Digital indicator with multi-function input
For panel mounting, 48 x 24 mm
Model DI32-1

Applications

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

Digital indicator model DI32-1

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.

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
$45.0^{+0.6}$ x $22.2^{+0.3}$ 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

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Subject technical changes.

RIEGLER Digital indicator for panel mounting AC 80.13_e

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Accuracy data

Measuring error

Input signal	Measuring range	Resolution	Measuring error in % of the measuring range [1]
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
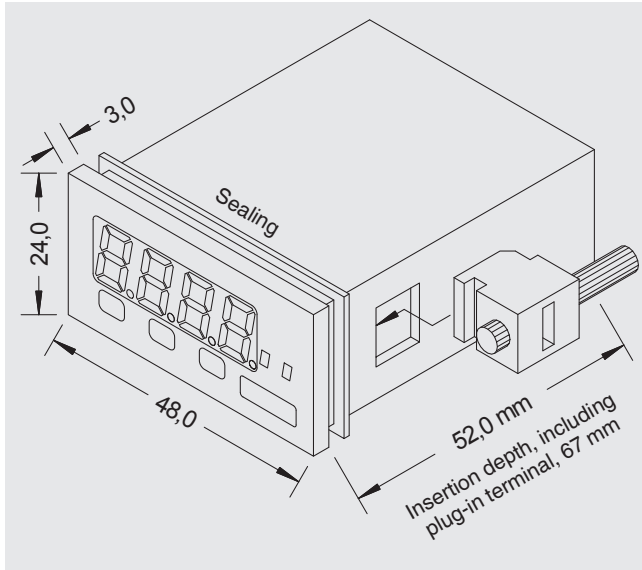
Connection
Removable plug-in terminal, 9-pin
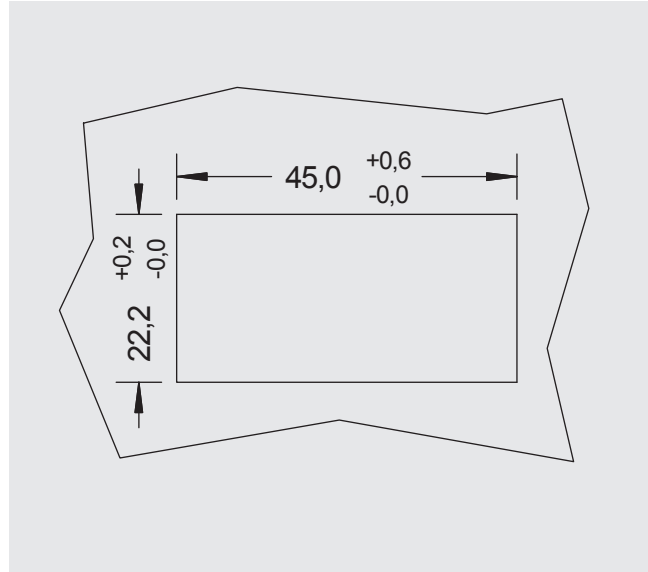Wire cross-section up to 1.5 mm²

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 DC 2 V mA Frequency Pt100 Pt1000	50 mV TC Pt100 Reset	GND Pt100 Pt1000	DC 10 V Freq. PNP	U-	U+	GND	OUT2 NPN PNP	OUT1 NPN PNP

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)

Subject technical changes.