

Model 1815

Enhanced Accuracy Rotary Torque Sensor



DESCRIPTION

A line of enhanced accuracy rotary transformer torque sensors often ideal for test installations running long-term durability testing. Non-contact nature of the signal transfer virtually eliminates the need for maintenance. High overload protection with high signal output helps prevent potential damage to the sensor.

Carrier frequency excitation provides increased signal/noise immunity. Extended speed range allows shaft rotation up to 25000 RPM. Capacity range from 50 in-lb to 10000 in-lb for shaft mounting configurations.

FEATURES

- 50 in-lb to 10000 in-lb capacity
- 0.05 % non-linearity and hysteresis
- Spline drive/flange mount
- Extended speed range, up to 25000 RPM
- Minimal maintenance due to “bearings only” contact

Safety considerations: It would be unsafe to operate Honeywell torque sensors and load cells beyond static overload or ultimate extraneous load limits as defined in the glossary of terms or, when applicable, higher than maximum speed. When in doubt, consult factory. Honeywell is not responsible for any property damage or personal injury which may result because of the misapplication of the transducer.

Model 7927 shunt cal reference box included with each purchase of 1800 Series.

Flange housing mount with pads to match Army-Navy mountings standard. Spline drive.

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PERFORMANCE SPECIFICATIONS

| Characteristic | Measure |
|-------------------------|--|
| Torque range | 50, 100, 200, 500, 1K, 2K, 5K, 10K lb-in |
| Non-linearity | ±0.05 % of rated output |
| Hysteresis | ±0.05 % of rated output |
| Repeatability | ±0.03 % of rated output |
| Output @ rated capacity | 2 mV/V (nominal) |

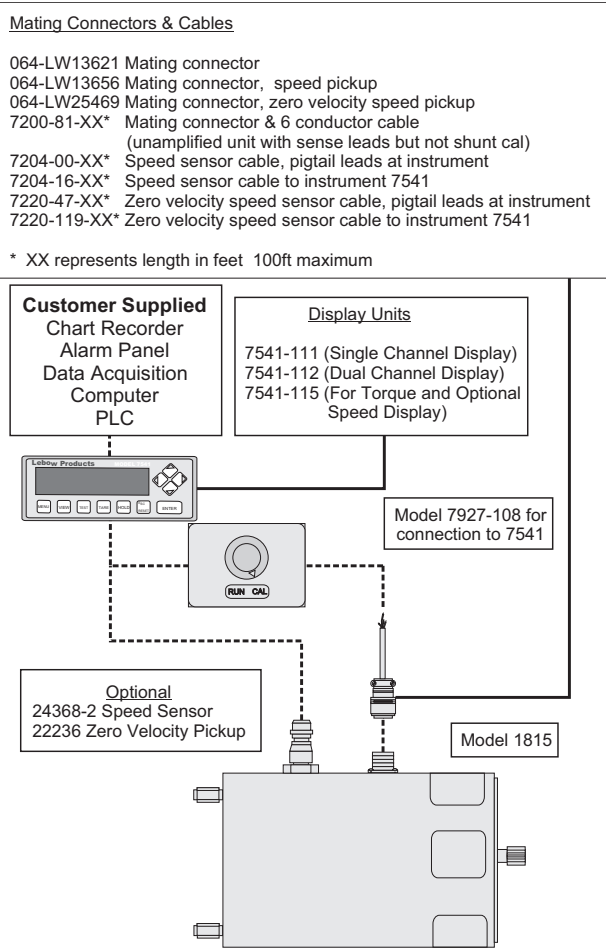
ENVIRONMENTAL SPECIFICATIONS

| Characteristic | Measure |
|----------------------------|------------------------------------|
| Temperature, operating | -29 °C to 93 °C [-20 °F to 200 °F] |
| Temperature, compensated | 21 °C to 77 °C [70 °F to 170 °F] |
| Temperature effect, zero | ±0.002 %/of rated output °F |
| Temperature effect, output | ±0.002 %/of reading °F |

ELECTRICAL SPECIFICATIONS

| Characteristic | Measure |
|-----------------------|-------------------------------|
| Excitation | 3.28 kHz optimum @ 10 Vac RMS |
| Insulation resistance | > 5000 mOhm @ 50 Vdc |
| Bridge resistance | 350 ohm (nominal) |
| Number of bridges | 1 |
| Zero balance | ±1.0 % of rated output |

TYPICAL SYSTEM DIAGRAM



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MECHANICAL SPECIFICATIONS

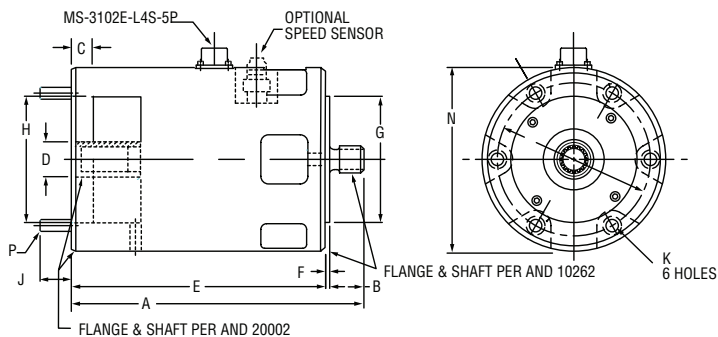
| Model | Capacity lb-in | Capacity N-m | Max speed RPM | Protected for overloads to Nm [lb-in] |
|-----------|----------------|--------------|---------------|---------------------------------------|
| 1815A-50 | 50 | 5 | 25000 | 15 [150] |
| 1815A-100 | 100 | 10 | 25000 | 30 [300] |
| 1815A-200 | 200 | 20 | 25000 | 60 [600] |
| 1815A-500 | 500 | 55 | 25000 | 165 [1500] |
| 1815A-1K | 1000 | 115 | 25000 | 165 [1500] |
| 1815K-50 | 50 | 5 | 15000 | 15 [150] |
| 1815K-100 | 100 | 10 | 15000 | 30 [300] |
| 1815K-200 | 200 | 20 | 15000 | 60 [600] |
| 1815K-500 | 500 | 55 | 15000 | 165 [1500] |
| 1815K-1K | 1000 | 115 | 15000 | 330 [3000] |
| 1815K-2K | 2000 | 225 | 15000 | 675 [6000] |
| 1815K-5K | 5000 | 565 | 15000 | 1695 [15000] |
| 1815K-10K | 10000 | 1130 | 15000 | 1695 [15000] |

INTERNAL AND EXTERNAL SPLINE DATA

| Model | Pressure angle | Pitch dia. cm [in] | Pitch | Number of teeth |
|-------|----------------|--------------------|-------|-----------------|
| 1815A | 30° | 2,03 [0.80] | 20/40 | 16 |
| 1815K | 30° | 3,05 [1.20] | 20/40 | 24 |

MOUNTING DIMENSIONS

| Model | A cm [in] | B cm [in] | C cm [in] | D cm [in] | E cm [in] | F cm [in] | G cm [in] | H cm [in] | J cm [in] | K cm [in] | L cm [in] | N cm [in] | P cm [in] |
|-------|-----------------|----------------|----------------|----------------|-----------------|----------------|-----------------|-----------------|----------------|----------------|-----------------|-----------------|-----------|
| 1815A | 23,55 [9.27] | 2,67 [1.05] | 1,60 [0.63] | 2,84 [1.12] | 20,96 [8.25] | 0,36 [0.14] | 10,47 [4.12] | 10,48 [4.13] | 2,62 [1.03] | 1,03 [0.41] | 12,70 [5.00] | 15,24 [6.00] | 3/8-24 |
| 1815K | 25,25 [9.94] | 4,29 [1.69] | 1,60 [0.63] | 4,01 [1.58] | 20,96 [8.25] | 0,36 [0.14] | 10,47 [4.12] | 10,48 [4.13] | 2,62 [1.03] | 1,03 [0.41] | 12,70 [5.00] | 15,24 [6.00] | 3/8-24 |



For reference only

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Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

For more information about Sensing and Control products, visit www.honeywell.com/sensing or call +1-815-235-6847
Email inquiries to info.sc@honeywell.com

 **WARNING**
PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

 **WARNING**
MISUSE OF DOCUMENTATION

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

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