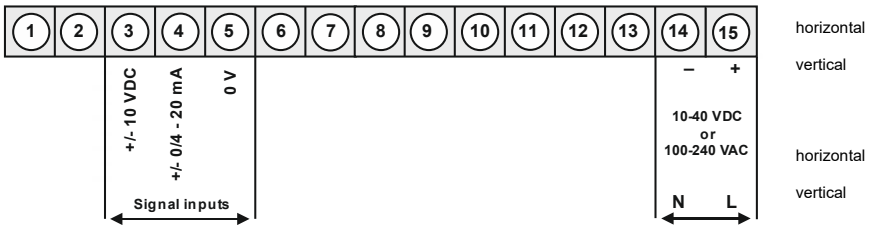
MB3 – 3-digit digital panel meter in 96x24 mm with bargraph
Direct current/direct voltage signals 0/4-20 mA, 0-10 VDC

- red 3-digit digital display -199…999 Digits (optional green display)
- 30-points-bargraph tricolour
- adjustable bargraph or dot operation or operation with permanent display of the midpoint
- installation depth: 120 mm without plug-in screw terminal
- multi voltage power supply units 100-240 VAC, alternatively 10-40 VDC, galvanic isolated
- display adjustment via factory setting or directly via sensor signal
- min/max-memory with adjustable permanent display
- 30 additional adjustable supporting points
- display flashing at threshold value exceedance/undercut
- zero key for the triggering of Hold, Tara, display change, setpoint setting, alarm actuation
- flexible alarm system with adjustable delay time
- volume metering (Totaliser)
- mathematic functions like reciprocal value, root extraction, squaring and rounding
- sliding averaging
- programming interlock via access code
- protection class IP65 at the front
- plug-in screw terminal
- optional: 1 or 2 relay outputs
- optional: sensor supply
- optional: 1 independently scalable analog output
- optional: galv. isolated digital input for the triggering of Tara, Hold or display change
- optional: interface RS232 or RS485
- accessories: PC-based configuration-kit PM-TOOL with CD & USB-adapter
- on demand: devices for working temperatures of -40°…+70°C (MB3O…)

• Direct current, direct voltage



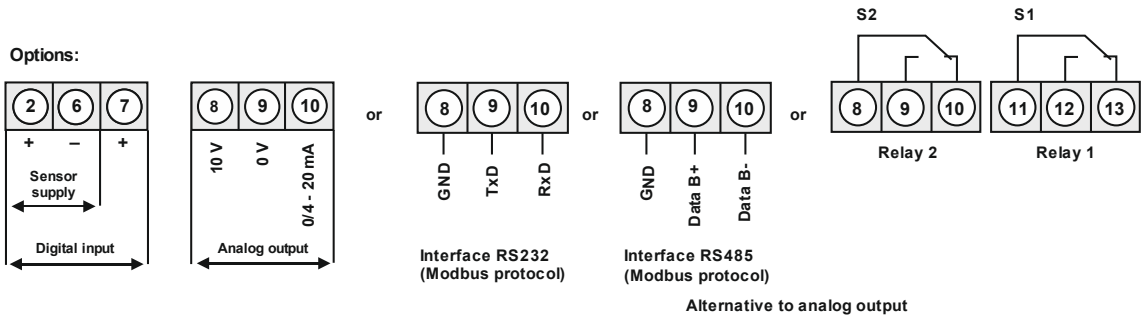
horizontal

vertical

horizontal

vertical

Options:



Alternative to analog output

• Product key options

M	B	3-	3	V	T	3	H	R.	0	0	0	1.	S	7	0	x	D
M	B	3-	3	V	T	3	V	R.	0	0	0	1.	S	7	0	x	D
M	B	3-	3	V	T	3	H	R.	0	0	0	1.	W	7	0	x	D
M	B	3-	3	V	T	3	V	R.	0	0	0	1.	W	7	0	x	D

Device with a supply of 100-240 VAC

Device with a supply of 10-30 VDC

1	1 relay output (only 1 switching output possible with option analog output)
2	2 relay outputs
X	Analog output 0/4-20 mA, 0-10 VDC
2	Sensor supply 10 VDC / 50 mA incl. digital input
3	Sensor supply 24 VDC / 50 mA incl. digital input
I	Digital input
3	Interface RS232 galv. isolated
4	Interface RS485 galv. isolated
G	Green display, 8 mm height

Please state physical unit in order, e.g. %.

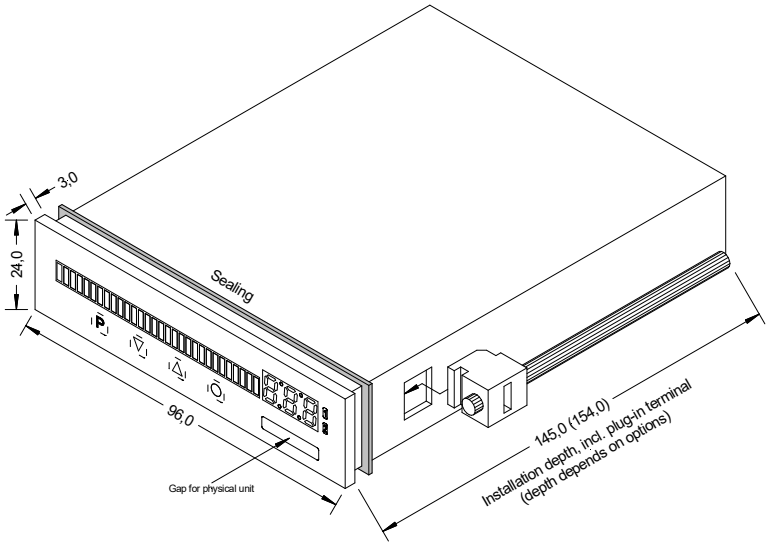
• Parameterisation software

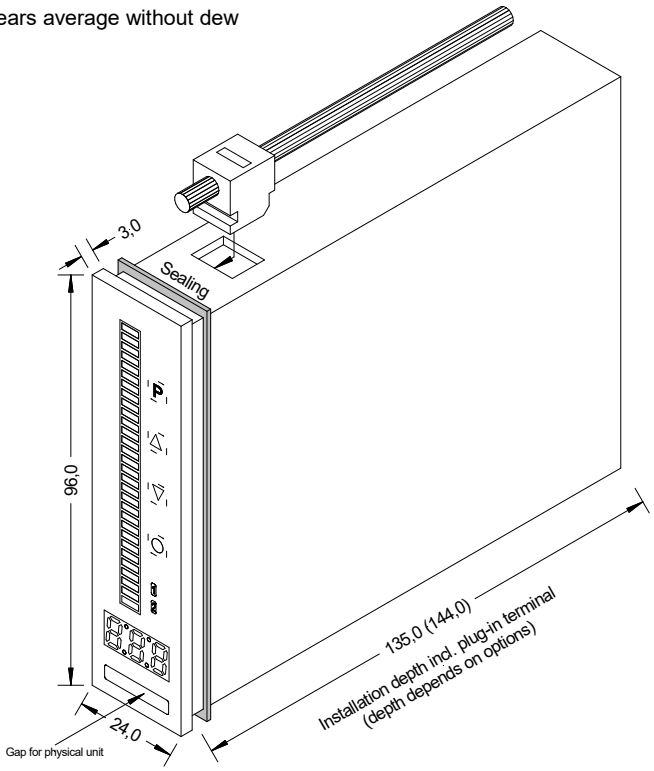
Parameterisation software PM-TOOL, for devices without keypad,
for a simple adjustment of standard devices, incl. CD & USB-adapter.
Programming happens via an interface on the back.

• Technical data

Dimensions	Housing	B96 x H24 x T120 mm (T=144 mm incl. plug-in terminal)
	Panel cut-out	$92.0^{+0.8}$ x $22.0^{+0.3}$ mm
	Fixing	screw elements for a wall thickness of up to 3 mm
	Housing material	PC Polycarbonate, colour black UL94V-0
	Sealing material	EPDM, 65 Shore
	Protection class	IP65 standard at the front IP00 at the back
	Weight	approx. 200 g
	Connection	plug-in terminal; wire cross section up to 2.5 mm^2
Display	Display	3-digit, 8 mm high
	Display	-199…999
	Bargraph	30 digit, tricolour
	Segment colour	red, optional green
	Overflow	flashing of the two upper bargraph elements
	Underflow	flashing of the two lower bargraph elements
	Display time	0.01…10.0 seconds
Measuring input	Measuring span	-12...12 V / -22 mA...24 mA
	Measuring range	0...10 V / 0/4….20 mA
	Input resistance	Ri at ~200 kΩ / Ri at ~100 Ω
	Measuring error	0.1% of measuring range, ± 1 digit / 0,1% of measuring range, ± 1 Digit
	Temperature drift	100 ppm/K
	Measuring time	0.1…10.0 seconds
	Measuring principle	U/F-converter
	Resolution	approx. 18 bit at 1 second measuring time
Output	Relay	with change-over contact 250 V / 2 AAC, 30 V / 2 ADC
	Switching cycle	$30 * 10^3$ at 2 AAC, 2 ADC ohm resistive load, $10 * 10^6$ mechanically Separation according to DIN EN50178 / Specific values according to DIN EN 60255
	Analog output	0-10 VDC / burden ≥ 10 kΩ, 0/4-20 mA / burden ≤ 500 Ω, 16 Bit
	Sensor supply	24 VDC / 50 mA 10 VDC / 50 mA
Digital input	Input	< 2.4 V OFF; >10 V ON; max. 30 VDC R_I ~ 5 kΩ
Interface	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
Power pack	Supply	100-240 VAC 50/60 Hz / DC ±10 % (max. 10 VA) 10-40 VDC, galvanic isolated, 18-30 VAC 50/60 Hz (max. 10 VA)
Memory	EEPROM	Data life ≥ 100 years at 25°C
Ambient conditions	Working temperature	0 to +50°C
	Storing temperature	-20 to +80°C
	Climatic density	relative humidity 0-85% on years average without dew
CE-marking	Conformity according to directive 2014/30/EU	
EMV	EN 61326, EN 55011	
Safety standard	according to directive 2014/35/EU EN 61010; EN 60664-1	

Housing:





• Order key

	M	B	3-	3	V	T	3	H	R.	0	0	0	1.	W	7	2	x	D

Standard type M-Line

Bargraph display
- B

Installation depth
144 mm (incl. plug-in terminal)
- 3

Housing size
B96xH24xD120 mm
- 3

Display type
V, A
- V

Bargraph colours
Tricolour (red, green, orange)
- T

Resolution
30 points
- 3

Adjustment
- horizontal: H
- vertical: V

Digital display
- 3-digit, 8 mm, green: G
- 3-digit, 8 mm, red: R

Digital input
- none: 0
- 1x digital input: I

Dimension
- D: physical unit (free selectable)

Version
- x: Internal version

Switching points
- 0: no switching point
- 1: 1 switching point
- 2: 2 switching points

Protection class
- 1: without keypad, operation on the back
- 7: IP65 / plug-in terminal

Supply voltage
- S: 100-240 VAC
- W: 10-40 VDC, galv. isolated

Measuring input
- 1: Direct voltage, direct current

Analog output
- 0: none
- x: 0-10 VDC, 0-20 mA, 4-20 mA

Sensor supply
- 0: without
- 2: 10 VDC / 50 mA, incl. digital input
- 3: 24 VDC / 50 mA, incl. digital input