

# ROTARY POTENTIOMETER

“6 mm or 6.34 mm Shaft Diameter, 50.8 mm Body Diameter”

ERP 50



## GENERAL FEATURES

- 60°, 90°, 345°, 350°, 355° electrical angle
- 6 mm or 6,34 mm shaft diameter
- 50.8 mm body diameter
- Potentiometric, 0-10V, 4-20 mA or 0-20mA output
- High linearity up to  $\pm 0.5\%$
- Long life up to 10 million movements
- IP40 protection class
- No mechanical rotation limitation

## APPLICATION FIELDS

- Textile machinery
- Automatic door control systems
- Automotive
- All kinds of control and measurement applications

## TECHNICAL FEATURES

### Electrical Data

|                           |                                                                       |                         |
|---------------------------|-----------------------------------------------------------------------|-------------------------|
| Independent Linearity     | $\pm 0.5\%$                                                           |                         |
| Repeatability             | 0.1° max.                                                             |                         |
| Output Type               | Potentiometric                                                        | 0-10V, 4-20 mA, 0-20 mA |
| Electrical Angle          | 60°, 90°, 345°, 350°, 355°                                            |                         |
| Supply Voltage            | 42V max.                                                              | 12...30 VDC             |
| Resistance Values         | 1K, 2K, 5K, 10K                                                       | -                       |
| Resistance Tolerance      | $\pm 20\%$                                                            | -                       |
| Resistance Element        | Conductive Plastic                                                    | -                       |
| Resolution                | Infinite                                                              | 12 bit                  |
| Recommended Wiper Current | 100 $\mu$ A max.                                                      | -                       |
| Minimum Life (electrical) | 10 million movements                                                  |                         |
| Electrical Connection     | 3x0,102 mm <sup>2</sup> soft PVC cable (standard 1m, optional others) |                         |

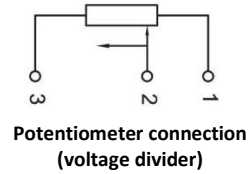
### Mechanical Data

|                           |                                 |
|---------------------------|---------------------------------|
| Dimensions                | See mechanical dimensions table |
| Size                      | Servo size 20                   |
| Mounting                  | With 3 clamps                   |
| Mechanical Angle          | 360°, continuous                |
| Torque                    | 0.5 Ncm max.                    |
| Maximum Operational Speed | 1000 RPM                        |
| Body Material             | Aluminum                        |
| Shaft Material            | Stainless Steel                 |
| Operating Temperature     | -25°C ... +75°C                 |
| Storage Temperature       | -25°C ... +105°C                |
| Protection Class          | IP40                            |
| Weight (with 1 m cable)   | 80 gr                           |

## ELECTRICAL CONNECTIONS

### Potentiometer Connection

| SIGNAL                | CABLE COLOR |
|-----------------------|-------------|
| +V                    | Green (1)   |
| Potentiometric output | Red (2)     |
| -V                    | Yellow (3)  |



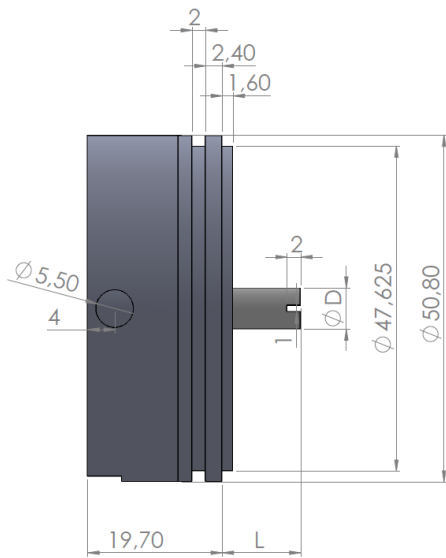
### 0-10V Connection

| SIGNAL        | CABLE COLOR |
|---------------|-------------|
| +VDC          | Green       |
| Analog Output | Red         |
| -VDC          | Yellow      |

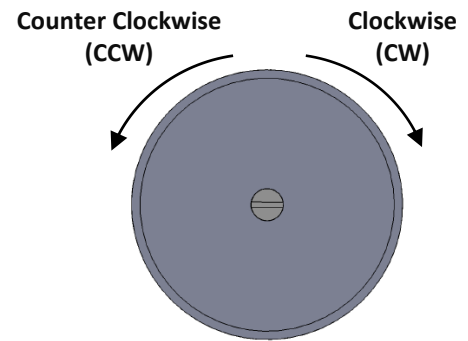
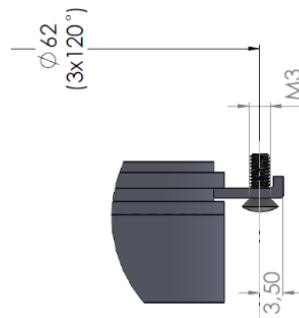
### 4-20mA or 0-20 mA Connection (2-wire)

| SIGNAL        | CABLE COLOR     |
|---------------|-----------------|
| +VDC          | Red             |
| Analog Output | Green<br>Yellow |

## MECHANICAL DIMENSIONS (mm)



|         |                  |                  |
|---------|------------------|------------------|
| ØD (mm) | 6                | 6,34             |
| L (mm)  | 11,50 or 21,6 mm | 15,90 or 21,6 mm |



## ORDER CODE

### Model

|     |   |     |   |     |   |    |   |     |   |    |   |     |
|-----|---|-----|---|-----|---|----|---|-----|---|----|---|-----|
| ERP | - | XXX | - | XXX | - | XX | - | XXX | - | XX | - | XXX |
|-----|---|-----|---|-----|---|----|---|-----|---|----|---|-----|

### Body Diameter

50: 50.8 mm

### Resistance Value

1K: 1K  
2K: 2K  
5K: 5K  
10K: 10K

\*Resistance value selection is only available in potentiometric output model.

### Shaft Diameter

6: 6mm (shaft length: 11,5 mm)  
6B: 6mm (shaft length: 21,6 mm)  
6.34: 6.34mm (shaft length: 15,9 mm)  
6.34B: 6.34mm (shaft length: 21,6 mm)

### Sample Order Code:

Potentiometric output: ERP 050-60-5K-1M-6

Analog output: ERP 050-60-1M-6-A

### Output Type

No Code: Potentiometric

A0: 0-20 mA (CW)

NA0: 0-20 mA (CCW)

A: 4-20 mA (CW)

NA: 4-20 mA (CCW)

V: 0-10 V (CW)

NV: 0-10 V (CCW)

\*CW: Clockwise

CCW: Counter Clockwise