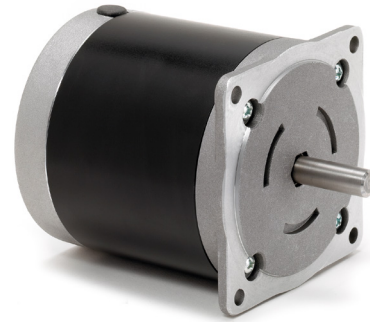


Great performance at an affordable price.

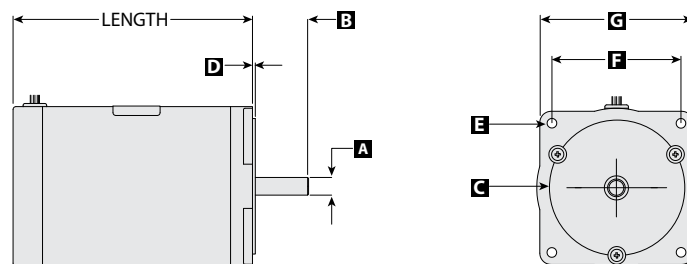
The ElectroCraft RapidPower™ RP34 is a compact, high-performance brushless motor that incorporates ball-bearing construction and a low-cogging electro-magnetic design that produces low audible and magnetic noise. It is compatible with three-phase brushless DC motor drives and is available with a variety of encoders for precision positioning applications.



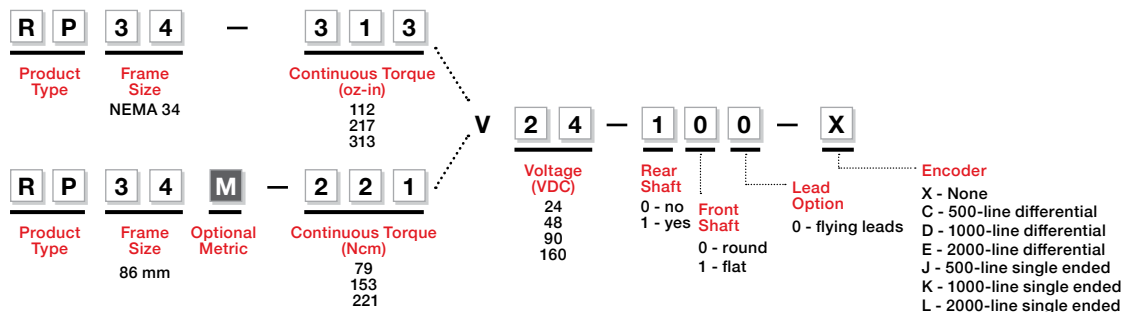
RP34 RapidPower™ BLDC Motor

Size:	NEMA 34
Peak Torque:	to 1095 oz-in or 773 Ncm

Model	MAX Length	A	B	C	D	E	F	G	H	I	J
		Front Shaft Diameter	Front Shaft Length	Pilot Diameter	Pilot Length	Mount Hole Pattern	Mount Hole Spacing	Flange External Dimension	Rear Shaft Diameter	Rear Shaft Length	Differential Encoder Length
RP34-112	2.84 in	0.375 in	1.25 in	2.875 in	0.06 in	0.22 in thru holes	2.74 in	3.4 in	0.25 in	0.5 in	0.55 in
RP34-217	4.15 in										
RP34-313	5.47 in										
RP34M-79	72 mm	14 mm	30 mm	80 mm	1.5 mm	7 mm thru holes	70.7 mm	86 mm	6.35 mm	12.6 mm	14 mm
RP34M-153	105 mm										
RP34M-221	139 mm										



RP Model Number



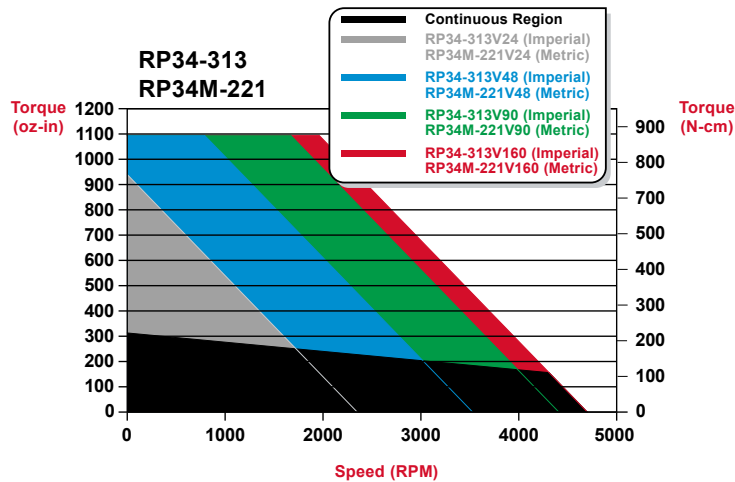
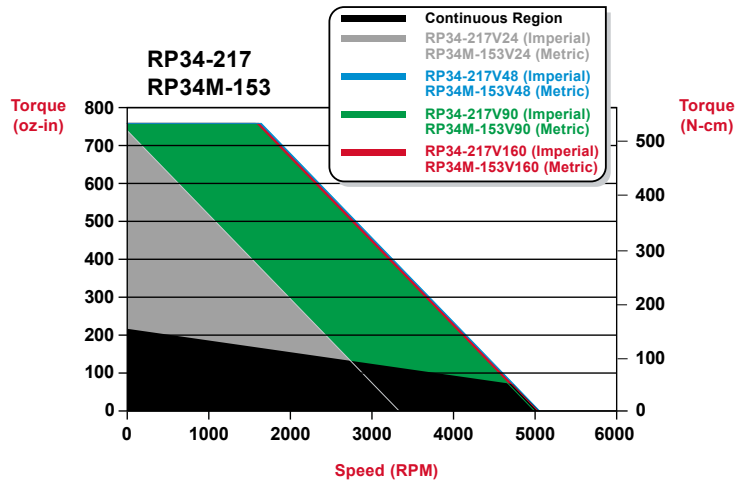
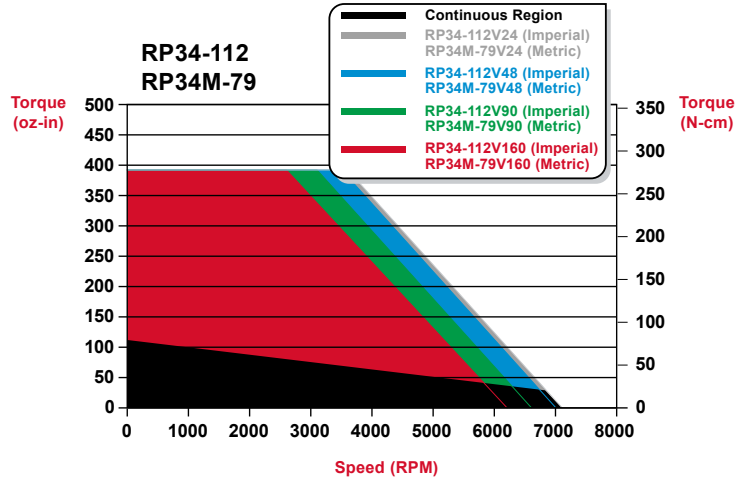
RP34

RapidPower™ BLDC Motor

Compact - high performance.



RP34 Speed Torque Performance



Your Genius. Our Drive.

ElectroCraft, Inc.
1 Progress Drive
Dover, NH 03820

Tel: (844) 338-8114
Fax: (812) 385-3013

Email: sales@electrocrafter.com
www.electrocrafter.com

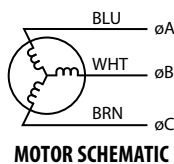
RP34 Mechanical / Winding Data

Specifications	Stack Size and Winding Models											
	RP34-112V24	RP34-112V48	RP34-112V90	RP34-112V160	RP34-217V24	RP34-217V48	RP34-217V90	RP34-217V160	RP34-313V24	RP34-313V48	RP34-313V90	RP17M-313V160
	RP34M-79V24	RP34M-79V48	RP34M-79V90	RP34M-79V160	RP34M-153V24	RP34M-153V48	RP34M-153V90	RP34M-153V160	RP34M-221V24	RP34M-221V48	RP34M-221V90	RP34M-221V160
Design Voltage (VDC)	24	48	90	160	24	48	90	160	24	48	90	160
No load speed (RPM)	7,100	7,000	6,600	5,800	3,500	5,050	4,900	5,030	2,350	3,530	4,410	4,480
Peak Torque (oz-in)	392	392	392	392	740	759	759	759	940	1,095	1,095	1,095
Peak Torque (Ncm)	277	277	277	277	522	536	536	536	644	773	773	773
Peak Current (Amps)	85.2	46.6	21.2	11.2	76.0	59.1	31.1	17.6	68.1	59.5	39.7	23.8
Continuous Stall Torque (oz-in)	112				217				313			
Continuous Stall Torque (Ncm)	79				153				221			
Continuous Stall Current (Amps)	24.4	12.1	6.1	3.2	22.3	16.9	8.9	5.0	22.7	17.0	11.3	6.8
Continuous Rated Torque (oz-in)	29.0	29.0	31.0	33.0	120.0	71.0	72.0	71.0	216.0	226.0	168.0	156.0
Continuous Rated Torque (Ncm)	20.5	20.5	21.9	23.3	84.7	50.1	50.8	50.1	152.5	159.6	118.6	110.1
Continuous Rated Current (Amps)	7.8	4.3	2.3	1.0	12.5	6.9	3.7	1.7	14.7	11.4	6.9	3.3
Continuous Rated Speed (RPM)	6,390	6,760	6,300	5,200	2,740	4,730	4,660	4,455	1,680	2,600	3,990	3,740
Voltage Constant (V / kRPM)	3.4	6.8	13.7	27.6	6.9	9.5	18.1	31.8	10.2	13.6	20.4	35.7
Torque Constant (oz-in / Amp)	4.6	9.2	18.5	37.3	9.3	12.8	24.4	43.0	13.8	18.4	27.6	48.2
Torque Constant (Ncm / Amp)	3.3	6.5	13.1	26.3	6.5	9.0	17.2	30.4	9.7	13.0	19.5	34.0
Resistance (Ohms)	0.1	0.2	0.8	4.0	0.1	0.2	0.6	2.3	0.2	0.3	0.5	1.6
Inductance (mH)	0.3	1.2	4.8	20.3	0.7	1.1	3.9	13.4	1.0	1.7	3.9	11.0
Motor Constant (oz-in / √ Watt)	15.1	19.3	20.4	17.4	29.8	27.2	30.4	29.0	34.5	31.5	35.5	36.5
Motor Constant (Ncm / √ Watt)	10.7	13.6	14.4	12.3	21.0	19.2	21.5	20.5	24.4	22.2	25.1	25.8
Electrical Constant (msec)	4.8				5.5				6.0			
Mechanical Constant (msec)	6.7				4.3				4.4			
Rotor Inertia (oz-in-sec ²)	0.0149				0.0258				0.0385			
Rotor Inertia (g-cm ²)	1,052.2				1,822.0				2,718.9			
Thermal Resistance (C / Watt)	2.0				1.5				1.0			
Weight (oz)	64.0				100.0				143.0			
Weight (Kg)	1.8				2.8				4.1			
Length (inch)	2.8				4.2				5.5			
Length (mm)	71.1				106.7				139.7			
Number of Poles	4				4				4			

RP34 Connection

Sensor Output			Driver Output		
S1	S2	S3	ØA	ØB	ØC
0	0	1	X	HI	LOW
0	1	1	HI	X	LOW
0	1	0	HI	LOW	X
1	1	0	X	LOW	HI
1	0	0	LOW	X	HI
1	0	1	LOW	HI	X

Rotation: CCW Facing Lead End



Hall Pinouts	
Color	Function
ORANGE	+4.5-24 VDC
BLACK	GROUND
YELLOW	S1
GREY	S2
GREEN	S3

Low Profile Encoder	
Character	Lines
J	500 CPR
K	1000 CPR
L	2000 CPR

Encoder Pinouts	
Color	Function
BLACK	GROUND
ORANGE	CHANNEL Z
YELLOW	CHANNEL A
RED	+5 VDC
BLUE	CHANNEL B
GREEN	S1
BROWN	S2
WHITE	S3
BRN	S2

Differential Encoder	
Character	Lines
C	500 CPR
D	1000 CPR
E	2000 CPR

Encoder Pinouts	
Color	Function
YELLOW	CH A
YEL/WHT	CH A COMP
BLUE	CH B
BLU/WHT	CH B COMP
ORANGE	CH Z
ORG/WHT	CH Z COMP
GREEN	S1
GRN/WHT	NOT USED
BROWN	S2
BRN/WHT	NOT USED
WHITE	S3
GREY/WHT	NOT USED
RED	VCC
BLACK	GROUND
GREY	NOT USED



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