

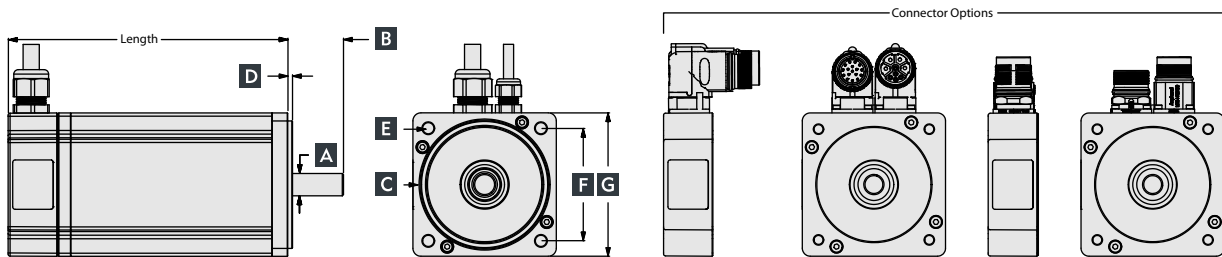
High Voltage. High Performance

Our ElectroCraft RapidPower™ Plus Brushless Servo Motor, Nema 23, is a high voltage, high performance brushless servo motor incorporating the latest electro-magnetic components creating high continuous torques with low inertia for rapid acceleration. It is available with hall-effect commutation or encoder feedback and a variety of connection options.



RPP34 RapidPower™ BLDC Motor	
Size:	Nema 34
Peak Torque:	to 2272 oz-in or 1600 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							



BLDC Model Number

1 - Frame Size
(Imperial or Metric)

2 - Torque

3 - Winding

4 - Features

a. R P P 3 4 - 1 4 2 V 1 6 0 - 0 0 1 - X

Product Type: RPP34
Frame Size: 34
Continuous Torque (oz-in): 142

b. R P P 3 4 M - 1 0 0 V 1 6 0 - 0 0 1 - X

Product Type: RPP34M
Frame Size: 34
Optional Metric: M
Continuous Torque (Ncm): 1000

0 = Round
1 = Flat
2 = Keyway

X = None
D = 1000 line
E = 2000 line

0 = No Brake
1 = 24VDC Brake

0 = Straight Connector
1 = Flying Cable
2 = Right Angle Connector
3 = Right Angle IP Connector
(All configuration IP65 with optional shaft seal)

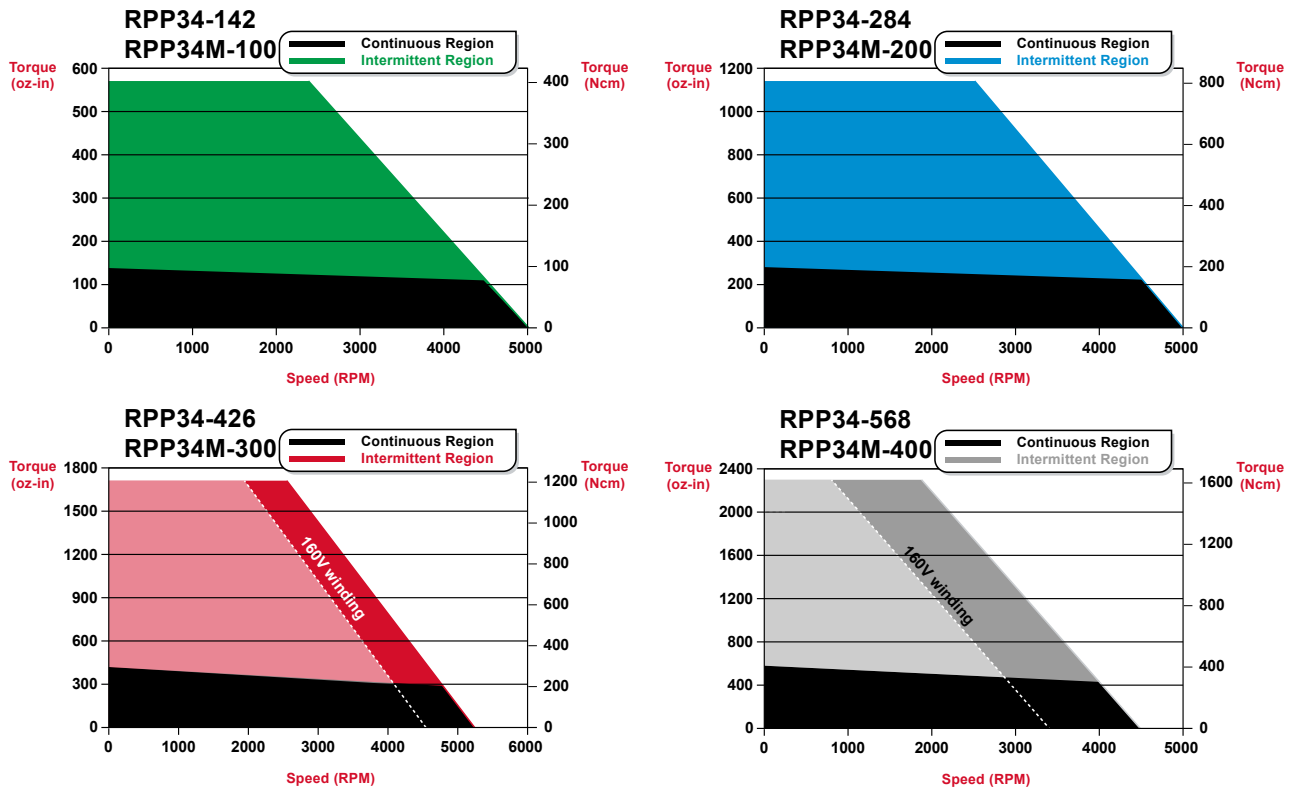
RPP34

RapidPower™ BLDC Motor

High torque density - smooth power delivery.



RPP34 Speed Torque Performance



RPP34 Mechanical Data

Stack Size Models	RPP34- 142 RPP34M- 100	RPP34- 284 RPP34M- 200	RPP34- 426 RPP34M- 300	RPP34- 568 RPP34M- 400
Continuous Stall Torque (oz-in)	142	284	426	568
Continuous Stall Torque (Ncm)	100	201	301	401
Peak Torque (oz-in)	568	1136	1704	2272
Peak Torque (Ncm)	401	802	1203	1604
Motor Constant (oz-in / √ Watt)	25.00	38.70	52.00	60.50
Motor Constant (Nm / √ Watt)	17.65	27.33	36.72	42.72
Electrical Constant (msec)	1.66	1.98	2.16	2.25
Mechanical Constant (msec)	1.04	0.87	0.72	0.71
Rotor Inertia (oz-in ²)	0.0046	0.0092	0.0137	0.0183
Rotor Inertia (gm-cm ²)	324.9	649.7	967.5	1292.3
Thermal Resistance (C / Watts)	1.4	1.1	0.9	0.8
Weight (oz)	84.0	111.0	138.0	166.0
Weight (Kg)	2.4	3.1	3.9	4.7
Length (inches)	5.0	6.0	7.0	7.9
Length (mm)	127.0	152.4	177.8	200.7
Number of Poles	8	8	8	8



Your Genius. Our Drive.

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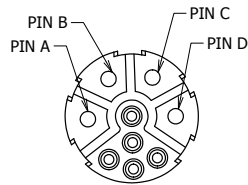
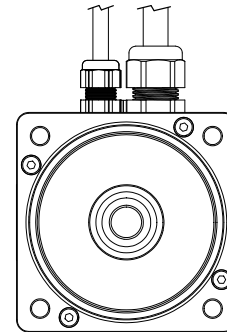
RPP34 Winding Data

Winding Models	142V160	142V325	284V160	284V325	426V160	426V325	568V160	568V325
	100V160	100V325	200V160	200V325	300V160	300V325	400V160	400V325
Design Voltage (VDC)	160	325	160	325	160	325	160	325
Continuous Current (Amps)	3.3	1.6	6.5	3.2	8.9	5.0	6.7	4.4
Peak Current (Amps)	13.0	6.5	25.8	12.9	35.7	20.7	26.8	17.4
Voltage Constant ±10% (VDC/kRPM)	32.2	64.4	32.6	65.1	35.3	62.4	47.0	72.4
Torque Constant ±10% (oz-in / Amp)	43.5	87.1	44.0	88.0	47.7	84.4	63.6	97.9
Torque Constant ±10% (Ncm / Amp)	30.718	61.506	31.071	62.142	33.684	59.599	44.911	69.133
Resistance ±10% (Ohms)	3.3	11.1	1.4	4.9	0.9	2.5	1.1	2.6
Inductance ±10% (mH)	5.0	20.1	2.6	10.2	1.9	5.9	2.5	5.9

RPP34 Connection

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

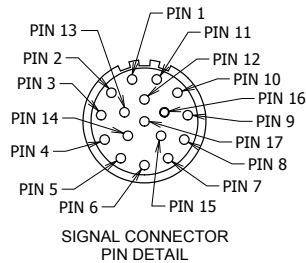
COLOR	FEEDBACK FUNCTION	
	OPTION X	OPTION D, E
YELLOW	NOT USED	CH A
YEL/WHT	NOT USED	CH A'
BLUE	NOT USED	CH B
BLU/WHT	NOT USED	CH B'
ORANGE	NOT USED	CH Z
ORN/WHT	NOT USED	CH Z'
GREEN	S1	S1
BROWN	S2	S2
WHITE	S3	S3
RED	+5V	+5V
BLACK	GROUND	GROUND
GRY/WHT	BRAKE	BRAKE
GRAY	BRAKE	BRAKE
GRN/WHT	THERMAL SW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



POWER CONNECTOR PIN DETAIL

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

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



SIGNAL CONNECTOR PIN DETAIL

