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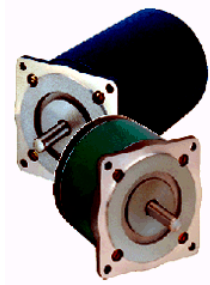
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Find the *Danaher Motion / Superior Electric M092-FF-402* at our website: *Click HERE*

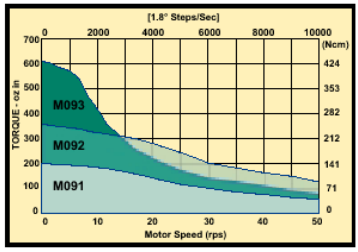
Standard 90mm Frame Size
NEMA Size 34



Features

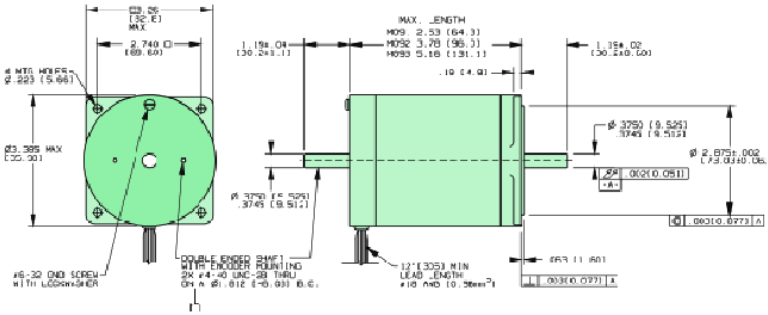
- Up to 150% rated torque reserve capacity
- ± 3% typical step accuracy
- Standard terminal box, encoders, and precision gearheads available
- Available with four, six or eight leads
- Customized configurations available

Performance Envelope



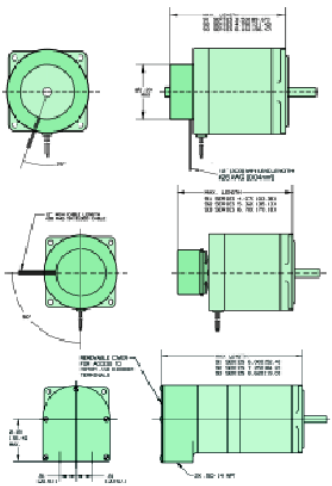
Motor Frame	Minimum Holding Torque		Rotor Inertia	Weight		Maximum Shaft Load		Minimum Residual Torque
	Unipolar 20 on oz-in (Ncm)	Bipolar 20 on oz-in (Ncm)	oz-in-s (kg-cm)	Net* lb (kg)	Ship* lb (kg)	Overhang lb (kg)	Thrust lb (kg)	oz-in (Ncm)
M091	150 (106)	180 (127)	0.0095 (0.67)	3.3 (1.5)	4.0 (1.8)	25 (11)	50 (23)	2.0 (1.4)
M092	300 (212)	370 (261)	0.0174 (1.23)	5.5 (2.5)	6.8 (3.1)	25 (11)	50 (23)	4.0 (2.8)
M093	450 (318)	550 (388)	0.0265 (1.87)	7.8 (3.5)	9.0 (4.1)	25 (11)	50 (23)	7.0 (4.9)

Motor Dimensions



Add "E" to model number for double ended shaft. Example : M092-LS08E

Encoder



Add to Model Number:

C	500	6

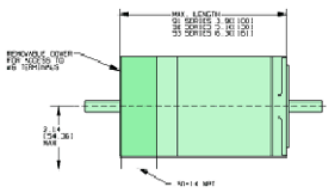
Pulses per Revolution	Number of Outputs
200, 400, 500, or 1250	2 A, B *(not available with 1250)* 3 A, B, Index *(not available with 1250)* 6 A, B, Index, A, B, Index *Differential Line Drivers supplied with 6 outputs*

M091 LE08C2003 single stack, eight leads, 8 amps, 200 pulse encoder with A , B outputs

M092-LS09C12506 double stack, six leads, 9 amps, 1250 pulse encoder with 6 ouputs.

(consult factory for encoder with terminal box)

Terminal Box



Change Model Number:

Example: M092-TE09 (double stack, terminal box, eight leads, 9 amp winding)

(consult factory for encoder with terminal box)

Click here to download the pdf file formatted version of these diagrams for detail clarity.

M09 Series 90MM Frame Size Model (NEMA 34) RATINGS and SPECIFICATIONS

Motor Type 3% / 5% Accuracy		Connections		Typical Time for Single Step (mS) (1)	Unipolar Configuration						Bipolar Connections											
		Number	Type		Nominal DC Volts (3)	Rated Amperes Per Winding	Nominal Resistance Per Winding (25C) OHMS (2)	Nominal Inductance Per Phase (Milli-Henry's) (2) (4)	Minimum Holding Torque Oz-In (Ncm)		Series Connection						Parallel Connection					
															Minimum Holding Torque Oz-In (Ncm)							
3% Accuracy	5% Accuracy								2 On	1 On	Volts	Amperes	R	L	2 On	1 On	Volts	Amperes	R	L	Minimum Torque Oz-In (N	
																					2 On	
	M091-FD03	6	LEADS	8.5	5.3	1.6	3.3	16.5	150(106)	90(64)	7.25	1.1	6.6	66	180(127)	110(78)	—	—	—	—	—	
—	M091-FD06	6	LEADS	3.9	2.6	3.1	0.85	4.12	150(106)	90(64)	3.75	2.2	1.7	16.5	180(127)	110(78)	—	—	—	—	—	
M091-FC06	M091-FD09	6	LEADS	3.1	1.7	4.7	0.36	1.5	150(106)	90(64)	2.4	3.3	0.72	6	180(127)	110(78)	—	—	—	—	—	
M091-FC09	M091-FF-206	4	LEADS	—	—	—	—	—	—	—	3	3	1	10.4	180(127)	—	—	—	—	—	—	
—	M091-FF-401	4	TERM.	—	—	—	—	—	—	—	6.8	1	6.8	52	180(127)	110(78)	—	—	—	—	—	
—	M091-FD-8106	8	LEADS	3.9	2.6	3.1	0.85	4.12	150(106)	90(64)	3.75	2.2	1.7	16.5	180(127)	110(78)	1.9	4.4	0.425	4.12	180(127)	
—	M091-FD-8009	8	TERM.	3.1	1.7	4.7	0.36	1.5	150(106)	90(64)	2.4	3.3	0.72	6	180(127)	110(78)	1.2	6.6	0.18	1.5	180(127)	
—	M091-FD-8109	8	LEADS	3.1	1.7	4.7	0.36	1.5	150(106)	90(64)	2.4	3.3	0.72	6	180(127)	110(78)	1.2	6.6	0.18	1.5	180(127)	
—	M092-FD08	6	LEADS	4	3	4	0.75	3.56	300(212)	180(127)	4.2	2.8	1.5	14.24	370(261)	225(158)	—	—	—	—	—	
M092-FC08	M092-FD09	6	LEADS	3.9	2.5	4.6	0.55	2.76	300(212)	180(127)	3.6	3.25	1.1	11.04	370(261)	225(158)	—	—	—	—	—	
M092-FC09	M092-FF-206	4	LEADS	—	—	—	—	—	—	—	4	4	1	11.5	370(261)	—	—	—	—	—	—	
—	M092-FD-310	6	TERM.	3.9	1.56	6.8	0.23	1.28	300(212)	180(127)	2.2	4.8	0.46	5.12	370(261)	225(158)	—	—	—	—	—	
—	M092-FD-335(5)*	6	TERM.	3.9	1.56	6.8	0.23	1.28	300(212)	180(127)	2.2	4.8	0.46	5.12	370(261)	225(158)	—	—	—	—	—	
—	M092-FF-402	4	TERM.	—	—	—	—	—	—	—	3.4	2	1.7	16.6	325(229)	195(138)	—	—	—	—	—	
—	M092-FD-8008	8	TERM.	4	3	4	0.075	3.56	300(212)	180(127)	4.2	2.8	1.5	14.24	370(261)	225(158)	2.1	5.7	0.375	3.56	370(261)	
—	M092-FD-8108	8	LEADS	4	3	4	0.75	3.56	300(212)	180(127)	4.2	2.8	1.5	14.24	370(261)	225(158)	2.1	5.7	0.375	3.56	370(261)	
—	M092-FD-8009	8	TERM.	3.9	2.5	4.6	0.55	2.76	300(212)	180(127)	3.6	3.25	1.1	11.04	370(261)	225(158)	1.8	6.5	0.275	2.76	370(261)	
—	M092-FD-8109	8	LEADS	3.9	2.5	4.6	0.55	2.76	300(212)	180(127)	3.6	3.25	1.1	11.04	370(261)	225(158)	1.8	6.5	0.275	2.76	370(261)	
—	M092-FD-8114*	8	TERM.	3.9	1.65	6.8	0.023	1.18	300(212)	180(127)	2.3	4.8	0.46	4.72	370(261)	225(158)	1.2	9.6	0.115	1.18	370(261)	
—	M093-FD07	6	LEADS	6.3	4.3	3.5	1.22	7.87	450(318)	270(191)	6.1	2.5	2.44	31.48	550(388)	330(233)	—	—	—	—	—	
M093-FC07	M093-FD11	6	LEADS	4.1	2.64	5.5	0.48	3.19	450(318)	270(191)	3.75	3.9	0.96	12.76	550(388)	330(233)	—	—	—	—	—	
M093-FC11	M093-FD14	6	LEADS	3.4	2.27	7	0.324	2	450(318)	270(191)	3.2	5	0.648	8	550(388)	330(233)	—	—	—	—	—	
M093-FC14	M093-FF-206	4	LEADS	—	—	—	—	—	—	—	3.85	4	0.96	12.76	550(388)	—	—	—	—	—	—	
—	M093-FD-301*	6	TERM.	3.4	1.54	11	0.14	0.85	450(318)	270(191)	2.2	7.8	0.28	3.4	550(388)	330(233)	—	—	—	—	—	
—	M093-FD-315(5)*	6	TERM.	3.4	1.54	11	0.14	0.85	450(318)	270(191)	2.2	7.8	0.28	3.4	550(388)	330(233)	—	—	—	—	—	
—	M093-FF-402	4	TERM.	—	—	—	—	—	—	—	4.5	3	1.5	16.9	550(388)	330(233)	—	—	—	—	—	
—	M093-FD-8007*	8	TERM.	6.3	4.3	3.5	1.22	7.87	450(318)	270(191)	6.1	2.5	2.44	31.48	550(388)	330(233)	3	4.95	0.61	7.87	550(388)	
—	M093-FD-8107*	8	LEADS	6.3	4.3	3.5	1.22	7.87	450(318)	270(191)	6.1	2.5	2.44	31.48	550(388)	330(233)	3	4.95	0.61	7.87	550(388)	
—	M093-FD-8011	8	TERM.	4.1	2.64	5.5	0.48	3.19	450(318)	270(191)	3.75	3.9	0.96	12.76	550(388)	330(233)	1.9	7.8	0.24	3.19	550(388)	
—	M093-FD-8014	8	TERM.	3.4	2.27	7	0.324	2	450(318)	270(191)	3.2	5	0.648	8	550(388)	330(233)	1.6	9.9	0.612	2	550(388)	
—																						

(1) With 24 volts drive.

(2) Values shown are for reference only and are correct to the best of our knowledge at the time of publication, but are subject to change without notice. Parameters to be used as part of a specification should be verified with the factory.

(3) Voltage shown is per phase at rated current at zero steps per second, with winding at 25°C. Resistance tolerance and winding temperature will influence voltage.

(4) Tolerance is ±20%. Measured at 1 kHz with a General Radio #1650B impedance bridge having a 1 volt rms open circuit sinusoidal signal. Rotor position preconditioned by energizing same phase, then deenergizing same phase during measurement without changing rotor position.
*These motors are obsolete and should not be used in a new application design. They can be provided to support existing systems.

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