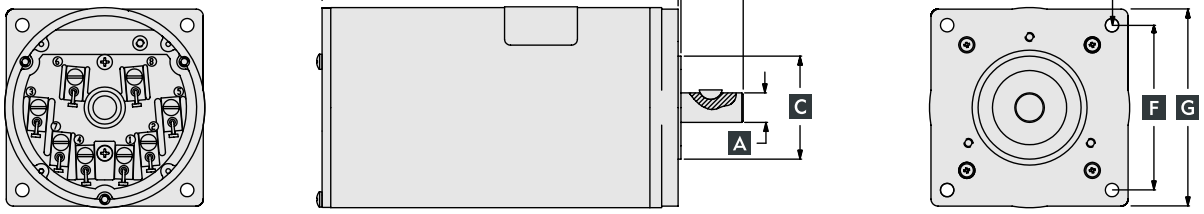
TP42
ElectroCraft TorquePower™
STEPPER MOTOR

Protected. Force.

If you need a corrosion-resistant motor with powerful force, this 1.8 degree size 42 hybrid DC stepping motor could be for you. It is totally enclosed with permanently lubricated ball bearings. The bi-directional size 42 has holding torque up to 2100 oz-in with a step angle accuracy of ±3% non-cumulative.

TP42 STEPPER MOTOR	
Size	Nema 42, 1.8°
Holding Torque	up to 2100 oz-in or 1482.81 Ncm
Speed	up to 24 RPS

Bipolar Model	Unipolar Model	MAX Length	A Front Shaft Diameter	B Front Shaft Length	C Pilot Diameter	D Pilot Length (Ref)	E Mount Hole Callout (Ref)	F Mount Hole Spacing (Ref)	G Flange External Dimension (Ref)	H Rear Shaft Diameter	I Rear Shaft Length	J Encoder Length (max)
TP42–810	TP42–650	5.39 in ±0.04	0.6250 in 0.6245 in	1.38 in ±0.03	2.188 in 2.184 in	0.06 in	(4) 0.28 in ±.010 Through	3.50 in	4.19 in	0.5000 in 0.4995 in	1.25 in ±0.04	TBD
TP42–1440	TP42–1150	7.56 in ±0.04										
TP42–2100	TP42–1650	9.90 in ±0.04										



TP42 Model Number

1 - Frame Size (Imperial)
2 - Torque (Stack Length)
3 -Winding
4 -Features

T P — Product Name
4 2 — Frame Size
8 1 0 — Holding Torque (oz-in) Bipolor
A Bipolor — 2 0 — Current (Amps x 10)
V Unipolor — 2 3 — Voltage (Volts x 10)
1 — Step Angle
1 — Front Shaft
0 — Rear Shaft
0 — Termination
X — Feedback

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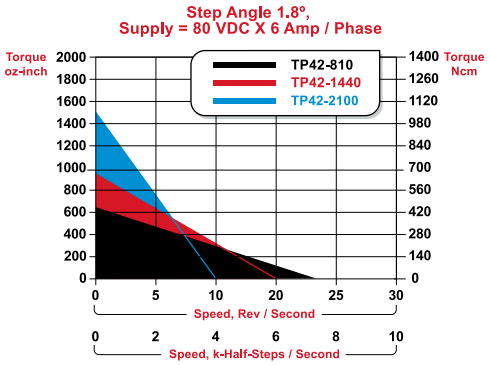
TP42 - Bipolar Performance



TP42 Mechanical Data

TP42 Bi-Polar Stack Size

Imperial Models	TP42-810	TP42-1440	TP42-2100
Holding Torque (oz-in)	810.0	1440.0	2100.0
Holding Torque (Ncm)	572	1017	1483
Length (inches)	5.39	7.56	9.90
Length (cm)	13.7	19.2	25.1
Width (inches)	4.2	4.2	4.2
Width (cm)	10.7	10.7	10.7
Weight (oz)	216.0	320.0	424.0
Weight (Kg)	6.1	9.1	12.0
Step Angle (°/step)	1.8	1.8	1.8
Number Leads	4	4	4

TP42 Uni-Polar Stack Size

Imperial Models	TP42-650	TP42-1150	TP42-1650
Holding Torque (oz-in)	650.0	1150.0	1650.0
Holding Torque (Ncm)	459	812	1165
Length (inches)	5.39	7.56	9.90
Length (cm)	13.7	19.2	25.1
Width (inches)	4.2	4.2	4.2
Width (cm)	10.7	10.7	10.7
Weight (oz)	216.0	320.0	424.0
Weight (Kg)	6.1	9.1	12.0
Step Angle (°/step)	1.8	1.8	1.8
Number Leads	6	6	6

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TP42 Winding Data

TP42 Bi-Polar Windings

Imperial Models	810A20	810A30	810A50	1440A20	1440A30	1440A50	2100A20	2100A30	2100A50
Current (A/Phase)	2.0	3.0	5.0	2.0	3.0	5.0	2.0	3.0	5.0
Voltage (V/Phase)	7.0	4.7	2.8	11.0	7.3	4.4	12.5	8.3	5.0
Resistance (R/Phase)	3.5	1.6	0.6	5.5	2.4	0.9	6.3	3.0	1.0
Inductance (mH)	63.8	28.3	10.2	186.0	82.8	29.8	140.0	64.0	22.2

TP42 Uni-Polar Windings

Imperial Models	650V23	650V41	650V79	650V98	1150V37	1150V46	1150V58	1150V74	1650V24	1650V32	1650V39	1650V45
Current Uni-Polar (A/Phase)	6.1	3.5	1.8	1.4	6.1	4.7	3.8	3.1	10.4	8.4	6.8	5.2
Voltage Uni-Polar (V/Phase)	2.3	4.1	7.9	9.8	3.7	4.6	5.8	7.4	2.4	3.2	3.9	4.5
Resistance Uni-Polar (R/Phase)	0.4	1.2	4.5	7.0	0.6	1.0	1.5	2.4	0.2	0.4	0.6	0.9
Inductance Uni-Polar (mH)	3.5	10.5	40.1	63.8	7.0	11.3	17.4	26.9	2.6	4.0	6.9	10.6
Current Bi-Polar (A/Phase)	4.3	2.5	1.3	1.0	4.3	3.4	2.7	2.2	7.3	6.0	4.8	3.7
Voltage Bi-Polar (V/Phase)	3.2	5.8	11.2	13.9	5.2	6.5	8.2	10.5	3.4	4.5	5.4	6.3
Resistance Bi-Polar (R/Phase)	0.7	2.3	8.9	14.0	1.2	1.9	3.1	4.8	0.5	0.8	1.1	1.7
Inductance Bi-Polar (mH)	14.0	41.9	160.0	255.0	28.0	45.0	70.0	108.0	10.4	16.0	27.6	42.4

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