

# Model 1102

## Low Capacity Torque Sensor



### DESCRIPTION

A line of low capacity rotary slip ring torque sensors primarily designed for fractional horsepower motor test applications. Instrumental in monitoring start up, running, and stall torque levels during development and qualification of these motors. Capacity range from 50 in-oz to 1000 in-oz for small shaft mounting configurations.

### FEATURES

- 50 in-oz to 1000 in-oz capacity range
- 0.1 % non-linearity and hysteresis
- Integral foot mount (standard)
- Lower cost for general "in-line" applications
- Can be used with almost all existing dc and ac signal conditioning equipment

# Model 1102

## PERFORMANCE SPECIFICATIONS

| Characteristic          | Measure                       |
|-------------------------|-------------------------------|
| Torque range            | 50, 100, 200, 500, 1000 oz-in |
| Non-linearity           | ±0.1 % of rated output        |
| Hysteresis              | ±0.1 % of rated output        |
| Repeatability           | ±0.05 % of rated output       |
| Output @ rated capacity | ±2 mV/V (nominal)             |

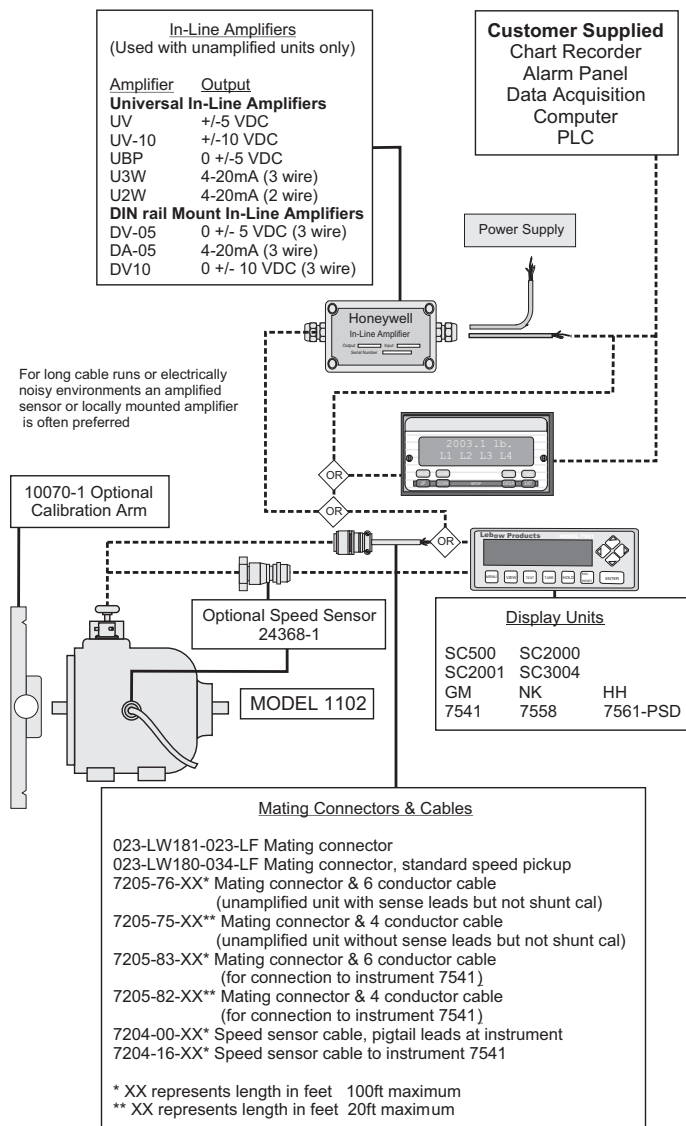
## ENVIRONMENTAL SPECIFICATIONS

| 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 (maximum)   | 20 Vdc or Vac RMS      |
| Insulation resistance  | > 5000 mOhm @ 50 Vdc   |
| Bridge resistance      | 350 ohm (nominal)      |
| Number of bridges      | 1                      |
| Zero balance           | ±1.0 % of rated output |
| Electrical termination | PT02E-10-6P            |

## TYPICAL SYSTEM DIAGRAM



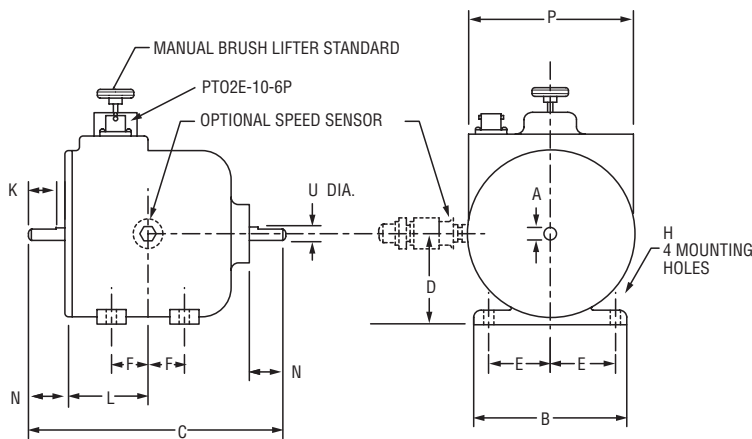
## Low Capacity Torque Sensor

### MECHANICAL SPECIFICATIONS

| oz-in | N-m  | Max speed RPM | Overload capacity (% of nominal capacity) | Torsional stiffness lb-in/rad | Rotating inertia lb-in sec <sup>2</sup> | Weight (lb) |
|-------|------|---------------|---|-------------------------------|---|-------------|
| 50    | 0.35 | 20000         | 150                                       | 665                           | $1.75 \times 10^{-3}$                   | 2           |
| 100   | 0.70 | 20000         | 150                                       | 1070                          | $1.75 \times 10^{-3}$                   | 2           |
| 200   | 1.50 | 20000         | 150                                       | 1790                          | $1.76 \times 10^{-3}$                   | 2           |
| 500   | 3.50 | 20000         | 150                                       | 3480                          | $1.77 \times 10^{-3}$                   | 2           |
| 1000  | 7.00 | 20000         | 150                                       | 4850                          | $1.78 \times 10^{-3}$                   | 2           |

### MOUNTING DIMENSIONS

| C<br>cm [in]    | L<br>cm [in]   | N<br>cm [in]   | P<br>cm [in]   | U<br>cm [in]   | K<br>cm [in]             | A<br>cm [in]   | B<br>cm [in]    | D<br>cm [in]   | E<br>cm [in]   | F<br>cm [in]   | H<br>cm [in]   |
|-----------------|----------------|----------------|----------------|----------------|--------------------------|----------------|-----------------|----------------|----------------|----------------|----------------|
| 16,50<br>[6.50] | 5,70<br>[2.25] | 2,50<br>[1.00] | 8,90<br>[3.50] | 0,95<br>[0.37] | 1,90 flat<br>[0.75 flat] | 0,86<br>[0.34] | 10,50<br>[4.13] | 4,44<br>[1.75] | 4,44<br>[1.75] | 2,50<br>[1.00] | 0,50<br>[0.20] |



**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.

## **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 datasheet 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.**

### **Find out more**

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