



### RP0900 range

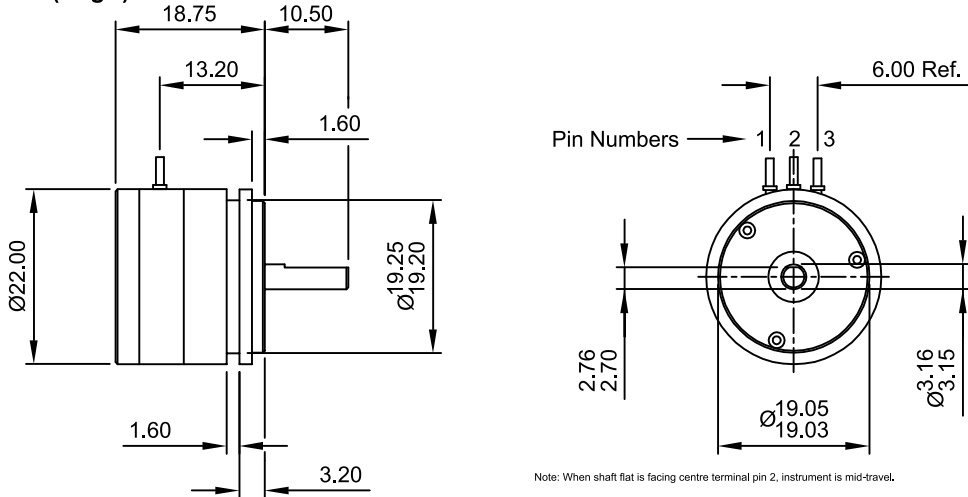


The RP0900 is a high performance rotary potentiometer sensor designed for the most demanding control and measurement systems. They are used extensively in motorsport for throttle and gearbox control, steering angle measurement and the monitoring systems of the chassis and also industrial applications such as valve position feedback. Models available have a choice of mounting and shaft options and electrical angles up to 350°.

- Measurement Range: Up to 350°
- Robust aluminium construction
- Servo and flange mounting
- Multi-fingered electrical contacts
- Long life 'twin' ball-race shaft bearings
- Single, duplex & triplex models
- Very long operational life
- Models available from stock

# Model dimensions and mounting

## RP0911 - servo mount (single)

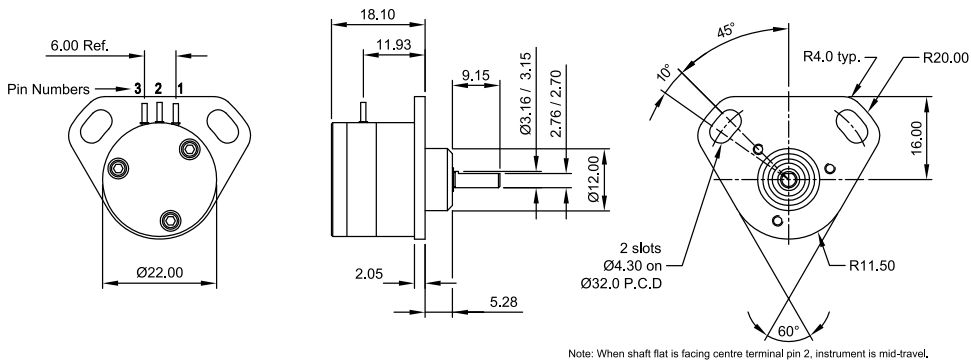


Not to scale, Dims: mm

Note: When shaft flat is facing centre terminal pin 2, instrument is mid-travel.

Product ordering code  
**RP0911-XXX**  
 Electrical angle in °

## RP0912 - triangular flange (single)

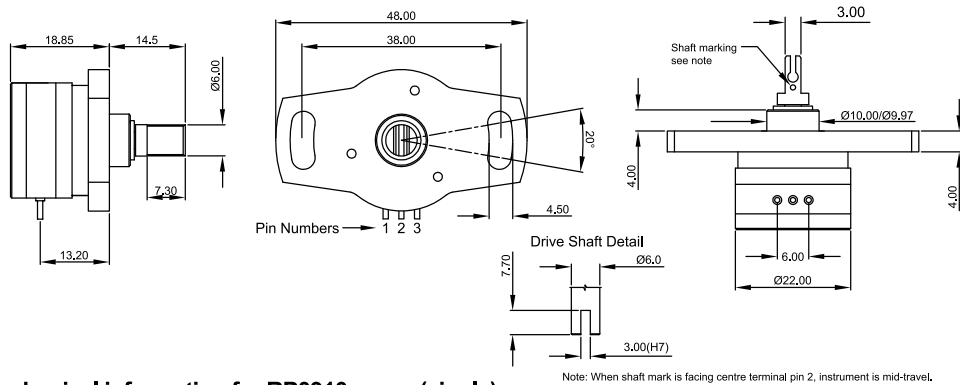


Not to scale, Dims: mm

Note: When shaft flat is facing centre terminal pin 2, instrument is mid-travel.

Product ordering code  
**RP0912-XXX**  
 Electrical angle in °

## RP0913 - flange mount (single)



Not to scale, Dims: mm

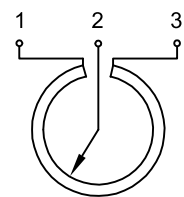
Note: When shaft mark is facing centre terminal pin 2, instrument is mid-travel.

Product ordering code  
**RP0913-XXX**  
 Electrical angle in °

## Electrical & mechanical information for RP0910 range (single)

|                                     |  |        |              |          |
|-------------------------------------|--|--------|--------------|----------|
| Electrical angle ( $\pm 2^\circ$ )  | 350°   | 130°   | 100°         |          |
| Resistance (typical)                | 3  | 1      | 1            | kohms    |
| Non-linearity                       | $< \pm 0.30$   |        | $< \pm 0.50$ | %        |
| Applied voltage                     | $< 42$   | $< 20$ | $< 15$       | Volts    |
| Maximum wiper current               |  | 1      |              | mA       |
| Mechanical travel                   | 360° continuous  |        |              |          |
| Output smoothness                   | MIL-R-39023 Grd.C 0.1%   |        |              |          |
| Insulation resistance (at 500V dc.) | $> 100$  |        |              | Mohms    |
| Operating temp. range               | $-55^\circ$ to $+125^\circ$  |        |              | °C       |
| Sealing                             | IP50   |        |              |          |
| Shaft starting torque (max.)        | 10   |        |              | grams cm |
| Weight (approx.)                    | 15   |        |              | grams    |
| Materials                           | Case - Aluminium 6262<br>Shaft - Stainless Steel 303 series<br>Bearing - AISI 440c Martensitic Stainless Steel (NMB DDRIF-418ZZ) |        |              |          |

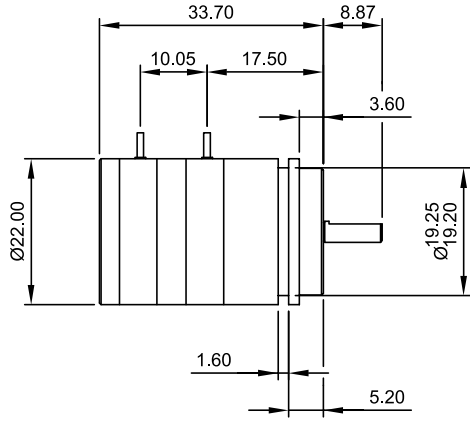
## Electrical Connections



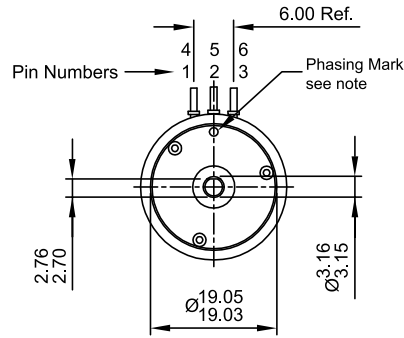
Schematic view on shaft

Note: Incorrect wiring may cause internal damage.  
 Circuit recommendation: Due to the presence of a high contact resistance, these potentiometers should be used as voltage dividers only. Operation with wiper circuits of low impedance will degrade the output signal.

**RP0921 - servo mount (duplex)**



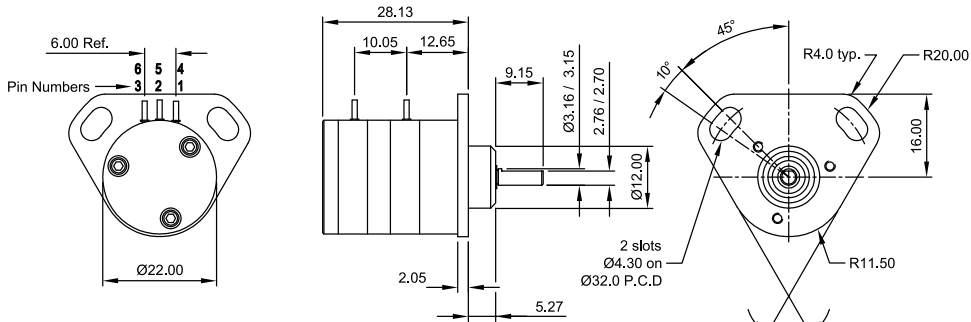
Not to scale, Dims: mm



Note: When shaft flat is facing centre terminal pin 2, instrument is mid-travel.

Product ordering code  
**RP0921-XXX**  
 Electrical angle in °

**RP0922 - triangular flange (duplex)**

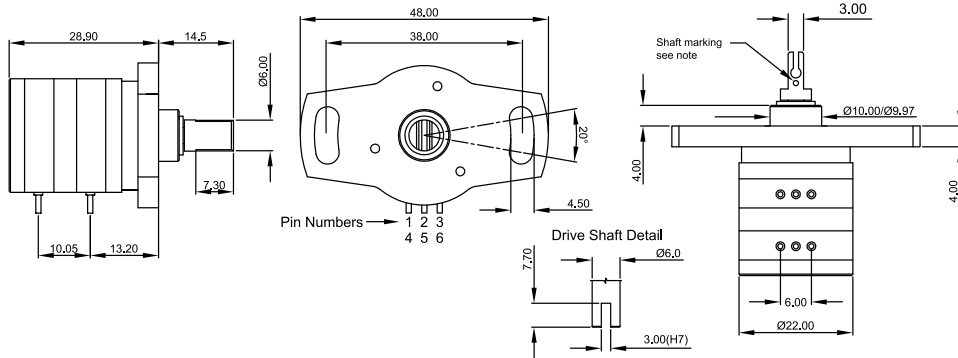


Not to scale, Dims: mm

Note: When shaft flat is facing centre terminal pin 2, instrument is mid-travel.

Product ordering code  
**RP0922-XXX**  
 Electrical angle in °

**RP0923 - flange mount (duplex)**



Not to scale, Dims: mm

Note: When shaft mark is facing centre terminal pin 2, instrument is mid-travel.

Product ordering code  
**RP0923-XXX**  
 Electrical angle in °

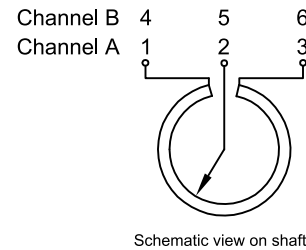
**Electrical & mechanical information range for RP0920 (duplex)**

|                                     |  |      |        |          |
|-------------------------------------|--|------|--------|----------|
| Electrical angle (±2°)              | 350°   | 130° | 100°   |          |
| Resistance (typical)                | 3  | 1    | 1      | kohms    |
| Non-linearity                       | <±0.30   |      | <±0.50 | %        |
| Phasing (channel to channel)        | <0.5   |      | <1.0   | %        |
| Applied voltage                     | <42  | <20  | <15    | Volts    |
| Maximum wiper current               |  | 1    |        | mA       |
| Mechanical travel                   | 360° continuous  |      |        |          |
| Output smoothness                   | ML-R-39023 Grd.C 0.1%  |      |        |          |
| Insulation resistance (at 500V dc.) | >100   |      |        | Mohms    |
| Operating temp. range               | -55° to +125°  |      |        | °C       |
| Sealing                             | IP50   |      |        |          |
| Shaft starting torque (max.)        | 10   |      |        | grams cm |
| Weight (approx.)                    | 55   |      |        | grams    |
| Materials                           | Case - Aluminium 6262<br>Shaft - Stainless Steel 303 series<br>Bearing - AISI 440c Martensitic Stainless Steel (NMB DDRIF-418ZZ) |      |        |          |

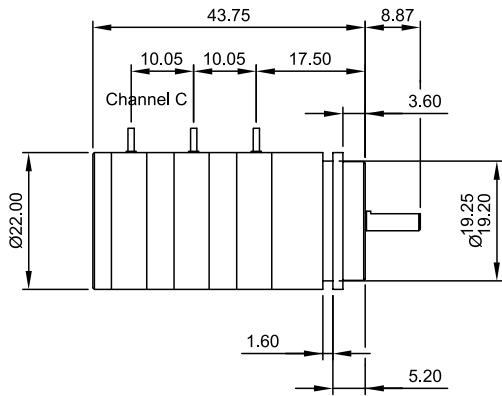
Note: Incorrect wiring may cause internal damage.

Circuit recommendation: Due to the presence of a high contact resistance, these potentiometers should be used as voltage dividers only. Operation with wiper circuits of low impedance will degrade the output signal.

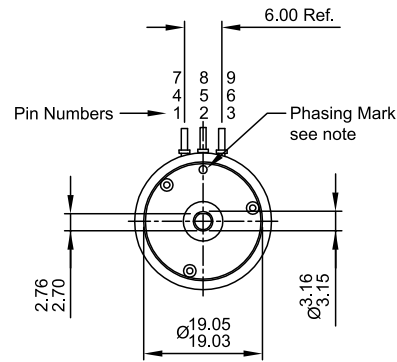
**Electrical Connections**



**RP0931 - servo mount (triplex)**



Not to scale, Dims: mm



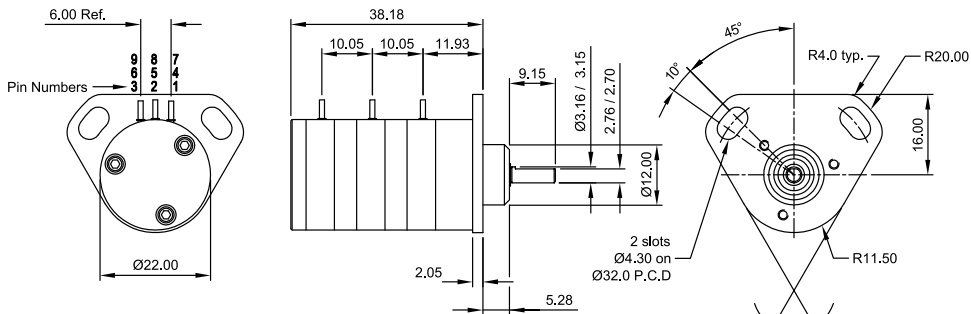
Note: When shaft flat is facing centre terminal pin 2, instrument is mid-travel.

Product ordering code

**RP0931-XXX**

Electrical angle in °

**RP0932 - flange mount (triplex)**



Not to scale, Dims: mm

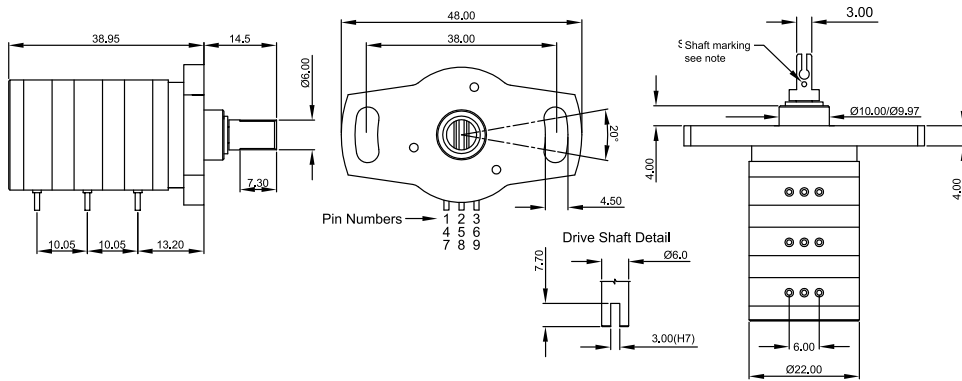
Note: When shaft flat is facing centre terminal pin 2, instrument is mid-travel.

Product ordering code

**RP0932-XXX**

Electrical angle in °

**RP0933 - flange mount (triplex)**



Not to scale, Dims: mm

Note: When shaft mark is facing centre terminal pin 2, instrument is mid-travel.

Product ordering code

**RP0933-XXX**

Electrical angle in °

**Electrical & mechanical information for RP0930 range (triplex)**

|                                     |  |                 |      |          |
|-------------------------------------|--|-----------------|------|----------|
| Electrical angle (±2°)              | 350°   | 130°            | 100° |          |
| Resistance (typical)                | 3  | 1               | 1    | kohms    |
| Non-linearity                       | <±0.30   | <±0.50          |      | %        |
| Phasing (channel to channel)        |  | <0.5            |      | %        |
| Applied voltage                     | <42  | <20             | <15  | Volts    |
| Maximum wiper current               |  | 1               |      | mA       |
| Mechanical travel                   |  | 360° continuous |      |          |
| Insulation resistance (at 500V dc.) |  | >100            |      | Mohms    |
| Operating temp. range               |  | -55° to +125°   |      | °C       |
| Sealing                             |  | IP50            |      |          |
| Shaft starting torque (max.)        |  | 10              |      | grams cm |
| Weight (approx.)                    |  | 25              |      | grams    |
| Materials                           | Case - Aluminium 6262<br>Shaft - Stainless Steel 303 series<br>Bearing - AISI 440c Martensitic Stainless Steel (NMB DDRIF-418ZZ) |                 |      |          |

**Electrical Connections**



Schematic view on shaft

Note: Incorrect wiring may cause internal damage.

Circuit recommendation: Due to the presence of a high contact resistance, these potentiometers should be used as voltage dividers only. Operation with wiper circuits of low impedance will degrade the output signal.

## Other RP rotary position sensor models available

### RP5100

- General-purpose
- Bush type shaft bearing
- Choice of electrical angles
- Flange mounting



### RP5200

- Robust aluminium construction
- Twin ball-race shaft bearings
- Choice of electrical angles
- Flange mounting



### RP5300

- Robust aluminium construction
- Choice of electrical angles
- Twin ball-race shaft bearings
- Flange mounting



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