

## Model 2120

### Shaft Reaction Torque Sensor



#### DESCRIPTION

Model 2120 shaft reaction torque sensor is designed for installation between test pieces such as motors, switches, axles, or shafts and their mounting plate. These models operate and are calibrated in both directions. Nickel-plated alloy steel enhances durability in harsh, industrial environments. These models have no moving parts and utilize four bonded strain gages on a spe-

cial machined portion of the transducer to achieve a maximum non-linearity of 0.1% over a wide dynamic range. Typical applications include tire braking, motor dynamometers, friction-skid testing, and twist measurement. 50 in-oz to 1000 in-oz capacities.

#### FEATURES

- 50 in-oz to 1000 in-oz capacities
- 0.1 % non-linearity and hysteresis
- No maintenance of slip rings, bearings, or brushes
- Low-end sensitivity
- Reaction measurement designed to eliminate speed limitations

# Model 2120

## 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)

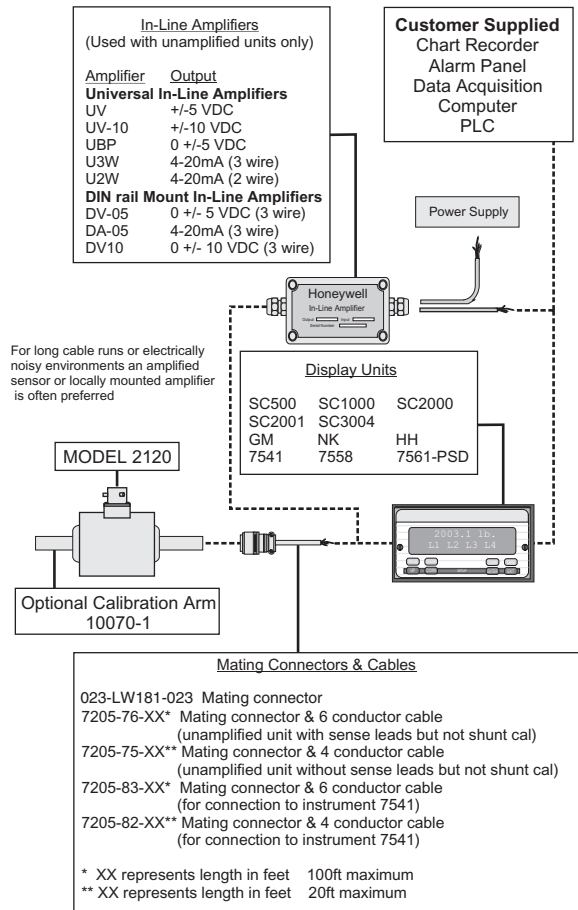
## ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating	-54 °C to 93 °C [-65 °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

## TYPICAL SYSTEM DIAGRAM



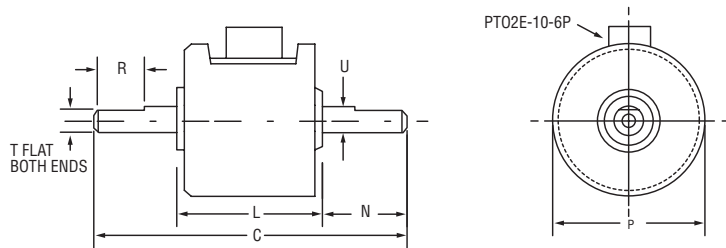
## Shaft Reaction Torque Sensor

### MECHANICAL SPECIFICATIONS

Model	Capacity Nm [oz-in]	Overload Nm [oz-in]	Torsional stiffness Nm/rad [lb-in/rad]	Max. overhung moment WxS Nm [lb-in]	Max. shear W N [lb]	Max. thrust P N [lb]
2120-50	0.35 [50]	1.06 [150]	34 [300]	0.35 [3.10]	11.57 [2.60]	53.40 [12]
2120-100	0.70 [100]	2.16 [300]	101 [890]	0.71 [6.25]	16.01 [3.60]	155 [35]
2120-200	1.50 [200]	4.32 [600]	261 [2310]	1.41 [12.50]	22.24 [5.00]	265 [60]
2120-500	3.50 [500]	7.00 [1000]	289 [2560]	3.53 [31.25]	44.50 [10]	535 [120]
2120-1K	7.00 [1000]	10.60 [1500]	580 [5130]	7.06 [62.50]	71.20 [16]	625 [140]

### MOUNTING DIMENSIONS

Model	C cm [in]	L cm [in]	N cm [in]	R cm [in]	U cm [in]	P cm [in]	T cm [in]
2120	11,43 [4.50]	4,76 [1.88]	3,33 [1.31]	1,91 [0.75]	0,95 [0.37]	5,56 [2.19]	0,86 [0.34]



For reference only

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Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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Email inquiries to [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

**⚠ 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.**