

Model 1602

Low Capacity Torque Sensor



DESCRIPTION

A line of low capacity 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. 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)
- Speed sensor (optional)
- High overload protection with high signal output (sensitivity)
- Extended speed range
- Minimal maintenance due to bearings only contact
- Carrier frequency excitation provides increased signal/noise immunity

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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

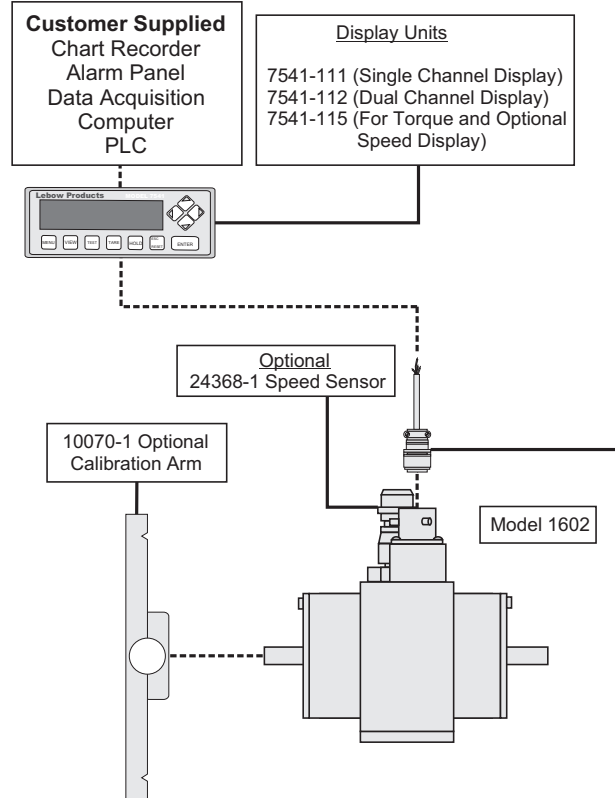
Characteristic	Measure
Excitation (maximum)	3.28 kHz optimum @ 10 Vac max. RMS
Insulation resistance	> 5000 mOhm @ 50 Vdc
Bridge resistance	350 ohm (nominal)
Number of bridges	1
Zero balance	±1.0 % of rated output

TYPICAL SYSTEM DIAGRAM

Mating Connectors & Cables

064-LW13621 Mating connector
 064-LW13656 Mating connector, speed pickup
 064-LW25469 Mating connector, zero velocity speed pickup
 7200-28-XX* Mating connector & 6 conductor cable (unamplified unit with sense leads but not shunt cal)
 7200-106-XX* Mating connector & 6 conductor cable (for connection to instrument 7541)
 7204-00-XX* Speed sensor cable, pigtail leads at instrument
 7204-16-XX* Speed sensor cable to instrument 7541
 7220-47-XX* Zero velocity speed sensor cable, pigtail leads at instrument
 7220-119-XX* Zero velocity speed sensor cable to instrument 7541

* XX represents length in feet 100ft maximum



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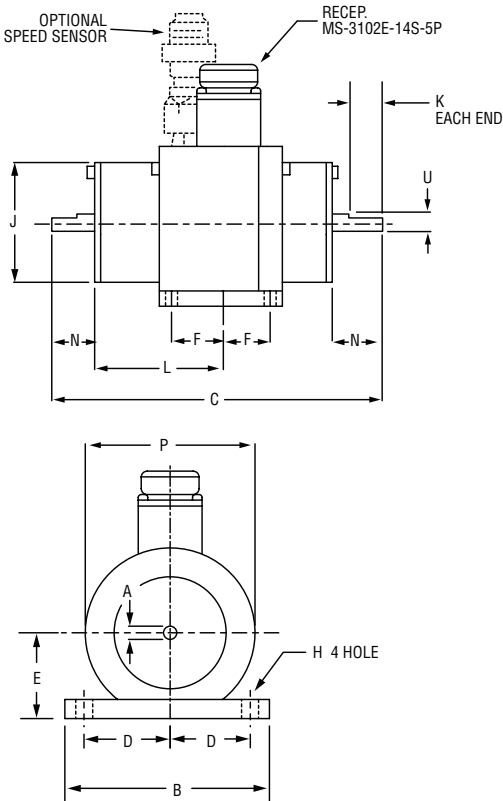
MECHANICAL SPECIFICATIONS

Model	Capacity oz-in	Capacity N-m	Max speed RPM	Protected for overloads to oz-in	Torsional stiffness lb-in/rad	Rotating inertia lb-in/sec ²	Weight kg [lb]
1602-50*	50	0.35	20000	150	400	9.06×10^{-4}	1,48 [3.25]
1602-100	100	0.70	20000	300	1000	9.06×10^{-4}	1,48 [3.25]
1602-200	200	1.50	20000	600	2500	9.06×10^{-4}	1,48 [3.25]
1602-500	500	3.50	20000	1500	5500	9.06×10^{-4}	1,48 [3.25]
1602-1K	1000	7.00	20000	1500	8000	9.06×10^{-4}	1,48 [3.25]

* Output on this capacity only 1 mV/V nominal

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]	J cm [in]
16,50 [6.50]	5,71 [2.25]	2,50 [1.0]	8,89 [3.50]	0,95 [0.37]	1,90 [0.75]	0,86 [0.34]	10,16 [4.00]	4,44 [1.75]	4,44 [1.75]	2,50 [1.00]	0,50 [0.20]	6,03 [2.38]



For reference only

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

⚠ WARNING
MISUSE OF DOCUMENTATION

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- 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.