IM2 – 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 USB adapter
- on request: devices for working temperatures of -20°C…60°C or -40°C…70°C

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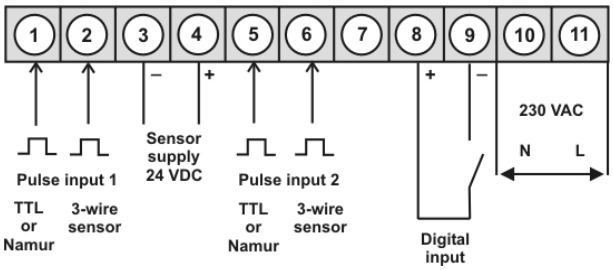
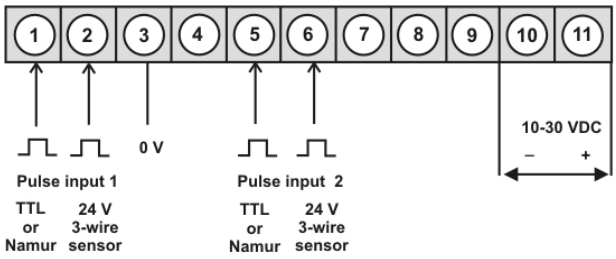
ORDER NUMBER (without options) **EUR**

- **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)**



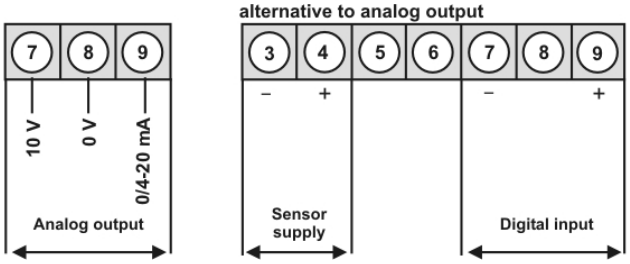
Supply 230 VAC **IM2-1FR5B.0307.570xD** **195.90**

- **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)**

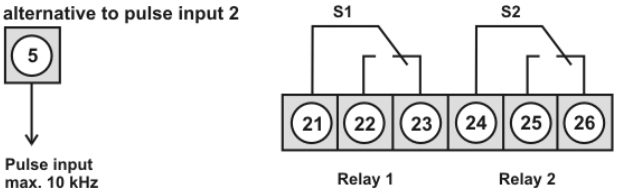


Supply 10-30 VDC **IM2-1FR5B.0007.670xD** **206.50**

Options: M2-1FR5B.0007.670CD



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



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**

IM	2-	1	F	R	5	B.	0	3	0	7.	5	7	0	x	D
IM	2-	1	F	R	5	B.	0	0	0	7.	6	7	0	x	D

		EUR
D	Dimension/physical unit, customer-specific settings	20.00
2	2 relay outputs	35.00
1	Without keypad, operation via PC-Software PM-TOOL	10.60
X	Analog output 0/4-20 mA, 0-10 VDC*	137.70
2	Sensor supply 10 VDC / 20 mA incl. digital input	58.30
3	Sensor supply 24 VDC / 50 mA incl. digital input	58.30
6	Sensor supply 12 VDC / 50 mA incl. digital input	58.30
K	Pulse output max. 10 kHz, incl. sensor supply / incl. digital input	68.80
B	Blue	46.60
G	Green	10.10
Y	Orange	10.10
T	Tricolour (Red-Green-Orange)**	31.80

** An anlog output is not available with sensor supply.
** 230 VAC voltage supply is not available with relay outputs.

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

ORDER NUMBER **EUR**

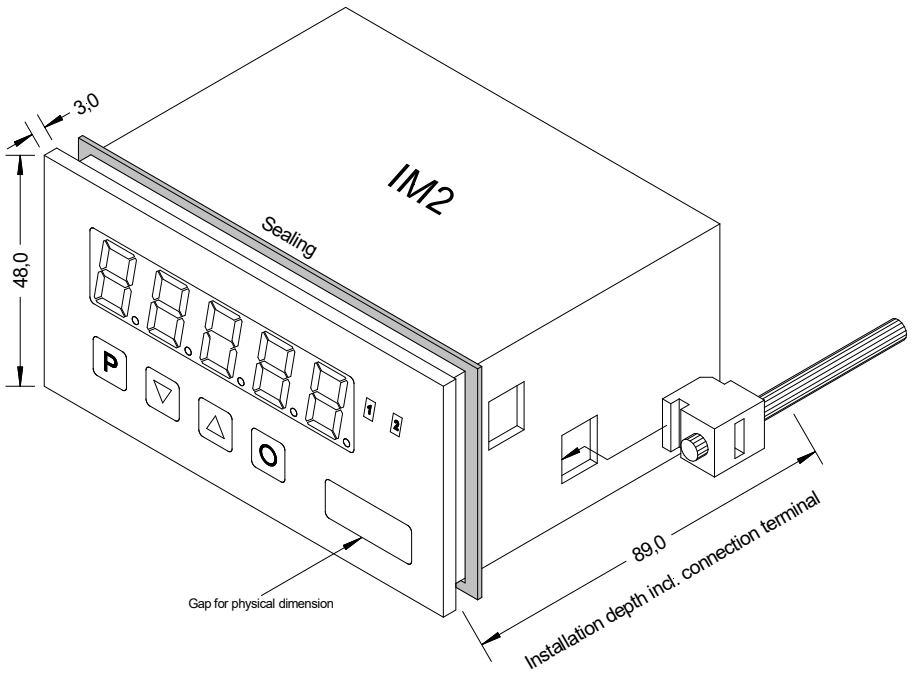
- **Parameterisation software**

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. **PM-TOOL-MUSB4** **94.30**

• Technical data

Dimension	Housing	B96 x H48 x D70 mm (including plug-in terminal D= 89 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 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^2
Display	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
Measuring input	Signal	pulse 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
Output	Relay	with change-over contact 250 V / 5 AAC, 30 V / 5 ADC
	Switching cycle	10 * 10^3 at 5 AAC, 5 ADC ohm resistive burden 10 * 10^6 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
Digital input	Input galv. isolated	<2.4 OFF; >10 V ON; max. 30 VDC, Ri at ~ 5 kΩ
Power pack	Supply	230 VAC 50/60 Hz ±10 % (max. 10 VA) 10-30 VDC, galvanic isolated (max. 4 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

IM	2-	1	F	R	5	B.	0	3	0	7.	6	7	0	x	D

Basic type M-Line

Installation depth

89 mm (incl. plug-in terminal)	2

Housing size

96x48x70 mm (BxHxD)	1

Display type

Frequency	F

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
1x digital input	I

Dimension

D	physical unit

Version

x	internal version

Switching points

0	no switching point
2	2 relay outputs

Protection class

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

Supply voltage

4	115 VAC
5	230 VAC
6	10-30 VDC galv. isolated

Measuring input

7	Pulse, Namur, 3-wire PNP/NPN

Analog output

0	without
X	0-10 VDC, 0/4-20 mA

Sensor supply

0	without
2	10 VD / 20 mA, incl. digital input
3	24 VDC / 50 mA, incl. digital input
6	12 VDC / 50 mA, incl. digital input
K	24 VDC / 50 mA, incl. digital input and pulse output (10 kHz)

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