Penny+Giles high durability potentiometer track technology provides virtually infinite resolution, low electrical noise and high stability under extremes of temperature, humidity, vibration and shock over a long operating life. These potentiometers are ideally suited and race proven in providing data acquisition systems with clean, robust signals for throttle angle, steering angle and gear select position indication.

**Features**
- Corrosion resistant stainless steel shaft
- Duplex shaft bearing support
- Choice of shaft attachments
- Hybrid and conductive plastic tracks
- Electrical angles from 10° to 350°
- Rugged mechanical design
- Sealing to IP68 (SRS280)
- Rapid despatch of any option (SRS280)
- CE Approved (SRS280)

**Benefits**
- Accurate drive location in hostile environments
- Optimum performance under vibration
- Interchangeable with existing installations
- Stable output signal over a long life
- Maximum sensitivity in all applications
- Operation in high shock and vibration environments
- Operation in hostile environments
- Eliminates customer inventory
- Confidence in EMC performance
The SRS280 sealed rotary sensor has been specially developed to meet the harsh operating requirements of automotive and motorsport position sensing applications. Innovative design features provide maximum performance under extremes of temperature, humidity, vibration and shock. The SRS280 is completely interchangeable with similar devices already in service using the standard 38mm fixing centres format.

### Performance
- **Electrical angle**: ±2°
- **Resistance**: ±20% Ω
- **Hysteresis (repeatability)**: ±1°
- **Accuracy**: < 0.03°
- **Power dissipation at 20°C**: 0.003 W per angular degree
- **Applied voltage maximum**: 14.3 per degree
- **Output smoothness**: < 1 degree (e.g. ±0.3% over 330°, ±1% over 100°)
- **Insulation resistance**: ≥ 0.003 W per angular degree
- **Resolution**: 0.2 per angular degree
- **Hysteresis (repeatability)**: ≤ 0.03 W per angular degree
- **Accuracy**: ≤ 0.003 W per angular degree
- **Power dissipation at 20°C**: Virtually infinite
- **Applied voltage maximum**: Greater than 100MΩ at 500Vdc
- **Output smoothness**: Minimum of 0.5MΩ
- **Insulation resistance**: 360, continuous
- **Wiper circuit impedance**: Use 2 x M4 socket head cap screws and M4 washer - maximum tightening torque 2Nm
- **Operating torque maximum**: 100 gm cm
- **Shaft velocity maximum**: 3200 rpm
- **Weight**: 10 to 350 in 10° steps
- **Power dissipation at 20°C**: 14.3 per degree
- **Operational mode**: D or sprung shaft
- **Shaft sealing**: IP50 or IP68
- **Shaft style**: D or sprung shaft
- **Shaft sealing**: 0.5m or 2m
- **Electrical angle**: 10 to 350 in 10° steps
- **Shaft style**: D or sprung shaft
- **Shaft sealing**: IP50 or IP68
- **Cable length**: 0.5m or 2m
- **Operational temperature**: -40 to +130°C (continuous)

### Circuit Recommendation
- The SRS280 range of potentiometers feature a high wiper contact resistance, therefore operational checks should be carried out only in the voltage divider mode. These potentiometers should be used only as voltage dividers, with a minimum wiper circuit impedance of 100 x track resistance or 0.5MΩ (whichever is greater). Operation with wiper circuits of lower impedance will degrade the output smoothness and affect the linearity.

### Options
- **Electrical angle**: Can be supplied from 10° to 350° in 10° steps
- **Shaft style**: D or sprung shaft
- **Shaft sealing**: IP50 or IP68
- **Cable length**: 0.5m or 2m

### Availability
- All configurations can be supplied within five days from the factory

### Ordering Codes
- SRS280/...../...../...../.....
- **Electrical angle**: 10 to 350 in 10° steps
- **Shaft style**: D = D shaft, S = Sprung shaft
- **Shaft sealing**: IP50 or IP68
- **Cable length**: A = 0.5m, B = 2m

### Dimensions
- Note: drawings not to scale

### Electrical Connections
- See page 20
This specially developed RCP11 has dual electrical output and facilitates low electrical noise and virtually infinite resolution over exceptionally long operating life under extreme operating conditions. This potentiometer is ideally suited and race proven in providing data acquisition systems with clean, robust signals for gear select position indication.

**PERFORMANCE**

- Electrical angle ±1°
- Resistance ±10% kΩ
- Independent linearity ±% 0.25
- Power dissipation at 20°C W 1.5
- Dielectric strength Vrms 750
- Applied voltage - maximum Vdc 38
- Resolution
- Output smoothness
- Insulation resistance
- Phasing between tracks ±1°
- Operating mode
- Maximum wiper current mA
- Mechanical angle °
- Starting torque - maximum gm cm
- Shaft run out - TIR mm 0.025
- Lateral run out - TIR mm 0.051
- Pilot run out - TIR mm 0.025
- Shaft end play - maximum mm 0.076
- Weight g 25
- Life
- Operational temperature °C -65 to +130

**CIRCUIT RECOMMENDATION**

The RCP11 range of potentiometers feature a high wiper contact resistance, therefore operational checks should be carried out only in the voltage divider mode. These potentiometers should be used only as voltage dividers, with a minimum wiper circuit impedance of 100 x track resistance or 0.5MΩ (whichever is greater). Operation with wiper circuits of lower impedance will degrade the output smoothness and affect the linearity.

- Non standard angles can be specified
- Non standard resistance values can be specified
- Single gang output only can be specified
- Custom mounting configurations can be specified

Please consult our sales office for details

**ORDERING CODE**

RCP11/2S D150397

**DIMENSIONS**

All dimensions in mm

- General tolerance ±0.127mm applies.

**ELECTRICAL CONNECTIONS**

**SRS280**

3 core cable: PUR sheathed, with PTFE insulated 19/0.15 cores

**RCP11/2S**

6x terminals, gold plated
www.pennyandgiles.com

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Position sensors and joysticks for commercial and industrial applications.

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