

## Model 1104 to 1107

### Standard Rotating Shaft Torque Sensor



#### DESCRIPTION

A line of rotary slip ring torque sensors primarily designed for a multitude of general test and measurement applications, such as motor testing. Can be used to monitor start up, running, and stall torque levels. Capacity range from 100 in-lb to 100000 in-lb for shaft mounting configurations.

#### FEATURES

- 100 in-lb to 100000 in-lb capacity range
- 0.1 % non-linearity and hysteresis
- Manual brush lifter (standard)
- Speed sensor and/or foot mount options
- Lower cost for general “in-line” applications
- Can be used with almost all existing dc and ac signal conditioning instrumentation

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## PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Torque range	100 lb-in to 3000K lb-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)

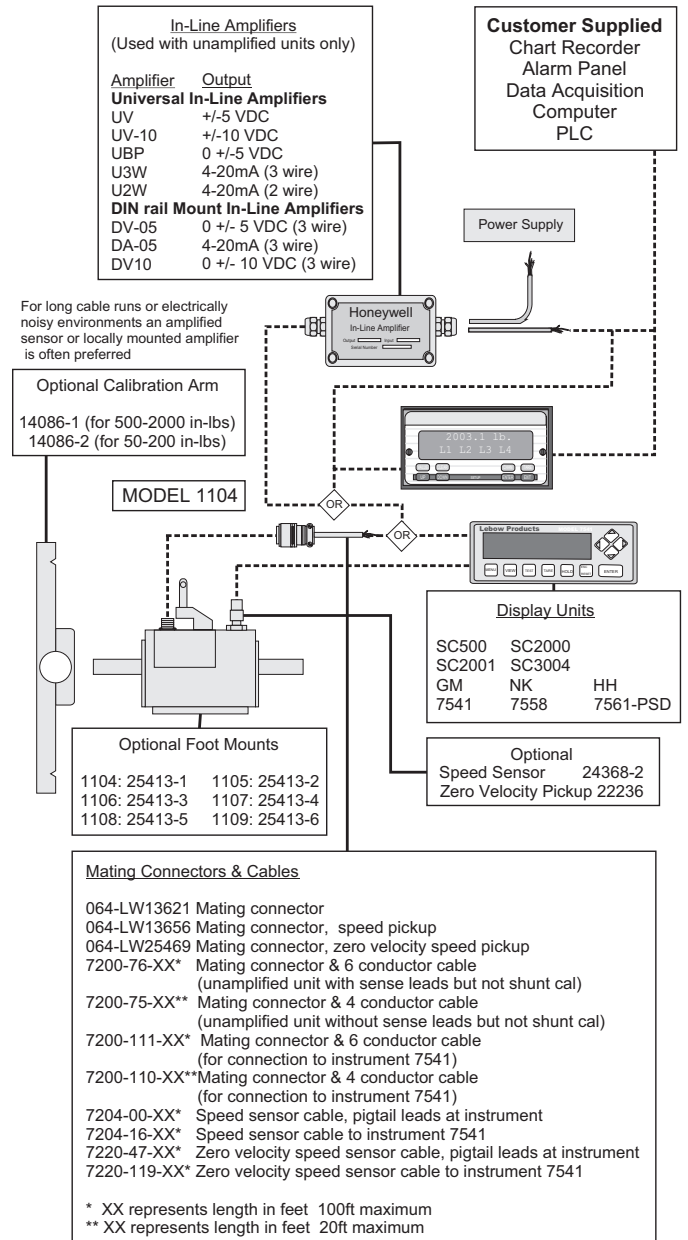
## ENVIRONMENTAL SPECIFICATIONS

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	MS-3102E-14S-5P

## TYPICAL SYSTEM DIAGRAM



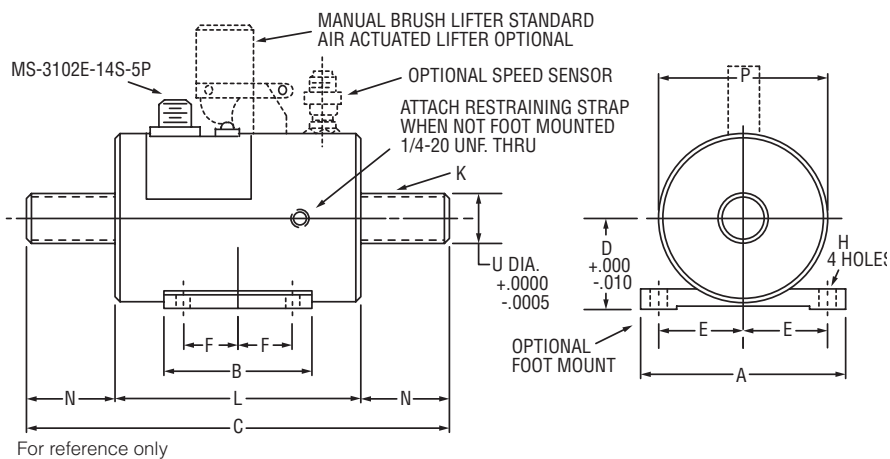
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### MECHANICAL SPECIFICATIONS

Model	lb-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)
1104	100	10	9000	150	6430	$3.93 \times 10^{-3}$	11
1104	200	20	9000	150	17000	$3.96 \times 10^{-3}$	11
1104	500	55	9000	150	45200	$4.11 \times 10^{-3}$	11
1104	1000	115	9000	150	103000	$4.11 \times 10^{-3}$	11
1104	2000	225	9000	150	182500	$4.14 \times 10^{-3}$	11
1105	5000	565	8500	150	475000	$9.29 \times 10^{-3}$	28
1105	10000	1130	8500	150	750000	$1.06 \times 10^{-2}$	28
1106	20000	2250	4500	150	2610000	$3.93 \times 10^{-2}$	42
1107	50000	5650	4000	150	7220000	0.14	74
1107	100000	11300	4000	150	12450000	0.15	74

### MOUNTING DIMENSIONS

Model	C cm [in]	L cm [in]	N cm [in]	P cm [in]	U cm [in]	K cm [in]	A cm [in]	B cm [in]	D cm [in]	E cm [in]	F cm [in]	H cm [in]
1104 (100 lb to 200 lb)	25,40 [10]	14,76 [5.81]	5,32 [2.09]	10,16 [4]	1,91 [0.75]	0,46 sq. [0.18 sq.]	12,07 [4.75]	8,89 [3.50]	5,40 [2.13]	5,08 [2.0]	3,49 [1.38]	0,71 [0.28]
1104 (> 200 lb)	25,40 [10]	14,76 [5.81]	5,32 [2.09]	10,16 [4]	2,54 [1.0]	0,64 sq. [0.25 sq.]	12,07 [4.75]	8,89 [3.50]	5,40 [2.13]	5,08 [2.0]	3,49 [1.38]	0,71 [0.28]
1105	32,39 [12.75]	18,42 [7.25]	6,99 [2.75]	11,99 [4.72]	3,81 [1.50]	0,95 sq. [0.38 sq.]	16,51 [6.25]	10,16 [4]	6,35 [2.50]	6,67 [2.63]	3,81 [1.50]	1,03 [0.41]
1106	37,15 [14.63]	17,46 [6.88]	9,84 [3.88]	13,47 [5.50]	5,72 [2.25]	1,27 sq. [0.50 sq.]	18,42 [7.25]	13,34 [5.25]	7,62 [3]	7,62 [3]	5,08 [2]	1,35 [0.53]
1107	48,26 [19]	19,05 [7.5]	14,61 [5.75]	16,51 [6.50]	7,62 [3.0]	1,91 sq. [0.75 sq.]	21,59 [8.50]	13,97 [5.50]	8,89 [3.50]	8,89 [3.50]	5,08 [2]	1,35 [0.53]



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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.

## **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**

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office. To learn more about Honeywell's test and measurement products, call **+1-614-850-5000**, visit **<http://measurementsensors.honeywell.com>**, or e-mail inquiries to **[info.tm@honeywell.com](mailto:info.tm@honeywell.com)**

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