



Digital panelmeter 3 ½ digits

DV3, DT3

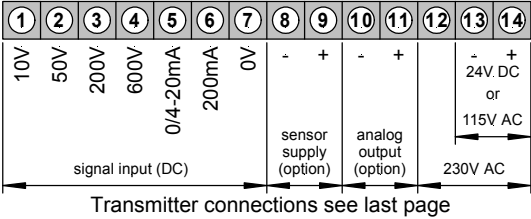
- Without setpoints
- Analog output
- Sensor supply

Digital panelmeter

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



• **Direct voltage, direct current**

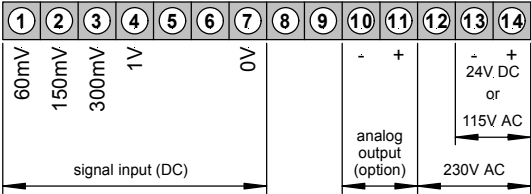


Power supply 230/115V AC
Power supply 24V DC
Power supply 24V DC (galv. insulated)

ORDER NUMBER
(without option)

DV 3.001.110C
DV 3.001.130C
DV 3.001.170C

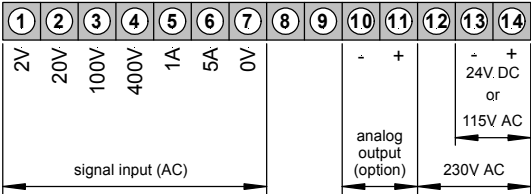
• **Direct voltage (Shunt)**



Power supply 230/115V AC
Power supply 24V DC
Power supply 24V DC (galv. insulated)

DV 3.002.110C
DV 3.002.130C
DV 3.002.170C

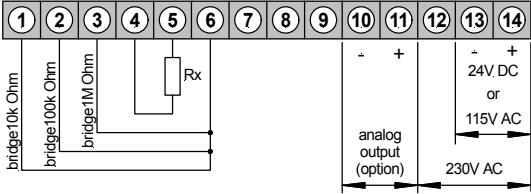
• **Alternating voltage, alternating current**



Power supply 230/115V AC
Power supply 24V DC (galv. insulated)
Standard
True effective value RMS
Standard
True effective value RMS

DV 3.004.110C
DV 3.104.110C
DV 3.004.170C
DV 3.104.170C

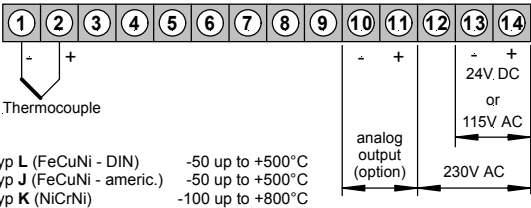
• **Resistance, potentiometer measurement**



Power supply 230/115V AC
Power supply 24V DC
Power supply 24V DC (galv. insulated)

DV 3.006.110C
DV 3.006.130C
DV 3.006.170C

• **Thermocouple L, J or K**



Power supply 230/115V AC
Power supply 24V DC (galv. insulated)

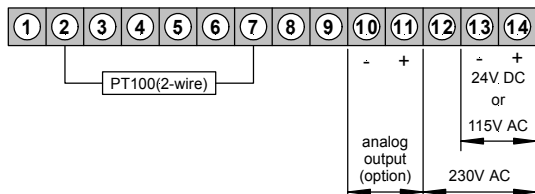
DT 3.40x.110C
DT 3.40x.170C

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 thermoelement in the order number instead of x)

ORDER NUMBER OF TYPE
(without options)

• **PT100 (2 wire)**



Power supply 230/115V AC

2 wire

DT 3.202.110C (199,9°C)

2 wire

DT 3.206.110C (600°C)

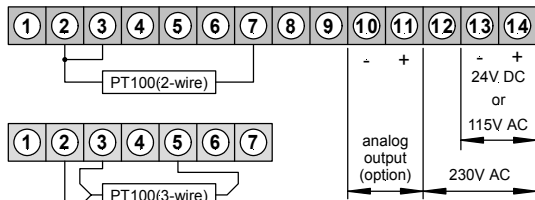
3+2 wire

DT 3.302.110C (199,9°C)

3+2 wire

DT 3.306.110C (600°C)

• **PT100 (3+2 wire)**



Power supply 24V DC

2 wire

DT 3.202.170C (199,9°C)

(galv. insulated)

2 wire

DT 3.206.170C (600°C)

3+2 wire

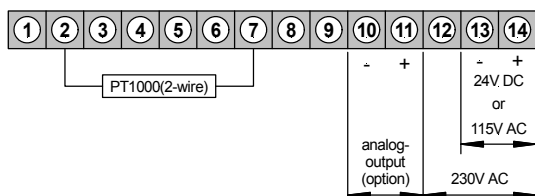
DT 3.302.170C (199,9°C)

3+2 wire

DT 3.306.170C (600°C)

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

• **PT1000 (2 wire)**



Power supply 230/115V AC

2 wire

DT 3.606.110C (600°C)

Power supply 24V DC

2 wire

DT 3.606.170C (600°C)

(galv. insulated)

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)	
LED green	x	x	x	x	x	x	
Protection IP54 at the front	x	x	x	x	x	x	
Protection IP65 at the front (*see following table)	x	x	x	x	x	x	
Plug in terminal	x	x	x	x		x	
Sensor supply 24VDC/50mA (supply voltage 230/115V AC and 24VDC)	x						
Sensor supply 10VDC/20mA (supply voltage 230/115V AC and 24VDC)	x						
Sensor supply 24VDC/50mA (supply voltage 24VDC galv. insulated)	x						
Sensor supply 10VDC/20mA (supply voltage 24VDC galv. insulated)	x						
Sensor supply 24VDC/100mA (supply voltage 230/115V AC and 24VDC galv. insulated)	x						
Sensor supply 10VDC/120mA (supply voltage 230/115V AC and 24VDC galv. insulated)	x						
<i>With supply voltage AC and DC (galvanically insulated) the sensor supply is galv. insulated from the measuring input !</i>							
Analog output 0-10VDC/2mA (supply voltage 230/115V AC and 24VDC)	x	x	x	x	x	x	
Analog output 0-20mA/load 500Ω (supply voltage 230/115V AC and 24VDC)	x	x	x	x	x	x	
Analog output 4-20mA/load 500Ω (supply voltage 230/115V AC and 24VDC)	x	x	x	x	x	x	
Analog output 0-10VDC/2mA (supply voltage 24VDC galv. insulated)	x	x	x	x	x	x	
Analog output 0-20mA/load 500Ω (supply voltage 24VDC galv. insulated)	x	x	x	x	x	x	
Analog output 4-20mA/load 500Ω (supply voltage 24VDC galv. insulated)	x	x	x	x	x	x	
Analog output with customer specified offset (S26)	x	x	x	x	x	x	
Measuring input 0-1mA (S10)	x						
Figures high 20mm – adjustment by potentiometer at the rearside (S33)	x	x	x	x	x	x	
Dimension strips selectable	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 rearside

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 (2 +3 wire)
Sign plus	active	inactive	x	x		x	x	x
Blanking	no	yes	x	x	x	x		
Indication time	0,25sec.	1 sec.	x	x	x	x		

Technical data

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

Dimension	Housing Assembly cut out Fastening Housing material Protective system	B96 x H48 x T134 including screw terminal (T=148 including plug in terminal) 92.0 ^{+0.8} x 45.0 ^{+0.6} mm Special quick plastic clamp proper to fix in wall thickness up to 50mm PC/ABS-Blend, colour black, UL94V-0 At the front IP40 Connetion IP00 Approx. 0,35kg At the rear side via terminals up to 2,5mm ²
Input		
DV3.001.... Direct voltage, Direct current	Measuring range Input resistance	0-10V, 50V, 200V, 600V, 0/4-20mA, 0-200mA – all ranges selectable via connection terminal Offset adjustment supported by offset potentiometer (-500 up to +500) Ri with 10V = ~55kΩ 600V = ~4.7MΩ 50V = ~290kΩ 20mA = ~100Ω 200V = ~1.8MΩ 200mA = ~10Ω
DV3.002.... Direct voltage (Shunt)	Measuring range Input resistance	0-60mV, 150mV, 300mV, 1V - all ranges selectable via connection terminal Offset adjustment supported by offset potentiometer (-100 bis +100) Ri with 60mV = ~15kΩ 300mV = ~75kΩ 150mV = ~39kΩ 1V = ~320kΩ
DV3.004.... Alternating voltage, Alternating current	Measuring range Input resistance	0-2V, 20V,100V, 400V, 1A, 5A - all ranges selectable via connection terminal Offset adjustment supported by offset potentiometer (-100 bis +100) Ri with 2V = ~20kΩ 400V = ~4MΩ 20V = ~200kΩ 1A = ~276mΩ 100V = ~1MΩ 5A = ~56mΩ
DV3.006.... Resistance	Measuring range	≤10kΩ, ≤100kΩ, ≤1MΩ 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. 1mA
DT3.x06.... PT100	Sensor Measuring range Sensor current	2-wire, 3-wire -100 up to + 600°C Approx. 1mA
DT3.606.... PT1000	Sensor Measuring range Sensor current	2-wire -100 up to + 600°C appr. 0,1mA
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
Output		
DV3.001....	Sensor supply	(galv. insulated for 230/115VAC and 24VDC/DC from the measuring input) 24VDC/50mA - 10VDC/20mA (other sensor supplies/performances on demand)
For all versions	Analog output Offset Final value	0-10VDC/2mA (0,1% of measuring value, +/-0,05% of full scale) 0-20mA, 4-20mA - load 500Ω (0,1% of measuring value, +/-0,05% of full scale) Not changeable, offset analog output corresponds to 0 digit, see options Adjustable to 10V or 20mA, within the indication range 350 to 1999

(The measuring inputs are not galv. insulated from the analog output !)

Technical data

Output

DT3.x02....	Final value 200°C	10V or 20mA adjustable for range from 35,0°C up to 199,9°C
DT3.x06....	Final value 600°C	10V or 20mA adjustable for range from 200°C up to 600°C
DT3.40x....	Final value 500°C	10V or 20mA adjustable for range from 200°C up to 500°C
	Final value 800°C	10V or 20mA adjustable for range from 200°C up to 800°C

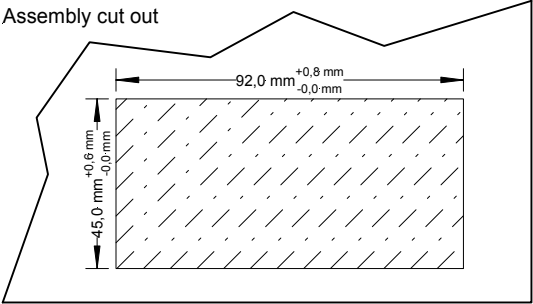
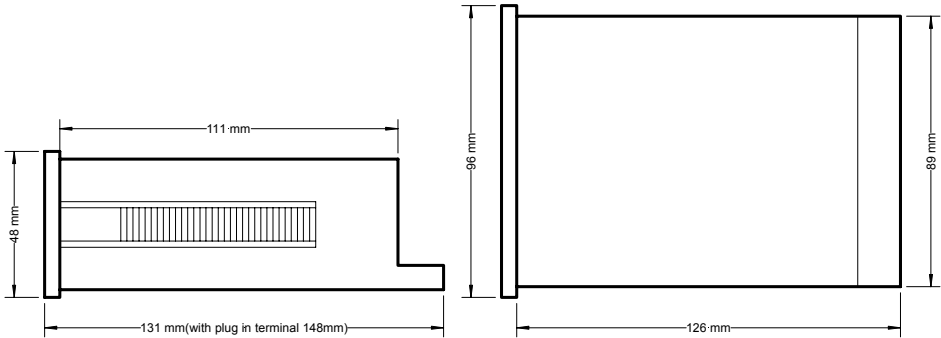
Accuracy

<i>For all versions</i>	Measuring principle	Dual-Slope-Integration
DV3.001....	Temp. drift	~ 100ppm/K
DV3.002....		~ 150ppm/K
DV3.004....		I ~ 200ppm/K/U ~ 100ppm/K
DV3.006....		~ 100ppm/K
DT3.40x....		~ 100ppm/K
DT3.x02....		~ 100ppm/K
DT3.x06....		~ 100ppm/K
<i>For all versions</i>	Measuring fault	+/-0,1% of measuring value, +/-1 digit
DV3.0x4....	Frequency range	Nominal precision 40Hz up to 1000Hz
	Measuring fault	Voltage range: +/-0.5% of measuring value, +/-1digit
		1A range: +/-0.5% of measuring value, +/-1digit
		5A 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 40Hz up to 1000Hz
	Measuring fault	Voltage range: +/-0.5% of measuring value, +/-1digit, crestfactor 3
		1A range: +/-0.5% of measuring value, +/-1digit, crestfactor 3
		5A 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
DT3.606....	Measuring fault	R _L ≤ 10Ω = +/-1K
		R _L > 10Ω ≤ 20Ω = +/-2K
DT3.40x....	Measuring fault type J, L	Max. 5°C
	Measuring fault type 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
DT3.x02....		0,1°C
DT3.x06....		1°C
DT3.40x....		1°C
Power unit	Supply voltage	230/115VAC +/- 10% (50-60Hz), 24VDC (18-30V), 24VDC (+/-10%) galv. insulated
	Consumption	Max. 5VA
Indication	Display	LED with 7 segments , 14mm high (optionally 20mm), red (optionally green)
	Overflow	3 ½ digit = indication 1999
		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 on front side)
	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 on front side)
DT3.xx2....		
DT3.xx6....	Measuring time	1 sec.
Ambient conditions	Working temperature	0 up to + 60 °C
	Storing temperature	-20 up to + 80°C

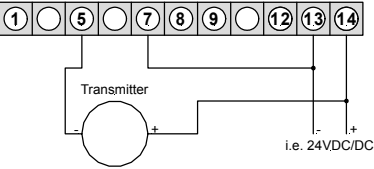
Housing:



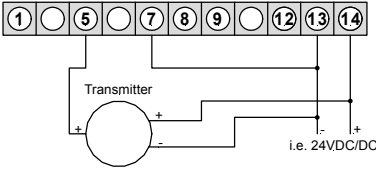
Connection diagrams

DV instruments without sensor supply

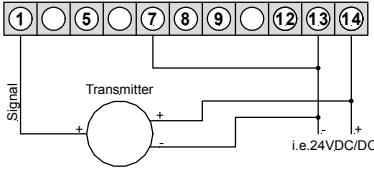
2-wire: 4-20mA



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

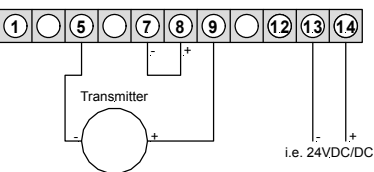


3-wire: 0-10V/0-5V
0-1V/1-6V

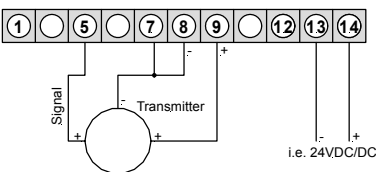


DV instruments with sensor supply

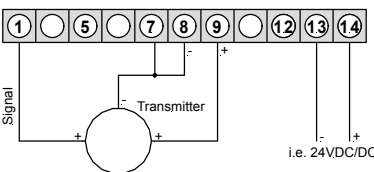
2-wire: 4-20mA



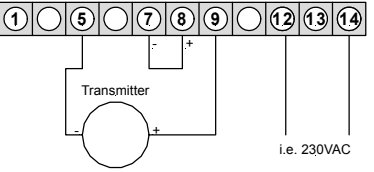
3-wire: 0-20mA
4-20mA



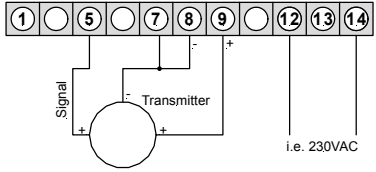
3-wire: 0-10V/0-5V
0-1V/1-6V



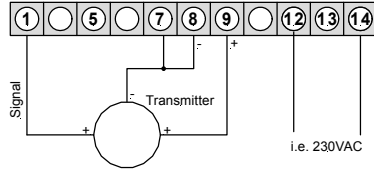
2-wire: 4-20mA



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



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



Ordering code DV3, DT3

Digital panelmeter

D V 3 0 0 1 1 1 0 C									
Basic model					Internal index				
Voltage metering					Mechanical options				
Temperature metering					0 Standard IP40				
					1 Protection IP65				
					3 Protection IP54				
					5 Plug in terminal, protection IP54				
					6 Plug in terminal, protection IP40				
					7 Plug in terminal, protection IP65				
Number of digits					Power supply				
3 ½ digits					1 230/115VAC				
4 ½ digits					3 24VDC				
					7 24VDC(galv. insulated)				
Sensor supply					Size of housing				
No sensor supply					1 96x48				
10V/50mA									
24V/50mA									
Temperature device					Measuring input				
PT100-2 wire					1 Direct voltage, direct current				
PT100-3 wire					2 Direct voltage, shunt measuring				
PT1000-2 wire					4 Alternating voltage, current				
Thermocouple					6 Resistance				
					2 Range PT100 (200°C) – for DT				
					6 Range PT100 (600°C) – for DT				
					L Thermocouple Type L – forDT				
					J Thermocouple Type J – for DT				
					K Thermocouple Type K – for DT				
Alternating voltage, current									
Standard									
True effective RMS									
Outputs									
No output									
0-10V									
0-20mA									
4-20mA									