

FNC PM1629 Series



Features

- The FNC PM1629 series are high-precision, wear-free angular sensors engineered for demanding industrial and mobile applications.
- Utilizing advanced Triaxis® Gen III magnetic sensing technology, these series provide a robust, electrical and mechanical drop-in replacement for industry-standard 24mm rotary sensors.
- True Ratiometric Output
- High Environmental Protection
- Infinite Mechanical Life

Technical data - electrical ratings

Voltage supply	5 VDC ($\pm 10\%$)
Sensing technology :	Triaxis® Gen III Technology
Resolution	12 bit (4096 steps per 360°)
Independent linearity	$\pm 1^\circ$
Sample rate(Slow/ Fast)	1.66 kHz / 5.0 kHz
Reverse polarity protection	Integrated
Output Signal	10%...90% U_b (0.5 V-4.5V @5V) 10%...90% U_b (0V-5V @5V)

Technical data - mechanical design

Dimensions	$\varnothing 16$ mm
Mount Diameter	29 mm
Shaft	6 mm shaft D-shape; IP54
Mechanical angle	360° (Continuous)
Operating temperature	-40 C°+85 C°
Materials	Housing: ABS (plastic) Shaft : Stainless Steel

Applications

- Mobile machinery
- Industrial automation
- Marine & Aerospace
- Medical equipment
- Harvester
- Fork-lift
- Operating table
- Hydraulic pump

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Ratiometric Output Characteristics

Ratiometric output ensures that the signal scale adjusts automatically with the supply voltage (U_b). This eliminates measurement errors caused by voltage drops in long cable runs or power supply noise.

General Transfer Function

$$V_{out} = \text{Ratio} \times U_b$$

Output Range 1 :

At $0^\circ \rightarrow V_{out} = 10\% \text{ of } U_b (0.5V)$

At $360^\circ \rightarrow V_{out} = 90\% \text{ of } U_b (4.5V)$

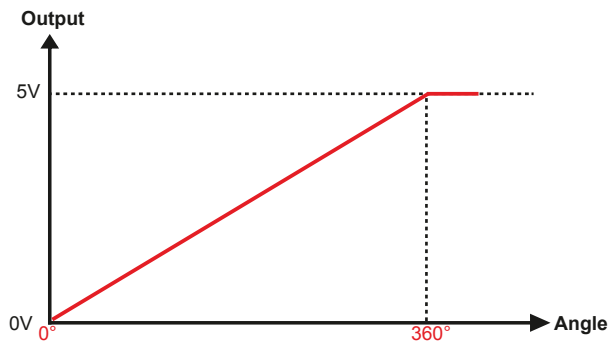
Output Range 2 :

At $0^\circ \rightarrow V_{out} = 10\% \text{ of } U_b (0V)$

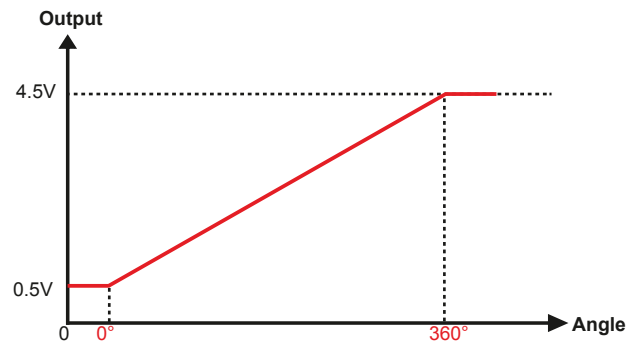
At $360^\circ \rightarrow V_{out} = 90\% \text{ of } U_b (5V)$

Pulse Diagram

0-5V Pulse Diagram

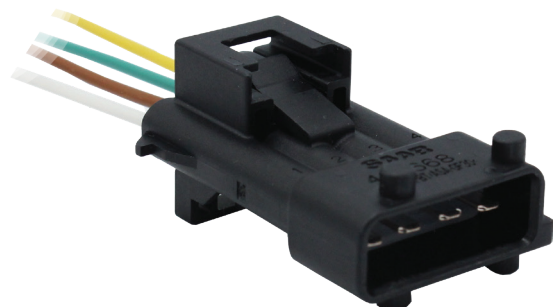


0.5 - 4.5V Pulse Diagram



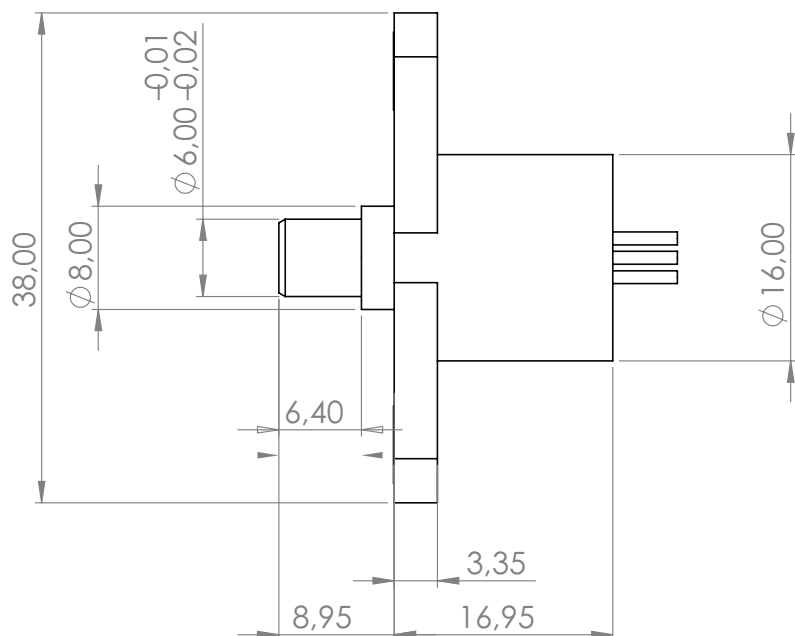
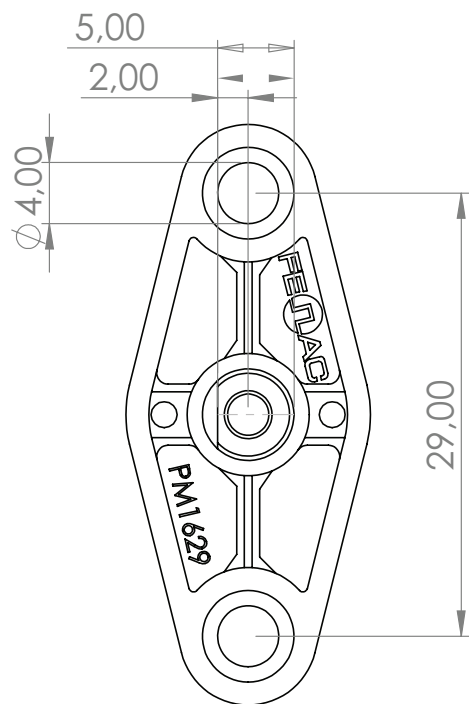
Cable Connection

Function	Color	Pin
Supply	 Brown	pin 1
Output	 Green	pin 2
GND	 White	pin 3
NC		pin 4



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Mechanical Dimensions



Contactless Rotary Potentiometer

Mechanical Dimensions, Cable / Connector Wiring

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Rotary Potantiometer Part Number

