



## **Digital panel meter with microprozessor based technology 4-digit**

### **PVE4, PTE4, PFE4, PFL4**

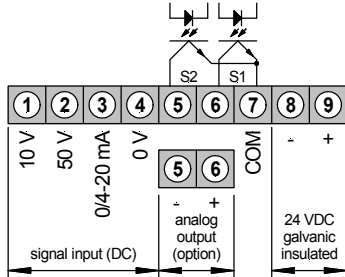
- Galvanic insulated
- 2 scalable setpoints/hysteresis
- Analog output
- Min/max memory

# Digital panel meter

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



## • Direct voltage, direct current



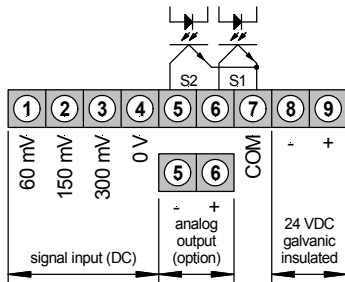
Power supply 24 VDC  
galvanic insulated

ORDER NUMBER OF TYPE  
(without options)

**PVE 4.001.7782B**

Transmitter connection see page 6

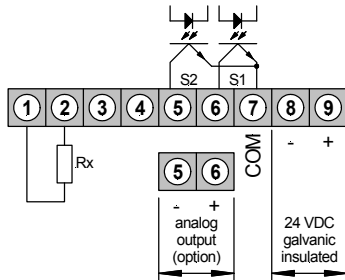
## • Direct voltage (Shunt)



Power supply 24 VDC  
galvanic insulated

**PVE 4.002.7782B**

## • Resistance, potentiometer



Power supply 24 VDC  
galvanic insulated

Measuring range  $\leq 10K\Omega$

**PVE 4.506.7782B**

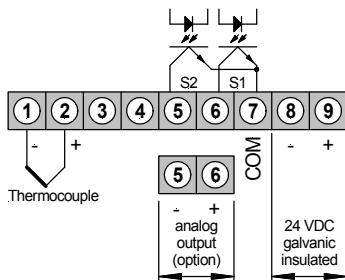
Measuring range  $\leq 100K\Omega$

**PVE 4.606.7782B**

Measuring range  $\leq 1M\Omega$

**PVE 4.706.7782B**

## • Thermocouple L, J K (S, B and N)



Power supply 24 VDC  
galvanic insulated

**PTE 4.40x.7782B**

**PTE 4.40y.7782B**

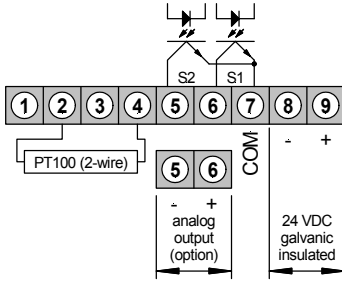
### Version x

Typ **L** (FeCuNi - DIN) -100 up to +900°C  
Typ **J** (FeCuNi - americ.) -200 up to +1200°C  
Typ **K** (NiCrNi) -250 up to +1350°C

### Version y

Typ **S** (Pt10Rh-Pt - DIN) 0 up to +1170°C  
Typ **B** (Pt30Rh-Pt6Rh - DIN) 300 up to +1790°C  
Typ **N** (NiCrSi-NiSi - DIN) 0 up to +1300°C

• **PT100 (2 wire)**



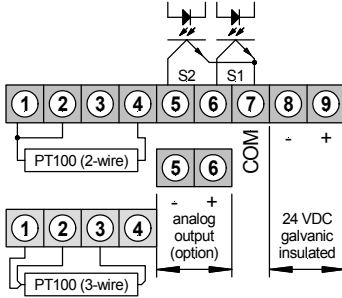
2 wire Power supply 24 VDC galvanic insulated

ORDER NUMBER OF TYPE (without option)

**PTE 4.206.7782B** (600,0°C)

Measuring range -200...850°C on request

• **PT100 (3+2 wire)**

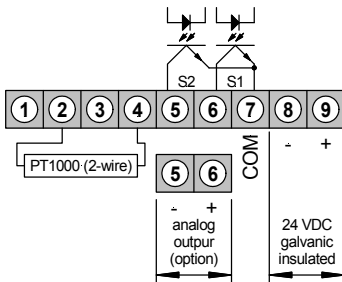


3+2 wire Power supply 24 VDC galvanic insulated

**PTE 4.306.7782B** (600,0°C)

Measuring range -200...850°C on request

• **PT1000 (2 wire)**

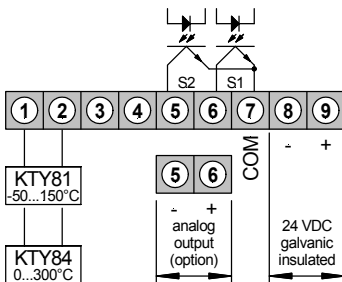


2 wire Power supply 24 VDC galvanic insulated

**PTE 4.606.7782B** (600,0°C)

Measuring range -200...850°C on request

• **KTY81**



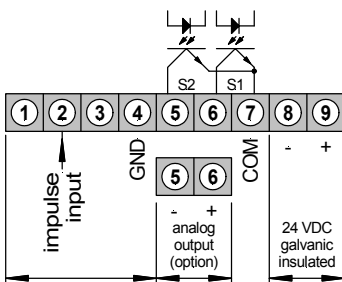
-50,0...+150,0°C Power supply 24 VDC galvanic insulated

**PTE 4.501.7782B**

0,0...+300,0°C Power supply 24 VDC galvanic insulated

**PTE 4.504.7782B**

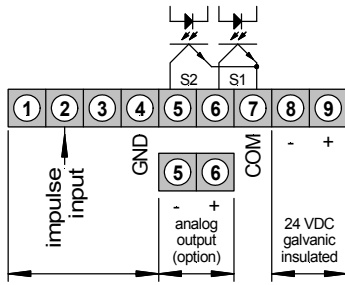
• **Frequency metering 1 Hz – 500 KHz**



Power supply 24 VDC galvanic insulated

**PFE 4.007.7782B**

• Frequency metering 0.001 Hz – 9999 Hz



Power supply 24 VDC  
galvanic insulated

PFL 4.007.7782B

## OPTIONS PVE, PTE, PFE, PFL

	PVE 4.001.... Direct current	PVE 4.002.... Shunt	PVE4.006.... Resistance	PTE 4.40x.... Thermocouple	PTE 4.x06../4.50x...	PFE, PFL 4.007....	Additional price
	EUR						
Green LED	x	x	x	x	x	x	
Foil keyboard with protection IP54 (plug in terminal)	x	x	x	x	x	x	6,15
Foil keyboard with protection IP65 (plug in terminal)	x	x	x	x	x	x	10,25
<b>With analog output setpoints S1 and S2 are not available!</b>							
Analog output 0-10 VDC/12 bit	x	x	x	x	x	x	92,05
Analog output 0-20 mA/load 500 Ω/12 bit	x	x	x	x	x	x	92,05
Analog output 4-20 mA/load 500 Ω/12 bit	x	x	x	x	x	x	92,05
<b>Setpoints as open emitter</b>	x	x	x	x	x	x	5,10

### Technical data

for all units of the PVE4, PTE4, PFE4, PFL4 series, if not indicated otherwise

#### Dimension

Housing B48 x H24 x T91 mm (T=101 mm, including plug in terminal)  
 Assembly cut out 45.0<sup>+0.6</sup> x 22.2<sup>+0.3</sup> 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 IP00  
 Weight approx. 75 g  
 Connection at the rear via terminals up to 1.5 mm<sup>2</sup>

#### Input

PVE4.001.... Direct voltage, Direct current	Measuring range	0-10 V, 0-50 V, 0-20 mA - 4-20 mA – all ranges selectable via connection terminal
	Input resistance	Ri with 10 V = ~100 kΩ 20 mA = ~100 Ω 50 V = ~500 kΩ
PVE4.002.... Direct voltage (Shunt)	Measuring range	0-60 mV, 150 mV, 300 mV, 1 V all ranges selectable via connection terminal
	Input resistance	Ri bei 60 mV = ~15 kΩ 300 mV = ~75 kΩ 150 mV = ~39 kΩ
PVE4.006.... Resistance	Measuring range	≤10 kΩ; ≤100 kΩ; ≤1 MΩ;
PTE4.x06.... PT100	Sensor	2-wire, 3-wire
	Measuring range	-99.9 up to +600.0°C
	Sensor current	approx. 1 mA
	Linearization	according to DIN IEC 751
PT1000	Sensor	2-wire
	Measuring range	-99.9 up to + 600.0°C
	Sensor current	approx. 0.1 mA
	Linearization	according to DIN IEC 751

# Technical data

## Input

PTE4.40x.... Thermocouple	<b>L</b> FeCuNi (DIN) <b>J</b> FeCuNi (americ.) <b>K</b> NiCrNi	-100 up to + 900°C -200 up to + 1200°C -250 up to + 1350°C
PTE4.40y.... Thermocouple	<b>S</b> Pt10Rh-Pt - DIN <b>B</b> Pt30Rh-Pt6Rh - DIN <b>N</b> NiCrSi-NiSi- DIN	0 up to +1170°C 300 up to +1790°C 0 up to +1300°C
PTE4.501.... PTE4.504....	KTY81-1 KTY84-1	2 wire (-50,0 up to +150,0°C) 2 wire (0,0 up to +300,0°C)
PFE4.007.... Frequency	Signal Input resistance	Impulse input, Namur, 3-wire pick up Ri with 10 V = $\geq 2 \text{ k}\Omega$ High/low level $\Rightarrow 10 \text{ V} / < 6 \text{ V}$ 1 Hz up to 500k Hz
PFL4.007.... Frequency	Signal Input resistance	Impulseingang, Namur, 3-wire pick up Ri with 10 V = $\geq 2 \text{ k}\Omega$ High/low level $\Rightarrow 10 \text{ V} / < 6 \text{ V}$ 0.001 Hz up to 9999 Hz

## Output

<i>For all versions</i>	Open collector (2 outputs) Open emitter (option)	Supply by customers ( $U_B = 5\text{-}35 \text{ V} / I_{\text{max}} = 100 \text{ mA}$ with $U_{CE \text{ sat}}$ )
	Analog output	0-10 VDC (12 bit) 0-20 mA (12 bit) load max. 500 $\Omega$ 4-20 mA (12 bit) load max. 500 $\Omega$

## Accuracy

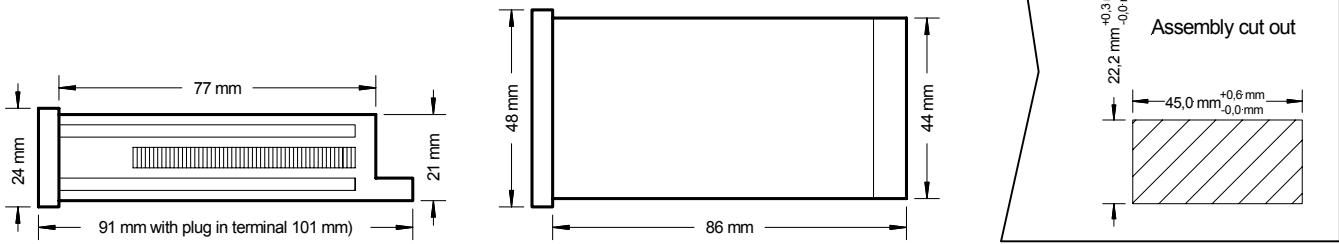
<i>For all versions</i>	Resolution	-999 up to 9999 digit
PTE4.x06.... PTE4.40x.... PTE4.40y.... PTE4.501.... PTE4.504.... PFE4.007.... PFL4.007....		0.1°C 1°C 1°C 0.1°C 0.1°C 0 up to 9999 digit
<i>For all versions</i>	Measuring fault	+/-0.2% of measuring range, +/-1digit
PTE4.40x.... PTE4.40y....	Measuring fault Measuring fault	1°C, +/-1 digit Type S 2°C +/-1 Digit Type B 300...800°C 25°C +/-3 Digit 801...1790°C 3°C +/-2 Digit Type N 6°C +/-1 Digit
PTE4.x06.... PTE4.606....	Measuring fault Measuring fault	1°C, +/-1 digit $R_L \leq 10 \Omega = +/-2K$ $R_L > 10 \Omega \leq 20 \Omega = +/-3K$
PTE4.501.... PTE4.504.... PFE4.007.... PFL4.007....	Measuring fault Measuring fault Measuring fault	1°C, +/-8 digit (-10...140°C)/<-10°C max. 5°C +/-8 digit/>140°C max 5°C +/-8 digit +/-4°C, +/- 5 digit (0...200°C), +/-7°C, +/- 5 digit (>200°C) +/-0.04% of the input frequency

## Accuracy

PVE4.001.... PVE4.002.... PVE4.006.... PTE4.40x.... PTE4.40y.... PTE4.x06.... PTE4.501.... PTE4.504.... PFE4.007.... PFL4.007....	Temp. drift	~ 100 ppm/K ~ 150 ppm/K ~ 100 ppm/K ~ 100 ppm/K ~ 100 ppm/K ~ 100 ppm/K ~ 100 ppm/K ~ 100 ppm/K ~ 40 ppm/K ~ 40 ppm/K
<i>For all versions</i> PFE4.007.... PFL4.007....	Measuring principle Measuring principle	Voltage/frequency converter Frequency/pulse width measuring

<b>Power unit</b>	Supply voltage Power consumption	24 VDC (+/-10%) galv. insulated max. 2 VA
<b>Indication</b>	Display	LED with 7 segments, 10 mm high, red 4-digit = Indication 9999
PTE4.x06....	Dimension	configurable for °C and °F
<i>For all versions</i>	Overflow Time of indication	indication of 4 transversal bars adjustable from 0.1 up to 10 sec.
PTE4.x06....	Time of indication	adjustable from 0.2 up to 10 sec.
PTE4.40x....	Time of indication	adjustable from 0.2 up to 10 sec.
PTE4.40y....	Time of indication	adjustable from 0.2 up to 10 sec.
PTE4.50x....	Time of indication	adjustable from 0.2 up to 10 sec.
<b>Ambient conditions</b>	Working temperature Storing temperature	0 up to +60°C -20 up to +80°C

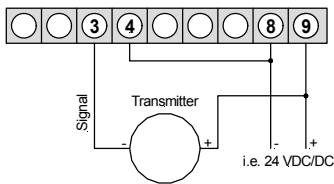
**Housing:**



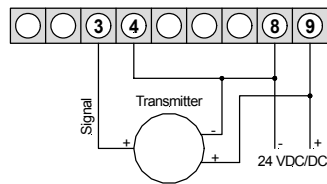
# Connection diagrams

**PVE.... instruments with voltage and current input**

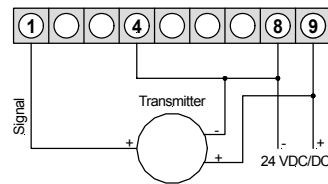
2-wire: 4-20 mA



3-wire: 0-20 mA

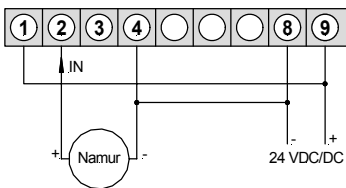


3-wire: 0-10 V / 0-5 V  
0-1 V / 1-6 V

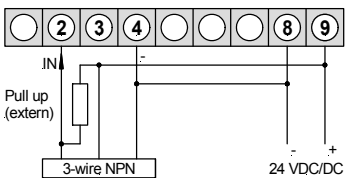


**PFE, PFL.... instruments with frequency resp. impulse input**

Namur



3-wire NPN



3-wire PNP

