

Model 1103

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 10 in-oz to 20 in-oz for small shaft mounting configurations.

FEATURES

- 10 in-oz and 20 in-oz capacities
- 0.05 % non-linearity and hysteresis
- Lower cost for general “in-line” applications
- Can be used with almost all existing dc and ac signal conditioning equipment
- Manual brush lifter (standard)

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PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Torque range	10, 20 oz-in
Non-linearity	±0.05 % of rated output
Hysteresis	±0.05 % of rated output
Repeatability	±0.05 % of rated output
Output @ rated capacity	±0.95 mV/V (nominal)

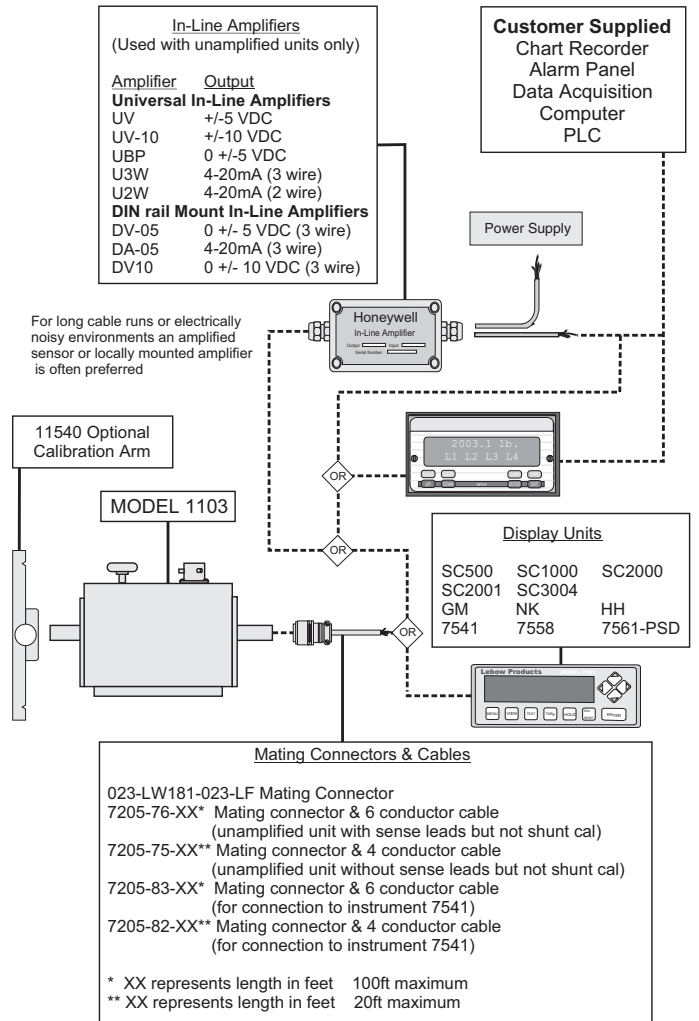
ENVIRONMENTAL SPECIFICATIONS

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	240 ohm (nominal)
Number of bridges	1
Zero balance	±1.0 % of rated output
Electrical termination	PT02E-10-6P

TYPICAL SYSTEM DIAGRAM



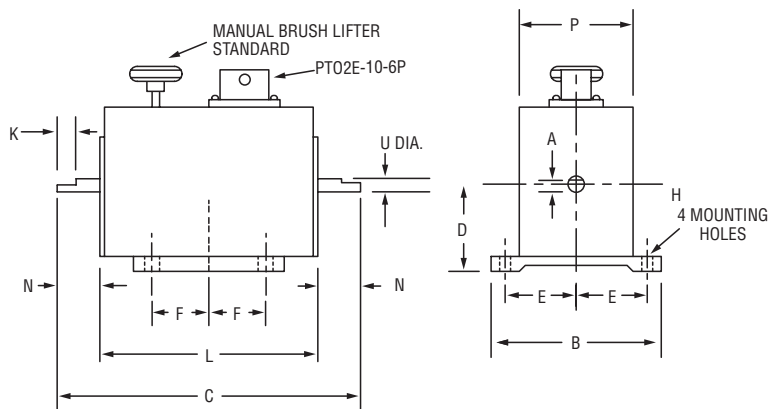
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MECHANICAL SPECIFICATIONS

oz-in	N-m	Max speed RPM	Overload capacity (% of nominal capacity)	Torsional stiffness lb-in/rad	Rotating inertia lb-in/sec ²	Weight (lb)
10	0.07	20000	150	112	2.59×10^{-3}	0.75
20	0.15	20000	150	113	2.59×10^{-3}	0.75

MOUNTING DIMENSIONS

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]
10,16 [4.00]	7,30 [2.88]	1,43 [0.56]	3,81 [1.50]	0,32 [0.12]	0,64 flat [0.25 flat]	0,24 [0.09]	5,70 [2.25]	2,50 [1.00]	2,38 [0.94]	1,90 [0.75]	0,37 [0.14]



For reference only

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⚠ 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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