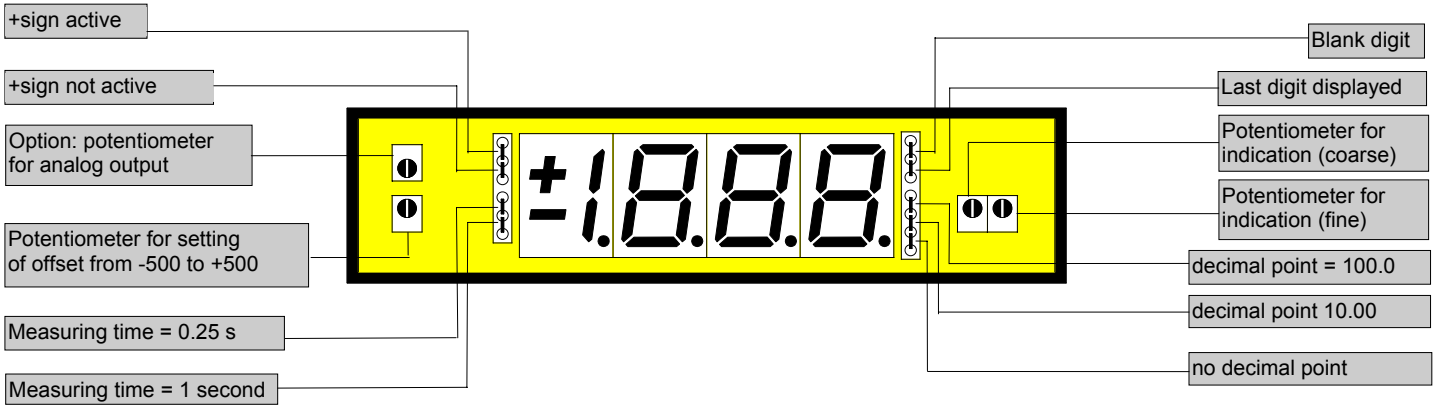


Direct voltage, direct current

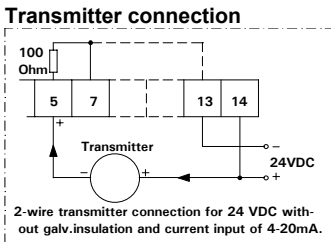
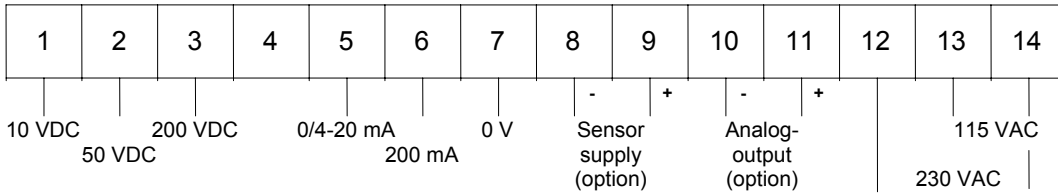
- Option: Sensor supply, analogue output
- Allows to be placed side by side in grid and mosaics systems,
- Mounting into panels with thickness up to 50 mm

96x24

1888



ORDER NUMBER OF TYPE **DV 3.001.310B**



Power supply 24 VDC
- **galvanic not insulated** - (14=plus, 13=minus)

DV 3.001.330B

Power supply 24 VDC
- **galvanic insulated** - (14=plus, 13=minus)

DV 3.001.370B

Options

- green LED
- 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: Decimal point, plus sign, blank digit, measuring time have to be pretended!

- Sensor supply 24 VDC/50 mA (power supply 24 VDC)
- Sensor supply 24 VDC/20 mA (power supply 230/115 VAC)
- Sensor supply 10 VDC/20 mA (power supply 24 VDC, 230/115 VAC)
- Sensor supply 24 VDC/50 mA (power supply 24 VDC galvanic insulated)
- Sensor supply 10 VDC/20 mA (power supply 24 VDC galvanic insulated)

With supply voltage AC and (DC galvanic insulated) the sensor supply is galvanic insulated from the measuring input!

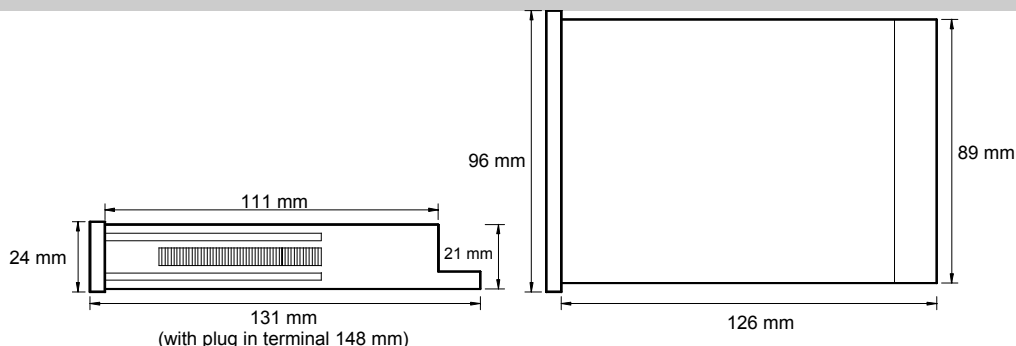
- Analog output 0-10 VDC/10 mA
- Analog output 0-20 mA/load 500 Ω
- Analog output 4-20 mA/load 500 Ω
- Analog output 0-10 VDC/10 mA (power supply 24 VDC galvanic insulated)
- Analog output 0-20 mA/load 500 Ω (power supply 24 VDC galvanic insulated)
- Analog output 4-20 mA/load 500 Ω (power supply 24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

The measuring inputs are not galvanic insulated from the analog output!

- Measuring input 0-1 mA (1=plus and 7=minus)
- Power supplies 24/48 VAC
- Relay contacts see type PVE4.xx1.3xx

Technical data, handling

Dimensions	Housing	96 x 24 x 131 mm, including screw terminal
	Assembly cut out	92.0 ^{+0.8} x 22.0 ^{+0.6} mm
	Fastening	special quick plastic clamp proper to fix in wall thickness up to 50 mm
	Housing material	PC/ABS-plastic blend, colour black, UL94V-0
	Protective system	at the front IP 40, connection IP00
	Weight	approx. 0.290 kg
Input	Connection	at the rear side via terminals up to 2.5 mm ²
	Measuring range	0-10 V, 50 V, 200 V, 0/4-20 mA, 0-200 mA offset adjustment supported by offset potentiometer all ranges are selectable via connection terminal
Output	Input resistance	Ri with 10 V = 55 KΩ 20 mA = 100 Ω 50 V = 290 KΩ 200 mA = 10 Ω 200 V = 1.8 MΩ
	Sensor supply	24 VDC/20 mA – 10 VDC/20 mA / with power supply 230/115 VAC 24 VDC/50 mA – 10 VDC/20 mA / with power supply 24 VDC and 24 VDC/DC With supply voltage AC and (DC galvanic insulated) the sensor supply is galvanically insulated from the measuring input!
	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 Ω (0.1 % of measuring value, +/-0.05 % of full scale)
Accuracy	Offset	fixed on zero point
	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	230/115 VAC +/- 10 % (50-60 Hz), 24 VDC (18-30 V), 24 VDC +/-10 % galvanic insulated
Indication	Power consumption	approx. 5 VA
	Display	LED with 7 segments, 14 mm high, red, 3½-digit = indication 1999
	Measuring time	selectable 0.25 and 1 second
	Overflow	by showing "1" on the fourth digit
	Decimal point	adjustable by bridging on front side
	Blanking	blanking out of last digit (selectable by bridge)
Ambient conditions	Plus-sign	selectable by bridging on front side
	Working temperature	0 up to + 60 °C
Housing:	Storing temperature	-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.

Setting

1. Connect the instrument according to the wiring diagram and turn power on.
2. Adjustment of indication value: Detach the front pane with a small screwdriver leading between front panel and housing frame.
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	50 V	200 V	20 mA	200 mA
U/I min	3.5 V	17 V	68 V	15.5 mA	155 mA
U/I max	20 V	100 V	400 V	25 mA	240 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)

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

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

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

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

Observe the operational sign!