



TPE23M-117A20-1100-X
TPE23M-208A20-1100-X



TPE23 : TorquePower™ Enhanced Stepper Motor

Size: Nema 23, 1.8°

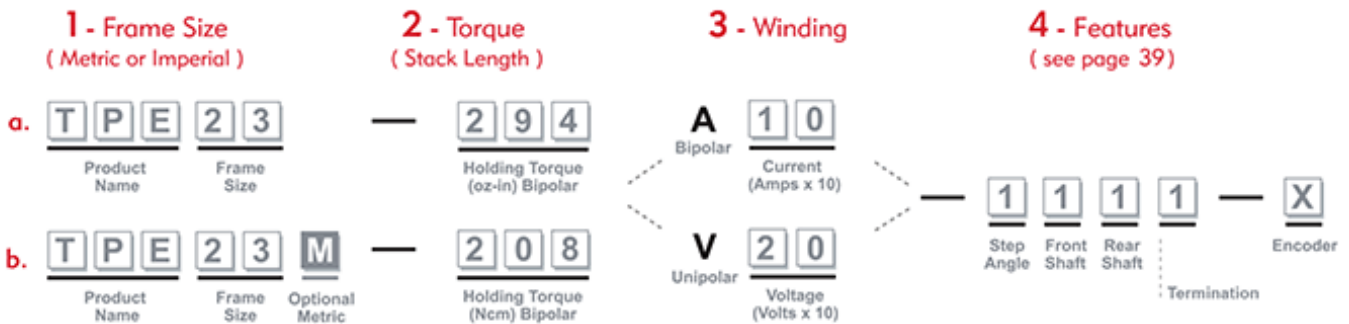
Holding Torque: up to 294 oz-in or 208 Ncm

Speed: up to 50 RPS

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.

Model Number (example)



TPE23 Speed / Torque Curves

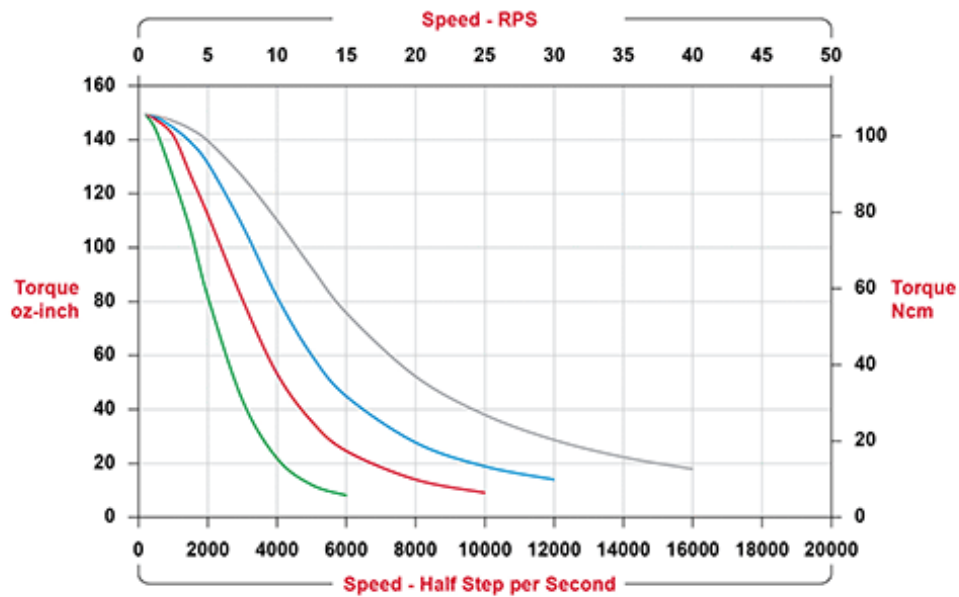
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TPE23 Bipolar

TPE23-166A20
TPE23M-117A20
 2 Amp/phase (RMS)

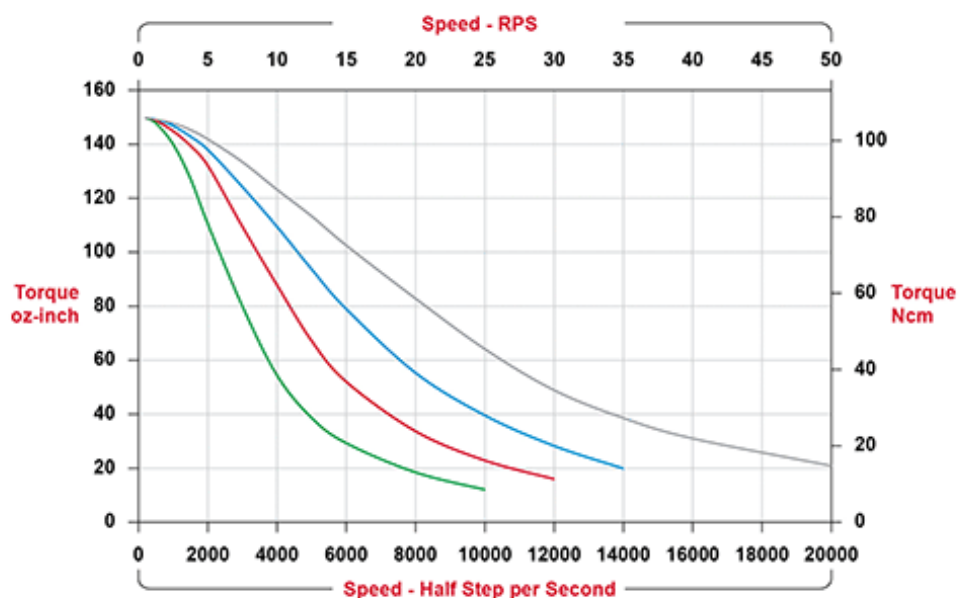
24 Volts
 36 Volts
 48 Volts
 72 Volts



TPE23 Bipolar

TPE23-166A30
TPE23M-117A30
 3 Amp/phase (RMS)

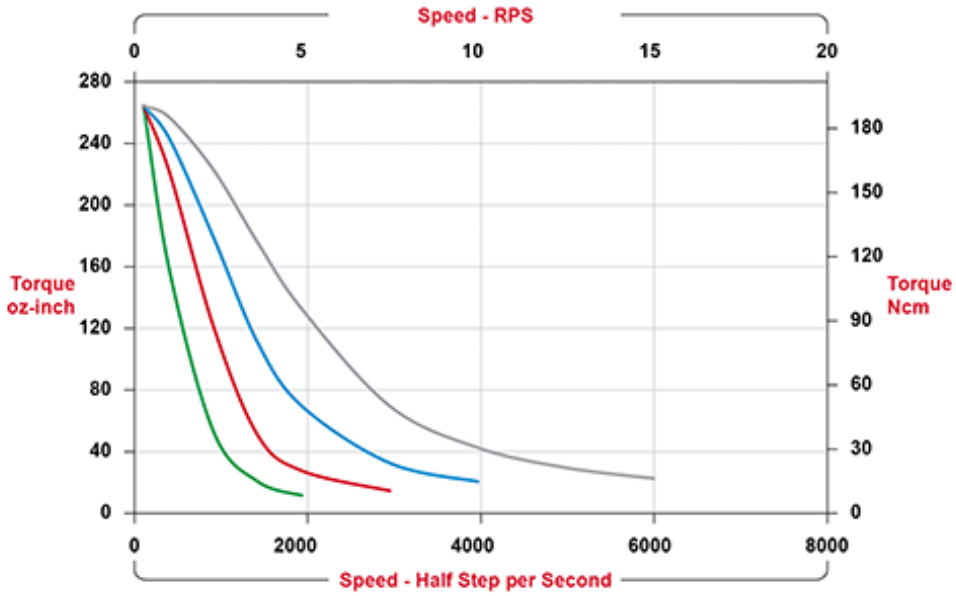
24 Volts
 36 Volts
 48 Volts
 72 Volts



TPE23 Bipolar

TPE23-294A10
TPE23M-208A10
 1 Amp/phase (RMS)

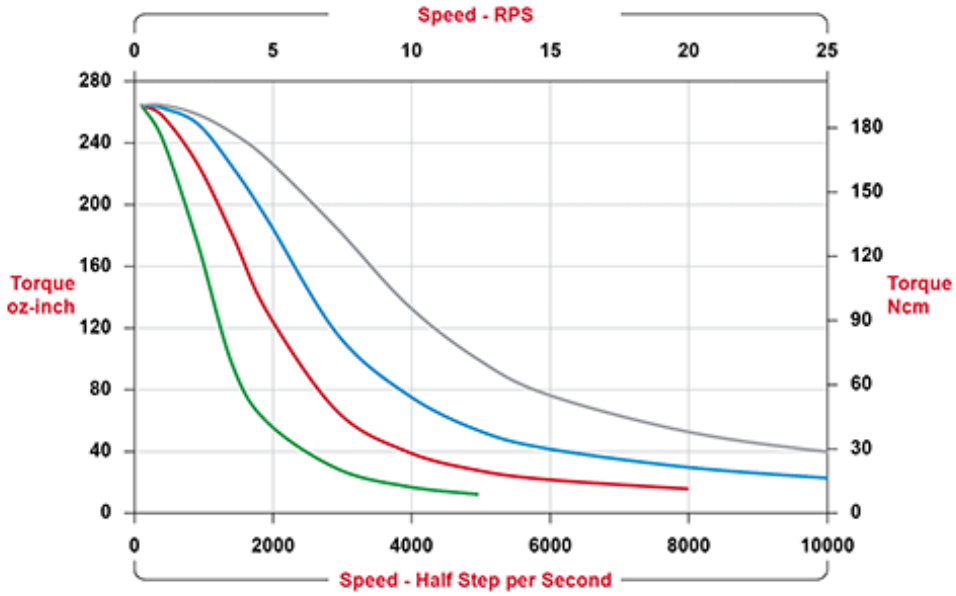
— 24 Volts
 — 36 Volts
 — 48 Volts
 — 72 Volts



TPE23 Bipolar

TPE23-294A20
TPE23M-208A20
 2 Amp/phase (RMS)

— 24 Volts
 — 36 Volts
 — 48 Volts
 — 72 Volts



TPE23 Bi-Polar Stack Size			
Imperial Models	TPE23-100	TPE23-166	TPE23-294
Metric Models	TPE23M-71	TPE23M-117	TPE23M-208
Holding Torque Bi-Polar (oz-in)	100.0	166.0	294.0
Holding Torque Bi-Polar (Ncm)	70.61	117.21	207.59
Length (inches)	1.8	2.2	3.1
Length (cm)	4.6	5.6	7.9
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 Uni-Polar (oz-in)	77.0	126.0	226.0
Holding Torque Uni-Polar (Ncm)	54.37	88.97	159.58
Length (inches)	1.8	2.2	3.1
Length (cm)	4.6	5.6	7.9
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

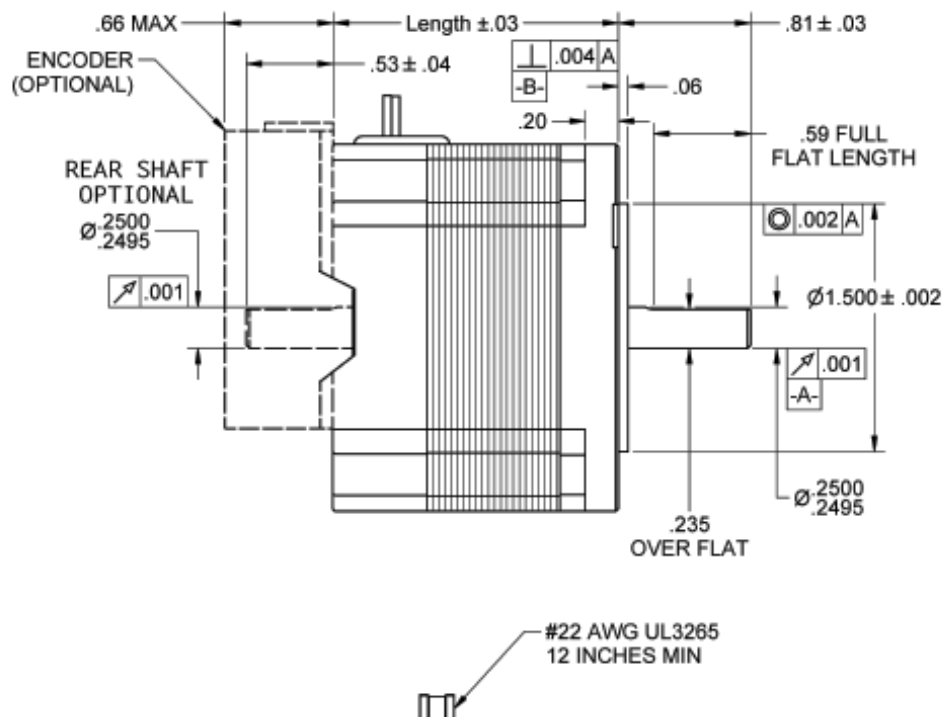
TPE23 Uni-Polar Windings

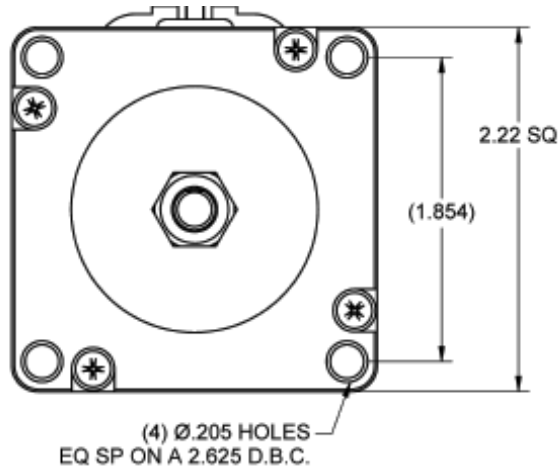
Imperial Models	77V21	77V30	77V59	126V28	126V38	126V78	226V36	226V54	226V106
Metric Models	54V21	54V30	54V59	89V28	89V38	89V78	160V36	160V54	160V106
Current Uni-Polar (A/Phase)	3.0	2.0	1.0	3.0	2.0	1.0	3.0	2.0	1.0
Voltage Uni-Polar (V/Phase)	2.1	3.0	5.9	2.8	3.8	7.8	3.6	5.4	10.6
Resistance Uni-Polar (R/Phase)	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

TPE23 Outline Drawing

TPE23 & TPE23M Frame Size Drawing Key			
MOTOR TYPE		LENGTH (INCHES)	LENGTH (MM)
IMPERIAL	METRIC		
TPE23-100	TPE23M-71	1.75 ±.03	44.5 ±.8
TPE23-166	TPE23M-117	2.21 ±.03	56.0 ±.8
TPE23-294	TPE23M-208	3.08 ±.03	78.5 ±.8

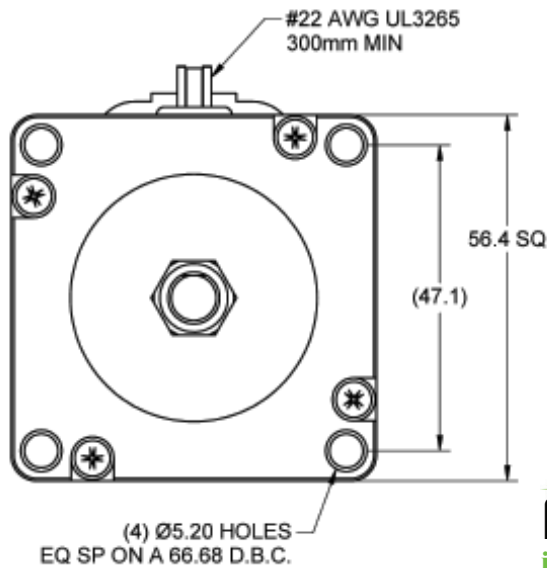
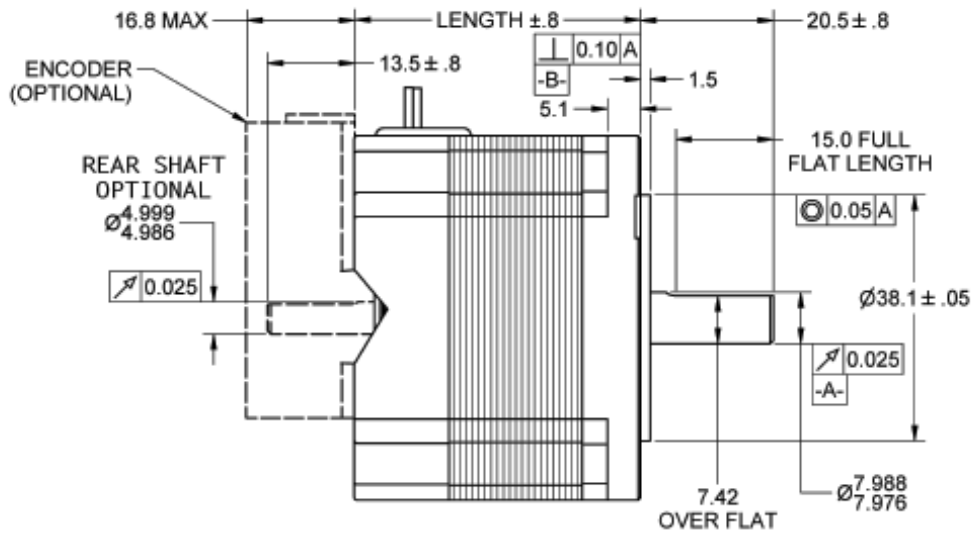
TPE23





ALL MEASUREMENTS IN INCHES

TPE23M



ALL MEASUREMENTS IN MM



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