

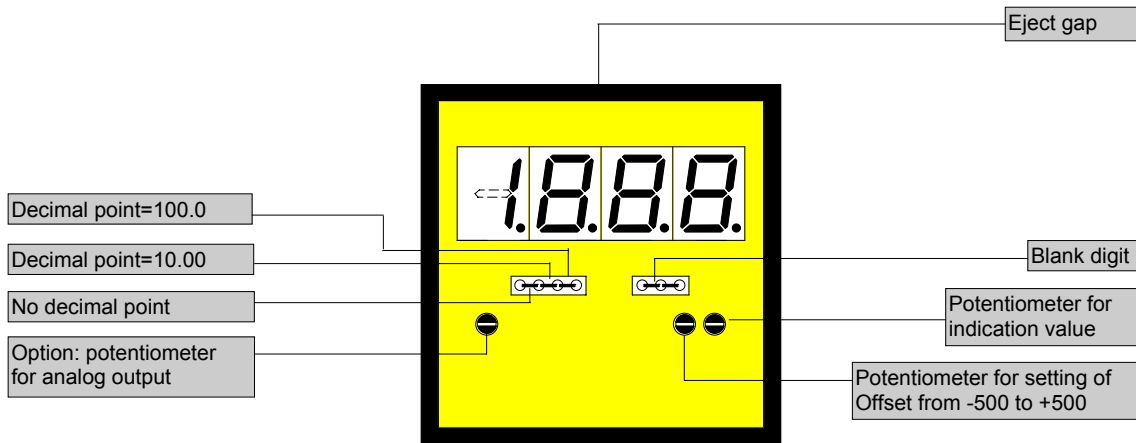
48x48

Direct voltage, direct current

- Option: analogue output

- Mounting into panels with thickness up to 50 mm

1888



1	2	3	4	5	6	7
			-	+		
10 VDC	0 V		Analog-		230 VAC	
	0/4-20 mA		output			
			(option)			

ORDER NUMBER OF TYPE **DV 3.001.850B**

Power supply 24 VDC

DV 3.001.870B

- galvanic insulated - (7=plus, 6=minus)

Options

- Protection IP54
- Protection IP65 (see reference)
- Plug in terminal with protection IP40
- Plug in terminal with protection IP54
- Plug in terminal with protection IP65 (see reference)

Reference: Plus sign have to be pretended !

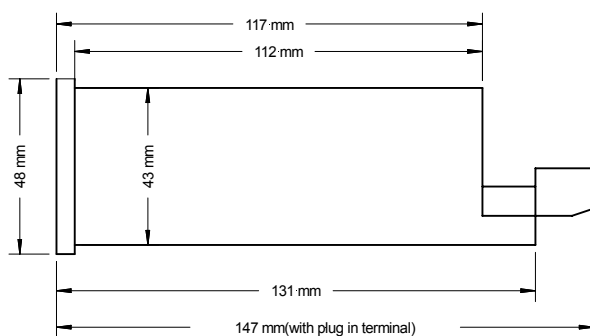
- Analog output 0-10 VDC/10 mA
- Analog output 0-20 mA/load 500 Ω
- Analog output 4-20 mA/load 500 Ω
- Analog output 0-10 VDC/10 mA (power supply 24 VDC galvanically insulated)
- Analog output 0-20 mA/load 500 Ω (power supply 24 VDC galvanically insulated)
- Analog output 4-20 mA/load 500 Ω (power supply 24 VDC galvanically insulated)
- Analog output with customer specified offset

(The measuring inputs are not galvanic insulated from the analogue output!)

- Dimension strip selectable (8 characters max.)
- Other supply voltages on demand

Technical data, handling

Dimensions	Housing	48 x 48 x 131 mm, including screw terminal
	Assembly cut out	45.0 ^{+0.6} x 45.0 ^{+0.6} mm
	Fastening	special quick plastic clamp proper to fix in wall thickness up to 50 mm
	Housing material	PC/ABS-Blend, colour black, UL94V-0
	Protective system	at the front IP40, connection IP40
	Weight	approx. 0.180 kg
Input	Connection	at the rear side via screw terminal up to 2.5 mm ²
	Measuring range	0-10 V, 0-20 mA, 4-20 mA - all ranges are selectable via connection terminal Offset adjustment supported by offset potentiometer
Output	Input resistance	R _i with 10 V = 55 K Ω 20 mA = 100 Ω
	Analogue output	0-10 VDC/10 mA (0.1% of measuring value, +/-0.05% of full scale) 0-20 mA, 4-20 mA - load 500 Ohm (0.1% of measuring value, +/-0.05% of full scale)
	Offset	fixed on zero point
Accuracy	Final value	10 V or 20 mA are adjustable for indication range 350 to 1999
	Resolution	+/- 1999 digit
	Nonlinearity	+/-0.1% of measuring value, +/- 1 digit
	Temp. drift	100 ppm/K
Power unit	Measuring principle	Dual-Slope-Integration
	supply voltage	230 VAC (+/- 10 %) 50-60 Hz, 115 VAC (+/- 10 %) 50-60 Hz, 24 VDC (+/-10 %) galvanic insulated
Indication	Power consumption	approx. 2 VA
	Display	LED with 7 segments, 10 mm high, red 3½-digit = indication 1999
Ambient conditions	Measuring rate	1 seconds
	Overflow	by showing of "1" on the fourth digit
	Decimal point	adjustable by bridging on front side
	Blanking	blanking out of first digit (selectable by bridge)
Housing:	Working temp.	0 up to + 60 °C
	Storing temp.	-20 up to + 80 °C



CE-sign
For unlimited use of the instrument within the directives for electromagnetic compatibility 89/336/EC analogue input wires have to be used with shielded cable and cable's shield connected to earth ground at one end only.

Important reference!

During attitude as well as in the case of connection in the reverse field of the device, the corresponding precautions are to be taken concerning ESD in order to preclude a harm of the device.

Setting

1. Connect the instrument according to the wiring diagram and turn power on.
2. Setting of indication value: Remove the front pane using the eject gap.
3. Set the maximum input voltage/current and adjust the desired indication value by means of the potentiometer.
4. In order to achieve maximum value indication of 1999, the following minimum input voltages are required at the various measuring inputs:

Measuring input	10 V	20 mA
U/I min	3.5 V	15.5 mA
U/I max	20 V	25 mA

5. With input voltages smaller than U/I min, maximum value indication is not available!
6. Example of offset calculation for open measuring input:

AA=initial indication value (-200)
MA=initial measuring value (2 V)
AE=final indication value (600)
ME=Final measuring value (10 V)

$$\text{Offset} = AA - \left(\frac{AE - AA}{ME - MA} \right) \times MA$$

$$\text{Offset} = -200 - \left(\frac{600 - (-200)}{(10V - 2V)} \right) \times 2V = -400$$

7. Simplified calculation with 4-20 mA:
(only for indication 0 = 4 mA)

$$\text{Offset} = -\left(\frac{AE}{4} \right)$$

Observe the operational sign!