

Quick Start Installation Guide for Bearingless Digital Torque Transducers Electrical Connections

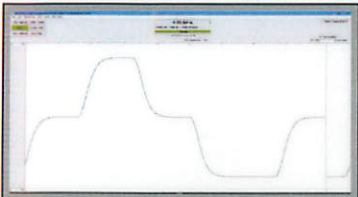
Applicable Models

MCRT® 84000V Series	MCRT® 80001V Series
MCRT® 85000V Series	MCRT® 81008V Series
MCRT® 86000V Series	MCRT® 81708V Series
MCRT® 86100V Series	MCRT® 84700V Series
MCRT® 87000V Series	MCRT® 88700V Series

For Complete Installation Guide download from:



https://www.himmelstein.com/PDF_Files/BLT_Install.pdf



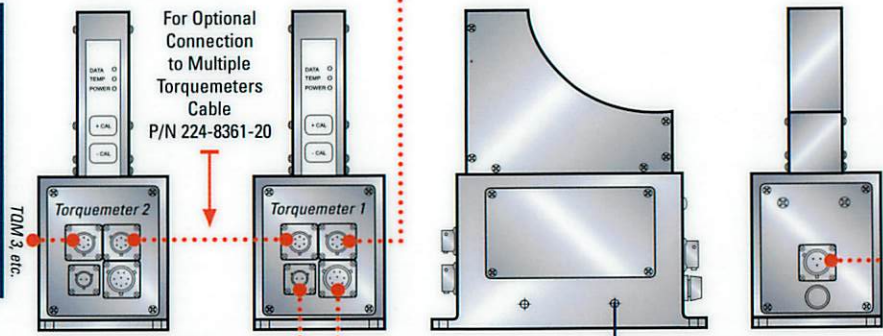
BLT Software Download from:



https://www.himmelstein.com/Downloads/SHC_BLT.exe

Mating Connectors

RS 232/422/485, 6 pin Qty 2
P/N 320-1271 (MS3116-F10-6S)
I/O and FM Out, 8 pin
P/N 320-1295 (MS3116-F12-8S)
Torque Analog Out, 2 pin
P/N 320-1275 (MS3116-F8-2S)



Mating Connectors

Power Supply In (3-pin)
P/N 320-1294 (MS3116-F12-3S)
2A Fuse P/N 380-1027 (Littlefuse 0313002.HXP)

Customer Furnished Power Supply

OR

Himmelstein Model 1230 Optional

Power Cord Customer Furnished

DC Power Supply
10 to 15 Vdc
ACN
ACL

INPUT: 100-240V ~ 0.8-0.4A 50/60Hz
OUTPUT: 12V --- 2.5A

Analog Output - Pin A (CLR)
Ground - Pin B (BLK)

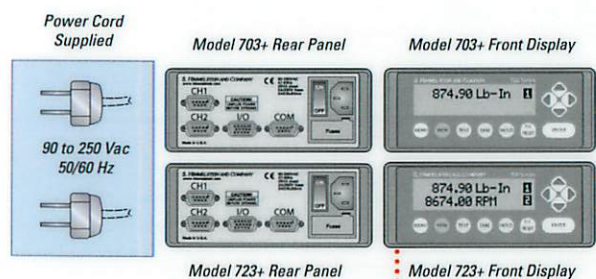
Cable P/N 224-8358-XX
Torque Analog Voltage Output

Cable P/N 224-8362-XX

Ground - Pin A (BLK)
+ Supply - Pin C (CLR)
Shield - Pin B

Cable P/N 224-8430-XX
Torque to CH1

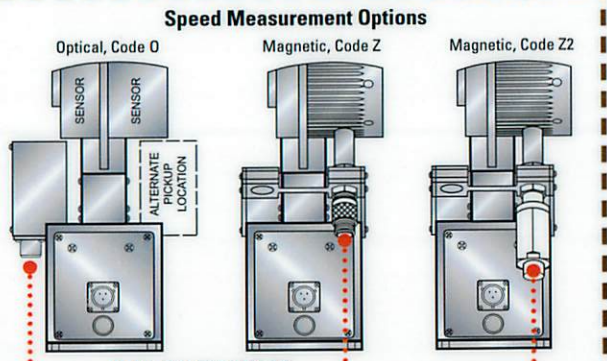
Cable P/N 224-8369-XX
I/O & Torque FM Output



Power In (6 to 15 Vdc, code Z; 10 to 26 Vdc, code O) - Pin A (RED)
Pulse Output - Pin B (GRN)
Common - Pin C (BLK)

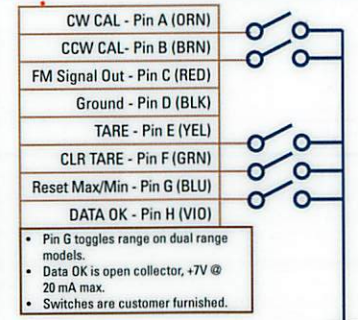
Mating Connectors

Code O and Z (3-pin)
P/N 224-5361 (MS3106A-10SL-3S)
Code Z2 (6 pin)
P/N 320-1271 (MS3116-F10-6S)



Cable P/N 224-5347-XX

Cable P/N 224-8387-XX
Speed (with direction of rotation) to CH2



Cable P/N 224-9037-XX

CH. A Output - Pin A (WHT)
CH. B Output - Pin C (RED)
Direction Output - Pin D
Power In (10 to 28 Vdc) - Pin E (GRN)
DC Common - Pin F (BLK)

- Notes:**
- Mating connectors supplied for all connections for which a cable was not provided.
 - External DC power supply (10 to 26 Vdc; 6 to 11 Watts nominal), required for operation.
 - Substitute cable length for "XX" suffix in cable part numbers. Standard available cable lengths are 20, 50 and 100 feet.
 - Torque signal analog output is user settable through BLT software, default is ± 10 Vdc.
 - Torque signal FM output is user settable through BLT software as 10 ± 5 kHz (default), 20 ± 10 kHz or 40 ± 20 kHz.
 - RS232 serial cable (224-8359-20) is provided. All other cables and/or additional connectors are available for purchase separately.

Model	Pulses per Revolution		
	Code O, P/N 224-8391	Code Z, P/N 900-1007	Code Z2, P/N 900-1027
8_1	30	60	Code Z2 has dual channel quadrature output. Raw pulse count same as code Z, but can be 1X, 2X or 4X with appropriate conditioner and pickup adjustment.
8_2	30	60	
8_4	45	90	
8_7	60	120	
8_8	30	120	
81_8	N/A	120	
8_9	36	180	
8_10	40	180	

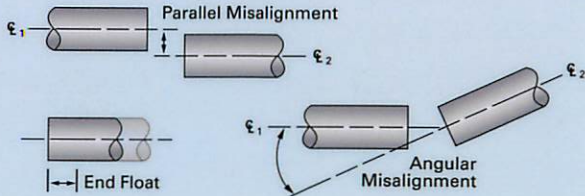
Quick Start Installation Guide for Bearingless Digital Torque Transducers Mechanical Mounting

Applicable Models

- MCRT® 84000V Series
- MCRT® 85000V Series
- MCRT® 86000V Series
- MCRT® 86100V Series
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- MCRT® 80001V Series
- MCRT® 81008V Series
- MCRT® 81708V Series
- MCRT® 84700V Series
- MCRT® 88700V Series

SHAFT MISALIGNMENTS

Please select appropriate style of shaft couplings for your desired installation. Couplings will need to accommodate inevitable parallel and/or angular shaft end mis-alignments. Double flex couplings handle both angular and parallel misalignments, single flex couplings only angular.



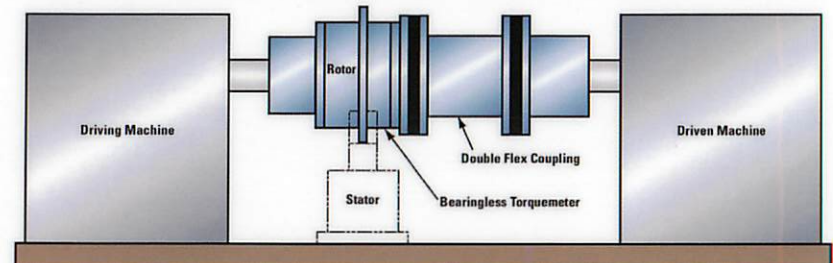
MECHANICAL MOUNTING

Recommended mounting arrangements as shown. Use alloy steel socket head cap screws for attachment to mating flanges tightened to the appropriate torque values.

MCRT® Series	Hi Strength Socket Head Cap Screws	Tightening Torque	
		Lbf-ft	N-m
80001	M4 - 17.4	3.4	4.6
8_2	1/4 - 20	17	23
8_4	7/16 - 14	100	135
8_7	3/4 - 10	500	675
8_8	7/8 - 9	700	950
81_8	M20 - 2.5	480	650
8_9	1 1/4 - 7	2,080	2,820
8_10	1 1/2 - 6	3,600	4,880

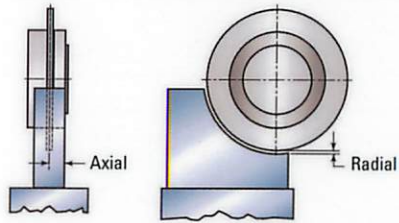
RIGID and DOUBLE FLEX

Rigid coupling on one side and a double flex coupling on the opposite side. This installation requires more care to control the axial and radial runout at the double flex coupling side to minimize potential for vibration.



ROTOR to STATOR ALLOWABLE SPACING

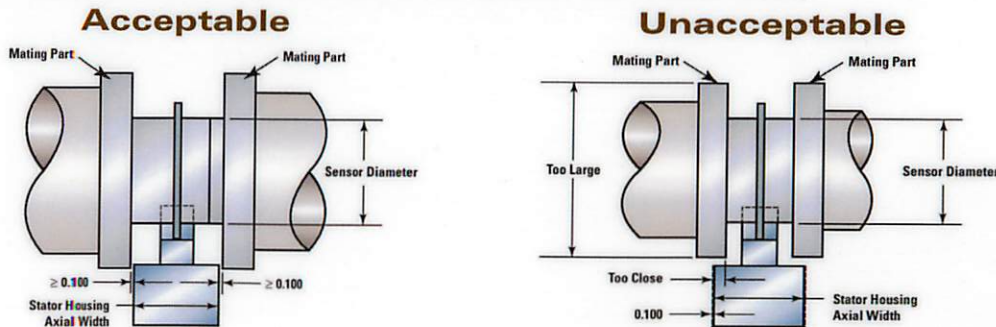
Position the stator so that both Power and Data status LEDs indicate green.



Model	Allowable Spacing		Code	Speed Pickup Spacing		
	Axial	Radial (max)		Gap (max)		
80001			0	0.4" (10 mm)		
8_2	±0.4" (±10 mm)	0.3" (7.6 mm)	Z	0.04" (1 mm)		
8_4			ZZ	0.08" (2 mm)		
8_7						
8_8						
81_8	±0.25" (±6.4 mm)	0.3" (7.6 mm)				
8_9	±0.2" (±5 mm)	0.2" (5 mm)				
8_10	±0.2" (±5 mm)	0.3" (7.6 mm)				

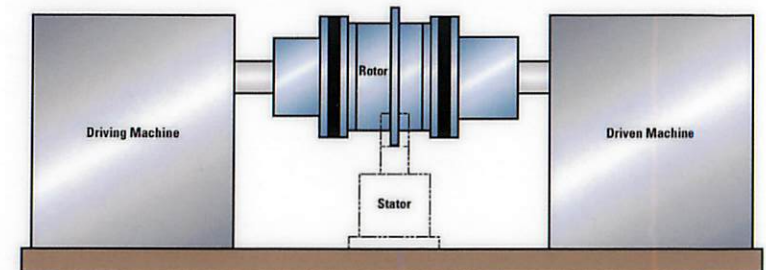
PROXIMITY of METAL COMPONENTS

Installed stationary metal parts must have at least 1 inch (25.4 mm) clearance to the rotating antenna. Rotating parts need to be spaced at least 0.1 inch (2.54 mm) from the stator housing.



SINGLE FLEX BOTH SIDES

Single flex couplings on both sides to accommodate angular misalignments.



Notes:

1. Use alloy steel socket head cap screws with tensile strength $\geq 170,000$ psi (1,200 Mpa).
2. Apply anti-seize compound to fastener threads prior to assembly.
3. Mating flanges must be clean and free of grease.

For Complete Installation Guide download from:

