

# RPE-1 ROTARY ENCODER

## Features

A rotary position encoder based on contactless magnetic sensors.  
Robustly built with two ball bearings.  
Suitable for speeds up to 7500rpm, with 10 bit accuracy.

- Absolute analog voltage output
- 8mm or 6.35mm diameter shaft
- Also available in incremental quadrature and absolute PWM output. See RPE-2



## Typical applications:

- Digital potentiometers
- Valve angle sensor
- Lever angle sensor
- Industrial actuator position
- Motor speed sensor
- Gearbox speed sensor
- Robotics encoder
- Control position indicator
- Front panel switch
- CNC Machine tool position
- Rotary position sensing
- Handwheel / Jogwheel encoder

## Technical Data

### Electrical

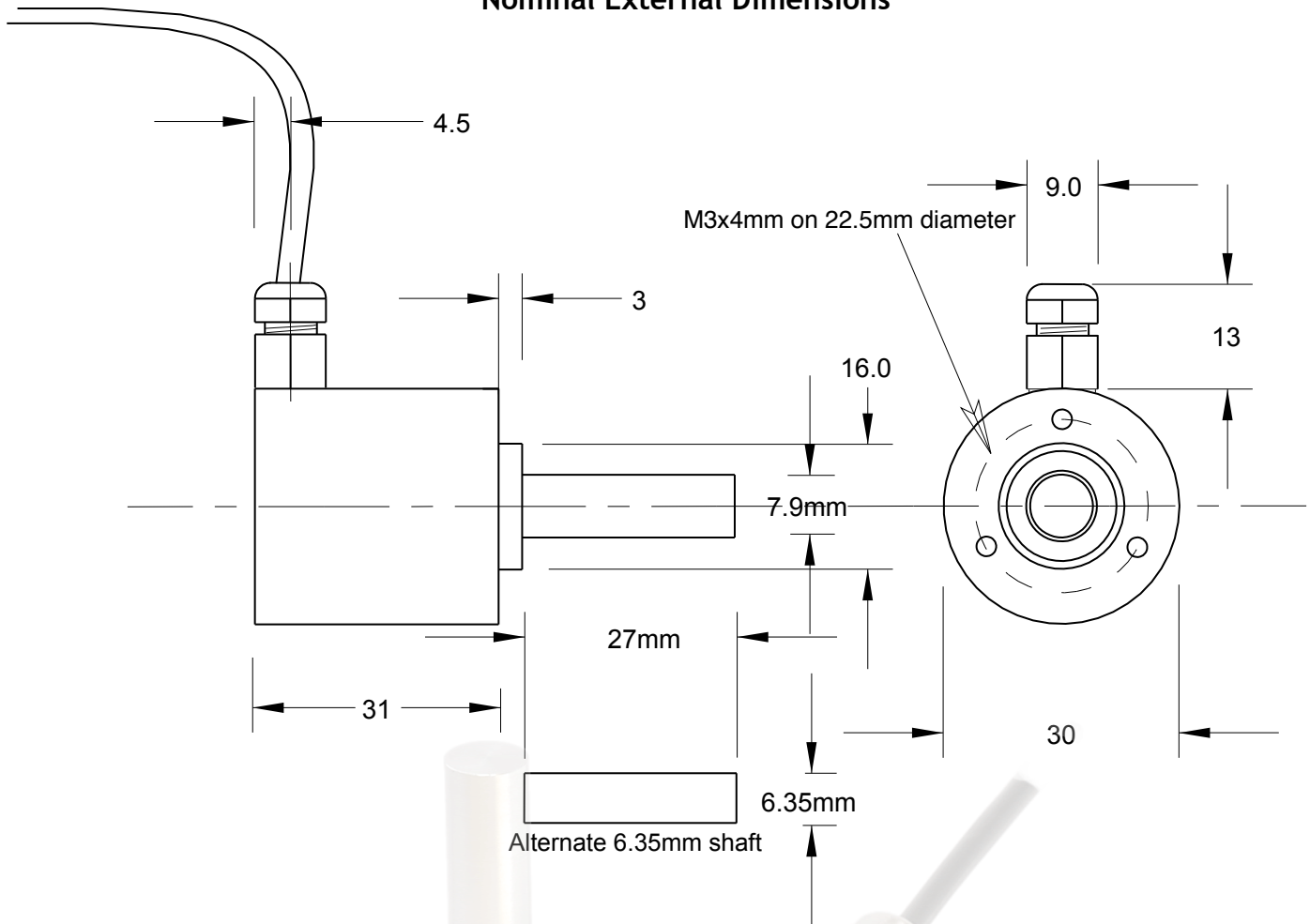
Supply Voltage (VDD)	4.5-5.5V
Supply Current	21mA
Resolution	10 bit
Output	10 bit absolute analog output voltage output 0-VDD for 0-360° linear voltage increasing for clockwise rotation, decreasing for counter-clockwise rotation.
RoHS status	Compliant
Sampling rate	10.4k samples per second (ksps)

### Mechanical

Operating speed	360° continuous rotation. Maximum speed 3000rpm with v-ring seal, 7500rpm without seal.
Shaft support	Dual 8mm ID ball bearings.
Construction material main body and shaft	Anodized Aluminium.
Ingress Protection	IP50 if v-ring seal is in place.
Mount	16mm flange with 3 x M3 holes 4mm thread on 22mm diameter. (screws supplied)
Weight	75-77g (depending on model).
Termination	Colour coded multicore cable, flying leads. ext.dia 3.3mm, int.dia 0.7mm. 580mm minimum length.

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## Nominal External Dimensions



## Wiring

WIRE	SYMBOL	DESCRIPTION
Red	VDD	4.5-5.5V DC
Black	VSS	Ground
Green	Output	Voltage output 0-VDD for 0-360° rotation

RPE1 part numbers:

RPE1-8                    8mm diameter shaft  
 RPE1-635                6.35mm diameter shaft

Encoders can be purchased directly from  
[sinusoid.com](http://sinusoid.com)

For further enquiries or quantity purchases  
 contact

<http://store.sinusoid.com/>