

## FNC PM2236 Series



### Features

- The FNC PM2236 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       | $\pm 3^\circ$                                             |
| Sample rate(Slow/ Fast)     | 1.66 kHz / 5.0 kHz                                        |
| Reverse polarity protection | Integrated                                                |
| Output Signal               | 10%...90% Ub (0.5 V-4.5V @5V)<br>10%...90% Ub (0V-5V @5V) |

### Technical data - mechanical design

|                       |                                                                                                              |
|-----------------------|--------------------------------------------------------------------------------------------------------------|
| Dimensions            | $\varnothing 24$ mm                                                                                          |
| Mount Diameter        | 36 mm                                                                                                        |
| Shaft                 | 6.35 mm D type version<br>6 mm D type version<br>165 mm shaft with screw slot<br>6 mm shaft with shaped leaf |
| Mechanical angle      | 360° (Continuous)                                                                                            |
| Operating temperature | -40 C° ....+85 C°                                                                                            |
| Materials             | Housing: ABS (plastic)<br>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  $360^\circ \rightarrow V_{out} = 90\% \text{ of } U_b (4.5V)$

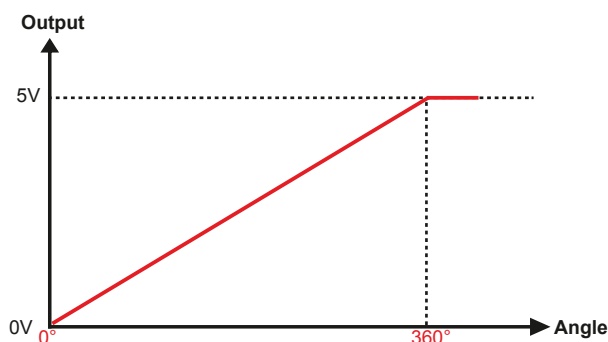
#### Output Range 2 :

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

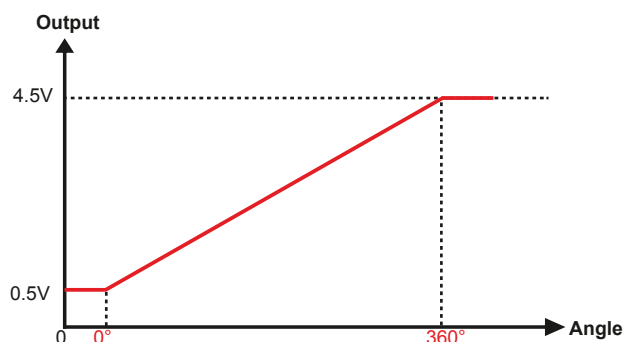
At  $360^\circ \rightarrow V_{out} = 90\% \text{ of } U_b (5V)$

### Pulse Diagram

0-5V Pulse Diagram

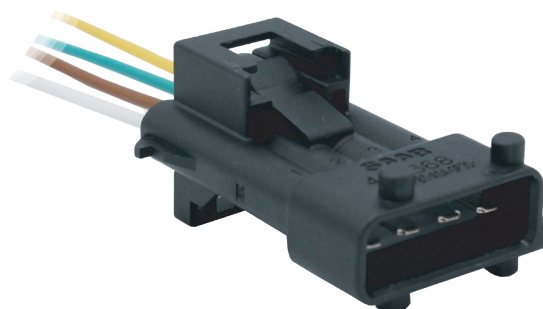


0.5 - 4.5V Pulse Diagram



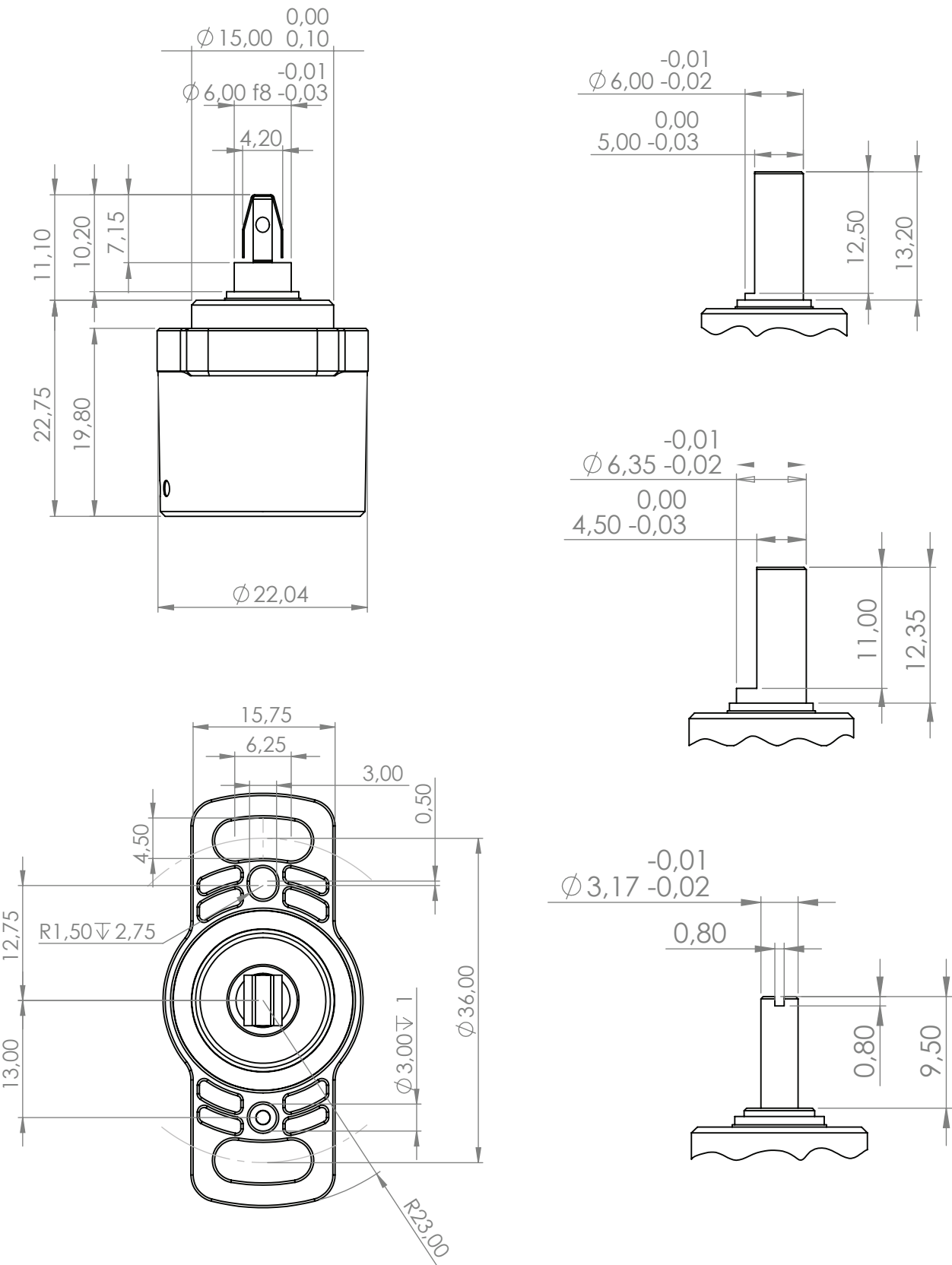
### Cable Connection

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



## FNC PM2236 Series

### Mechanical Dimensions



# Contactless Rotary Potentiometer

## Mechanical Dimensions, Cable / Connector Wiring

### FNC PM2236 Series

#### Rotary Potantiometer Part Number

