

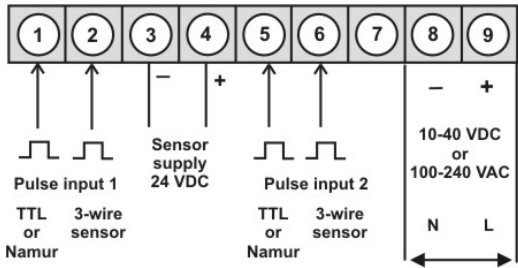


**M3 – 5-digit digital panel meter in 96x48 mm (BxH)
Frequency 0.01 Hz to 999.99 kHz / 0.01 Hz to 9.9999 kHz / 0-2.5000 kHz
Connections for Namur, 3-wire, NPN/PNP, position survey via
incremental encoder (HTL- or TTL-output)**

- 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
- Schmitt-Trigger-input
- digital frequency filter for contact bounce suppression and interference suppression
- frequency filter with different pulse-duty factor
- zero key for the triggering of Hold, Tara, display change, setpoint setting, alarm actuation
- flexible alarm system with adjustable delay times
- volume measuring (totaliser) for frequencies up to 1 kHz (pulse precisely)
- mathematical functions like reciprocal value, square root, square and rounding
- constant setting / setpoint setting
- sliding averaging
- brightness control via parameter or front keys
- 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 USB adapter
- on demand: devices for working temperatures of -20°C...60°C or -40°C...70°C

96x48

- Frequency (0.01 Hz to 999.99 kHz)
- Frequency (0.01 Hz to 9.9999 kHz for transmitter / 0 to 2.5000 kHz for position survey)



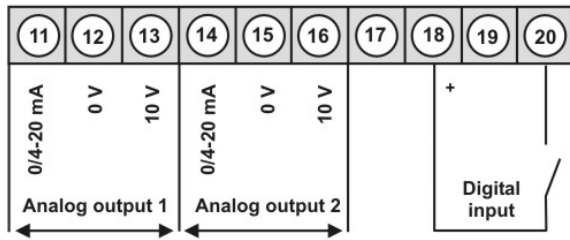
Supply 100-240 VAC, DC ±10%

M3-1FR5B.0307.S70xD 238.30

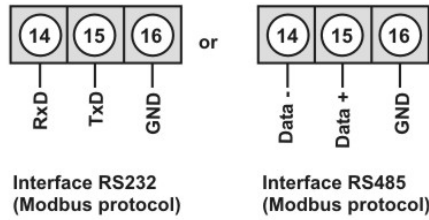
Supply 10-40 VDC, 18-30 VAC

M3-1FR5B.0307.W70xD 254.20

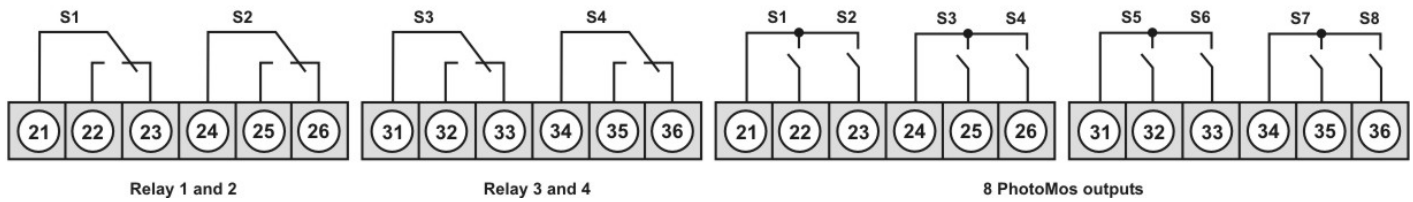
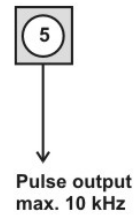
Options:



alternative to analog output 2



alternative to pulse input 2



Advice: Using Namur sensors with a nominal voltage of approx. 8 V, a sensor supply of 10 VDC needs to be provided.

• Order key options

M	3-	1	F	R	5	B.	0	3	0	7.	S	7	0	x	D	EUR
M	3-	1	F	R	5	B.	0	3	0	7.	W	7	0	x	D	
											D	Dimension/physical unit, customer-specific settings				20.00
											2	2 relay outputs				35.00
											4	4 relay outputs				69.90
											8	8 PhotoMos outputs				95.30
											1	without keypad, operation via PC software PM-TOOL				10.60
											X	Analog output 0/4-20 mA, 0-10 VDC galv. isolated				127.10
											Y	2 analog outputs galv. isolated				254.20
											2	Sensor supply 10 VDC/50 mA incl. digital input				16.30
											K	Pulse output max. 10 kHz				10.60
											3	Interface RS232 galv. isolated				58.30
											4	Interface RS485 galv. isolated				58.30
											B	Blue				46.60
											G	Green				10.10
											Y	Orange				10.10
											T	Tricolour (Red-Green-Orange)				31.80

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

• Parameterisation software

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

ORDER NUMBER

EUR

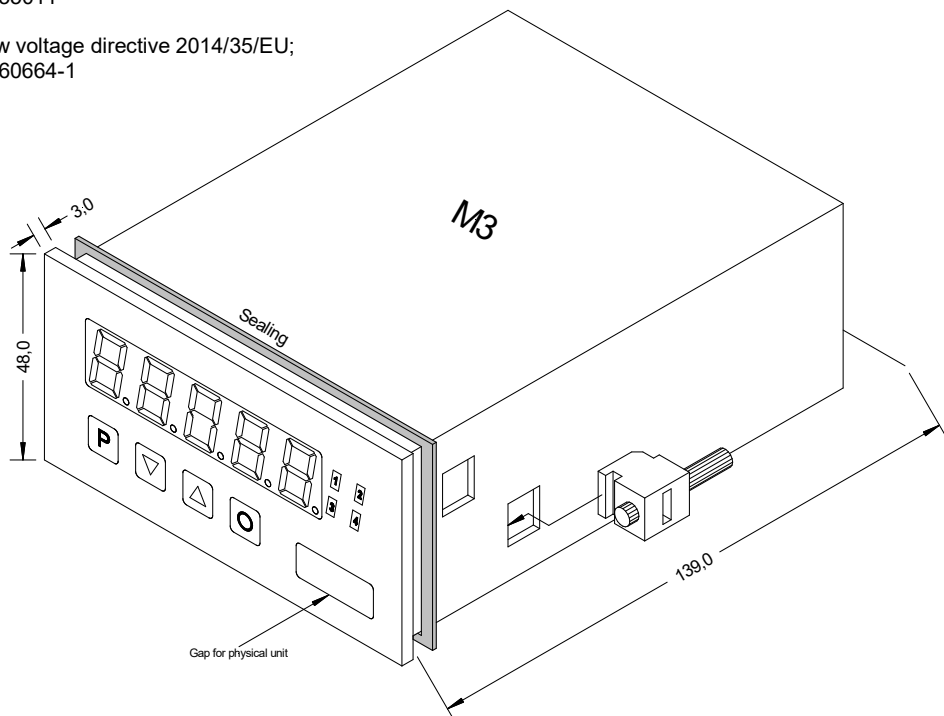
PM-TOOL-MUSB4

94.30

• **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 15 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
Measuring input	Signal	Pulse input, TTL, Namur, 3-wire initiator PNP/NPN
	Input resistance	R _i at 24 V / 4 kΩ HTL level >15 V / < 4 V TTL level >4.6 V / <1.9 V
	Input frequency	0.01 Hz to 999.99 kHz, 0.01 Hz to 9.9999 kHz for speed sensor, 0 to 2.5000 kHz at position survey
	Measuring fault	0.05% of measuring range, ± 1 digit
Output	Relays	with change-over contact 250 V / 5 AAC, 30 V / 5 ADC
	Switching cycles	10 * 10 ⁵ at 5 AAC, 5 ADC contact rate, 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
Sensor supply	24 VDC / 50 mA; 10 VDC / 20 mA	
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 2014/30/EU	
EMV	EN 61326, EN 55011	
Safety standard	according to low voltage directive 2014/35/EU; EN 61010; EN 60664-1	

Housing:



• Order key

	M	3-	1	F	R	5	B.	0	3	0	7.	S	7	0	x	D	
Standard type M-Line																	Dimension
																	<input type="checkbox"/> D physical unit
Installation depth 139 mm (incl. plug-in terminal)			<input type="checkbox"/> 3														Version
																	<input type="checkbox"/> x internal version
Housing size 96x48x120 mm (BxHxD)																	Switching points
																	<input type="checkbox"/> 0 no switching points
																	<input type="checkbox"/> 2 2 relay outputs
																	<input type="checkbox"/> 4 4 relay outputs
																	<input type="checkbox"/> 8 8 PhotoMos-outputs
Display type Frequency				<input type="checkbox"/> F													Protection class
																	<input type="checkbox"/> 1 Without keypad, operation via PM-TOOL
																	<input type="checkbox"/> 7 IP65 / plug-in terminal
Display colour Blue Green Red Red/Green/Orange Orange					<input type="checkbox"/> B <input type="checkbox"/> G <input type="checkbox"/> R <input type="checkbox"/> T <input type="checkbox"/> Y												Voltage supply
																	<input type="checkbox"/> S 100-240 VAC
																	<input type="checkbox"/> W 10-40 VDC galv. isolated
Number of digits 5-digits																	Measuring input
																	<input type="checkbox"/> 7 Pulse, Namur, 3-wire NPN/PNP
Digit height 14 mm																	Analog output
																	<input type="checkbox"/> 0 without
																	<input type="checkbox"/> X 1x 0-10 VDC, 0/4-20 mA
																	<input type="checkbox"/> Y 2x 0-10 VDC, 0/4-20 mA
Digital input without Interface RS232 Interface RS485																	Sensor supply
																	<input type="checkbox"/> 3 24 VDC / 50 mA (incl. digital input)
																	<input type="checkbox"/> 2 10 VDC / 50 mA (incl. digital input)
																	<input type="checkbox"/> K 24 VDC / 50 mA (incl. digital input and pulse output max. 10 kHz)