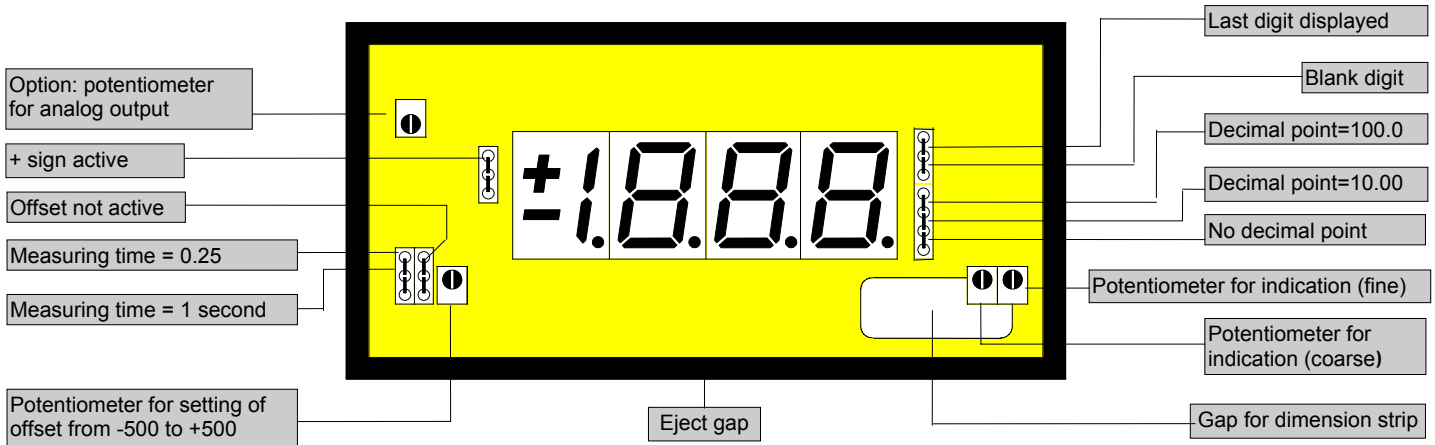


Direct voltage, direct current

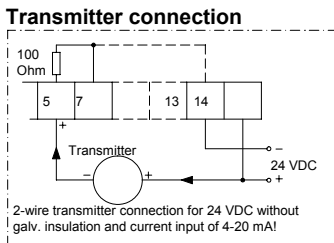
- Option: sensor supply, analogue output
- Mounting into panels with thickness up to 50 mm

1888



ORDER NUMBER OF TYPE **DV 3.001.110C**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
10 VDC	200 VDC		0/4-20 mA	0 V		-	+	-	+			115 VAC	
50 VDC			200 mA			sensor supply (option)		Analog-output (option)				230 VAC	



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

DV 3.001.130C

DV 3.001.170C

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: Plus sign, blank digit, measuring time have to be pretended!

- Sensor supply 24 VDC/50 mA
- Sensor supply 10 VDC/20 mA
- Sensor supply 24 VDC/50 mA (power supply 24 VDC galvanically insulated)
- Sensor supply 10 VDC/20 mA (power supply 24 VDC galvanically insulated)
- Sensor supply 24 VDC/100 mA
- Sensor supply 10 VDC/120 mA

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

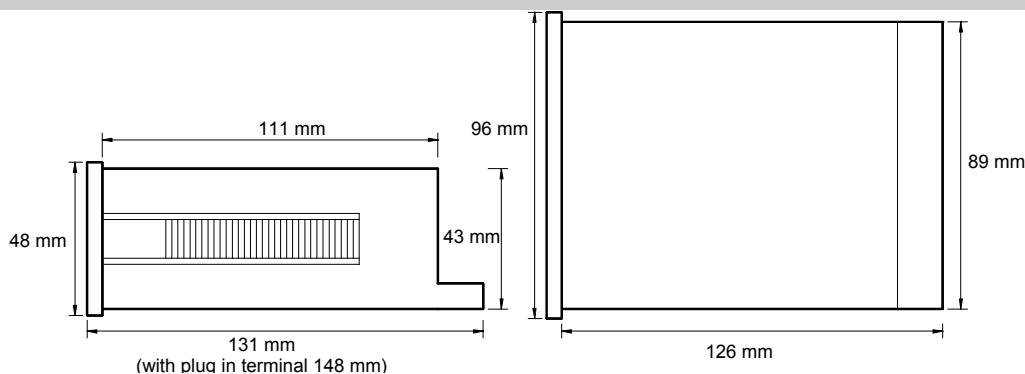
- Analog output 0-10 VDC/10 mA
- Analog output 0-20 mA/load 500 Ω
- Analog output 4-20 mA/load 500 Ω
- Analog output 0-10 VDC/10 mA (power supply 24 VDC galvanically insulated)
- Analog output 0-20 mA/load 500 Ω (power supply 24 VDC galvanically insulated)
- Analog output 4-20 mA/load 500 Ω (power supply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

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

- Measuring input 0-1 mA (1=plus and 7=minus)
- Other power supplies on demand
- Setpoints see PVE series

Technical data, handling

Dimensions	Housing	96 x 48 x 134 mm, including screw terminal
	Assembly cut out	92.0 ^{+0.8} 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-plastic blend, colour black, UL94V-0
	Protective system	at the front IP40, connection IP00
Input	Weight	approx. 0.35 kg
	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 50 V = 290 KΩ 20 mA = 100 Ω 200 V = 1.8 MΩ 200 mA = 10Ω
	Sensor supply	24 VDC/50 mA – 10 VDC/20 mA (other sensor supplies/performances on demand)
	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)
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
	Power consumption	approx. 5 VA
Indication	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
	Storing temperature	-20 up to + 80 °C
Housing:		



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: Remove the front pane by 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	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 (2V)
AE=final indication value (600)
ME=final measuring value (10V)

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

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

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

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

Observe the operational sign!