

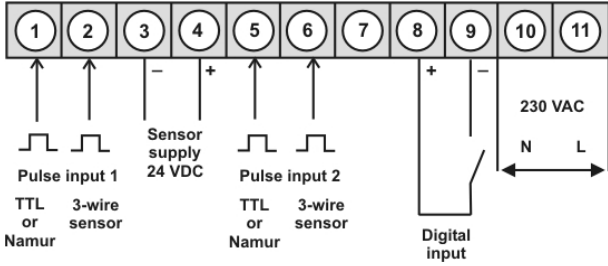


**M2 – 5-digit digital panel meter in 96x48 mm (BxH)  
 Frequency 0.01 Hz to 999.99 kHz / 0.01 Hz to 9.9999 kHz / 0-2.5000 kHz  
 Connection for Namur, 3-wire NPN/PNP, position survey via  
 incremental encoder (HTL- or TTL-output)**

- red display of -19999...99999 digits (optional green, orange, blue or tricolour display)
- compact installation depth: 70 mm without plug-in terminal
- adjustment via factory default or directly on the sensor signal
- min/max-memory with adjustable permanent display
- 30 additional adjustable supporting 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 actuation of tara-function /hold-function, display change, setpoint setting, alarm actuator
- flexible alarm system with adjustable delay times
- volume measurement (Totaliser) for frequencies up to 1 kHz (pulse precisely)
- mathematical functions like reciprocal value, square root, squaring and rounding
- constant setting / respectively setpoint setting
- sliding averaging
- brightness control via parameters or front keys
- programming interlock via access code
- protection class IP65 at the front
- plug-in screw terminal
- optional: 2 relay outputs
- optional: 1 independently scalable analog output
- optional: galv. isolated digital input for the triggering of Tara, Hold, display change
- 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)

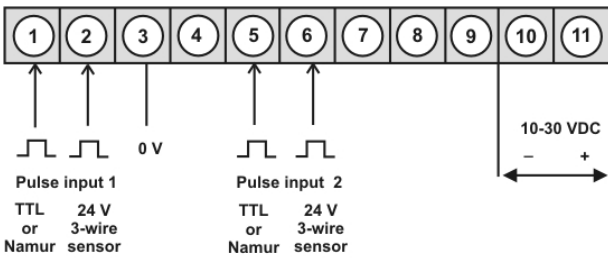
- Frequency (0.01 Hz to 999.99 kHz)
- Frequency (0.01Hz to 9.9999 kHz for transmitter / 0 to 2.5000 kHz for position survey)



Supply 230 VAC

**M2-1FR5B.0307.570CD**

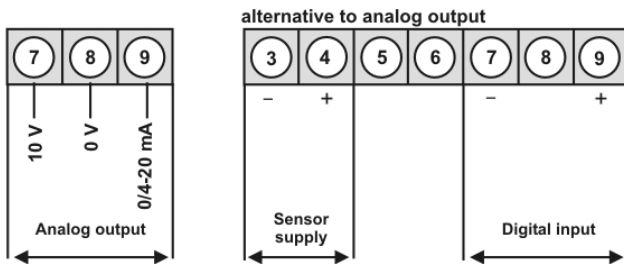
- Frequency (0.01 Hz to 999.99 kHz)
- Frequency (0.01Hz to 9.9999 kHz for transmitter / 0 to 2.5000 kHz for position survey)



Supply 10-30 VDC

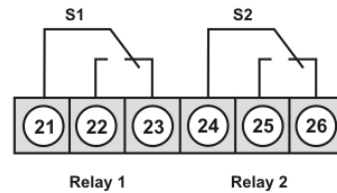
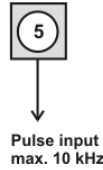
**M2-1FR5B.0007.670CD**

Options: M2-1FR5B.0007.670CD



Options: M2-1FR5B.0307.570CD / M2-1FR5B.0007.670CD

alternative to pulse input 2



Advice: Using Namur sensors with a nominal voltage of approx. 8 V, a sensor supply of 12 VDC needs to be provided.

**Product key options**

M	2-	1	F	R	5	B.	0	3	0	7.	5	7	0	C	D
M	2-	1	F	R	5	B.	0	0	0	7.	6	7	0	C	D

2	2 relay outputs
1	Without keypad, operation via PC-Software PM-TOOL
X	Analog output 0/4-20 mA, 0-10 VDC
2	Sensor supply 10 VDC / 20 mA incl. digital input
3	Sensor supply 24 VDC / 50 mA incl. digital input
6	Sensor supply 12 VDC / 50 mA incl. digital input
K	Pulse output max. 10 kHz, incl. sensor supply / incl. digital input
B	Blue
G	Green
Y	Orange
T	Tricolour (Red-Green-Orange)*

\* 230 VAC voltage supply is not available with relay outputs.

Please state physical unit on demand, e.g. U/min.

**ORDER NUMBER**

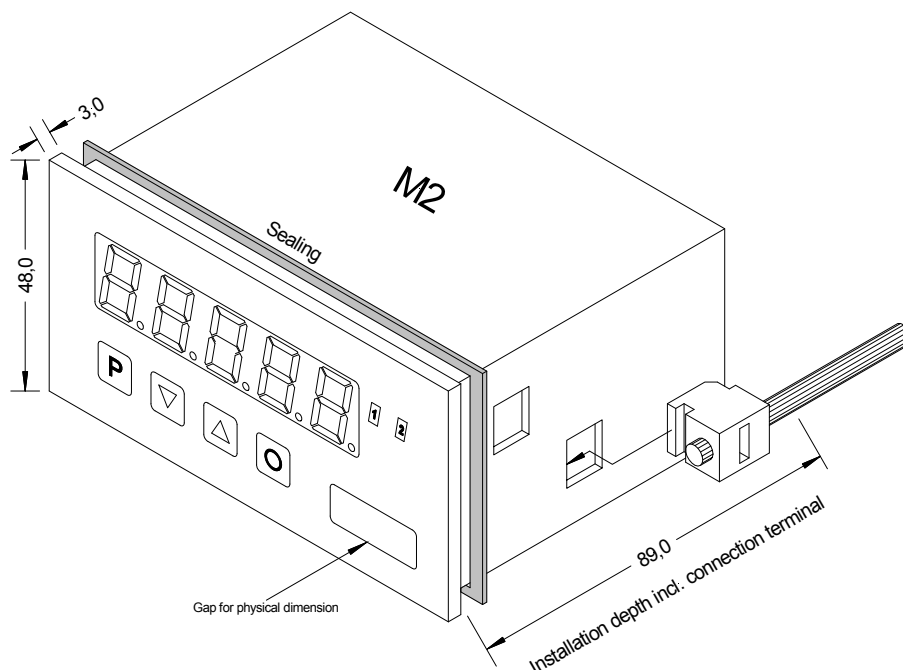
**Parameterisation software**

PC based configuration 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.

**PM-TOOL-MUSB4**

• **Technical data**

<b>Dimension</b>	Housing	B96 x H48 x D70 mm (including plug-in terminal D= 89 mm)
	Panel cut-out	92.0 <sup>+0.8</sup> x 45.0 <sup>+0.6</sup> mm
	Fixing	screw elements for insulation thickness up to 3 mm
	Housing material	PC Polycarbonate, black
	Sealing material	EPDM, 65 Shore, black
	Protection class	at the front IP65 standard, back side IP00
	Weight	approx. 250 g
	Connection	plug-in terminal; line cross-section up to 2.5 mm <sup>2</sup>
<b>Display</b>	Display	5-digit
	Digit height	14 mm
	Segment colour	red (standard), optional available in green, blue, orange or tricolour (red/green/orange)
	Display range	-19999 to 99999
	Setpoints	optical display flashing
	Overflow	horizontal bars at the top
	Underflow	horizontal bars at the bottom
Display time	0.1 to 10.0 seconds	
<b>Measuring input</b>	Signal	impulse input, TTL, Namur, 3-wire initiator PNP/NPN
	Input resistance	Ri at 24 V / 4 kΩ HTL level >15 V / < 4 V TTL level >4.6 V / <1.9 V
	Input frequency	0.01 Hz...999.99 kHz, 0.01 Hz...9.9999 kHz with rev counter, 0...2.5000 kHz with position recording
	Measuring fault	0.05% of measuring range, ± 1 digit
<b>Output</b>	Relay	with change-over contact 250 V / 5 AAC, 30 V / 5 ADC
	Switching cycle	10 * 10 <sup>3</sup> at 5 AAC, 5 ADC ohm resistive burden 10 * 10 <sup>6</sup> mechanically Separation in accordance with DIN EN 50178 / Specifications in accordance with DIN EN 60255
	Pulse output	max. 10 kHz
	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
<b>Digital input</b>	Input galv. isolated	<2.4 OFF; >10 V ON; max. 30 VDC, Ri at ~ 5 kΩ
<b>Power pack</b>	Supply	230 VAC 50/60 Hz ±10 % (max. 10 VA) 10-30 VDC, galvanic isolated (max. 4 VA)
<b>Memory</b>	EEPROM	Data life ≥ 100 years at 25°C
<b>Ambient conditions</b>	Working temperature	0 to +60°C
	Storing temperature	-20 to +80°C
	Climatic density	relative humidity 0-85% on years average without dew
<b>CE-sign</b>	Conformity to directive 2014/30/EU	
<b>EMV</b>	EN 61326, EN 55011	
<b>Safety standard</b>	According to low voltage directive 2014/35/EU, EN 61010; EN 60664-1	
<b>Housing:</b>		



• Order key

	<b>M</b>	<b>2-</b>	<b>1</b>	<b>F</b>	<b>R</b>	<b>5</b>	<b>B.</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>7.</b>	<b>6</b>	<b>7</b>	<b>0</b>	<b>C</b>	<b>D</b>	
<b>Basic type M-Line</b>															<b>Dimension</b>		
															<input type="text" value="D"/> physical unit		
<b>Installation depth</b>															<b>Version</b>		
89 mm (incl. plug-in terminal)															<input type="text" value="C"/> C		
<b>Housing size</b>															<b>Switching points</b>		
96x48x70 mm (BxHxD)															<input type="text" value="0"/> no switching point		
															<input type="text" value="2"/> 2 relay outputs		
<b>Display type</b>															<b>Protection class</b>		
Frequency															<input type="text" value="1"/> without keypad, operation via PM-TOOL		
															<input type="text" value="7"/> IP65 / plug-in terminal		
<b>Display colours</b>															<b>Supply voltage</b>		
Blue															<input type="text" value="4"/> 115 VAC		
Green															<input type="text" value="5"/> 230 VAC		
Red															<input type="text" value="6"/> 10-30 VDC galv. isolated		
Red/Green/Orange																	
Orange																	
<b>Number of digits</b>															<b>Measuring input</b>		
5-digit															<input type="text" value="7"/> Pulse, Namur, 3-wire PNP/NPN		
<b>Digit height</b>															<b>Analog output</b>		
14 mm															<input type="text" value="0"/> without		
															<input type="text" value="X"/> 0-10 VDC, 0/4-20 mA		
<b>Digital input</b>															<b>Sensor supply</b>		
without															<input type="text" value="0"/> without		
1x digital input															<input type="text" value="2"/> 10 VD / 20 mA, incl. digital input		
															<input type="text" value="3"/> 24 VDC / 50 mA, incl. digital input		
															<input type="text" value="6"/> 12 VDC / 50 mA, incl. digital input		
															<input type="text" value="K"/> 24 VDC / 50 mA, incl. digital input and pulse output (10 kHz)		