

# Model 1254 and 1254E

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## Socket Wrench Torque Sensor



### DESCRIPTION

The sensors are primarily used to measure the output torque of stall and clutch type nutrunners in production fastening operations (not recommended for mechanical impact wrenches). Units equipped with incremental encoders are available for applica-

tions where fastener's angle of rotation as well as torque data are required. These sensors are used to monitor operation of systems using the following fastening strategies: turn of the nut , tension control and yield control.

### FEATURES

- 50 in-lb to 1000 ft-lb capacity
- 0.15 % non-linearity and hysteresis
- Hex (in-lb sizes) and square drive configurations
- Incremental encoder (optional)
- Adaptable for portable usage
- No special adapter tools required
- Repeatable torque measurements

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## PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Torque range	50, 100, 200 lb-in; 50, 100, 300, 1000 lb-ft
Non-linearity	±0.15 % of rated output
Hysteresis	±0.15 % of rated output
Repeatability	±0.1 % of rated output
Output @ rated capacity	±2 mV/V ±0.25 % full scale

## ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating	-29 °C to 93 °C [-20 °F to 200 °F] <sup>1</sup>
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

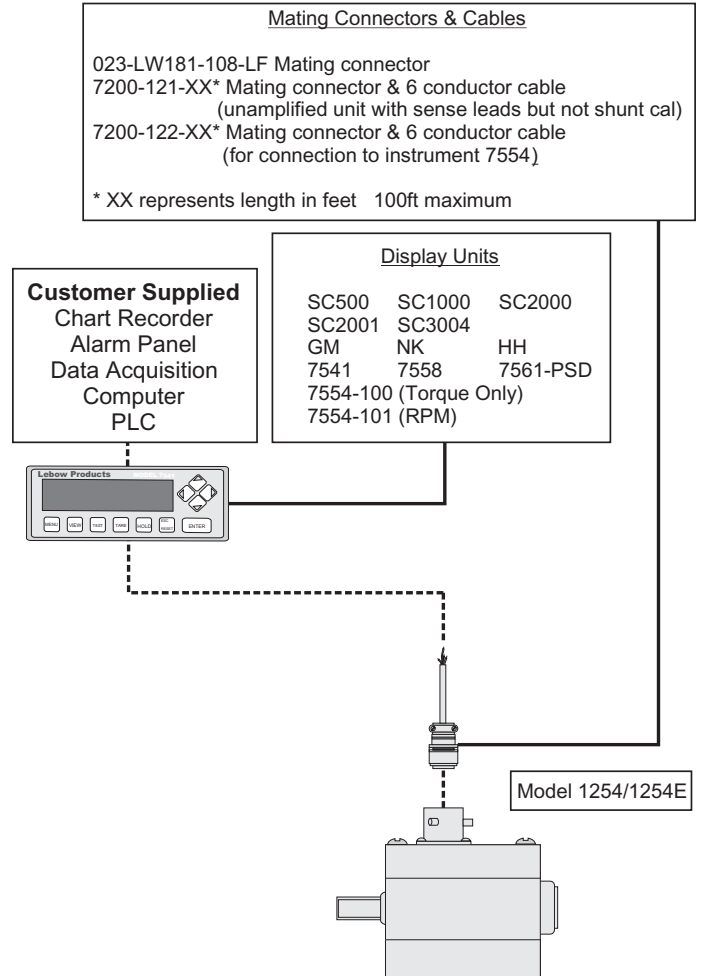
## ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Excitation (recommended)	10 Vdc or Vac RMS
Insulation resistance	> 5000 mOhm @ 50 Vdc
Bridge resistance	350 ohm (nominal)
Zero balance	±5 % or better of rated output

## 1254E SPECIFICATIONS

Characteristic	Measure
Pulses per revolution	360
Output	2 square wave signal 90° phase difference flat over operating speed range
Output voltage	350 ohm (nominal)
Power required	High 5 V, Low 0.5 V (output will drive two standard TTL loads)

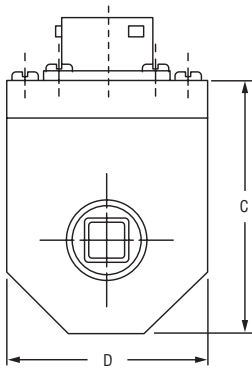
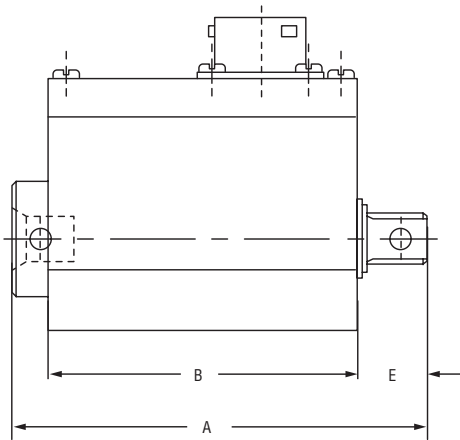
## TYPICAL SYSTEM DIAGRAM



## Series Socket Wrench Torque Sensor

### MOUNTING DIMENSIONS

Model without encoder	Model with encoder	Capacity	Capacity N m	Overload capacity	Drive	Speed RPM	A in	B in	C in	D in	E in
1254-301	1254E-301	50 lb-in	5.6	150 %	1/4 in hex.	5000	3.25	2.53	1.94	1.62	0.46
1254-301	1254E-301	100 lb-in	11.30	150 %	1/4 in hex.	5000	3.25	2.53	1.94	1.62	0.46
1254-303	1254E-303	200 lb-in	22.60	150 %	3/8 in sq.	2500	3.38	2.53	2.06	1.62	0.56
1254-305	1254E-305	50 lb-ft	67.80	150 %	1/2 in sq.	2500	3.54	2.53	2.06	1.62	0.68
1254-305	1254E-305	100 lb-ft	135.60	150 %	1/2 in sq.	2500	3.54	2.53	2.06	1.62	0.68
1254-307	1254E-307	300 lb-ft	406.70	150 %	3/4 in sq.	2000	4.45	3.07	3.37	2.38	0.91
1254-309	1254E-309	1000 lb-ft	1356	125 %	1 in sq.	1000	5.36	3.42	3.77	2.88	1.22



For reference only

Receptacle: PT02H-12-10P  
Mating connector: PT06E-12-10S

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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.**

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