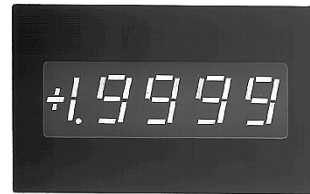


# DIG 1 B

3-349-009-03  
1/12.98

- Display range:  $\pm 19\,999$  digits
- Simple mounting with snap-fasteners
- Minimal installation depth of only max. 33 mm
- Power supply: 5 V DC
- Connection with 14-pin plug connector



## Applications

The DIG 1 B has been specially designed to meet the demands of device manufacturers.

It can be utilized for the following measuring tasks:

- Direct current measurement
- Direct voltage measurement

## Description

The DIG 1 B is a 4 ½ digit indicator which has been specially designed for use in device manufacturing. Depending upon model, it is equipped with either a bright LED display or a reflective LCD.

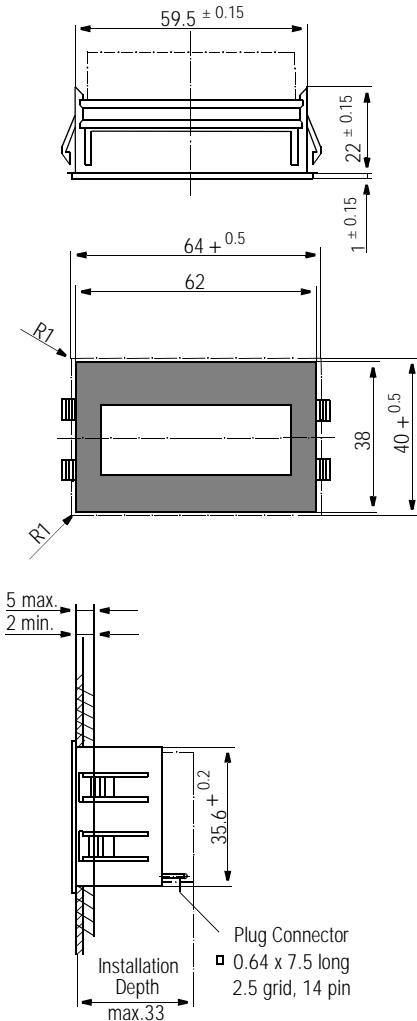
The DIG 1 B is suited for the measurement of direct current and direct voltage. The measuring range is permanently preset at the factory. 000 is displayed for an input signal of 0 V or 0 A. The zero point position cannot be adjusted.

The instrument requires a supply voltage of 5 V DC which is electrically connected to the measuring circuit. The instrument is equipped with a bridge between the 0 V power supply terminal (ground) and the “-” measurement input. Interrupting this bridge provides the DIG 1 B with a differential input, in which case no more than + 2 V may be applied between the “-” measurement input and the 0 V power supply terminal.

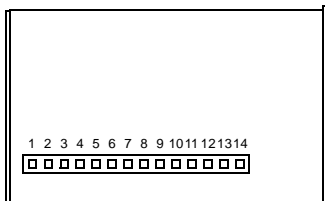
# DIG 1 B

## Dimensional Drawing

Panel Cutout:  $60 \pm 0.2 \times 36 \pm 0.2$  mm



## Connector Pin Assignments



- 1 "+" measurement input for 20 V and 200 V ranges
- 2 Decimal point control
- 3 4 decimal places (X . XXXX)
- 4 1 decimal place (XXXX . X)
- 5 + 5 V power supply for displays
- 6 + 5 V power supply for A-D converter
- 7 2 decimal places (XXX . XX)
- 8 3 decimal places (XX . XXX)
- 9 Segment test (only for models with LED)
- 10 0 V power supply terminal
- 11 "+" measurement input for 2 V range and all ammeters
- 12 "-" measuring input
- 13 Store display value to memory
- 14 Not in use

## Characteristic Values

### Display

Type	LED: 7 segment, red LCD: 7 segment, reflective
Character Height	10 mm
Display Range	$\pm 19\,999$
Polarity	automatic display of "+" and "-"
Decimal Point	externally selectable
Overflow Display	LED: the last 2 digits blink if $> 19\,999$ LCD: 4 overflow arrows and colon blink

### Input

One Permanently Set Measuring Range	see Order Information / Article Number
Voltage Drop during Current Measurement	$\leq 800$ mV
Common Mode Voltage between 0 V Power Supply Terminal and "-" Meas. Input	$\leq 2$ V (if bridge B1 is interrupted)
Series-Mode Rejection Ratio	$\geq 40$ dB at 50 Hz

### Overload

Voltage Ranges	10-fold, max. 250 V continuous
Current Ranges	2-fold continuous

### Error Limits

Voltage Ranges	$\pm (0.02\% + 2 \text{ digits})$
Current Ranges	$\pm (0.04\% + 2 \text{ digits})$
Temperature Coefficient	$\leq 60$ ppm / K for the 2 V range. Voltage distributors and measuring shunts with a t.c. value of $\leq 25$ ppm / K are used for voltmeters with ranges below 2 V. A measuring shunt with a t.c. value of $\leq 50$ ppm/K is used for ammeters.

### Control Commands

Store Display Value to Memory	externally controlled
Segment Test	LED: externally controlled LCD: no segment test

### Power Supply

Supply Voltage	5 V DC $\pm 5\%$
Power Consumption	LED: max. 210 mA LCD: max. 25 mA

### A-D Conversion

Conversion Method	dual slope, bipolar
Integration Time	approx. 75 ms
Measurements per Second	typ. 3

### Ambient Conditions

Operating Temperature Range	0 ... + 50 °C
Storage Temperature Range	LED: - 20 ... + 70 °C LCD: - 20 ... + 60 °C
Relative Humidity	max. 85%

## Housing

Design	housing frame of Makralon
Front Panel Dimensions	62 × 38 mm
Bezel	62 × 38 × 1 mm
Panel Cutout	60 + 0.2 × 36 + 0.2 mm
Installation Depth	max. 33 mm
Mounting	snap-fasteners
Connection	14-pin plug connector, (14-pin plug included)

## Compliance with Regulations

Protection	IP 50, front panel
Protection Class	These meas. instruments are suitable for use in protection class I and II devices and systems.

Insulation Group	A per VDE 0110 in installed condition
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## Order Information

Features		Article Number	
DIG 1 B	Measuring Instrument		
with LED display		A1170	
with LCD			A1180
<b>Input Quantities</b>			
Direct Current	± 200 µA	D01	D01
	± 2 mA	D02	D02
	± 20 mA	D03	D03
	± 200 mA	D04	D04
	± xx mA, as requested	D90	D90
Direct Voltage	± 2 V	D10	D10
	± 20 V	D11	D11
	± 200 V	D12	D12
	± xx V, as requested	D91	D91
<b>Display Range</b>			
Same as measuring range at max. resolution		•	•
± xxxx, as requested		E90	E90
<b>Measured Quantity Designation</b>			
No measured quantity labeling		•	•
with measured quantity labeling for the following quantities: (minimum order: 10 ea.)	mV	EM12	EM12
	V	EM13	EM13
	µA	EM19	EM19
	mA	EM15	EM15
	A	EM16	EM16
	Hz	EM17	EM17
	min <sup>-1</sup>	EM32	EM32
	%	EM11	EM11
ms	EM31	EM31	
<b>Operating Instructions</b>			
German (standard)		•	•
English		W1	W1
French		W2	W2
German / English		W3	W3

# DIG 1 B

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