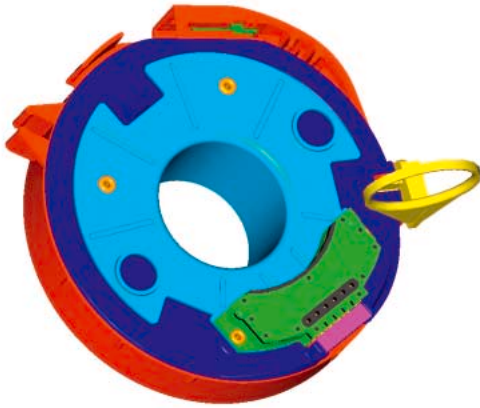


NON-CONTACTING TORQUE SENSOR FOR ELECTRIC POWER STEERING WITH PARALLEL OUTPUTS



1. Introduction

Bourns torque sensors offer non-contacting solutions for column, rack and pinion drive electric power steering systems. Based on production proven technology, Bourns torque sensors meet the full range of steering system design requirements including resolution, accuracy, and repeatability. Simple installation and electronic calibration assure efficient and accurate system integration. Dual parallel slope outputs facilitate system interface and together with sensor self-diagnostics, provide enhanced system reliability.

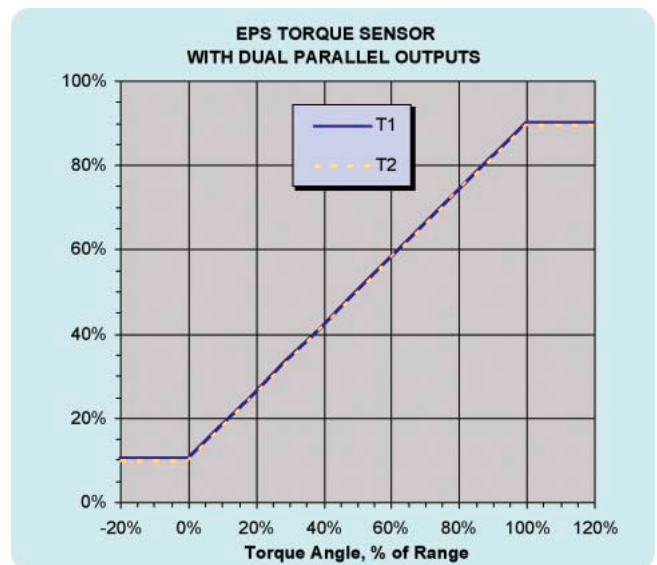
2. Benefits & Features

- Dual Torque Outputs
- Non-Contacting Sensor Technology
- Production Proven Design
- Electronic Calibration
- $\pm 4^\circ$ to $\pm 10^\circ$ Torque Angle Ranges Available
- Self-Diagnostics and Diagnostic Output

3. EPS Applications

- Column Drive Steering Systems
- Rack Drive Steering Systems
- Pinion Drive Steering Systems

4. Performance¹



¹ Typical performance for a torque angle range of $\pm 4.5^\circ$. Each output has a common source.

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5. Electrical Performance²

Operating Voltage	5.0 vdc±0.5 vdc
Output Voltage	Analog ratiometric, PWM
Torque Angle Accuracy (includes linearity)	1% of FS ³
Torque Angle Resolution	0.02 % of FS
Electrical/Magnetic Hysteresis	0.1 % of FS
Sensor Power Current Draw	< 10 mA
Source Current, 10k-ohm Load	≤ 1 mA

² Each output

³ Preliminary

6. Mechanical Performance

Mechanical Hysteresis	N/A
Torque Angular Range	±4° to ±10°
Total Angular Travel	+/- 720° typical

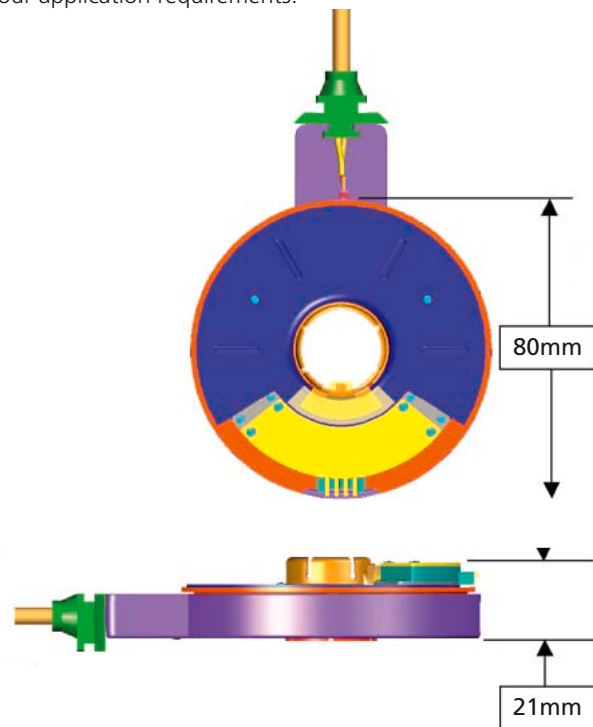
7. Environmental Performance

Operating Temperature Range	-40° C to 65° C ⁴
Storage Temperature Range	-40° C to 85° C ⁴
Dither Life @ 25° C	3.5 million @ +/- 5°
Life @ -40° C to 65° C	2 million +/-360°

⁴ Column drive systems. Contact Bourns for rack drive and pinion drive systems requiring a 125°C temperature range.

8. Outline Dimensions (mm)

Dimensions and specifications shown are typical. Sensor wire harness supplied with customer specified sealing grommet and electrical connector. The Bourns torque sensor can be mechanically and electrically modified to meet customer's specific packaging requirements. Please contact Bourns with your application requirements.



Specifications are subject to change without notice

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