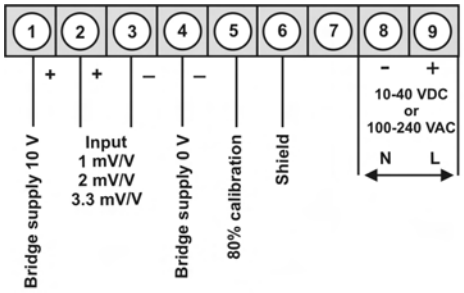
M3 – 5-digit digital panel meter in 96x48 mm (BxH)
DMS-amplifier with an 80% calibration
for 350 Ω melt pressure sensors

- red display of -19999…99999 digits (optional green, orange, blue or tricolour display)
- installation depth: 120 mm without plug-in screw terminal
- multi voltage power supply unit 100-240 VAC, alternatively 10-40 VDC
- adjustment via factory setting or directly on the sensor signal
- min-/max-memory with adjustable permanent display
- 30 additional adjustable support points
- display flashing at threshold value exceedance / undercut
- zero key for the triggering of Hold, Tara or sensor alignment
- standard digital input for Hold, Tara or sensor alignment
- flexible alarm system with adjustable delay times
- mathematical functions like reciprocal value, square root, square and rounding
- sliding averaging
- brightness control
- programming interlock via access code
- protection class IP65 at the front
- plug-in screw terminal
- optional: 2 or 4 relay outputs or 8 PhotoMos-outputs
- optional: 1 or 2 independently scalable analog outputs
- optional: interface RS232 or RS485
- accessories: pc-based configuration-kit PM-TOOL with CD & USB adapter
- on demand: devices for working temperatures of -20°C…60°C or -40°C…70°C

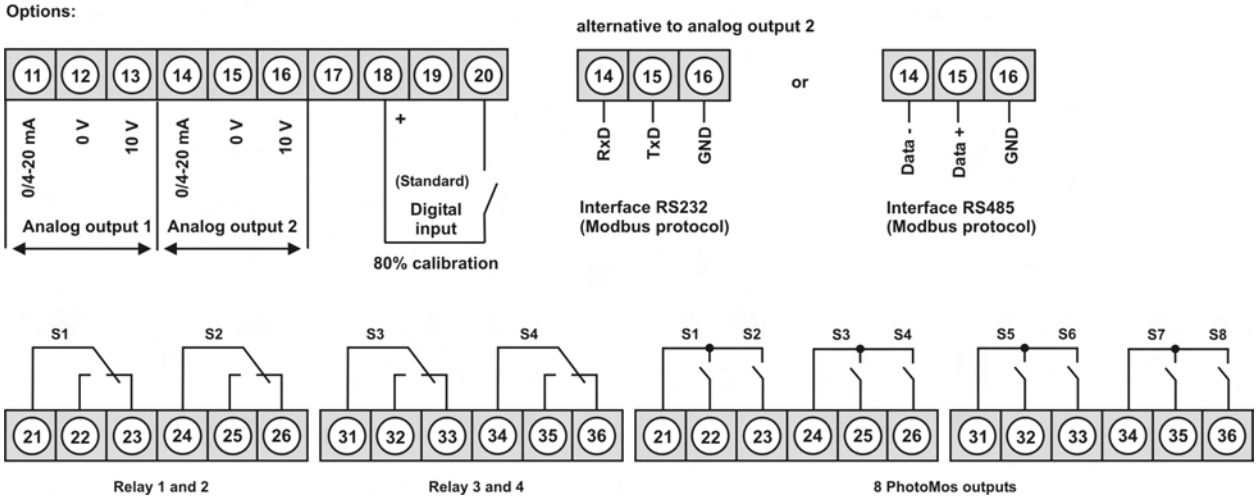
	ORDER NUMBER (without options)	EUR

• DMS-4-wire with calibration



Supply 100-240 VAC, DC ± 10%	M3-1MR5B.020X.S70BD
Supply 10-40 VDC, 18-30 VAC	M3-1MR5B.020X.W70BD

Options:



• Order key options

M	3-	1	M	R	5	B.	0	2	0	X.	S	7	0	B	D
M	3-	1	M	R	5	B.	0	2	0	X.	W	7	0	B	D

	EUR
2	2 relay outputs
4	4 relay outputs
8	8 PhotoMos-outputs
1	without keypad, operation on the back
X	Analog output 0/4-20 mA, 0-10 VDC galv. isolated
Y	2 analog outputs galv. isolated
3	Interface RS232 galv. isolated
4	Interface RS485 galv. isolated
B	Blue
G	Green
Y	Orange
T	Tricolour (Red-Green-Orange)

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

	ORDER NUMBER	EUR

• Parameterisation software

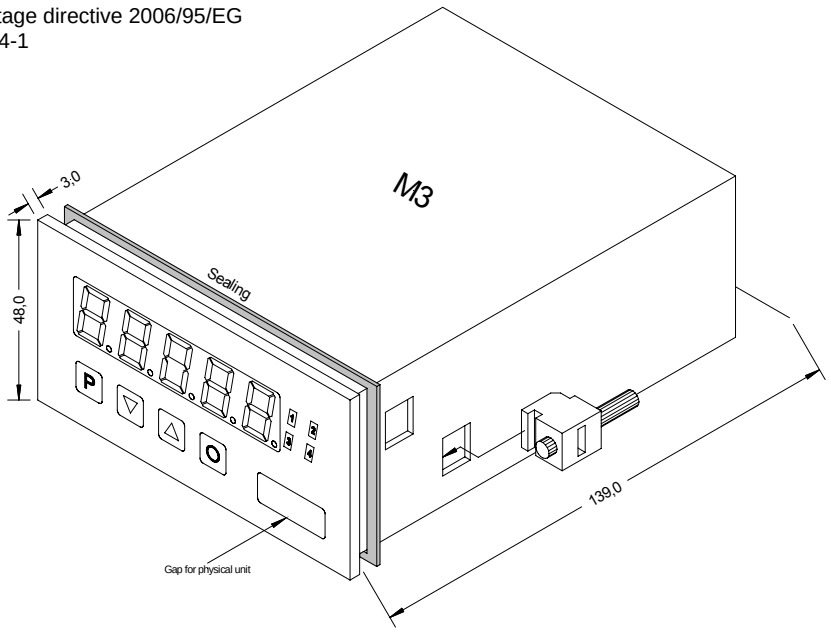
PC based configuration software PM-Tool for devices without keypad,
for a simple adjustment of standard devices, incl. CD & USB-adapter.
Programming is made via an interface on the back.

PM-TOOL-MUSB4

• Technical data

Dimensions	Housing	B96 x H48 x D120 mm, (incl. plug-in terminal D = 139 mm)
	Panel cut-out	$92.0^{+0.8}$ x $45.0^{+0.6}$ mm
	Fixing	screw elements for insulation thickness up to 3 mm
	Housing material	PC Polycarbonate, black
	Sealing material	EPDM, 65 Shore, black
	Protection type	front side IP65 standard, back side IP00
	Weight	approx. 350 g
	Connection	plug-in terminal; line cross-section up to 2.5 mm^2
Display	Display	5-digit
	Digit height	14 mm
	Segment colour	red (standard), optional available in green, blue, orange or tricolour (red/green/orange)
	Range of display	-19999 to 99999
	Threshold	optical display flashing
	Overflow	horizontal bars at the top
	Underflow	horizontal bars at the bottom
	Display time	0.1 to 10.0 seconds
Measuring input	Sensor sensitivity	1 mV/V, 2 mV/V, 3.3 mV/V, free to 4 mV/V with 80% calibration
	Sensor alignment	always required
	Measuring fault	0.2% of measuring range in controlled electromagnetic environment 1 % of measuring range in industrial environment with a strong disturbing source
	Drift of temperature	100 ppm/K
	Measuring time	0.1 … 10.0 seconds
	Measuring principle	U/F-converter
	Resolution	approx. 18 Bit at 1second measuring time, 3.3 mV/V of measuring range
Output	Relay	with change-over contact 250 V / 5 AAC, 30 V / 5 ADC
	Switching cycle	$30 * 10^3$ at 5 AAC, 5 ADC ohm resistive burden, $10 * 10^6$ mechanically Separation in accordance with DIN EN50178 / Specifications in accordance with DIN EN 60255
	PhotoMos output	NOC contacts: 30 VDC/AC, 4 A
	Analog output	0-10 VDC / burden ≥ 10 kΩ, 0/4-20 mA / burden ≤ 500 Ω, 16 Bit
	Bridge supply	10 VDC / 20-40 mA / 250-500 Ω
Digital input	Input galv. isolated	< 2.4 V OFF; >10 V ON; max. 30 VDC, R_I ~ 5 kΩ
Interface	Protocol	manufacturer's specifics 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 ± 10 % (max. 15 VA) 10-40 VDC, galvanic isolated, 18-30 VAC 50/60 Hz (max. 15 VA)
Memory	EEPROM	Data life ≥ 100 years at 25°C
Ambient conditions	Working temperature	0 to + 60 °C
	Storing temperature	-20 to + 80 °C
	Climatic density	relative humidity 0-85% on years average without dew
CE-sign	Conformity to directive 2004/108/EG	
EMV	EN 61326, EN 55011	
Safety standard	according to low voltage directive 2006/95/EG EN 61010; EN 60664-1	

Housing:



• Order key

	M	3-	1	M	R	5	B.	0	2	0	X.	S	7	0	B	D	

Basic type M-Line

Installation depth

139 mm (incl. plug-in terminal) 3

Housing size

96x48x120 mm (BxHxD) 1

Display type

Melt pressure sensors M

Display colours

Blue	B
Green	G
Red	R
Red/Green/Orange	T
Orange	Y

Number of digits

5-digit 5

Digit height

14 mm B

Digital input

without	0	
Interface RS232	3	galv. isolated
Interface RS485	4	galv. isolated

Dimension

D physical unit (at buyer's option)

Version

B B

Swicthing points

0	no switching point
2	2 relay outputs
4	4 relay outputs
8	8 PhotoMos-outputs

Protection class

1	Without keypad, operation via PM-TOOL
7	IP65 / plug-in terminal

Voltage supply

S	100-240 VAC, DC ± 10%
W	10-40 VDC galv. isolated, 18-30 VAC

Measuring input

X Strain gauge 1.1 to 3.3 mV/V

Analog output

0	without
X	1x 0-10 VDC, 0/4-20 mA
Y	2x 0-10 VDC, 0/4-20 mA

Bridge supply

2 10 VDC / 20-40 mA (incl. digital input)