

Comparison of 1,000% Overload NexGen Ultra Precision Torque Sensors with Earlier Models

		Shaft Style			Flange Style		
		MCRT® 59800V Series	MCRT® 59700V Series	MCRT® 59000V Series	MCRT® 59860V/61V/70V Series	MCRT® 59760V/61V/70V Series	MCRT® 59060V/61V/70V Series
Specifications	Torque Ratings (lbf-in)	40 to 75,000	40 to 75,000	40 to 75,000	200 to 19,200	200 to 19,200	200 to 19,200
	Overload (lbf-in)	400 to 750,000	400 to 750,000	400 to 750,000	2,000 to 192,000	2,000 to 192,000	2,000 to 192,000
	Maximum Speed (rpm) - Code N	15,000 to 3,600	15,000 to 3,600	15,000 to 3,600	8,000 to 5,500	8,000 to 5,500	8,000 to 5,500
	Maximum Speed (rpm) - Code H*	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
	Balance Grade per ISO 1940/1	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified
	Combined Nonlinearity & Hysteresis - Code N	≤±0.04	≤±0.1	≤±0.1	≤±0.05	≤±0.1	≤±0.1
	Combined Nonlinearity & Hysteresis - Code C*	Not Available	≤±0.05	Not Available	Not Available	≤±0.05	Not Available
	Nonrepeatability (% of Rating) - Code N	≤±0.02	≤±0.05	≤±0.03	≤±0.03	≤±0.05	≤±0.03
	Nonrepeatability (% of Rating) - Code C*	Not Available	≤±0.03	Not Available	Not Available	≤±0.03	Not Available
	Accuracy Class (% of Rating) - Code N	0.05	0.1	0.1	0.05	0.1	0.1
	Accuracy Class (% of Rating) - Code C*	Not Available	0.05	Not Available	Not Available	0.05	Not Available
	Zero Drift (% of Rating/°F) - Code N	≤±0.003	≤±0.002	≤±0.0025	≤±0.003	≤±0.002	≤±0.0025
	Zero Drift (% of Rating/°F) - Code C*	Not Available	≤±0.001	Not Available	Not Available	≤±0.001	Not Available
	Span Drift (% of Reading/°F) - Code N	≤±0.003	≤±0.003	≤±0.0025	≤±0.003	≤±0.003	≤±0.0025
	Span Drift (% of Reading/°F) - Code C*	Not Available	≤±0.0015	Not Available	Not Available	≤±0.0015	Not Available
	48 Hour Drift (% of Rating) - Code N	≤±0.03 (24 Hr.)	Not Specified	Not Specified	≤±0.03 (24 Hr.)	Not Specified	Not Specified
48 Hour Drift (% of Rating) - Code C*	Not Available	Not Specified	Not Available	Not Available	Not Specified	Not Available	
Outputs	Power Calculations* (Calculations/Second)	7,800	50	Not Available	7,800	50	Not Available
	Torque Analog Out (Volt)	±10 or ±5	±10 or ±5	±5	±10 or ±5	±10 or ±5	±5
	Torque Frequency Output (kHz)	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
	Speed* Analog Out (Volt)	+10 or +5	+10 or +5	Pulse Train Only*	+10 or +5	+10 or +5	Pulse Train Only*
	Power* Analog Out (Volt)	±10 or ±5	±10 or ±5	Not Available	±10 or ±5	±10 or ±5	Not Available
	Torque, Speed* Power* Digital Output	RS232, RS422, RS485	RS232	Not Available	RS232, RS422, RS485	RS232	Not Available
	Overrange (% of Range)	150	150	133	150	150	133
	Max/Min Capture Time (µS)	128	Not Available	Not Available	128	Not Available	Not Available
Signal Filters	13: 0.1 to 1000 Hz	11: 0.1 to 200 Hz	2: 1 and 500 Hz	13: 0.1 to 1000 Hz	11: 0.1 to 200 Hz	2: 1 and 500 Hz	
Features	Shunt Calibration of Active Torque Bridge	Yes	No	No	Yes	No	No
	Bipolar Calibration Circuitry	Yes	Yes	No	Yes	Yes	No
	Selectable Units of Measure without Re-calibration	Yes	Yes	No	Yes	Yes	No
	Classify User Settable Limits	Yes	Yes	No	Yes	Yes	No
	Tare Function	Yes	No	No	Yes	No	No
	Remote Zero Function	Yes	Yes	No	Yes	Yes	No
Mechanical Characteristics	Style	Shaft	Shaft	Shaft	Flange	Flange	Flange
	Length Overall (Inch)	8.5 to 23	8.5 to 23	8.5 to 23	5.19 to 8.0	5.19 to 8.0	5.19 to 8.0
	Through Bore (Inch)	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
	Axial Misalignment Rotor-to-Stator (Inch)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Radial Misalignment Rotor-to-Stator (Inch)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Foot Mount - Option F*	Yes*	Yes*	Yes*	Not Available	Not Available	Not Available
	Stiffness (lbf-in/r/rad)	24,400 to 31,500,000	21,400 to 7,100,000	21,400 to 7,100,000	602,000 to 17,900,000	602,000 to 17,900,000	602,000 to 17,900,000
	Rotating Inertia (oz-in s²)	0.0149 to 12.96	0.035 to 3.0	0.035 to 3.0	0.6 to 8.33	0.6 to 8.33	0.6 to 8.33
	Allowable Bending (lbf-in)	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified
	Allowable Thrust (lbf)	See Note 1	See Note 1	See Note 1	See Note 1	See Note 1	See Note 1
	Sensor Material	Alloy Steel	Alloy Steel	Alloy Steel	15-5PH Stainless Steel	15-5PH Stainless Steel	15-5PH Stainless Steel
	Weight (lb.)	12.5 to 172.2	11 to 115	11 to 115	12.5 to 52	12.5 to 52	12.5 to 52
	Provision for Customers' Accelerometer	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Provision for Customers' Thermocouple	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Provision to Drain Customers' Oil	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Specification	Bulletin 7511D	Bulletin 7408B	Bulletin 7590B	Bulletin 7590B	Bulletin 7408B	Bulletin 7590B	

Notes:
 * Denotes an Optional Feature
 1. The thrust capacity of a bearing supported sensor is dependent on its installation. If it is installed as a floating shaft its thrust capacity in lbs. is one half its torque rating in lbf-in. When it is foot mounted, its allowable thrust is determined by bearing loads; refer to the applicable instruction manual for more information.
 2. Specifications for all models Code J including Combined Error, Hi Range Nonrepeatability, Accuracy Class, Hi Range Zero Drift, Hi Range Span Drift, and Hi Range 48 Hour Drift are Not Available or Not Specified.

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