Comparison of 200% Overload NexGen Ultra Precision Torque Sensors with Earlier Shaft Models

		MCRT®48800V Series	MCRT®48000V Series	MCRT®28000T Series	MCRT®48200V Series
Specifications	Torque Ratings (lbf-in)	**25 to 375,000**	**25 to 375,000**	**25 to 375,000**	25 to 10,000
	Overload (% of Range)	**200**	**200**	**200**	**200**
	Maximum Speed Rating (rpm) - Code N	**15,000 to 3,600**	**15,000 to 3,600**	**15,000 to 3,600**	15,000 to 6,000
	Maximum Speed Rating (rpm) - Code H*	**15,000 to 3,600**	**15,000 to 3,600**	**15,000 to 3,600**	15,000 to 8,500
	Balance Grade per ISO 1940/1	Not Specified	Not Specified	Not Specified	Not Specified
	Combined Error (% of Rating) - Code N	**≤±0.04%**	≤±0.1%	≤±0.1%	≤±0.2%
	Combined Error (% of Rating) - Code C*	**≤±0.02%**	≤±0.05%	≤±0.07%	≤±0.15%
	Nonrepeatability (% of Rating) - Code N	**≤±0.02**	≤±0.05	≤±0.03	≤±0.05
	Nonrepeatability (% of Rating) - Code C*	**≤±0.01**	≤±0.03	≤±0.02	≤±0.05
	Accuracy Class (% of Rating) - Code N	**0.04**	0.1	0.1	0.2
	Accuracy Class (% of Rating) - Code C*	**0.036**	0.03	0.05	0.15
	Zero Drift (% of Rating /°F) - Code N	**≤±0.001**	≤±0.002	≤±0.002	≤±0.004
	Zero Drift (% of Rating /°F) - Code C*	**≤±0.0006**	≤±0.001	≤±0.001	≤±0.0017
	Span Drift (% of Reading/°F) - Code N	**≤±0.002**	**≤±0.002**	**≤±0.002**	≤±0.004
	Span Drift (% of Reading/°F) - Code C*	**≤±0.002**	**≤±0.001**	**≤±0.001**	≤±0.0017
	48 Hour Drift (% of Rating) - Code N	**≤±0.03**	Not Specified	Not Specified	Not Specified
	48 Hour Drift (% of Rating) - Code C*	**≤±0.02**	Not Specified	Not Specified	Not Specified
Outputs	Power Calculation* Rate (Calculations/Second)	**7,800**	Not Available	Not Available	Not Available
	Torque Analog Out (Volt)	**±10 or ±5**	**±5**	±1.5mV/V Torque Only	**±10 or ±5**
	Torque Frequency Output (kHz)	Not Available	Not Available	Not Available	Not Available
	Speed* Analog Out (Volt)	**+10 or +5**	Pulse Train Only*	Pulse Train Only*	Pulse Train Only*
	Power* Analog Out (Volt)	**±10 or ±5**	Not Available	Not Available	Not Available
	Torque, Speed*, Power* Digital Out	**RS232, RS422, RS485**	Not Available	Not Available	**RS 232 (Torque Only)**
	Overrange (% of Range)	**150**	Not Specified	Not Specified	Not Specified
	Max/Min Capture Time (µS)	**128**	Not Available	Not Available	**2000**
	Signal Filters	**13: 0.1 to 1000 Hz**	**2: 1 & 500 Hz**	Not Available	**11: 0.1 to 200 Hz**
Features	Shunt Calibration of Active Torque Bridge	**Yes**	No	No	No
	Bipolar Calibration Circuitry	**Yes**	No	**Yes**	**Yes**
	Selectable Units/Measure Without Recalibration	**33**	Not Available	Not Available	**10**
	Classify User Settable Limits	**Yes**	Not Available	Not Available	**Yes**
	Tare Function	**Yes**	Not Available	Not Available	**Yes**
	Remote Zero Function	**Yes**	No	No	No
Mechanical Characteristics	Mechanical Style	Shaft	Shaft	Shaft	Shaft
	Length Overall (inch)	8.5 to 23	8.5 to 23	8.5 to 23	7.5 to 9.625
	Through Bore (inch)	Not Available	Not Available	Not Available	Not Available
	Axial Misalignment Rotor to Stator (inch)	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Radial Misalignment Rotor to Stator (inch)	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	Foot Mount Option - Code F*	Yes	Yes	Yes	Integral
	Shaft Stiffness (lbf-in/rad)	2,320 to 31,500,000	2,150 to 38,000,000	2,150 to 38,000,000	1,800 to 684,000
	Rotating Inertia (ozf-in s²)	0.0147 to 12.96	0.034 to 11.7	0.034 to 11.7	0.031 to 0.100
	Allowable Bending (lbf-in)	Not Specified	Not Specified	Not Specified	Not Specified
	Allowable Thrust (lbf)	Note 1	Note 1	Note 1	Note 1
	Sensor Material	Plated Alloy Steel	Plated Alloy Steel	Plated Alloy Steel	17-4PH Stainless
	Weight (lb)	12.5 to 172.2	6 to 150	6 to 150	10 to 12
	Provision for Customers' Accelerometer	No	No	No	No
	Provision for Customers' Thermocouple	No	No	No	No
	Provision to Drain Customer's Oil	No	No	No	No
	Specification Sheet	Bulletin 7409P	Bulletin 7401K	Bulletin 761P	Bulletin 7410G

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, Nonrepeatability, Accuracy Class, Zero Drift, Span Drift, and 48 Hour Drift are not available.

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