

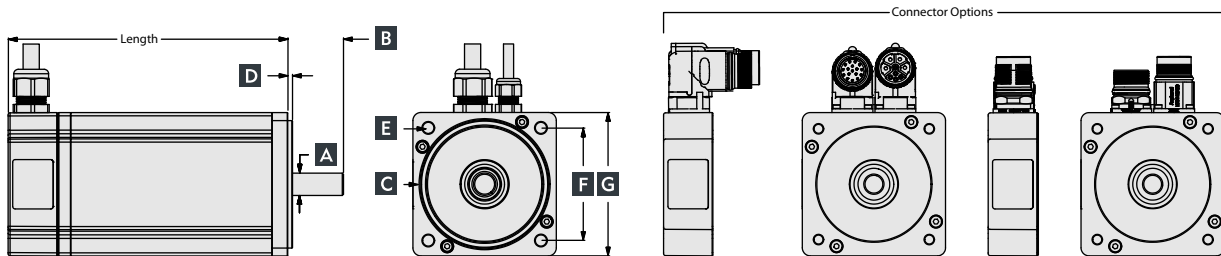
### The Ultimate in Brushless Servo Motor Performance.

The ElectroCraft RapidPower™ Plus RPP34 is a high-performance brushless servo motor incorporating the latest electro-magnetic components producing high continuous torque with low inertia for rapid acceleration. The RPP34 is available with high voltage DC winding configurations, and a variety of commutating optical encoders for precise positioning applications.

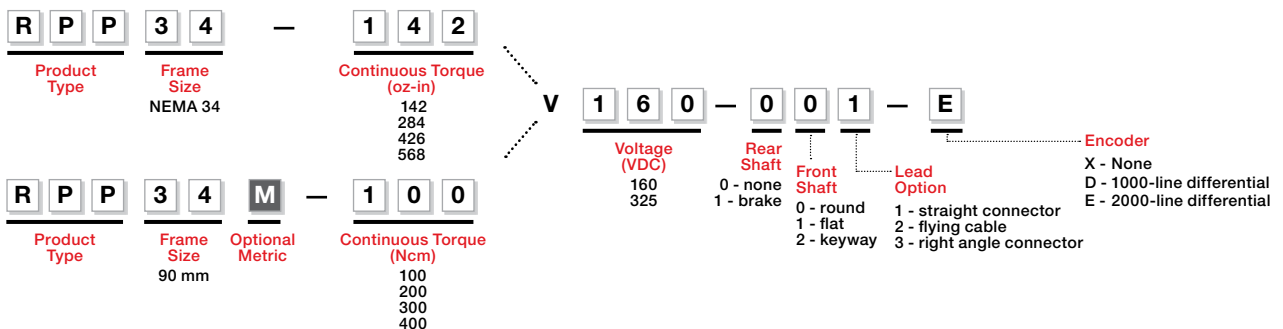


RPP34 RapidPower™ BLDC Motor	
Size:	NEMA 34
Peak Torque:	to 2272 oz-in or 1604 Ncm

Model	MAX Length	A	B	C	D	E	F	G
		Front Shaft Diameter	Front Shaft Length	Pilot Diameter	Pilot Length (Ref)	Mount Hole Pattern (Ref)	Mount Hole Spacing (Ref)	Flange External Dimension (Ref)
RPP34-142	4.98 in	0.5000 in 0.4995 in	1.25 in ± 0.03	2.875 in 2.873 in	0.12 in	[4] 0.220 in ± 0.010 on 3.875 in D.B.C.	2.74 in	3.54 in
RPP34-284	5.96 in							
RPP34-426	6.95 in							
RPP34-568	7.93 in							
RPP34M-100	126.5 mm	14.000 mm 13.987 mm	35 mm ± 0.8	80.00 mm 79.95 mm	3.0 mm	[4] 7.0 mm ± 0.25 on 100 mm D.B.C.	70.7 mm	90 mm
RPP34M-200	151.5 mm							
RPP34M-300	176.5 mm							
RPP34M-400	201.5 mm							



### RPP Model Number

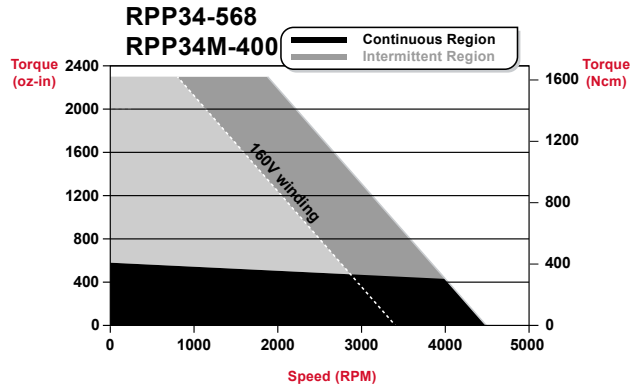
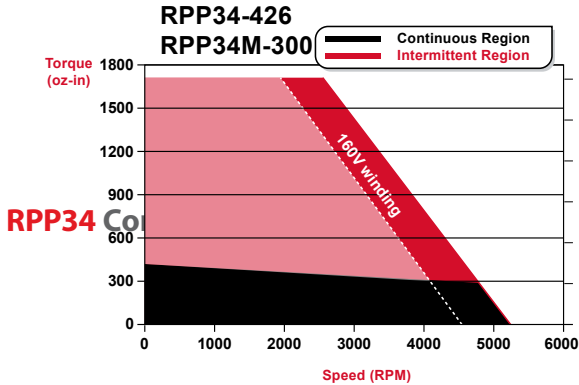
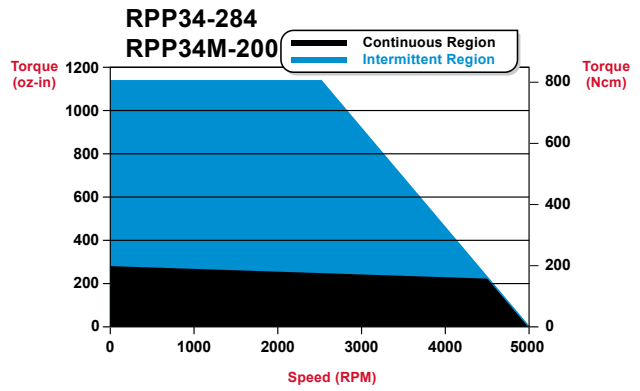
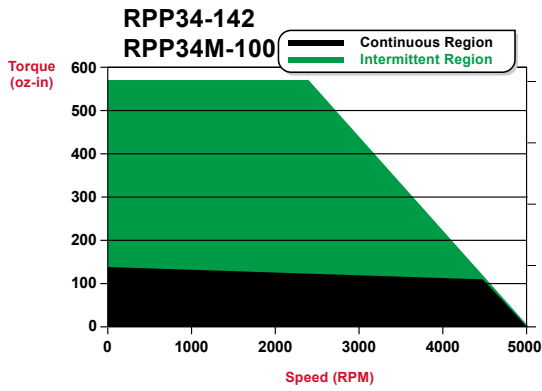


**RPP34 Mechanical / Winding Data**

Specifications	Stack Size and Winding Models							
	RPP34-142V160	RPP34-142V325	RPP34-284V160	RPP34-284V325	RPP34-426V160	RPP34-426V325	RPP34-568V160	RPP34-568V325
	RPP34M-100V160	RPP34M-100V325	RPP34M-200V160	RPP34M-200V325	RPP34M-300V160	RPP34M-300V325	RPP34M-400V160	RPP34M-400V325
Design Voltage (VDC)	160	325	160	325	160	325	160	325
No load speed (RPM)	5,000	5,000	5,000	5,000	4,500	5,200	3,400	4,500
Peak Torque (oz-in)	568	568	1,136	1,136	1,704	1,704	2,272	2,272
Peak Torque (Ncm)	401	401	802	802	1,203	1,203	1,604	1,604
Peak Current (Amps)	13.0	6.5	25.8	12.9	35.7	20.7	26.8	17.4
Continuous Stall Torque (oz-in)	142		284		426		568	
Continuous Stall Torque (Ncm)	100		200		300		400	
Continuous Stall Current (Amps)	3.3	1.6	6.5	3.2	8.9	5.0	6.7	4.4
Continuous Rated Torque (oz-in)	82.0	81.0	167.0	163.0	239.0	201.0	314.0	306.0
Continuous Rated Torque (Ncm)	57.9	57.2	117.9	115.1	168.7	141.9	221.7	216.0
Continuous Rated Current (Amps)	2.7	1.3	5.4	2.6	7.1	3.4	7.0	4.4
Continuous Rated Speed (RPM)	4,420	4,510	4,410	4,490	4,000	4,760	2,890	3,990
Voltage Constant (V / kRPM)	32.2	64.4	32.6	65.1	35.3	62.4	47.0	72.4
Torque Constant (oz-in / Amp)	43.5	87.1	44.0	88.1	47.7	84.4	63.6	97.9
Torque Constant (Ncm / Amp)	30.7	61.5	31.1	62.2	33.7	59.6	44.9	69.1
Resistance (Ohms)	3.3	11.1	1.4	4.9	0.9	2.6	1.1	2.6
Inductance (mH)	5.0	20.1	2.6	10.2	1.9	5.9	2.5	5.9
Motor Constant (oz-in / √ Watt)	25.0		38.7		52.0		60.5	
Motor Constant (Ncm / √ Watt)	17.7		27.3		36.7		42.7	
Electrical Constant (msec)	1.7		2.0		2.2		2.3	
Mechanical Constant (msec)	1.0		0.9		0.7		0.7	
Rotor Inertia (oz-in-sec <sup>2</sup> )	0.0		0.0091		0.0137		0.0183	
Rotor Inertia (g-cm <sup>2</sup> )	322.9		645.7		968.6		1,291.5	
Thermal Resistance (C / Watt)	1.4		1.1		0.9		0.8	
Weight (oz)	82.9		109.7		136.2		164.0	
Weight (Kg)	2.4		3.1		3.9		4.7	
Length (inch)	5.0		6.0		7.0		7.9	
Length (mm)	126.5		151.4		176.5		201.4	
Number of Poles	8		8		8		8	

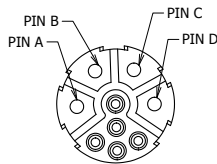
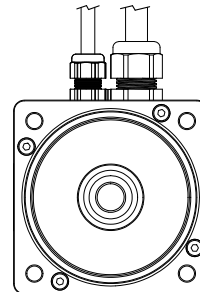


### RPP34 Speed Torque Performance



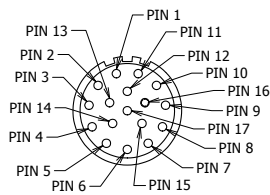
POWER CABLE LEADS	
COLOR	FUNCTION
RED	PHASE A
WHITE	PHASE B
BLACK	PHASE C
GREEN	GROUND

SIGNAL CABLE PINOUT		
COLOR	FEEDBACK FUNCTION	
	OPTION X	OPTION D, E
YELLOW	NOT USED	CH A
YEL/WHT	NOT USED	CH A'
BLUE	NOT USED	CH B
BLU/WHT	NOT USED	CH B'
ORANGE	NOT USED	CH Z
ORN/WHT	NOT USED	CH Z'
GREEN	S1	S1
BROWN	S2	S2
WHITE	S3	S3
RED	+5V	+5V
BLACK	GROUND	GROUND
GRY/WHT	BRAKE	BRAKE
GRAY	BRAKE	BRAKE
GRN/WHT	THERMAL SW	THERMAL SW
BRN/WHT	THERMAL SW	THERMAL SW



POWER CONNECTOR PIN DETAIL

POWER CONNECTOR PINOUT	
PIN #	FUNCTION
PIN 1	PHASE A
PIN 2	PHASE B
PIN 3	PHASE C
PIN 4	GROUND



SIGNAL CONNECTOR PIN DETAIL

SIGNAL CONNECTOR PINOUT		
PIN #	FEEDBACK FUNCTION	
	OPTION X	OPTION D, E
PIN 1	NOT USED	CH A
PIN 2	NOT USED	CH A'
PIN 3	NOT USED	CH B
PIN 4	NOT USED	CH B'
PIN 5	NOT USED	CH Z
PIN 6	NOT USED	CH Z'
PIN 7	S1	S1
PIN 8	S2	S2
PIN 9	S3	S3
PIN 10	+5V	+5V
PIN 11	GROUND	GROUND
PIN 12	BRAKE	BRAKE
PIN 13	BRAKE	BRAKE
PIN 14	THERMAL SW	THERMAL SW
PIN 15	THERMAL SW	THERMAL SW
PIN 16	NOT USED	NOT USED
PIN 17	NOT USED	NOT USED

