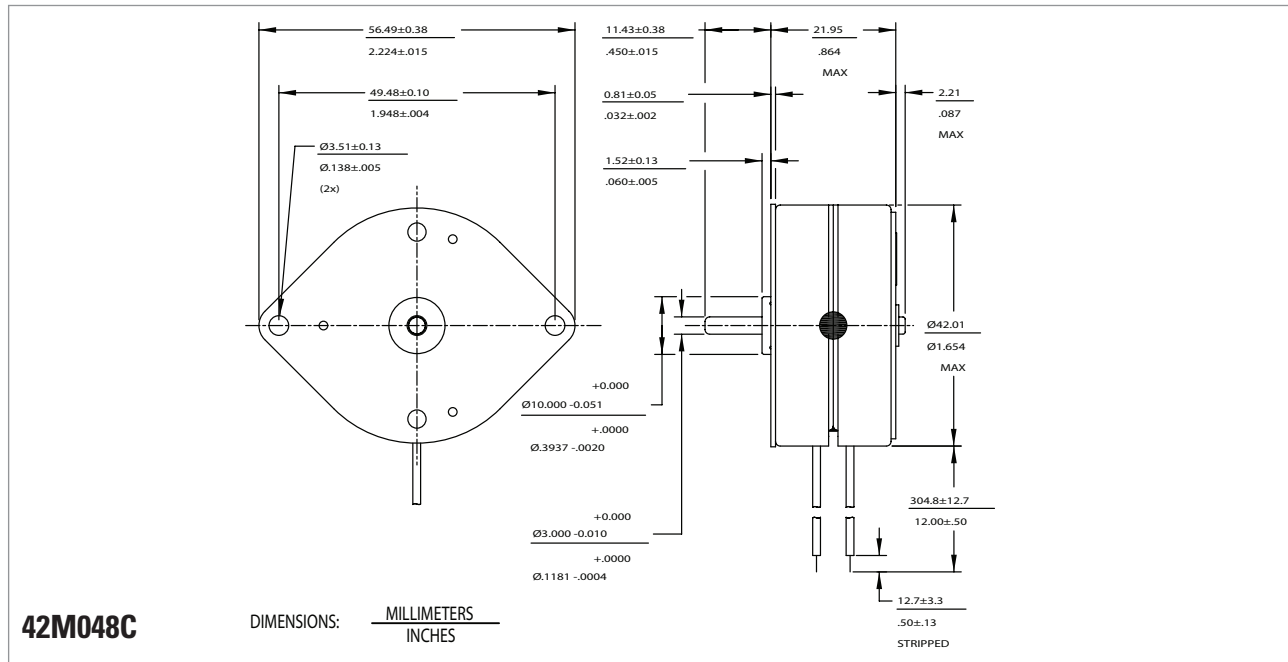


42M048C

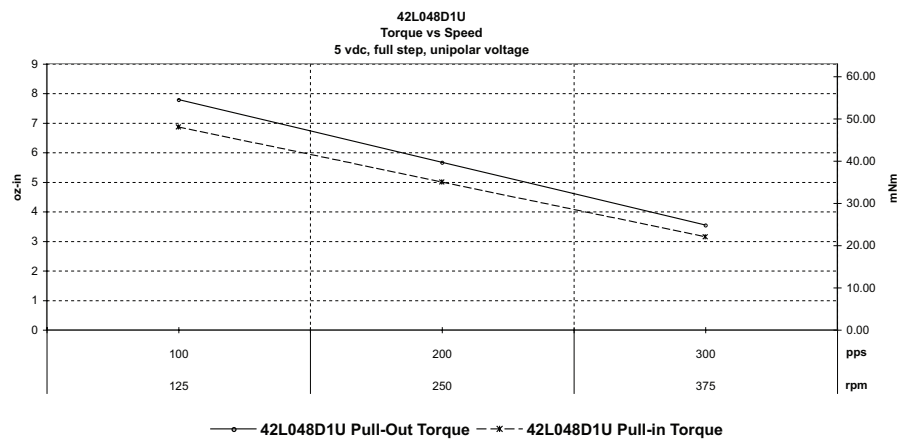
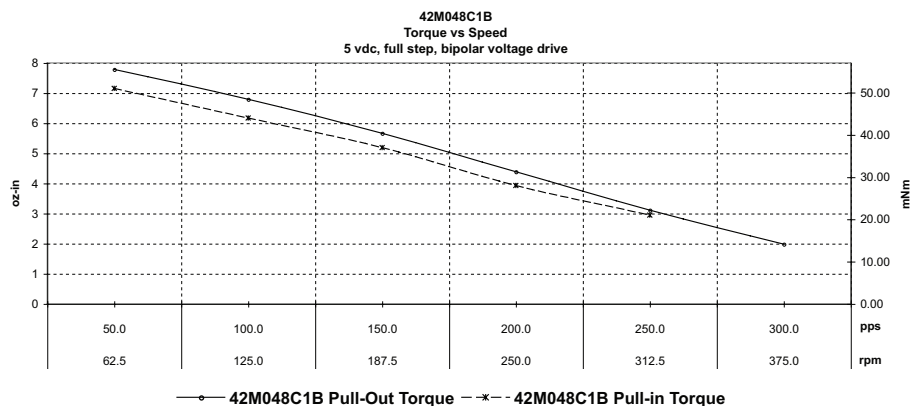
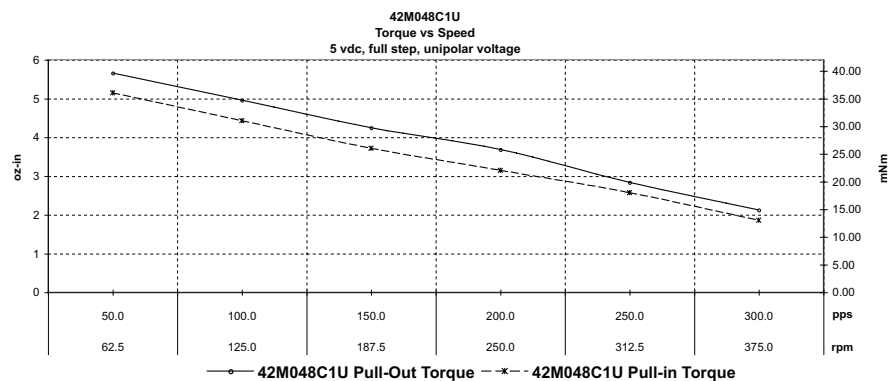


Technical Specifications

Part Number		Unipolar		Bipolar	
		42M048C1U	42M048C2U	42M048C1B	42M048C2B
Rated voltage	(vdc)	5	12	5	12
Resistance per phase ± 10%	(ohms)	9.10	52.40	9.10	52.40
Inductance per phase, Typ	(mH)	8.10	51.70	16.70	85.70
Rated current per phase *	(amps)	0.55	0.23	0.55	0.23
Holding torque, min *	(oz-in / mNm)	9.4 / 66.2		11.9 / 84	
Step angle *	(degrees)	7.5 ± 0.5°			
Steps per revolution *		48			
Detent torque, max	(oz-in / mNm)	1.8 / 12.7			
Thermal resistance	(°C / watt)	N.A.			
Rotor moment of inertia	(oz-in-s² / g-cm²)	0.068 / 12.5			
Ambient temperature range					
Operating	(°C)	-20 ~ +70			
Storage	(°C)	-40 ~ +85			
Bearing type		Sintered Bronze Sleeve			
Insulation resistance at 500vdc	(MΩ)	100			
Dielectric withstanding voltage	(vac)	650 for 2 seconds			
Weight	(lbs / g)	0.31875 / 145			
Shaft load ratings, max at 1500 rpm					
Radial	(lbs / kg)	1.124 / 0.509			
Axial	(lbs / kg)	0.337 / 0.153			
Leadwires		AWG 26, UL 1430			
Temperature class, max	(°C)	B(130°C)			
RoHS		Compliant			

All motor data values at 25 $^\circ\text{C}$ unless otherwise specified

* Energise at rated current, 2 phase on



42M SERIES SYNCHRONOUS MOTOR

Technical Specifications

Part Number			42M250C3A	42M250C5A	42M250C7A
Ac operating voltage	(vac)		24.0	120.0	230.0
Frequency	(Hz)		50.0	50.0	50.0
Speed	(rpm)		250.0	250.0	250.0
Direction of rotation	-		Reversible	Reversible	Reversible
Synchronous torque	(oz-in / mNm)		5.05 / 35.66	5.78 / 40.82	5.47 / 38.63
Capacitance	(μ F)		6.8	0.33	0.100
Rotor moment of inertia	(oz-in-s ² / g-cm ²)		0.068 / 12.5		
Weight	(lbs / g)		0.31875 / 145		
Leadwires			AWG 24, UL 1015		
Ambient temperature range	Operating	(°C)	-20 ~ +70		
	Storage	(°C)			
			-40 ~ +85		
Bearing type			Sintered Bronze Sleeve		
Insulation resistance at 500vdc	(Mohms)		100		
Dielectric withstanding voltage	(vac)		1250 $\pm$ 50 VRMS, 2 seconds		
Temperature class, max	(°C)		B(130°C)		
RoHS			Compliant		

All motor data values at 25°C unless otherwise specified

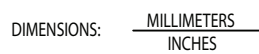
42M SERIES SYNCHRONOUS MOTOR

Technical Specifications

Part Number			42M300C3A	42M300C5A	42M300C7A
Ac operating voltage	(vac)		24.0	120.0	230.0
Frequency	(Hz)		60.0	60.0	60.0
Speed	(rpm)		300.0	300.0	300.0
Direction of rotation	-		Reversible	Reversible	Reversible
Synchronous torque	(oz-in / mNm)		5.05 / 35.66	5.78 / 40.82	5.47 / 38.63
Capacitance	(μ F)		6.8	0.33	0.082
Rotor moment of inertia	(oz-in-s ² / g-cm ²)		0.068 / 12.5		
Weight	(lbs / g)		0.31875 / 145		
Leadwires			AWG 24, UL 1015		
Ambient temperature range	Operating	(°C)	-20 ~ +70		
	Storage	(°C)			
			-40 ~ +85		
Bearing type			Sintered Bronze Sleeve		
Insulation resistance at 500vdc	(Mohms)		100		
Dielectric withstanding voltage	(vac)		1250 $\pm$ 50 VRMS, 2 seconds		
Temperature class, max	(°C)		B(130°C)		
RoHS			Compliant		

All motor data values at 25°C unless otherwise specified

42M-R



Technical drawing of a mechanical part, showing front, side, and detail views with dimensions in inches.

Front View:

- Overall width: 55.55 MAX
- Overall height: 2.187
- Top width: 47.63±0.15
- Top width: 1.875±.006
- Top width: 23.813±0.076
- Top width: .9375 ±.0030
- Top width: R16.66 REF [R .656]
- Top width: 28 REF
- Top width: 1.1
- Top width: 71.68 MAX
- Top width: 2.822
- Top width: Ø3.61
- Top width: +0.076 / -0.025
- Top width: Ø.142
- Top width: +.003 / -.001
- Top width: 2 HOLES
- Top width: R26.75 REF
- Top width: R 1.053

Side View:

- Overall width: 12.7
- Overall width: .5
- Overall width: 18.75 MAX
- Overall width: .738
- Overall width: 23.85 MAX
- Overall width: .939
- Overall width: 21.95 MAX
- Overall width: .864
- Overall width: (WITH DECAL)
- Overall width: 0.889±0.152
- Overall width: .035±.006
- Overall width: (WITH DECAL)
- Overall width: 7.92
- Overall width: .312
- Overall width: Ø.51
- Overall width: +0.127 / -0.000
- Overall width: .020
- Overall width: +.005 / -.000
- Overall width: Ø4.763
- Overall width: +0.000 / -0.008
- Overall width: Ø.1875
- Overall width: +0.000 / -0.003
- Overall width: 304.8±25.4
- Overall width: 12.0±1.0
- Overall width: 12.7 REF
- Overall width: 0.5

Detail A:

- Overall width: 12.7
- Overall width: .5
- Overall width: 18.75 MAX
- Overall width: .738
- Overall width: 23.85 MAX
- Overall width: .939
- Overall width: 21.95 MAX
- Overall width: .864
- Overall width: (WITH DECAL)
- Overall width: 0.889±0.152
- Overall width: .035±.006
- Overall width: (WITH DECAL)
- Overall width: 7.92
- Overall width: .312
- Overall width: Ø.51
- Overall width: +0.127 / -0.000
- Overall width: .020
- Overall width: +.005 / -.000
- Overall width: Ø4.763
- Overall width: +0.000 / -0.008
- Overall width: Ø.1875
- Overall width: +0.000 / -0.003
- Overall width: 304.8±25.4
- Overall width: 12.0±1.0
- Overall width: 12.7 REF
- Overall width: 0.5

DIMENSIONS: $\frac{\text{MILLIMETERS}}{\text{INCHES}}$

Gear Ratios Available for Can Stack

26M-V GEAR RATIOS

Part suffix	Gear ratio	Efficiency %	Output step angle	Output speed rpm @ 100 PPS*	Running torque @ 100 PPS* oz-in / mN-m
- V 11	2 : 1	90.0%	3.75°	62.50	1.16 / 8.9
- V 16	5 : 1	81.0%	1.5°	25.00	2.41 / 17.01
- V 19	7.5 : 1	73.0%	1.00°	16.66	3.00 / 21.08
- V 21	10 : 1	73.0%	0.75°	12.50	4.00 / 28.24
- V 24	15 : 1	66.0%	0.5°	8.33	5.00 / 35.3
- V 27	20 : 1	66.0%	0.375°	6.25	6.64 / 46.88
- V 31	30 : 1	66.0%	0.25°	4.17	10.00 / 70.6
- V 37	60 : 1	59.0%	0.125°	2.09	16.00 / 112.96

35M-X GEAR RATIOS

Part suffix	Gear ratio	Efficiency %	Output step angle	Output speed rpm @ 240 PPS*	Running torque @ 240 PPS* oz-in / mN-m
- X 24	15 : 1	80.0%	0.500°	20.00	5.0 / 35.30 MAX
- X 27	20 : 1	80.0%	0.375°	15.00	5.0 / 35.30 MAX
- X 31	30 : 1	80.0%	0.250°	10.00	5.0 / 35.30 MAX
- X 37	60 : 1	80.0%	0.125°	5.00	5.0 / 35.30 MAX
- X 39	75 : 1	80.0%	0.100°	4.00	5.0 / 35.30 MAX
- X 45	150 : 1	70.0%	0.050°	2.00	5.0 / 35.30 MAX
- X 52	300 : 1	70.0%	0.025°	1.00	5.0 / 35.30 MAX
- X 64	1350 : 1	65.0%	0.0055°	0.22	5.0 / 35.30 MAX

* Energise at rated current, 2 phase on

Gear Ratios Available for Can Stack

42M-R GEAR RATIOS

Part suffix	Gear ratio	Efficiency %	Output step angle	Output speed rpm @ 240 PPS*	Running torque @ 240 PPS* oz-in / mN-m
- R 12	2.5 : 1	90.0%	3.0°	120.00	8.3 / 58
- R 16	5 : 1	80.0%	1.5°	60.00	16.6 / 117
- R 21	10 : 1	80.0%	0.75°	30.00	29.9 / 211
- R 24	15 : 1	70.0%	0.5°	20.00	44.9 / 317
- R 27	20 : 1	70.0%	0.375°	15.00	59.9 / 423
- R 31	30 : 1	70.0%	0.25°	10.00	89.9 / 634
- R 36	50 : 1	65.0%	0.15°	6.00	100 / 706 MAX
- R 39	75 : 1	65.0%	0.10°	4.00	100 / 706 MAX

42M-Z GEAR RATIOS

Part suffix	Gear ratio	Efficiency %	Output step angle	Output speed rpm @ 240 PPS*	Running torque @ 240 PPS* oz-in / mN-m
- Z 16	5 : 1	80.0%	1.5°	60.00	15 / 106
- Z 21	10 : 1	80.0%	0.75°	30.00	29.9 / 211
- Z 24	15 : 1	80.0%	0.5°	20.00	44.9 / 317
- Z 27	20 : 1	80.0%	0.375°	15.00	59.9 / 423
- Z 31	30 : 1	70.0%	0.25°	10.00	80.8 / 570
- Z 36	50 : 1	65.0%	0.15°	6.00	121 / 854