

ElectroCraft's new RPX22 is a highly dynamic and controllable very small frame metric motor.

With an advanced 8-pole encapsulated core, this compact DC motor offers high torque density at a very affordable price. The RPX22 is available in 12V, 24V and 48V versions and like all ElectroCraft motors is fully customizable. This versatile motor is highly energy efficient and ideal for embedded applications.

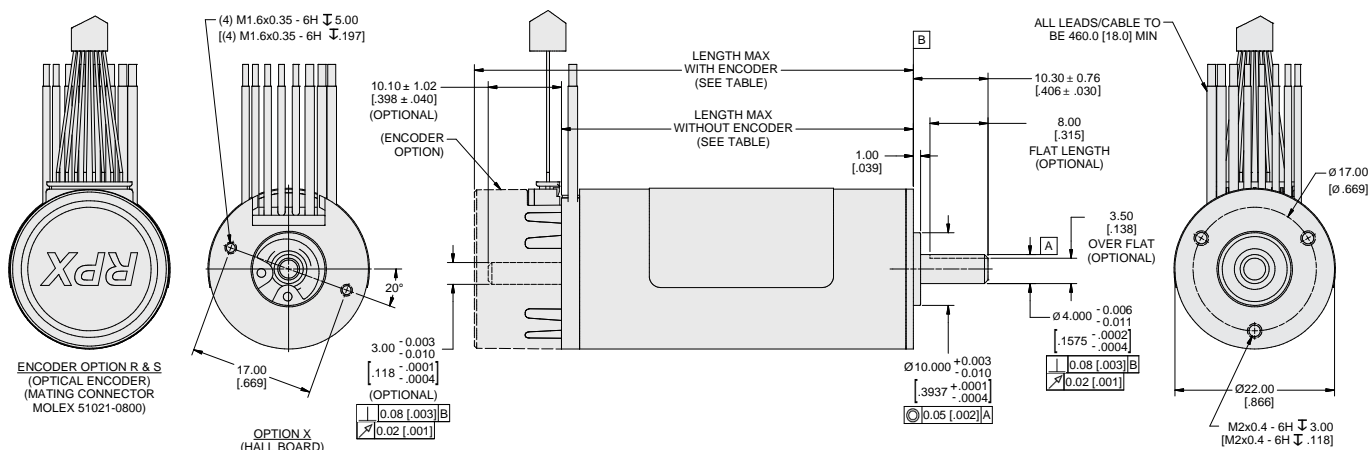
All versions of the RPX22 include hall sensor feedback and can be configured with an optional encoder (differential, optical encoder with up to 2048 lines)

Features:

- High torque density delivers class- leading torque from compact frame size.
- 8 pole motor; high torque at low speeds.
- High load capacity.
- Low heat generation
- Up to IP65



RPX22 BRUSHLESS DC MOTOR	
Size:	22 mm (0.87 in) diameter
Peak Torque:	91 mNm (13.2 oz.in)
Continuous Stall Torque:	RPX22-042 42 mNm (6 oz.in)
Speed:	to 15,000 RPM



ALL MEASUREMENTS ARE IN MM [INCHES]

MODEL	MAX LENGTH NO ENCODER	MAX LENGTH WITH ENCODER
RPX22-042	49 [1.92]	61 [2.40]

RPX Model Number

R P X **2 2** — **0 4 2** **V** **2 4** — **1 0 0** — **S**

Product Type **Frame Size** **Torque** **Voltage** **Rear Shaft** **Front Shaft** **Termination** **Feedback**

22 mm 042 12, 24, 48 0 - None, 1 - Yes 0 - Round, 1 - Flat 0 - Flying Leads X - Hall Only, R - 1024 Line Diff. Encoder, S - 2048 Line Diff. Encoder

RPX22

ElectroCraft RapidPower™ Xtreme Brushless DC Servo Motor

High torque density. Excellent torque per frame size performance.



Applications:

Medical Science

Automated Equipment

- Fluid Pumps
- Air / Ventilation Pumps
- Blood Transfusers
- Diagnostic and Imaging Systems

Surgical Robots and Robotic Assistants

- Traction Motors for Mobile Systems
- Arm/Gripper Positioning and Force Control

Lab Automation Equipment

- Dispensing Systems
- Sample Handling Systems
- Analysis Systems
- Centrifuges

Robotics

- Traction Motors for Mobile Applications
- Steering Systems for Mobile Applications
- Arm/Gripper Positioning and Force Control

Industrial Automation

- Industrial Machinery
- Material Handling and Conveyor Equipment
- Automated Guided Vehicles (AGVs)
- Sorting and Packing Systems
- Dispensing Machines

Electronics / Semiconductor Manufacturing

- Wafer Handling and Processing Systems
- Assembly, Test and Packaging Systems

Transportation

Automotive & Commercial Vehicles

- Power Seats
- Fan & Pump Motors
- Emission Control Systems
- Drive by Wire and Driver Assist Systems
- Autonomous Vehicle Camera & Sensor Controls

Aerospace

- Flight Control Systems
- Commercial UAV Flight Motors
- Pumps / Actuators

Marine & Shipbuilding

- Gyro Stabilization Systems
- Steering Pumps

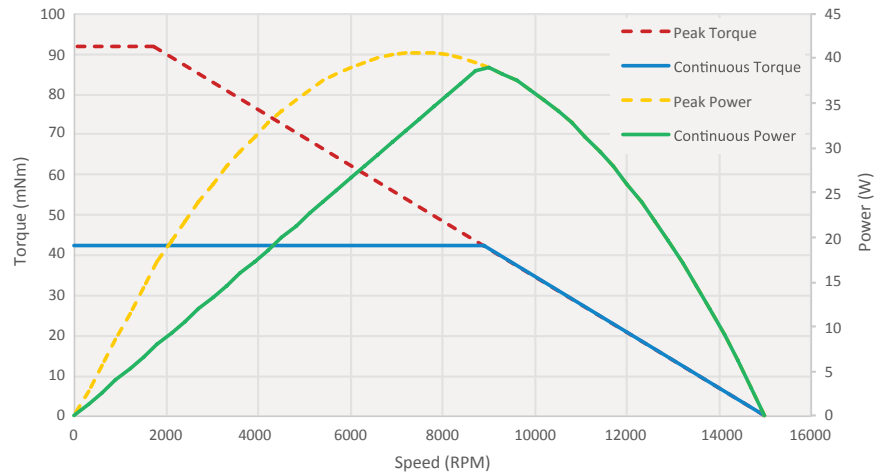
Military/Defense

- Military Robots
- Mobile Radar and Communication Systems
- Flight Control Systems
- Military UAV Flight Motors
- Guidance Systems

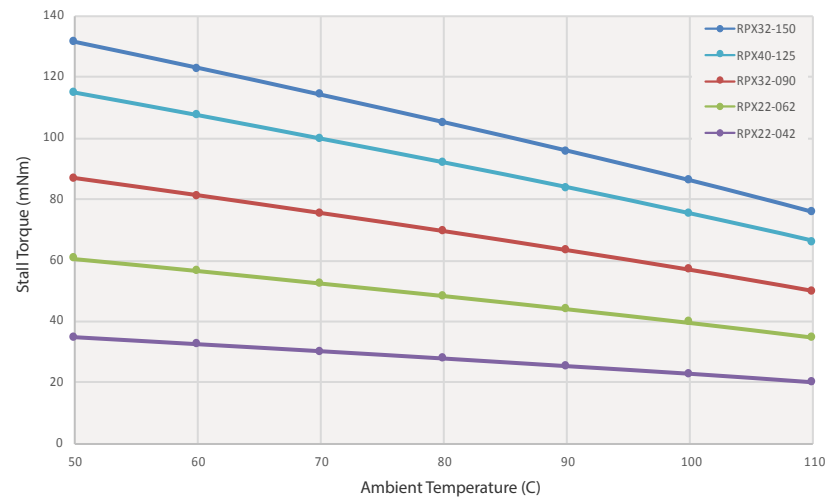
Agriculture

- Automated Planting Equipment
- Automated Harvesting Equipment
- Farm Machinery Control Systems
- Agricultural Robots

RPX22-042 Performance



RPX Series Stall Torque at elevated Ambient Temperatures



Ambient operation temperature range for all the RPX models is -40 to 110C (hall sensor version)



Your Genius. Our Drive.

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RAPIDPOWER™ XTREME BRUSHLESS DC SERVO MOTOR

RPX22 Mechanical / Winding Data

Specifications	Stack Size and Winding Models		
	RPX22-042V12	RPX22-042V24	RPX22-042V48
Design Voltage (VDC)	12	24	48
No load speed (RPM)	15,000		
Peak Torque (oz-in)	13.2		
Peak Torque (mNm)	91.0		
Peak Current (Amps)	10.8	5.5	2.8
Continuous Stall Torque (oz-in)	5.9		
Continuous Stall Torque* (mNm)	42.0		
Continuous Stall Current (Amps)	5.0	2.5	1.3
Continuous Rated Torque* (oz-in)	5.9		
Continuous Rated Torque* (mNm)	42.0		
Continuous Rated Current (Amps)	5.0	2.5	1.3
Continuous Rated Speed (RPM)	9,000		
Voltage Constant (V / kRPM)	0.8	1.6	3.3
Torque Constant (oz-in / Amp)	1.2	2.4	4.5
Torque Constant (mNm / Amp)	8.4	16.6	32.0
Resistance (Ohms)	0.6	2.4	9.7
Inductance (mH)	0.2	0.9	3.6
Motor Constant (oz-in / √ Watt)	1.4		
Motor Constant (mNm / √ Watt)	9.9		
Electrical Constant (msec)	0.37		
Mechanical Constant (msec)	1.23		
Thermal Time Constant (sec)	281.0		
Rotor Inertia (oz-in-sec ²)	0.0066		
Rotor Inertia (g-cm ²)	1.2		
Thermal Resistance (C / Watt)	5.60		
Axial Load (N) 5mm from face	4.0		
Radial Load (N) 5mm from face	12.0		
Weight (oz)	2.5		
Weight (g)	72.00		
Length (inch)	1.9		
Length (mm)	49.0		
Number of Poles	8.0		
Notes	*Continuous rating based on a 25°C ambient temperature, winding temperature rise of 125°C. Mounted on a 150 X 150 X 6 mm aluminum heat sink.		



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