BULLETIN 7410G

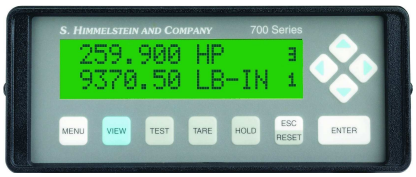
MCRT ® 48200V

Non-Contact, DC Operated

COMPACT DIGITAL TORQUEMETERS

Torque Ranges: 25 to 10,000 lbf-in (2.83 to 1,130 N-m)

- ✓ ±10 Volt or ±5 Volt Analog Output with 0.02% Resolution and Low Noise & Ripple
- ✓ 14 Bit Engineering Unit Output Via Com Port; Includes PC Interface Software and Cable
- ✓ No Pots, Switches or Manual Adjustments ✓ 11 Selectable Signal Filters
- ✓ Strain Gage Sensing in a Robust, Compact Assembly
- ✓ High Strength Alloy Steel Shaft with 200% Torque Overload Capacity
- ✓ NIST Traceable* Bidirectional Calibration
- ✓ Noise Tolerant - Compatible with IGBT-based Adjustable Speed Drives
- ✓ Optional Speed Pickup



To power and display Torque only, use a Model 703. To power and display Torque, Speed and HP, use a Model 723. See Bulletins 372 & 374.

*NIST traceable calibration performed in our accredited metrology laboratory (NVLAP Lab Code 200487-0). For details visit www.himmelstein.com or follow the accreditation link at www.nist.gov.

General Specifications		Code N Performance	Code C Performance
Accuracy (combined nonlinearity, hysteresis and nonrepeatability, % of Range)		<= ±0.2	<= ±0.15
Remote Calibration Accuracy* (% of Range @ 75 °F/23.9 °C, traceable to NIST)		<= ±0.1	<= ±0.05
Temperature Effects:	Zero Drift (% of Range/°F)/(% of Range/°C)	<= ±0.004/<= ±0.007	<= ±0.0017/<= ±0.003
	Span Drift (% of Reading/°F)/(% of Reading/°C)	<= ±0.004/<= ±0.007	<= ±0.0017/<= ±0.003
	Compensated Range (°F)/(°C)	+75 to +150/+23.9 to +66	
	Useable Range (°F)/(°C)	+32 to +175/0 to +79.4	
Analog Output: (Resolution: 0.02% on ±10V & 0.04% on ±5V output) (Source Impedance: < 1Ω)	CW/CCW Output at Full Scale	+10V/-10V or +5V/-5V, user selectable. Default is +10V/-10V.	
	Bandwidth (has Bessel Response Signal Filters)	DC to 0.1Hz thru 200Hz in eleven 1-2-5 steps, user selectable.	
	Noise and Ripple (rms, % of Range)	0.1	
	Overrange (% of Full Range, nominal)	30	
	Maximum Allowable Resistive and Capacitive Loads	10kΩ Minimum and 0.05uF Maximum	
Rotational Effect on Zero	(% of Range)	<= ±0.05	<= ±0.025
RS232C Port: (115.2 kBaud)	Outputs Torque in Engineering Units. Inputs units of measure selection, scaling, signal filter selection, zero, span, cal data and commands.		
Supply Voltage	10 to 15 VDC @ 200 mA, nominal. Has reverse polarity and 20 Volt overvoltage protection.		
Available Options	Enhanced Performance - Code C, Code N is standard performance. 60 PPR Speed Pickup Options: Code A is standard type, Code Z is Zero Velocity type, Code N denotes no pickup. **A Type Z pickup is recommended for low speeds and/or operation in electrically noisy environments.**		

S. HIMMELSTEIN AND COMPANY

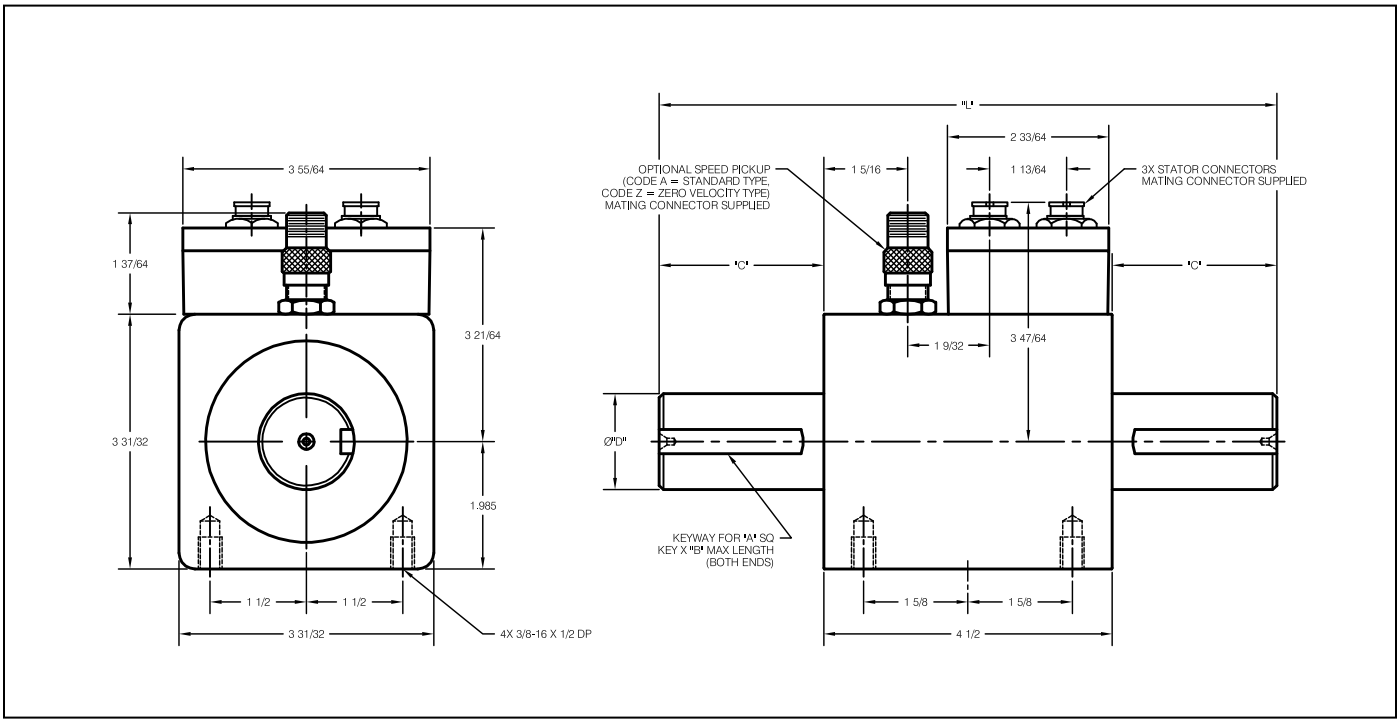
2490 Pembroke Avenue, Hoffman Estates, IL 60169 USA • Tel: 847/843-3300 • Fax: 847/843-8488

MCRT® 48200V Digital Torquemeters have high accuracy, low noise, high overload capacity, high overrange, inherent noise tolerance and a wide temperature range. State-of-the-art strain gage sensing and non-contact signal transfer suit them for control, laboratory and production use. Two grades are made; Code N *standard performance* and Code C *enhanced performance*. They can be floated or foot mounted with the integral mounting base. Do Cal Checks and Auto-Zero using control lines or, from your computer.

Included software interfaces with Windows-based PC's. Use it to: display torque, re-scale, run a Cal Check, Auto-Zero, select from 10 units of measure without recalibration, select from 11 signal filters, invoke password protection. Your PC and included software will display current, peak, valley and spread engineering unit data, will classify limits, and do real time plotting. It also saves data to disk and stores your test setup parameters If you re-calibrate, the original calibration is archived. A sensor to PC cable is provided.

MCRT® MODEL	TORQUE RANGE		TORQUE OVERLOAD		SPEED RATING* (RPM)		SHAFT STIFFNESS**	ROTATING INERTIA	MAX WT.
	[lbf-in]	[N–m]	[lbf-in]	[N–m]	Code N	Code C	[lbf-in/radian]	[ozf-in sec^2]	[lbs]
48201V(25-0)	25	2.82	50	5.65	0 to ±8,000	0 to ±15,000	1,800	0.031	10
48201V(5-1)	50	5.65	100	11.3	0 to ±8,000	0 to ±15,000	5,000	0.031	10
48201V(1-2)	100	11.3	200	22.6	0 to ±8,000	0 to ±15,000	12,000	0.031	10
48201V(2-2)	200	22.6	400	45.2	0 to ±8,000	0 to ±15,000	26,000	0.031	10
48202V(5-2)	500	56.5	1,000	113	0 to ±7,000	0 to ±12,000	66,000	0.032	10
48202V(1-3)	1,000	113	2,000	226	0 to ±7,000	0 to ±12,000	85,000	0.032	10
48203V(2-3)	2,000	226	4,000	452	0 to ±6,500	0 to ±8,500	288,000	0.080	10
48204V(5-3)	5,000	565	10,000	1,130	0 to ±6,000	0 to ±8,500	545,000	0.100	11
48204V(1-4)	10,000	1,130	20,000	2,260	0 to ±6,000	0 to ±8,500	684,000	0.100	12

** Ratings are for continuous operation without external lubrication. **Stiffness is conservatively rated and includes the torsion section and shaft ends.*



Specifications and dimensions are subject to change.

MCRT® MODEL	DIMENSIONS [inches]				
	A	B	C	D	L
48201V	0.187	1.000	1.500	0.625 +0.0000/-0.0005	7.500
48202V	0.187	1.000	1.500	0.750 +0.0000/-0.0005	7.500
48203V	0.250	1.063	1.563	1.000 +0.0000/-0.0005	7.625
48204V	0.375	1.625	2.563	1.500 +0.0000/-0.0005	9.625

4 PIN TORQUE CONNECTOR	
1	Analog Output
2	Analog Ground
3	CW Cal Check (short 3 to 2)
4	CCW Cal Check (short 4 to 2)
Auto-Zero (short 3 & 4 to 2 for 5 seconds)	

3 PIN RS232C CONNECTOR	
1	TXD
2	Ground
3	RXD

SPEED PICKUP CONNECTOR				
CODE A PICKUP		CODE Z PICKUP		
A	Signal	A	+ Power In (5 to 15Vdc)	
B	Signal	B	Output Signal	
		C	Common	
		2 PIN POWER CONNECTOR		
		1	Power Ground	
		2	+ Power In (10 to 15Vdc)	
Order #	MCRT 48202V	(5-2)	N or C	A, Z or N
	Model No.	Range	Performance	Speed Pickup

SUPPORTED UNITS OF MEASURE *(default = lbf-in)*
lbf-in, lbf-ft, ozf-in, ozf-ft, N-m, kN-m, N-cm, kgf-m, kgf-cm, gf-cm