



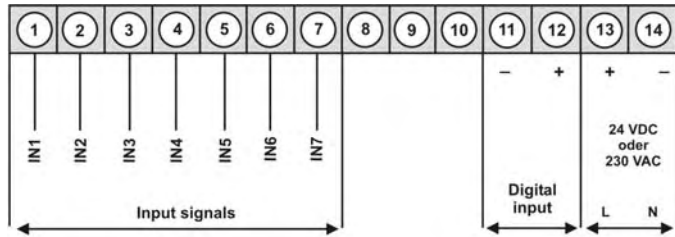
## PU5 – 5-digit digital panel meter in 96x48 mm (BxH)

### Universal measuring inputs:

Pt100, current, voltage, shunt, thermocouple, resistance

- red display of -19999...99999 Digits
- installation depth: 134 mm without plug-in screw terminal
- digit height 14 mm
- 24 bit transducer resolution
- with up to 50 measurements
- display adjustment via factory settings or directly via sensor signal
- min/max-memory with adjustable permanent display
- 30 additional adjustable supporting points
- permanent wire breakage monitoring
- display flashing at threshold value exceedance/undercut
- volume measurement (Totaliser)
- zero-key for the triggering of Hold, Tara
- flexible alarm system with adjustable delay times
- galv. insulated digital input for the triggering of Hold, Tara
- programming interlock via access code
- protection class IP54 at the front
- optional: protection class IP65 at the front
- optional: plug-in screw terminal
- optional: 2 or 4 relay outputs
- optional: sensor supply
- optional: independently scalable analog output
- optional: interface RS232 or RS485
- accessories: PC-based configuration software PM-TOOL incl. CD & USB-adapter

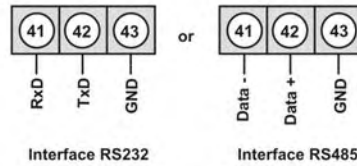
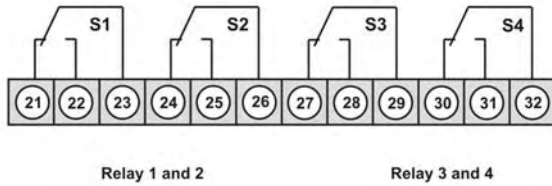
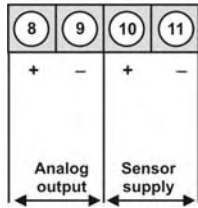
- Universal measuring input: Pt100, voltage, current, shunt, thermocouple, resistance



Power supply 230 VAC **PU5.000X.1540C**

Power supply 24 VDC (galv. insulated) **PU5.000X.1740C**

Options:



• Product key options

P	U	5	0	0	0	X	1	5	4	0	C
P	U	5	0	0	0	X	1	7	4	0	C

EUR

2	2 relay outputs
4	4 relay outputs
1	Protection class IP65 at the front
7	Protection class IP65 at the front and plug-in terminal
9	Plug-in terminal
4	115 VAC voltage supply
1	Analog output 0-10 VDC with 230 VAC / 115 VAC Analog output 0-10 VDC with 24 VDC
2	Analog output 0-20 mA with 230 VAC / 115 VAC Analog output 0-20 mA with 24 VDC
3	Analog output 4-20 mA with 230 VAC / 115 VAC Analog output 4-20 mA with 24 VDC
2	Sensor supply 10 VDC / 20 mA with 230 VAC / 115 VAC Sensor supply 10 VDC / 20 mA with 24 VDC
3	Sensor supply 24 VDC / 50 mA with 230 VAC / 115 VAC Sensor supply 24 VDC / 50 mA with 24 VDC
2	Interface RS232 without galvanic insulation
3	Interface RS232 with galvanic insulation with 230 VDC / 115 VAC Interface RS232 with galvanic insulation with 24 VDC
4	Interface RS485 with galvanic insulation with 230 VDC / 115 VAC Interface RS485 with galvanic insulation with 24 VDC

On demand state dimension unit on order, e.g. min.

• Parameterisation software

PC based configuration software PM-Tool for a simple adjustment of standard devices, incl. CD & USB-adapter. Programming is made via an interface on the back.

ORDER NUMBER

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**PM-TOOL-PX5U5B**

## • Technical data

### Housing

Dimensions	96 x 48 x 134 mm (BxHxD) including screw terminal 96 x 48 x 148 mm (BxHxD) including plug-in terminal
Panel cut-out	92.0 <sup>+0.8</sup> x 45.0 <sup>+0.6</sup> mm
Fixing	latchable screw element
Wall thickness	0...50 mm
Material	PC/ABS-blend, black, UL94V-0
Protection class	standard IP54 (front), IP00 (back)
Weight	approx. 450 g
Connection	screw-/plug-in terminal; wire cross-section up to 2.5 mm <sup>2</sup>

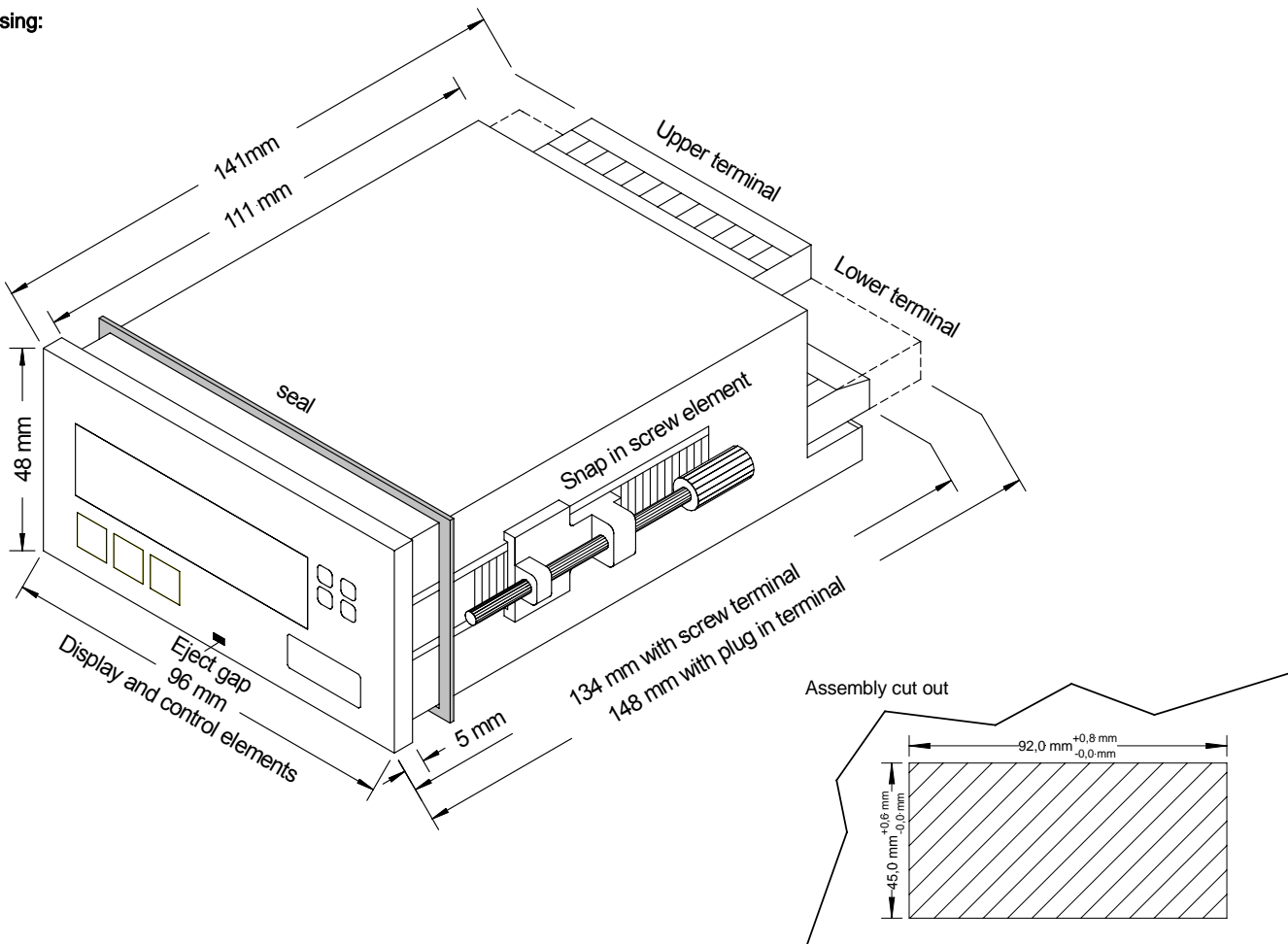
### Display

Digit height	14 mm
Segment colour	red
Display range	-9999...99999
Switching points	one LED per switching point
Overflow	horizontal bars at the top
Underflow	horizontal bars at the bottom

Input	Measuring range	R <sub>i</sub>	Measuring error T <sub>U</sub> = 20...40°C [%] Meas.range	Digit
<b>Voltage/Current</b>	-1...10 V	150 kΩ	0,01	± 1
Measuring range/input resistance/ Meas. error at meas. time = 1 second	-1...5 V	150 kΩ	0,02	± 1
	0/4...20 mA	50 Ω	0,02	± 1
	0...5 mA	50 Ω	0,02	± 1
	0...2 mA	50 Ω	0,02	± 1
	-500...2500 mV	1 MΩ	0,03	± 1
	-500...1250 mV	1 MΩ	0,03	± 1
	± 500 mV	1 MΩ	0,03	± 1
	± 300 mV	1 MΩ	0,03	± 1
	± 150 mV	1 MΩ	0,03	± 1
	± 75 mV	1 MΩ	0,04	± 1
	± 35 mV	1 MΩ	0,06	± 1
	± 15 mV	1 MΩ	0,06	± 1
<b>Pt100 (2-/3-/4-wire)</b>	-200,0°C...850,0°C	1 MΩ	0,04	± 1
Measuring range/input resistance/ Meas. error at meas. time = 1 second Pt100: 3-/4-wire output resistance max. 10 Ω				
<b>Thermocouple</b>	Typ L (-200°C...900°C)	1 MΩ	0,06	±1K
Measuring range/input resistance/ Meas. error at meas. time = 1 second	Typ J (-210°C...1200°C)	1 MΩ	0,05	±1K
	Typ K(-250°C...1271°C)	1 MΩ	0,05	±1K
	Typ B (100°C...1810°C)	1 MΩ	0,10	±1K
	Typ S (0°C...1767°C)	1 MΩ	0,06	±1K
	Typ N (-250°C...1300°C)	1 MΩ	0,06	±1K
	Typ E (-260°C...1000°C)	1 MΩ	0,06	±1K
	Typ R (0°C...1767°C)	1 MΩ	0,07	±1K
	Typ T (-240°C...400°C)	1 MΩ	0,07	±1K
<b>Resistance</b>	100 Ω	1 MΩ	0,04	± 1
Measuring range/input resistance/ Meas. error at meas. time = 1 second	1 kΩ	1 MΩ	0,04	± 1
	10 kΩ	1 MΩ	0,04	± 1
<b>Drift of temperature</b>	<b>all measuring inputs</b>	<b>50 ppm/K at T<sub>U</sub> &lt; 20°C respectively &gt; 40°C</b>		
Measuring time	Current, voltage	0,02...10,00 s		
	Pt100 2-/4-wire	0,04...10,00 s		
	Pt100 3-wire	0,06...10,00 s		
	Thermocouple	0,04...10,00 s		
	Resistance 2-/4-wire	0,04...10,00 s		
	Resistance 3-wire	0,06...10,00 s		
<b>Measuring principle</b>	Sigma/Delta			
<b>Resolution</b>	24 bit			
<b>Totaliser timing error</b>	max. 0.1% of totaliser value at an integration time of > 1 min			

<b>Output</b>	
Relay	Switch-over contact
Burden	250 V / 5 AAC, 30 V / 5 ADC
Switching cycles	30 * 10 <sup>3</sup> at 5 AAC, 5 ADC ohm resistive burden, 10 * 10 <sup>6</sup> mechanically
	Division according to DIN EN 50178
	Characteristics according to DIN EN 60255
Analog output (galvanic insulated)	0...10 V (12-bit) burden $\geq$ 100 k $\Omega$ 0...20 mA (12-bit) burden $\leq$ 500 $\Omega$ 4...20 mA (12-bit) burden $\leq$ 500 $\Omega$
Sensor supply (galvanic insulated)	10 VDC / 20 mA 24 VDC / 50 mA
<b>Interface</b>	
Protocol	manufacturer-specific ASCII
RS232	9.600 Baud, no parity, 8 Databit, 1 Stopbit, wire length max. 3 m
RS485	9.600 Baud, no parity, 8 Databit, 1 Stopbit, wire length max. 1000 m
<b>Power supply</b>	
Voltage supply (galvanic insulated)	230 VAC / 50/60 Hz / $\pm$ 10 % and 115 VAC / 50/60 Hz / $\pm$ 10 % 24 VDC / $\pm$ 10 %
Power consumption	max. 15 VA
<b>Memory</b>	
Data life	Parameter memory EEPROM $\geq$ 100 years at 25°C
<b>Ambient conditions</b>	
Working temperature	0°C...50 °C
Storing temperature	-20°C...80 °C
Weathering resistance	rel. humidity $\leq$ 75 % on years average without dew
<b>CE-sign</b>	conformity according to directive 2004/108/EG
<b>EMV</b>	EN 61326, EN 55011
<b>Safety standard</b>	EN 61010

**Housing:**



• Ordering code

		P	U	5	0	0	0	X	1	5	9	0	C		
<b>Processor device</b>													<b>Version</b>		
													C Version C		
<b>Basic type</b> Universal measuring device													<b>Setpoints</b>		
U													0 no setpoint		
													2 2 relay outputs		
													4 4 relay outputs		
<b>Number of digits</b> 5 digits													<b>Mechanical options</b>		
5													1 IP65, foil keyboard, screw terminal		
													4 IP54, foil keyboard, screw terminal		
													7 IP65, foil keyboard, plug-in terminal		
													9 IP54, foil keyboard, plug-in terminal		
<b>Interface</b>													<b>Power supply</b>		
no interface													4 115 VAC		
RS232													5 230 VAC		
RS232 (galv. insulated)													7 24 VDC (galv. insulated)		
RS485 (galv. insulated)															
													<b>Size of housing</b>		
													1 96x48 mm (BxH)		
<b>Sensor supply</b>													<b>Measuring input</b>		
No sensor supply													X Universal input		
10 V / 20 mA															
24 V / 50 mA															
<b>Outputs</b>															
no output															
0-10 V															
0-20 mA															
4-20 mA															