



Digital panel meter
3½-digit

DV3, DT3

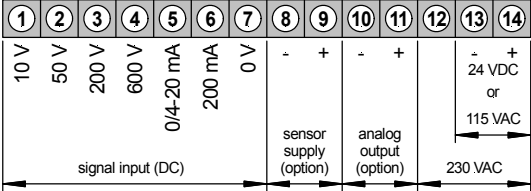
- Without setpoints
- Analog output
- Sensor supply

Digital panel meter

- Direct voltage
- Alternating voltage
- Resistance
- PT100/PT1000
- Direct current
- Alternating current
- Potentiometer
- Thermocouple
- Shunt



• Direct voltage, direct current



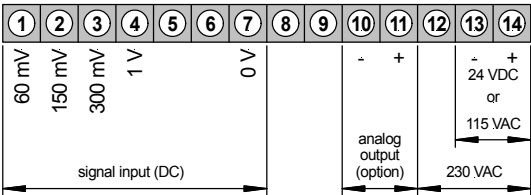
Transmitter connections see page 6

- Power supply 230/115 VAC
- Power supply 24 VDC
- Power supply 24 VDC (galv. insulated)

ORDER NUMBER OF TYPE
(without options)

- DV 3.001.310B
- DV 3.001.330B
- DV 3.001.370B

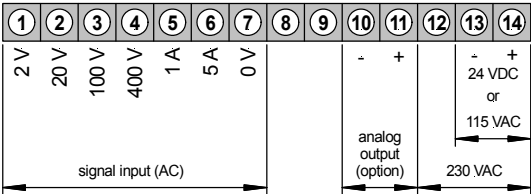
• Direct voltage (Shunt)



- Power supply 230/115 VAC
- Power supply 24 VDC
- Power supply 24 VDC

- DV 3.002.310B
- DV 3.002.330B
- DV 3.002.370B

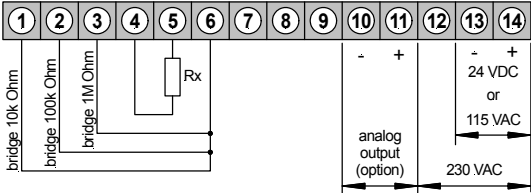
• Alternating voltage, alternating current



- Power supply 230/115 VAC
 - Power supply 24 VDC
 - Power supply 24 VDC (galv. insulated)
- Standard
True effective value RMS
Standard
True effective value RMS

- DV 3.004.310B
- DV 3.104.310B
- DV 3.004.370B
- DV 3.104.370B

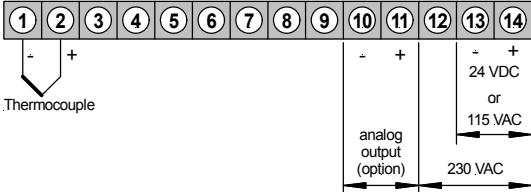
• Resistance, potentiometer



- Power supply 230/115 VAC
- Power supply 24 VDC
- Power supply 24 VDC (galv. insulated)

- DV 3.006.310B
- DV 3.006.330B
- DV 3.006.370B

• Thermocouple L, J or K



- Power supply 230/115 VAC
- Power supply 24 VDC (galv. insulated)

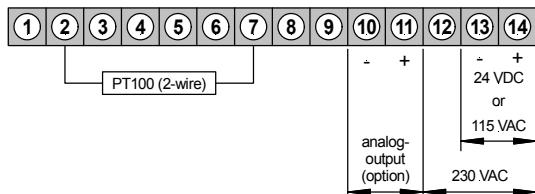
- DT 3.40x.310B
- DT 3.40x.370B

Typ L (FeCuNi - DIN) -50 up to +500°C
Typ J (FeCuNi - americ.) -50 up to +500°C
Typ K (NiCrNi) -100 up to +800°C

(fill in the desired type of thermocouple in the order number instead of x)

ORDER NUMBER OF TYPE
(without options)

• **PT100 (2 wire)**



Power supply 230/115 VAC

2 wire

DT 3.202.310B (199,9°C)

2 wire

DT 3.206.310B (600°C)

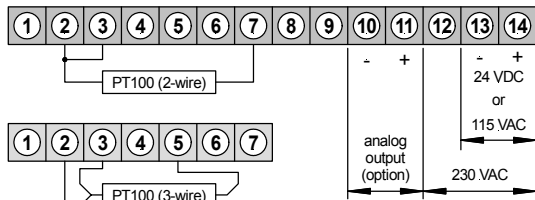
3+2 wire

DT 3.302.310B (199,9°C)

3+2 wire

DT 3.306.310B (600°C)

• **PT100 (2+3 wire)**



Power supply 24 VDC
(galv. insulated)

2 wire

DT 3.202.370B (199,9°C)

2 wire

DT 3.206.370B (600°C)

3+2 wire

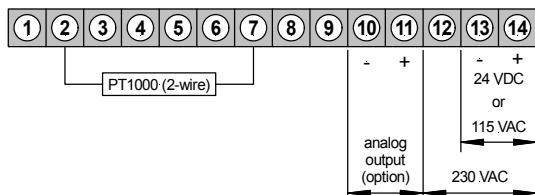
DT 3.302.370B (199,9°C)

3+2 wire

DT 3.306.370B (600°C)

• **PT100 (4 wire) see PVE series with microprocessor based technology**

• **PT1000 (2 wire)**



Power supply 230/115 VAC

2 wire

DT 3.602.310B (199,9°C)

Power supply 24 VDC
(galv. insulated)

2 wire

DT 3.602.370B (199,9°C)

Power supply 230/115 VAC

2 wire

DT 3.606.310B (600°C)

Power supply 24 VDC
(galv. insulated)

2 wire

DT 3.606.370B (600°C)

OPTIONS

	DV 3.001... Direct voltage	DV 3.002... Shunt	DV 3.004... Alternating voltage	DV 3.006... Resistance	DT 3.40x... Thermocouple	DT 3.x02.../3.x06... PT100/0 (2 + 3 wire)	Additional price
							EUR
LED green	x	x	x	x	x	x	
Protection IP54	x	x	x	x	x	x	6,15
Protection IP65 (see following table)	x	x	x	x	x	x	28,10
Plug in terminal	x	x	x	x		x	12,25
Sensor supply 24 VDC/20 mA (supply voltage 230/115 VAC)	x						24,55
Sensor supply 24 VDC/50 mA (supply voltage 24 VDC galv. not insulated)	x						24,55
Sensor supply 10 VDC/20 mA (supply voltage 230/115 VAC and 24 VDC galv. not insulated)	x						24,55
Sensor supply 24 VDC/50 mA (supply voltage 24 VDC galv. insulated)	x						35,80
Sensor supply 10 VDC/20 mA (supply voltage 24 VDC galv. insulated)	x						35,80
<i>With supply voltage AC and DC (galvanically insulated) the sensor supply is galv. insulated from the measuring input !</i>							
Analog output 0-10 VDC/2 mA (supply voltage 230/115 VAC and 24 VDC galv. not insulated)	x	x	x	x	x	x	39,90
Analog output 0-20 mA/load 500 Ω (supply voltage 230/115 VAC and 24 VDC galv. not insulated)	x	x	x	x	x	x	39,90
Analog output 4-20 mA/load 500 Ω (supply voltage 230/115 VAC and 24 VDC galv. not insulated)	x	x	x	x	x	x	39,90
Analog output 0-10 VDC/2 mA (supply voltage 24 VDC galv. insulated)	x	x	x	x	x	x	61,35
Analog output 0-20 mA/load 500 Ω (supply voltage 24 VDC galv. insulated)	x	x	x	x	x	x	61,35
Analog output 4-20 mA/load 500 Ω (supply voltage 24 VDC galv. insulated)	x	x	x	x	x	x	61,35
Analog output with customer specified offset (S26)	x	x	x	x	x	x	10,25
Measuring input 0-1 mA (S10)	x						15,35
Measuring range 1 A on demand (S108)			x				
Dimension strips selectable (max. 7 sign)	x	x	x	x	x	x	
Other power supplies on demand	x	x	x	x	x	x	
Setpoints	See type PVE						

• Settings ex works with protective system *IP65, adjustable on rear side*

Settings deviating from the standard settings must be indicated in the order description.	Standard	As desired	DV 3.001.... Direct voltage	DV 3.002.... Shunt	DV 3.004.... Alternating voltage	DV 3.006.... Resistance	DT 3.40x.... Thermocouple	DT 3.x02..../3.x06.... PT100/0 (2 + 3 wire)
Plus sign	activ	inactive	x	x		x	x	x
Blanking	no	yes	x	x	x	x		
Measuring time	0,25 sec.	1 sec.	x	x	x	x		
Decimal point	100,0	without	x	x	x	x		
		10,00	x	x	x	x		

Technical data

for all units of the DV3, DT3 serie, if not indicated otherwise

Dimensions	Housing Assembly cut out Fastening Housing material Protective system Weight Connection	B96 x H24 x T131 mm, including screw terminal (T=148 mm, including plug in terminal) 92.0 ^{+0.8} x 22.0 ^{+0.6} mm special quick plastic clamp proper to fix in wall thickness up to 50 mm PC/ABS-blend, colour black, UL94V-0 at the front IP40 connetion IP00 approx. 0.29 kg at the rear side via terminals up to 2.5 mm ²
Input DV3.001.... Direct voltage, Direct current	Measuring range Input resistance	0-10 V, 50 V, 200 V, 600 V, 0/4-20 mA, 0-200 mA – all ranges selectable via connection terminal Offset adjustment supported by offset potentiometer (-500 up to +500) Ri with 10 V = ~55 kΩ 600 V = ~4.7 MΩ 50 V = ~290 kΩ 20 mA = ~100 Ω 200 V = ~1.8 MΩ 200 mA = ~10 Ω
DV3.002.... Direct voltage (Shunt)	Measuring range Input resistance	0-60 mV, 150 mV, 300 mV, 1 V - all ranges selectable via connection terminal Offset adjustment supported by offset potentiometer (-100 up to +100) Ri with 60 mV = ~15 kΩ 300 mV = ~75 kΩ 150 mV = ~39 kΩ 1 V = ~320 kΩ
DV3.004.... Alternating voltage, Alternating current	Measuring range Input resistance	0-2 V, 20 V, 100 V, 400 V, 1 A, 5 A – all ranges selectable via connection terminal Offset adjustment supported by offset potentiometer (-100 up to +100) Ri with 2 V = ~20 kΩ 400 V = ~4 MΩ 20 V = ~200 kΩ 1 A = ~276 mΩ 100 V = ~1 MΩ 5 A = ~56 mΩ
DV3.006.... Resistance	Measuring range	≤10 kΩ, ≤100 kΩ, ≤1 MΩ all ranges selectable via connection terminal Offset adjustment supported by offset potentiometer (-100 bis +100)
DT3.x02.... PT100	Sensor Measuring range Sensor current	2-wire, 3-wire -50.0 up to 199.9°C approx. 1 mA
DT3.x06.... PT100	Sensor Measuring range Sensor current	2-wire, 3-wire -100 up to + 600°C approx. 1 mA
DT3.602.... PT1000	Sensor Measuring range Sensor current	2-wire -50 up to +199,9 °C approx. 0.1 mA
DT3.606.... PT1000	Sensor Measuring range Sensor current	2-wire -100 up to + 600°C approx. 0.1 mA
DT3.40x.... Thermocouple	<u>L</u> FeCuNi (DIN) <u>J</u> FeCuNi (americ.) <u>K</u> NiCrNi	-50 up to + 500°C -50 up to + 500°C -100 up to + 800°C

Technical data

Output

DV3.001....	Sensor supply for 24 VDC-24 VDC/DC for 115/230 VAC	(galv. insulated for 230/115 VAC and 24 VDC/DC from the measuring input) 24 VDC/50 mA – 10 VDC/20 mA (other sensor supplies/performances on demand) 24 VDC/20 mA – 10 VDC/20 mA (other sensor supplies/performances on demand)
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<i>For all versions</i>	Analog output	0-10 VDC/2 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) Not changeable, offset analogue output corresponds to 0 digit, see options Adjustable to 10 V or 20 mA, within the indication range 350 up to 1999 (The measuring inputs are not galv. insulated from the analog output!)
	Offset	
	Final value	

DT3.x02....	Final value 200°C	10 V or 20 mA adjustable for range from 35.0°C up to 199.9°C
DT3.x06....	Final value 600°C	10 V or 20 mA adjustable for range from 200°C up to 600°C

DT3.40x....	Final value 500°C	10 V or 20 mA adjustable for range from 200°C up to 500°C
	Final value 800°C	10 V or 20 mA adjustable for range from 200°C up to 800°C

Accuracy

<i>For all versions</i>	Measuring principle	Dual-Slope-Integration
DV3.001....	Temp. drift	~ 100 ppm/K
DV3.002....		~ 150 ppm/K
DV3.004....		I ~ 200 ppm/K / U ~ 100 ppm/K
DV3.006....		~ 100 ppm/K
DT3.40x....		~ 100 ppm/K
DT3.x02....		~ 100 ppm/K
DT3.x06....		~ 100 ppm/K

<i>For all versions</i>	Measuring fault	+/-0.1% of measuring value, +/-1 digit
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DV3.0x4....	Frequency range	Nominal precision 40 Hz up to 1000 Hz
	Measuring fault	Voltage range: +/-0.5% of measuring value, +/-1digit 1 A range: +/-0.5% of measuring value, +/-1digit 5 A range: +/-0.5% of measuring value, +/-1digit
	<i>Measuring principle (input)</i>	Via rectifier – (effective value with sine waveform only)

DV3.1x4....	Frequency range	Nominal precision 40 Hz up to 1000 Hz
	Measuring fault	Voltage range: +/-0.5% of measuring value, +/-1digit, crestfactor 3 1 A range: +/-0.5% of measuring value, +/-1digit, crestfactor 3 5 A range: +/-0.5% of measuring value, +/-1digit, crestfactor 3
	<i>Measuring principle (input)</i>	True effective value RMS

Accuracy

DT3.x02....	Measuring fault	max. +/-0.5°C, +/- 1 digit
DT3.x06....	Measuring fault	max. +/-1°C, +/-1 digit
DT3.60x....	Measuring fault	$R_L \leq 10 \Omega = +/-1 K$ $R_L > 10 \Omega \leq 20 \Omega = +/-2 K$ max. 5°C
DT3.40x....	Measuring fault J and L Measuring fault Typ K	Range from -100°C up to -50°C max. 15°C Range > -50°C up to 600°C max 5°C Range > 600°C up to 800°C max 15°C

<i>For all versions</i>	Resolution	+/-1999 digit
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DT3.x02....		0,1°C
DT3.x06....		1°C
DT3.40x....		1°C

Power unit	Supply voltage	230/115 VAC +/- 10% (50-60 Hz), 24 VDC (18-30 V), 24 VDC (+/-10%) galv. insulated
	Consumption	max. 3 VA

Indication	Display	LED with 7 segments , 14mm high, red 3½-digit = indication 1999
	Overflow	by showing „1“ on the fourth digit

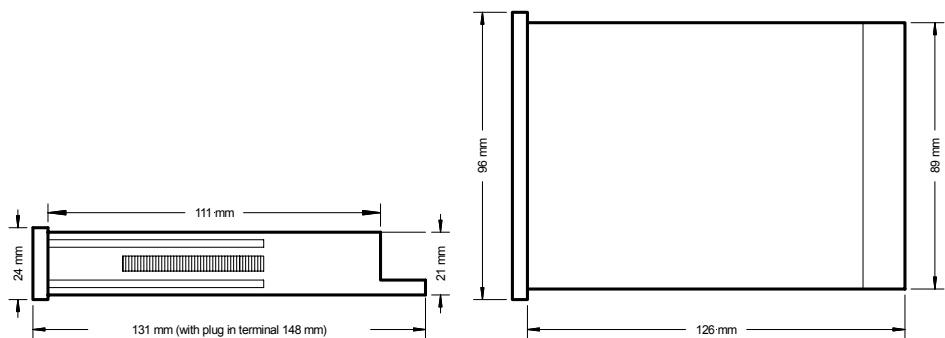
DV3.001....		
DV3.002....		
DV3.006....	Decimal point	adjustable by bridging on front side
	Measuring time	selectable 0.25 or 1 sec.
	Blanking	blanking out of last digit (selectable by bridge)
	Plus sign	selectable by bridging on front side

DV3.004....	Decimal point	adjustable by bridging on front side
	Measuring time	Selectable 0.25 or 1 sec.
	Blanking	blanking out of last digit (selectable by bridge)

DT3.xx2....		
DT3.xx6....	Measuring time	1 sec.

Ambient conditions	Working temperature	0 up to + 60 °C
	Storing temperature	-20 up to + 80°C

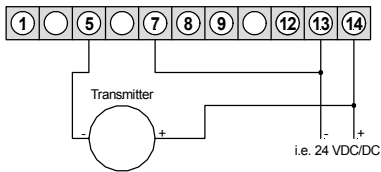
Housing



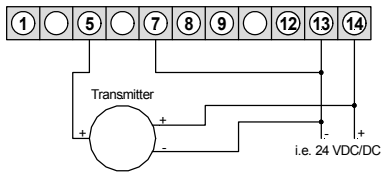
Connection diagrams

DV instruments without sensor supply

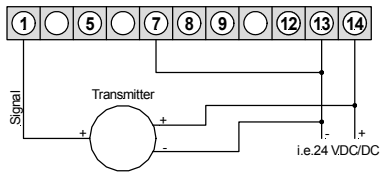
2-wire: 4-20 mA



3-wire: 0-20 mA
4-20 mA

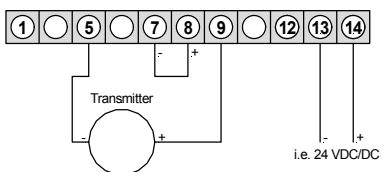


3-wire: 0-10 V / 0-5 V
0-1 V / 1-6 V

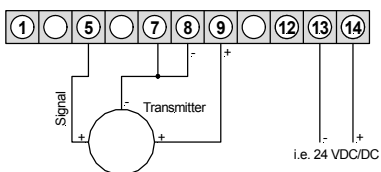


DV instruments with sensor supply

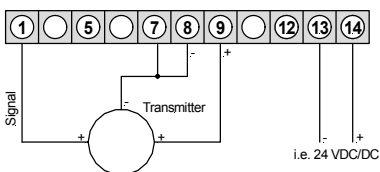
2-wire: 4-20 mA



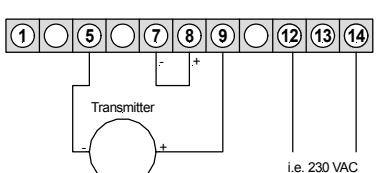
3-wire: 0-20 mA
4-20 mA



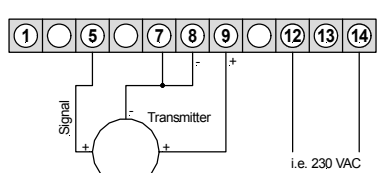
3-wire: 0-10 V / 0-5 V
0-1 V / 1-6 V



2-wire: 4-20 mA



3-wire: 0-20 mA
4-20 mA



3-wire: 0-10 V / 0-5 V
0-1 V / 1-6 V

