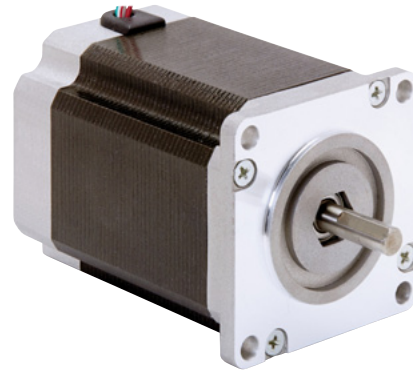


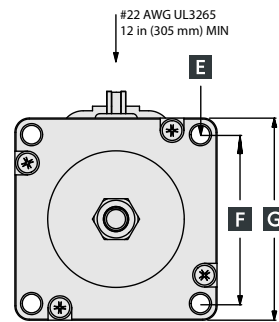
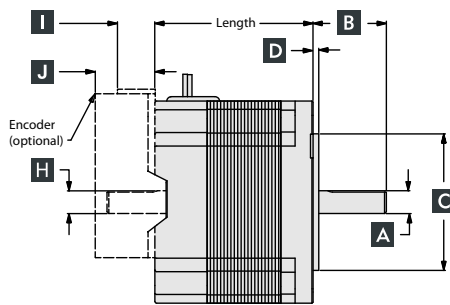
Compact. Powerful.

The ElectroCraft Torque Power™ Enhanced Nema 23 is a high performance stepper motor incorporating creative design and manufacturing techniques to offer improved holding torque. Motors are available in both bipolar and unipolar windings with a variety of shaft configurations and encoder options to meet the needs of any application.



TPE23 STEPPER MOTOR	
Size	Nema 23, 1.8°
Holding Torque	up to 294 oz-in or 208 Ncm
Speed	up to 50 RPS

Bipolar Model	Unipolar Model	MAX Length	A	B	C	D	E	F	G	H	I	J
			Front Shaft Diameter	Front Shaft Length	Pilot Diameter	Pilot Length (Ref)	Mount Hole Callout (Ref)	Mount Hole Spacing (Ref)	Flange External Dimension (Ref)	Rear Shaft Diameter	Rear Shaft Length	Encoder Length (max)
TPE23-100	TPE23-77	1.75 in ± 0.03	0.2500 in 0.2495 in	0.81 in ± 0.03	1.500 in ± 0.002	0.06 in	(4) 0.205 in ± 0.01 Through	1.854 in	2.22 in	0.2500 in 0.2495 in	0.53 in ± 0.04	0.66 in
TPE23-166	TPE23-126	2.21 in ± 0.03										
TPE23-294	TPE23-226	3.08 in ± 0.03										
TPE23M-71	TPE23M-54	44.5 mm ± 0.8	7.998 mm 7.976 mm	20.5 mm ± 0.8	38.1 mm ± 0.05	1.5 mm	(4) 5.2 mm ± 0.25 Through	47.1 mm	56.4 mm	4.998 mm 4.986 mm	13.5 mm ± 1.0	16.8 mm
TPE23M-117	TPE23M-89	56.0 mm ± 0.8										
TPE23M-208	TPE23M-160	78.5 mm ± 0.8										



TPE23 Model Number

1 - Frame Size
(Imperial or Metric)

T P E 2 3
Product Name Frame Size

2 - Torque

2 9 4
Holding Torque
(oz-in) Bipolar

3 - Winding

A 1 0
Bipolar
Current
(Amps x 10)

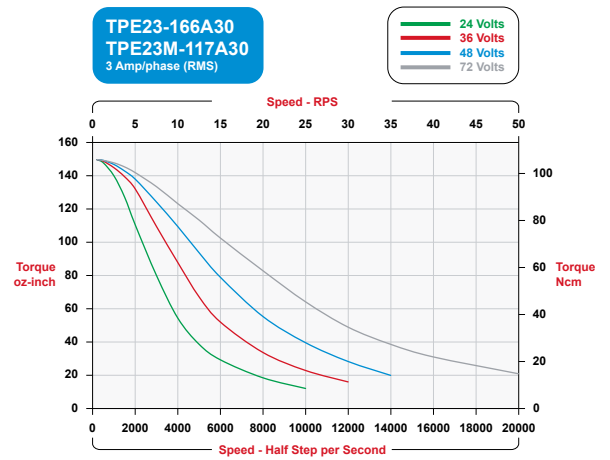
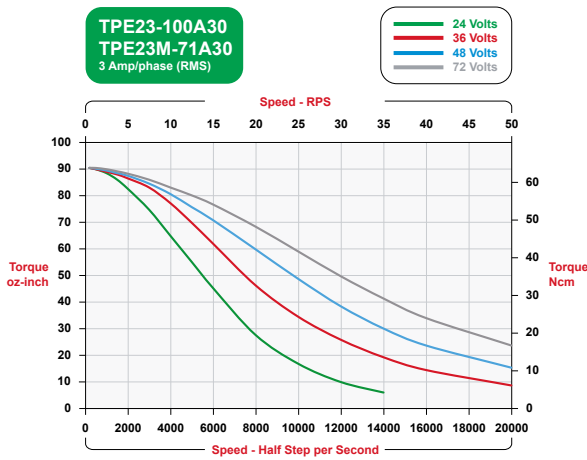
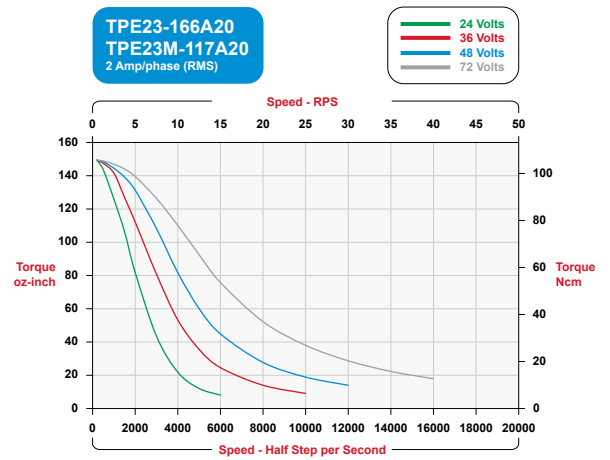
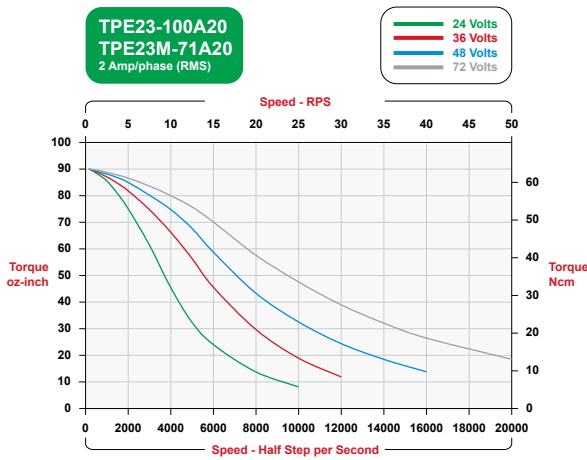
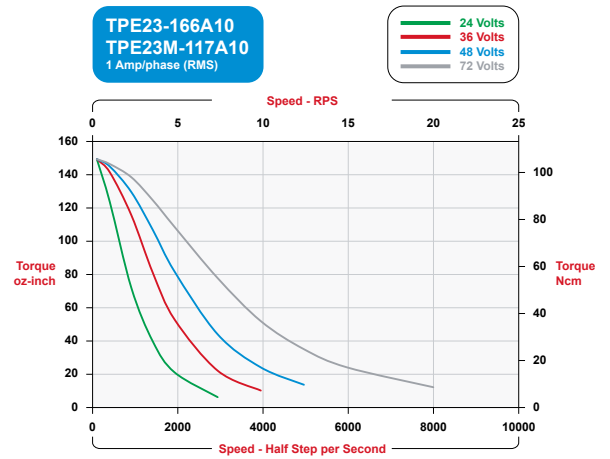
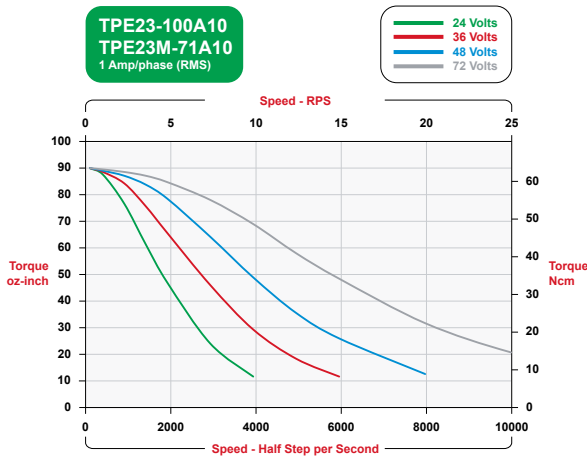
4 - Features

1 1 1 1 - X
Step Angle Front Shaft Rear Shaft Termination Feedback

T P E 2 3 M - **2 0 8**
Product Name Frame Size Optional Metric Holding Torque
(Ncm) Bipolar

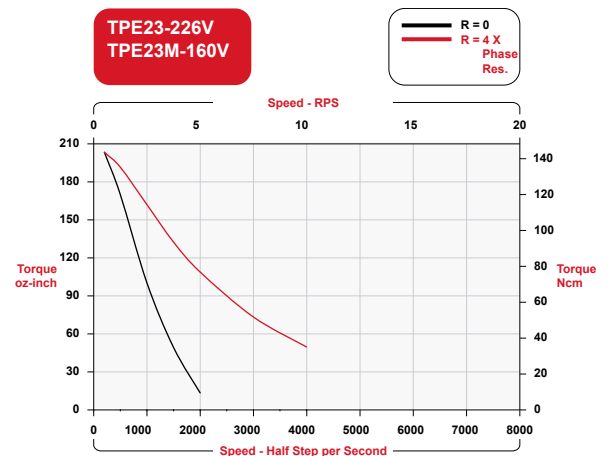
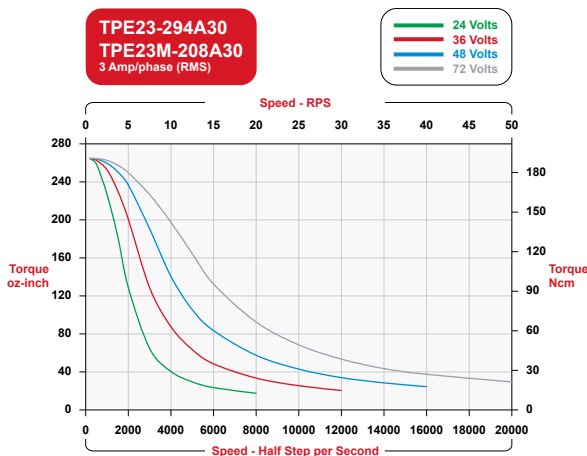
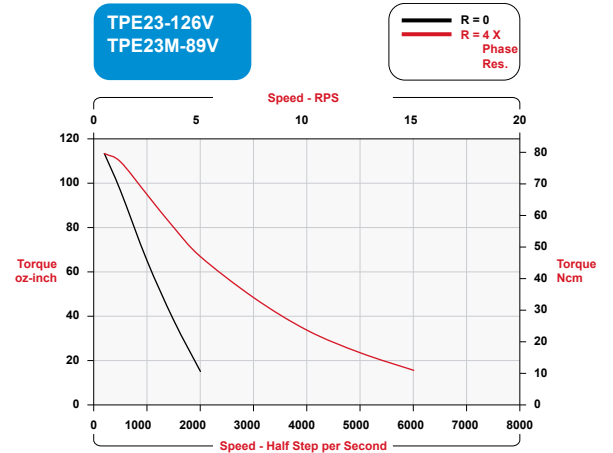
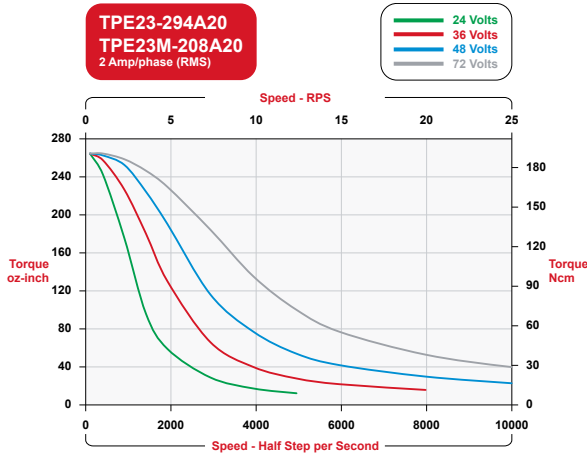
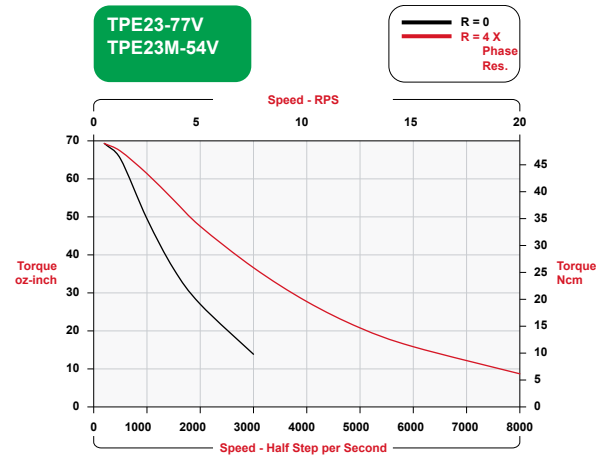
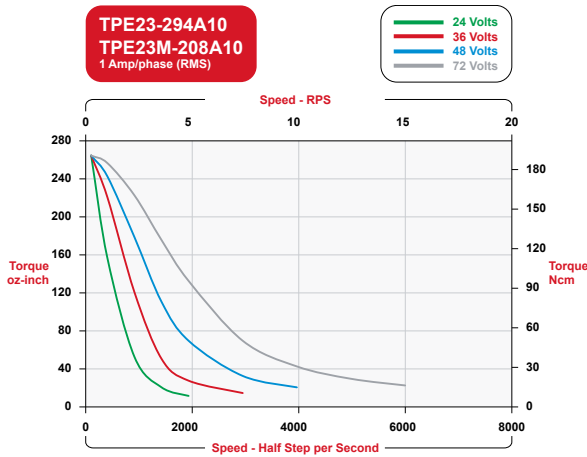
V 2 0
Unipolar
Voltage
(Volts x 10)

TPE23 - Bipolar Performance



TPE23 - Bipolar Performance

TPE23 - Unipolar Performance



TPE23 Mechanical / Winding Data

TPE23 Bi-Polar Stack Size

Imperial Models	TPE23-100	TPE23-166	TPE23-294
Metric Models	TPE23M-71	TPE23M-117	TPE23M-208
Holding Torque (oz-in)	100.0	166.0	294.0
Holding Torque (Ncm)	71	117	208
Length (inches)	1.75	2.21	3.08
Length (cm)	4.4	5.6	7.8
Width (inches)	2.2	2.2	2.2
Width (cm)	5.6	5.6	5.6
Weight (oz)	17.0	24.0	37.0
Weight (Kg)	0.5	0.7	1.0
Step Angle (°/step)	1.8	1.8	1.8
Number Leads	4	4	4

TPE23 Uni-Polar Stack Size

Imperial Models	TPE23-77	TPE23-126	TPE23-226
Metric Models	TPE23M-54	TPE23M-89	TPE23M-160
Holding Torque (oz-in)	77.0	126.0	226.0
Holding Torque (Ncm)	54	89	160
Length (inches)	1.75	2.21	3.08
Length (cm)	4.4	5.6	7.8
Width (inches)	2.2	2.2	2.2
Width (cm)	5.6	5.6	5.6
Weight (oz)	17.0	24.0	37.0
Weight (Kg)	0.5	0.7	1.0
Step Angle (°/step)	1.8	1.8	1.8
Number Leads	6	6	6

TPE23 Bi-Polar Windings

Imperial Models	100A10	100A20	100A30	166A10	166A20	166A30	294A10	294A20	294A30
Metric Models	71A10	71A20	71A30	117A10	117A20	117A30	208A10	208A20	208A30
Current (A/Phase)	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Voltage (V/Phase)	5.9	3.0	2.1	7.8	3.8	2.8	10.6	5.4	3.6
Resistance (R/Phase)	5.9	1.5	0.7	7.8	1.9	0.9	10.6	2.7	1.2
Inductance (mH)	19.2	4.8	2.1	37.0	9.2	4.1	57.0	14.2	6.4

TPE23 Uni-Polar Windings

Imperial Models	77V21	77V30	77V59	126V28	126V38	126V78	226V36	226V54	226V106
Metric Models	54V21	54V30	54V59	89V28	89V38	89V78	160V36	160V54	160V106
Current Uni-Polar (A/Phase)	3.0	2.0	1.0	3.0	2.0	1.0	3.0	2.0	1.0
Voltage Uni-Polar (V/Phase)	2.1	3.0	5.9	2.8	3.8	7.8	3.6	5.4	10.6
Resistance Uni-Polar (R/Phase)	0.7	1.5	5.9	0.9	1.9	7.8	1.2	2.7	10.6
Inductance Uni-Polar (mH)	1.1	2.4	9.6	2.1	4.6	18.4	3.2	7.1	28.5
Current Bi-Polar (A/Phase)	2.1	1.4	0.7	2.1	1.4	0.7	2.1	1.4	0.7
Voltage Bi-Polar (V/Phase)	3.0	4.2	8.3	4.0	5.4	11.0	5.1	7.6	15.0
Resistance Bi-Polar (R/Phase)	1.4	3.0	11.8	1.8	3.8	15.6	2.4	5.4	21.2
Inductance Bi-Polar (mH)	4.4	9.6	38.4	8.4	18.4	73.6	12.8	28.4	114.0



Your Genius. Our Drive.

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