Digital indicator for current loops with HART® communication Model DIH50

Applications

- Process engineering
- Plant construction
- General industrial applications
- Oil and gas

Special Features

- Automatic measuring range setting via HART® communication
- Scale range -9999 .... 99999 / Bar graph
- Display of units and various status messages
- Various hazardous area approvals

Digital indicator in field housing model DIH50-F

Description

DIH50 series digital indicators are 4 ... 20 mA current loop indicators which additionally can detect a superimposed HART® communication between the connected transmitter and the control room. Thus the scale range and the unit are automatically adopted depending on the settings of the connected HART® transmitter.

Common units for temperature and pressure are already factory set. An additional "user unit" can optionally be programmed.

Using the DIH50 it is possible to display range alarms as well as MIN and MAX values. Error current signals from the connected transmitters are also detected and displayed. The display can be used in conjunction with any 4 ... 20 mA transmitter.

The DIH50 is powered directly from the 4 ... 20 mA current loop, with this resulting in a voltage drop of less than 2.8 V.

The digital indicator model DIH50-F consists of an aluminium field housing and a built-in DIH50-B basic module, which is optionally available in an "intrinsically safe" version. In the DIH50-F field housing it is possible to fit either a temperature transmitter for external temperature sensors or terminal blocks for connecting external transmitters.

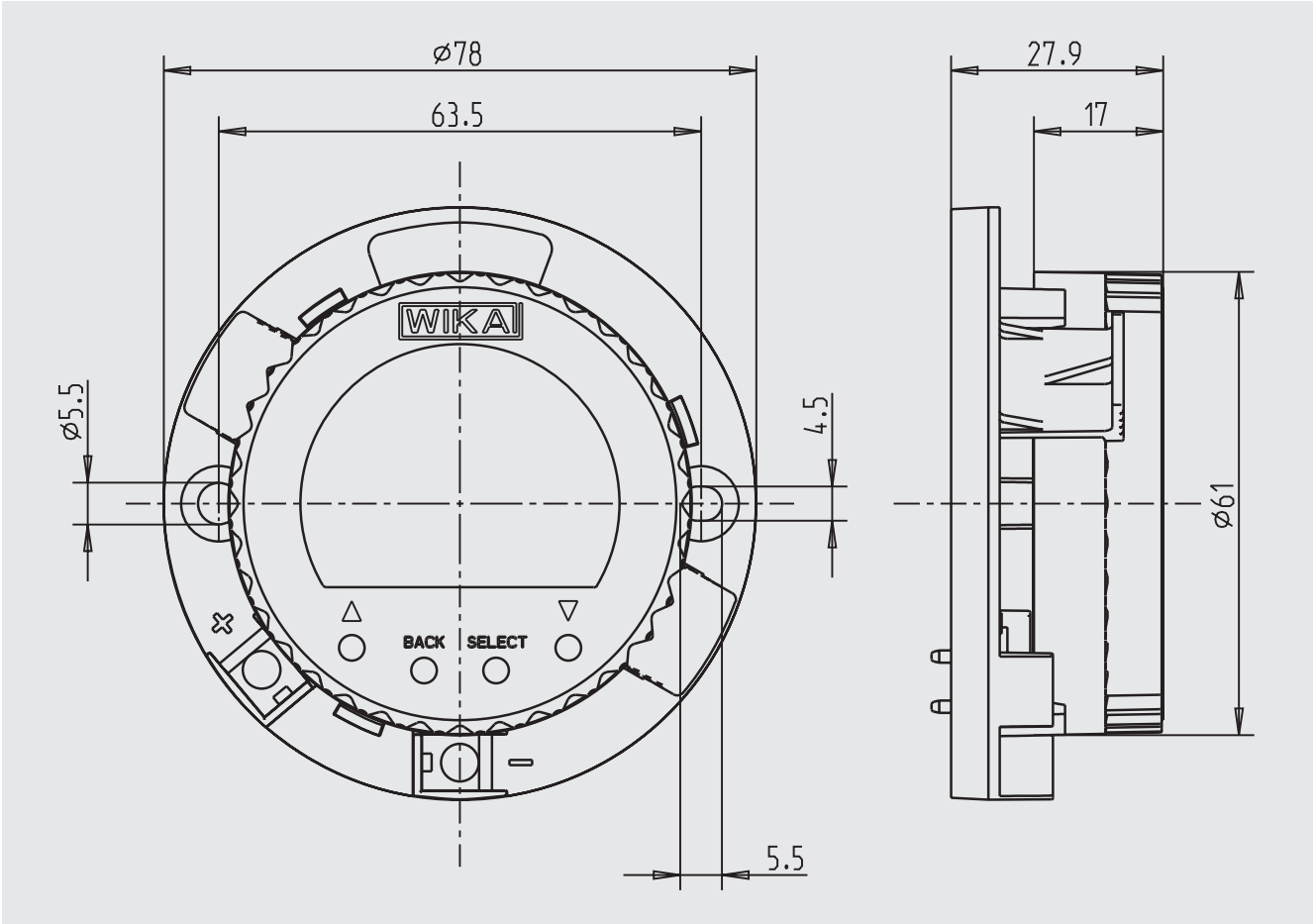
The DIH50-F can be directly mounted on a wall. There is an optional pipe mounting set for fitting on 1" ... 2" diameter pipes.

The basic DIH50-B module is also available separately for fitting within other suitable enclosures.

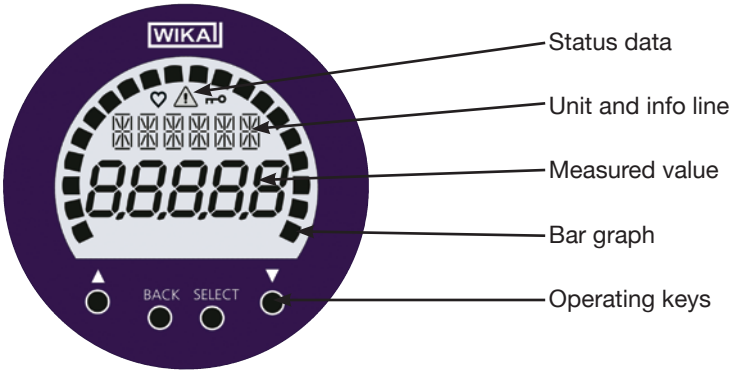
Specifications	Model DIH50-B and model DIH50-F
Display	
■ Principle	LCD, rotatable in 10°-steps
■ Measured value	7-segment LCD, 5-digit, character size 9 mm
■ Bar graph	20-segment LCD
■ Info line	14-segment LCD, 6-digit, character size 5.5 mm
■ Status indicators	♥ : HART®-mode (signalling of HART®-parameter adoption)
	: Unit lock
	⚠ : Warning and/or error message
■ Scale range	-9999 ... 99999
Measuring time	250 ms
Accuracy	± 0.1 % of the measuring span
Temperature coefficient	± 0.1 % of the measuring span / 10 K
Input signal	4 ... 20 mA
Output signal	analogue current signal is looped in directly
Permissible current load	100 mA
Voltage drop	< 2.8 V DC (< 2.1 V DC at 20 mA); supply via current loop
HART® functionality	
■ Automatically set parameters	Unit, measuring range
■ Identified commands	Generic mode: 1, 15, 35, 44
■ Multidrop	not supported
Electrical connection	
■ Signal input	DIH50-B: flying leads 0.5 mm² DIH50-F: internal spring-clip terminal, connection cross section max. 2.5 mm² or built-in temperature transmitter
■ Signal output	positively-retained screw terminals, connection cross section max. 2.5 mm²
Permissible	
■ Ambient temperature	-20 ... +85 °C
■ Storage temperature	-40 ... +85 °C
■ Humidity	35 ... 85 % relative humidity (no condensation)
■ Vibration resistance	3 g, per DIN EN 60 068-2-6
■ Shock resistance	30 g, per DIN EN 60 068-2-27
CE-mark	Conformity in accordance with 89/336/EEC Interference emission and interference immunity per EN 61 326
DIH50-F field housing	
■ Material	Aluminium, window in polycarbonate
■ Colour	Night blue, RAL 5022
■ Cable glands	3 x M20 x 1.5 or 3 x ½ NPT
■ Ingress protection	IP66
■ Weight	approx. 1.5 kg
■ Dimensions in mm	see drawing
DIH50-B Basic module	
■ Material	Polycarbonate
■ Weight	approx. 80 g
■ Dimensions in mm	see drawing

Approvals	Permissible ambient temperature	Conformity specifications	
II 1 G EEx ia IIC T4/T5/T6	-40 ... +85 °C at T4	U_i < 29 V	
	-40 ... +75 °C at T5	I_i < 100 mA	
	-40 ... +55 °C at T6	P_i < 660 mW	
		C_i = 12 nF	
		L_i = 2.2 µH	
CSA File No. 19 46 893 (LR 66 027) Class I, Division 1, Groups A, B, C and D	-40 ... +85 °C at T4	U_i = 29 V	(V_{max} < 29 V)
	-40 ... +75 °C at T5	I_i = 100 mA	(I_{max} < 100 mA)
	-40 ... +55 °C at T6	P_i = 660 mW	(P_{max} < 660 mW)
		C_i = 12 nF	
		L_i = 2.2 µH	
FM Class I, Division 1, Groups A, B, C and D	-40 ... +85 °C at T4	U_i = 29 V	(V_{max} < 29 V)
	-40 ... +75 °C at T5	I_i = 100 mA	(I_{max} < 100 mA)
	-40 ... +55 °C at T6	P_i = 660 mW	(P_{max} < 660 mW)
		C_i = 12 nF	
		L_i = 2.2 µH	

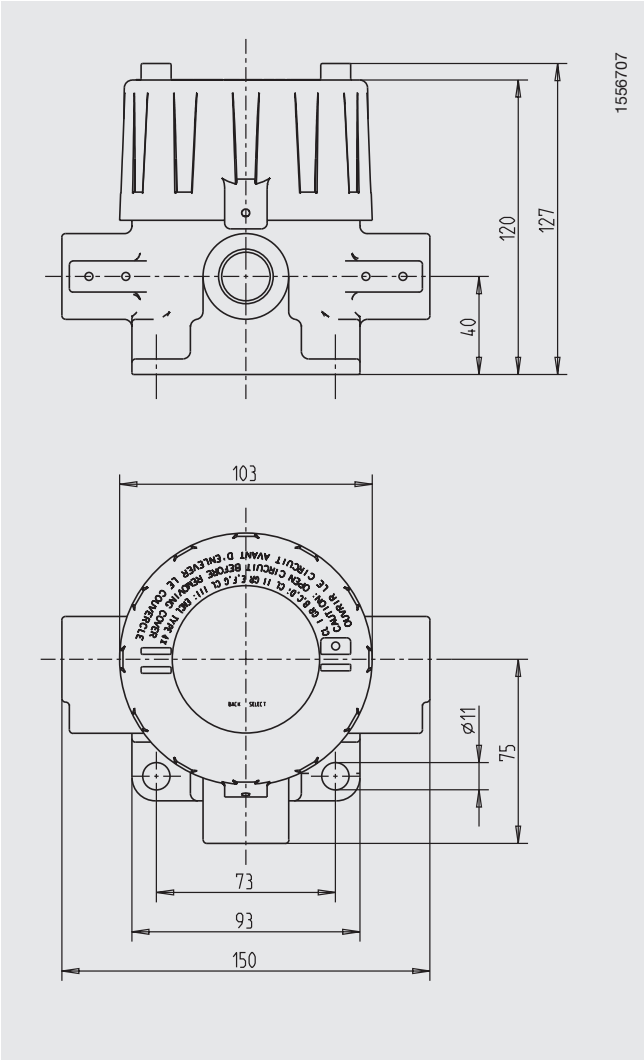
Dimensions of the model DIH50-B basic module in mm



DIH50-B user interface



Dimensions of the model DIH50-F field housing in mm



Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.
Modifications may take place and materials specified may be replaced by others without prior notice.

WIKA Alexander Wiegand SE & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. (+49) 9372/132-0
Fax (+49) 9372/132-406
E-mail info@wika.de
www.wika.de

12/2009 GB