  | ≤ 0 °C: ±0.4 % ±1 digit   |
| Type PL-II                     | 0 ... 1,390 °C       | 0 ... 2,500 °F       | ±0.2 % ±1 digit                  | -                         |
| Type C (W/Re5-26)              | 0 ... 2,315 °C       | 0 ... 4,200 °F       | ±0.2 % ±1 digit                  | -                         |
| <b>Resistance thermometers</b> |                      |                      |                                  |                           |
| Pt100 (3-wire)                 | -200 ... +850 °C     | -300 ... +1500 °F    | ±0.1 % ±1 digit                  | -                         |
|                                | -199.9 ... +850.0 °C | -199.9 ... +999.9 °F | ±0.1 % ±1 digit                  | -                         |
| JPt100 (3-wire)                | -200 ... +500 °C     | -300 ... +900 °F     | ±0.1 % ±1 digit                  | -                         |
|                                | -199.9 ... +500.0 °C | -199.9 ... +900.0 °F | ±1 K                             | -                         |

## Terminal assignment

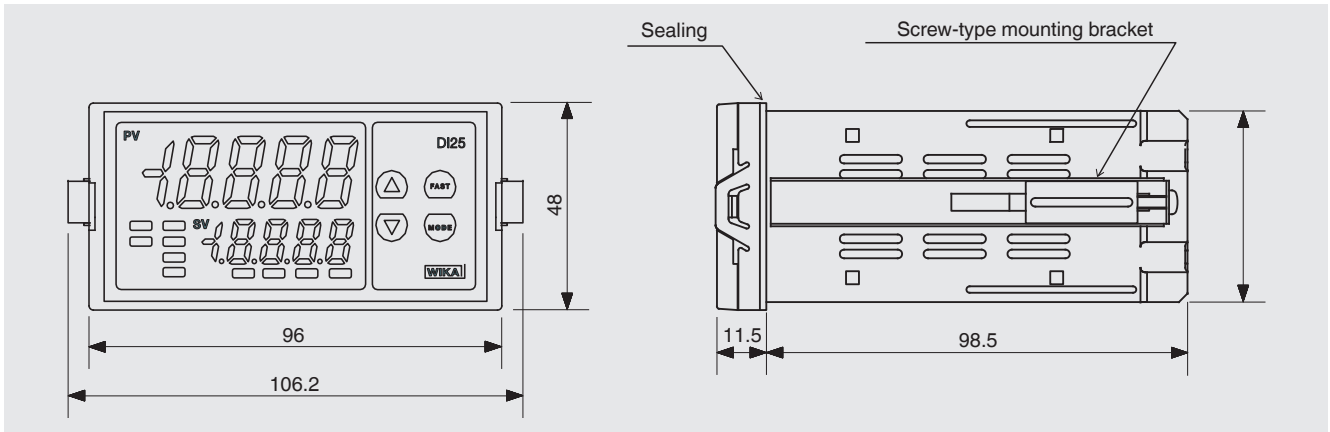


| Terminal | Case labelling    | Meaning  |
|----------|-------------------|--|
| 1        | GND               | Ground   |
| 2        | AC 100 ... 240 V  | Power supply   |
|          | AC/DC 24 V (+)    |  |
| 3        | AC 100 ... 240 V  |  |
|          | AC/DC 24 V (-)    |  |
| 4        |                   | Not connected  |
| 5        | TRANSMIT OUTPUT + | Analogue output signal                                 |
| 6        | TRANSMIT OUTPUT - |  |
| 7        | A1                | Alarm output 1; AC 250 V, 3 A                          |
| 8        | A1                |  |
| 9        | A2                | Alarm output 2; AC 250 V, 3 A                          |
|          | P24 (+)           | {Positive transmitter power supply U+, DC 24 V, 30 mA} |
| 10       | A2                | Alarm output 2; AC 250 V, 3 A                          |
|          | P24 (-)           | {Negative transmitter power supply U-, DC 24 V, 30 mA} |
| 11       |                   | Not connected  |
| 12       | A3                | Alarm output 3; AC 250 V, 3 A                          |
| 13       | A3                |  |
| 14       | EVENT INPUT       | Event input  |
| 15       | EVENT INPUT       | Event input  |
| 16       | EVENT INPUT       | Event input  |
| 17       | EVENT INPUT       | Event input  |
| 18       | +                 | Input signal TC, DC V and DC mA (shunt activatable)    |
|          | A                 | Input signal RTD                                       |
| 19       | -                 | Input signal TC, DC V and DC mA (shunt activatable)    |
|          | B                 | Input signal RTD                                       |
| 20       | B                 | Input signal RTD                                       |

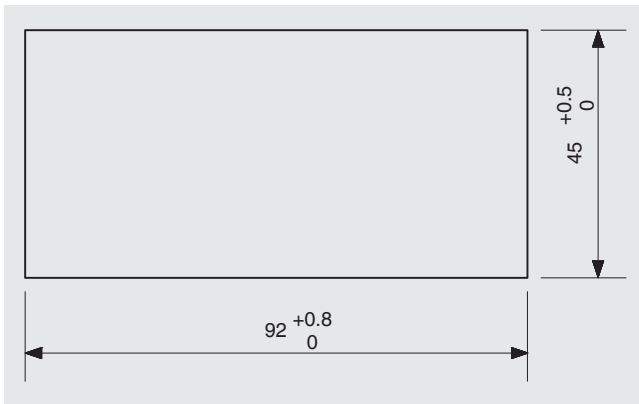
Items in curved brackets are optional extras for an additional price.

RTD Resistance thermometers  
 TC Thermocouples  
 DC mA Current signals  
 DC V Voltage signals

## Dimensions in mm



## Panel cutout in mm



## Approvals

| Logo | Description  | Country        |
|------|--|----------------|
| CE   | <b>EU declaration of conformity</b> <ul style="list-style-type: none"> <li>■ EMC directive<br/>EN 61326 emission (group 1, class B) and interference immunity (industrial application)</li> <li>■ Low voltage directive</li> <li>■ RoHS directive</li> </ul> | European Union |

Approvals and certificates, see website

## Order number

| Power supply     | Transmitter power supply | Order number |
|------------------|--------------------------|--------------|
| AC 100 ... 240 V | -                        | 7148465      |
|                  | DC 24 V                  | 7148482      |
| AC/DC 24 V       | -                        | 7394245      |
|                  | DC 24 V                  | 7394270      |

## Scope of delivery

- Digital indicator model DI25
- Sealing
- Operating instructions
- Label for units
- Mounting set for screw-type mounting bracket

## Accessories

| Description                                | Order number |
|--|--------------|
| Precision measurement shunt (50 $\Omega$ ) | 2087604      |

## Ordering information

To order the described product the order number is sufficient. Other options require additional specification.

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