01424 Series

DIGITAL ROTARY SHAFT TORQUE SENSOR

These sensors are designed to measure rotating drive torque using a conventional shaft-to-shaft configuration for in-line placement. The unique design incorporates a digital non-contact wireless system that provides power to the rotating electronics mounted on the shaft and transmits the signal back to the receiver in digital format. The torque signal is then represented as a calibrated high level analog voltage. The sensor features high rotational speed, high frequency response, and high accuracy. These sensors can also be supplied with an optical encoder to measure angle or speed.

SPECIFICATIONS

Capacity ..... 50 in. oz. to 100,000 in.lb. (See chart)
Overload capacity ..... 150% of F.S.
Output at F.S. ..... Isolated +/- 5Vdc
Sample rate ..... 20,000 samples per sec
Bandwidth ..... dc - 1kHz
Non-linearity ..... 0.10% of F.S.
Hysteresis ..... 0.10% of F.S.
Zero balance ..... 1.00% of F.S.
Compensated temperature ..... 70 to 170°F (21 to 76°C)
Useable temperature ..... -40 to +185°F (-40 to 85°C)
Temperature effect on zero ..... 0.002% of F.S./°F
Temperature effect on span ..... 0.002% of Rdg./°F
Supply voltage 12-15Vdc
Supply current, maximum 350mA
Maximum shaft speed* ..... 10000 RPM
*for 2000in-lbs and less, 7500rpms for 5k to 20kin-lbs capacites, and 5000rpms for 50k and 100kin-lbs capacities.....
*Encoders can also have an impact to maximum speed, consult installation drawings for details.....

OPTIONS

- Signal amplifier output = +/-10V FS
- Standard Integral optical encoder - 512 ppr (10000rpm)
- Standard Integral optical encoder - 1024 ppr (5800rpm)
- Standard Integral optical encoder - 1024 ppr (5800rpm)
- Foot mounts
- Custom shaft interfaces

DIMENSIONS

MODEL	CAPACITY			SHAFT	KEY	MATERIAL
	IN-OZ.	IN-LBS	N-M			
01424-030	50	3	0.35	3/8"	1/32" flat	Stainless steel shafts/ Aluminum sensors
01424-060	100	6	0.71			
01424-120	200	12	1.41			
01424-310	500	30	3.53			
01424-620	1000	62	7.06			
01424-012		100	12	0.749	3/16"	Steel
01424-022		200	23			
01424-052		500	56	0.999	1/4"	
01424-013		1000	113			
01424-023		2000	226			
01424-053		5000	565	1.499	3/8"	
01424-014		10000	1130			
01424-153		15000	1700	1.749		
01424-024		20000	2260			
01424-054		50000	5650	2.999	3/4"	
01424-015		1E+05	11300			