

**ElectroCraft's MPP24** integrates a 4-pole Brushless DC motor with a very robust 2-stage right-angle worm gearbox, designed for industrial applications, adding industrial grade cabling plus encoder feedback options to support positioning capability. The MPP24 combines optimum performance with increased efficiency, reduced noise and longer-life.

ElectroCraft MobilePower™ gearmotors feature an integrated design that provides increased performance and reliability at an affordable price compared to traditional motor/gearbox combinations. As with all ElectroCraft products, MobilePower™ gearmotors are customizable to meet specific application requirements.

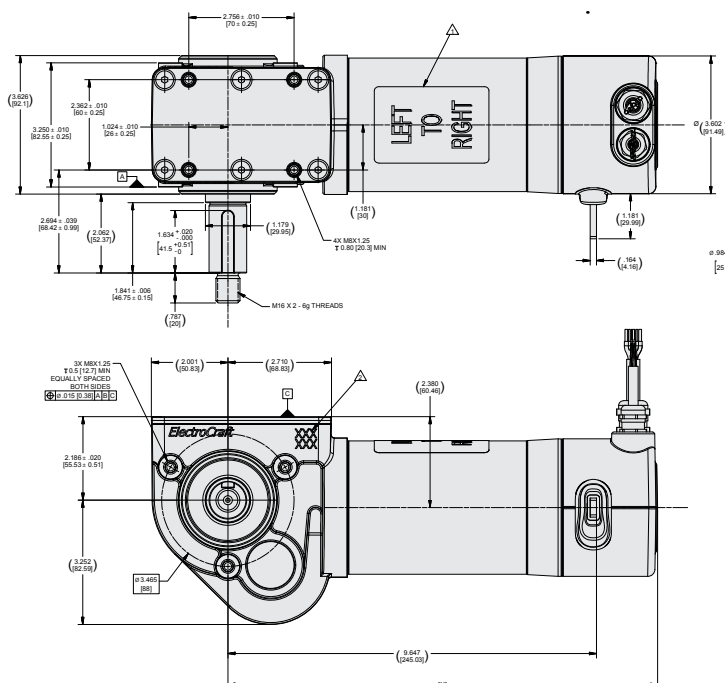
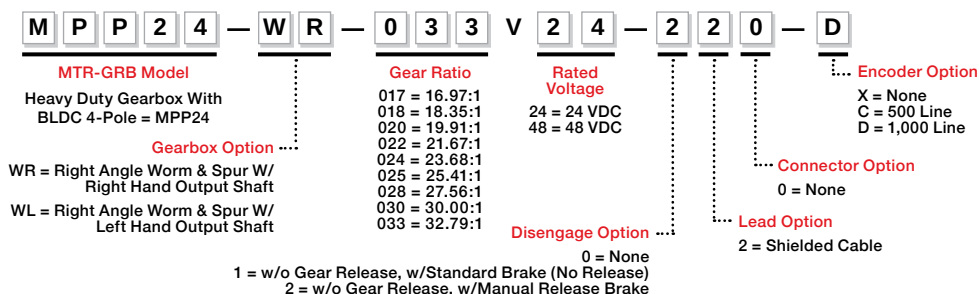
### Features:

- Smooth, efficient motion
- Durable and highly reliable integrated worm-gear design
  - Suitable for uneven terrain and curb-climbing
- High starting torque:
  - Peak starting torque up to 122.6 Nm
  - 15-minute continuous torque up to 50.5 Nm
- Configurable or completely customizable designs
  - Motor, gearbox, brake, encoder, cabling

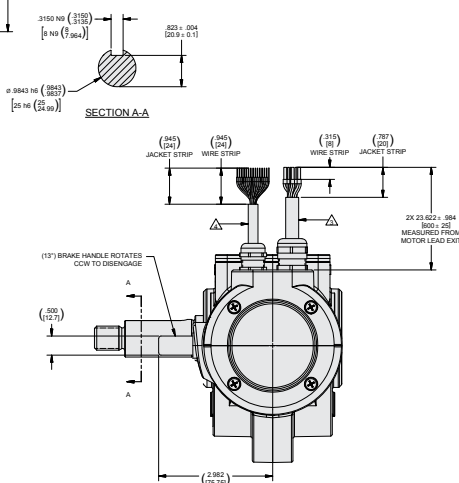


**Typical applications:**

- Industrial traction applications
- Industrial lifts
- Automated Guided Vehicles
- Autonomous Mobile Robots



| MOTOR LENGTH TABLE             |                    |
|--------------------------------|--------------------|
| VALUE ADDED                    | "IN"               |
| W/O BRAKE & W/O ENCODER        | 10.05 (255.27) MAJ |
| STANDARD BRAKE                 | 10.57 (268.48) MAJ |
| MANUAL RELEASE BRAKE           | 10.57 (268.48) MAJ |
| ENCODER                        | 10.17 (258.32) MAJ |
| ENCODER & STANDARD BRAKE       | 11.27 (286.26) MAJ |
| ENCODER & MANUAL RELEASE BRAKE | 11.27 (286.26) MAJ |



# MPP24 Right-Angle Gearmotor

## MobilePower™ Series Geared Motors

Low Voltage - High Torque



### MPP24 Mechanical / Winding Data (24VDC motor windings)

| Gear Ratio                                     | 32.79:1 | 30.00:1 | 27.56:1 | 25.41:1 | 23.68:1 | 21.67:1 | 19.91:1 | 18.35:1 | 16.97:1 |
|------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Operating Voltage (VDC)                        | 24      |         |         |         |         |         |         |         |         |
| No Load Speed (RPM)                            | 122.6   | 134.0   | 145.9   | 158.2   | 169.8   | 185.5   | 201.9   | 219.1   | 236.9   |
| Peak Torque (5 sec) (Nm)                       | 116.9   | 107.0   | 98.3    | 90.6    | 84.4    | 77.3    | 71.0    | 65.4    | 60.5    |
| Peak Current (5 sec) (Amps)                    | 65.0    |         |         |         |         |         |         |         |         |
| Peak Power (5 sec) (Watts)                     | 714     |         |         |         |         |         |         |         |         |
| S2 Torque (15 min) (Nm)                        | 50.5    | 46.2    | 42.4    | 39.1    | 36.5    | 33.4    | 30.7    | 28.3    | 26.1    |
| S2 Current (15 min) (Amps)                     | 30.0    |         |         |         |         |         |         |         |         |
| S2 Power (15 min) (Watts)                      | 498     |         |         |         |         |         |         |         |         |
| S1 Torque (Continuous) (Nm)                    | 22.0    | 20.1    | 18.5    | 17.1    | 15.9    | 14.6    | 13.4    | 12.3    | 11.4    |
| S1 Current (Continuous) (Amps)                 | 15.0    |         |         |         |         |         |         |         |         |
| S1 Power (Continuous) (Watts)                  | 253     |         |         |         |         |         |         |         |         |
| Torque Constant (Nm/A)                         | 0.0579  |         |         |         |         |         |         |         |         |
| Voltage Constant (V/KRPM)                      | 6.06    |         |         |         |         |         |         |         |         |
| Motor Inertia (Armature) (kg.mm <sup>2</sup> ) | 274.518 |         |         |         |         |         |         |         |         |
| Motor Winding Resistance (Ohms)                | 0.079   |         |         |         |         |         |         |         |         |
| Motor Winding Inductance (μH)                  | 370     |         |         |         |         |         |         |         |         |
| Motor Max Winding Temp (°C)                    | 155     |         |         |         |         |         |         |         |         |
| Motor Poles                                    | 4       |         |         |         |         |         |         |         |         |
| Motor Mass (kg)                                | 7.12    |         |         |         |         |         |         |         |         |

Gear Motor specifications (torque, current, power) are reference values based on 25°C operating temperature.  
Do not apply maximum current for more than 5 seconds or more than twice without 10 minutes between cycles  
Max gear case operating temperature should not exceed 90°C  
S2 time is based on motor starting from Ambient temperature

### MPP24 Mechanical / Winding Data (48VDC motor windings)

| Gear Ratio                                     | 32.79:1 | 30.00:1 | 27.56:1 | 25.41:1 | 23.68:1 | 21.67:1 | 19.91:1 | 18.35:1 | 16.97:1 |
|------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Operating Voltage (VDC)                        | 48      |         |         |         |         |         |         |         |         |
| No Load Speed (RPM)                            | 122.6   | 134.0   | 145.9   | 158.2   | 169.8   | 185.5   | 201.9   | 219.1   | 236.9   |
| Peak Torque (5 sec) (Nm)                       | 116.9   | 107.0   | 98.3    | 90.6    | 84.4    | 77.3    | 71.0    | 65.4    | 60.5    |
| Peak Current (5 sec) (Amps)                    | 32.5    |         |         |         |         |         |         |         |         |
| Peak Power (5 sec) (Watts)                     | 714     |         |         |         |         |         |         |         |         |
| S2 Torque (15 min) (Nm)                        | 50.5    | 46.2    | 42.4    | 39.1    | 36.5    | 33.4    | 30.7    | 28.3    | 26.1    |
| S2 Current (15 min) (Amps)                     | 15.0    |         |         |         |         |         |         |         |         |
| S2 Power (15 min) (Watts)                      | 498     |         |         |         |         |         |         |         |         |
| S1 Torque (Continuous) (Nm)                    | 22.0    | 20.1    | 18.5    | 17.1    | 15.9    | 14.6    | 13.4    | 12.3    | 11.4    |
| S1 Current (Continuous) (Amps)                 | 7.5     |         |         |         |         |         |         |         |         |
| S1 Power (Continuous) (Watts)                  | 253     |         |         |         |         |         |         |         |         |
| Torque Constant (Nm/A)                         | 0.1158  |         |         |         |         |         |         |         |         |
| Voltage Constant (V/KRPM)                      | 12.11   |         |         |         |         |         |         |         |         |
| Motor Inertia (Armature) (kg.mm <sup>2</sup> ) | 274.518 |         |         |         |         |         |         |         |         |
| Motor Winding Resistance (Ohms)                | 0.203   |         |         |         |         |         |         |         |         |
| Motor Winding Inductance (μH)                  | 1350    |         |         |         |         |         |         |         |         |
| Motor Max Winding Temp (°C)                    | 155     |         |         |         |         |         |         |         |         |
| Motor Poles                                    | 4       |         |         |         |         |         |         |         |         |
| Motor Mass (kg)                                | 7.12    |         |         |         |         |         |         |         |         |

Gear Motor specifications (torque, current, power) are reference values based on 25°C operating temperature.  
Do not apply maximum current for more than 5 seconds or more than twice without 10 minutes between cycles  
Max gear case operating temperature should not exceed 90°C  
S2 time is based on motor starting from Ambient temperature



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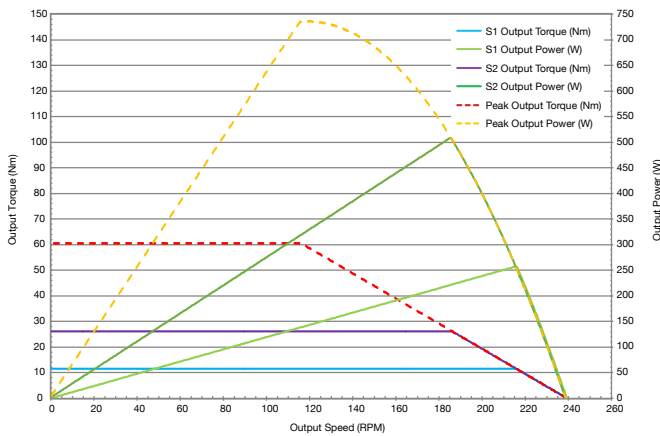
ElectroCraft, Inc.  
2 Marin Way, Suite 3  
Stratham, NH 03885-2578 USA

Tel: (844) 565-6144

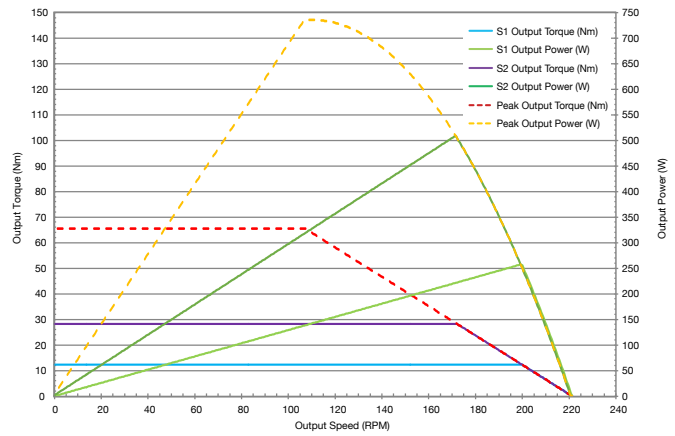
Email: sales@electrocrafter.com  
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## MPP24 Motor Performance

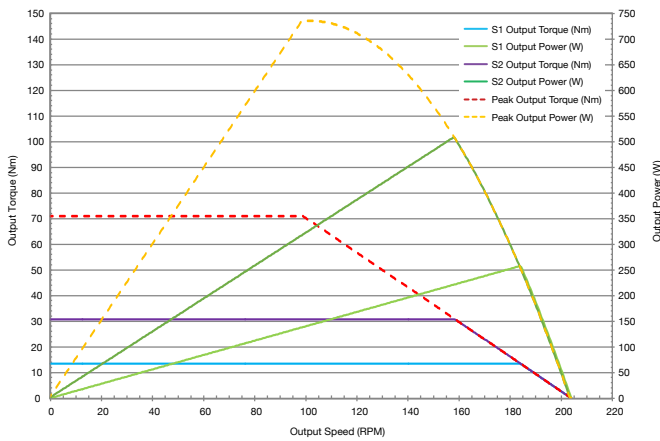
### 17:1 Ratio



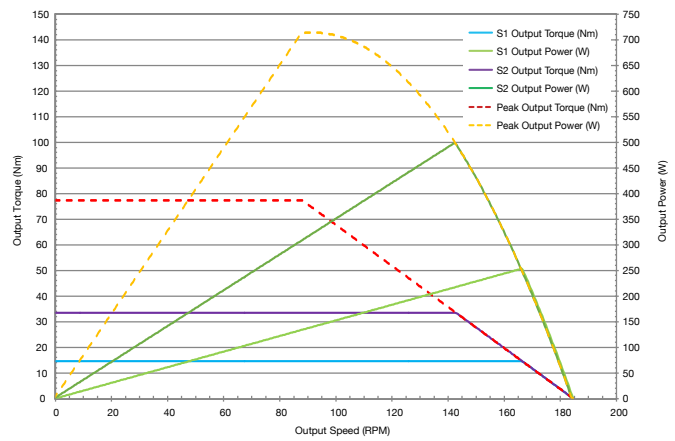
### 18:1 Ratio



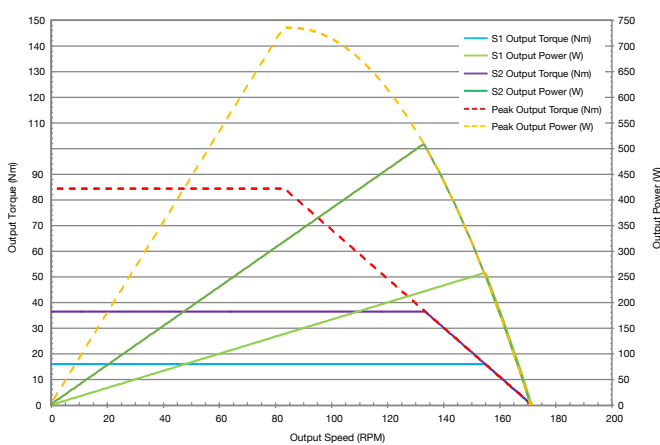
### 20:1 Ratio



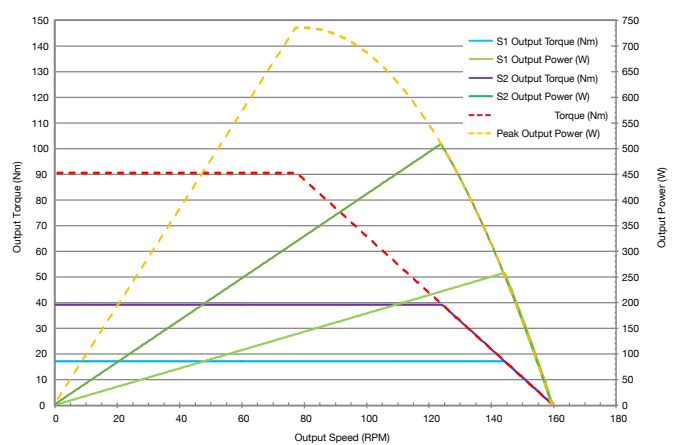
### 22:1 Ratio



### 24:1 Ratio



### 25:1 Ratio



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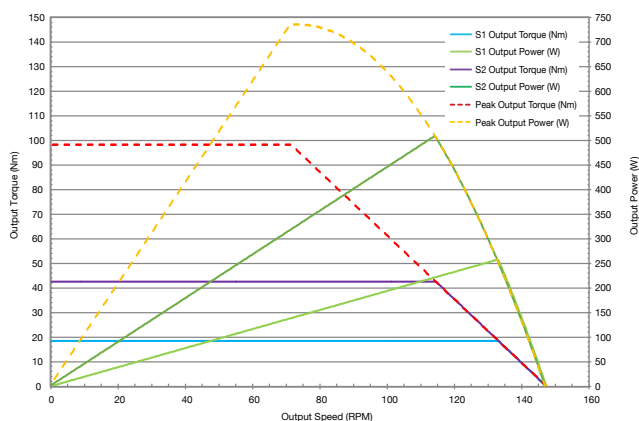
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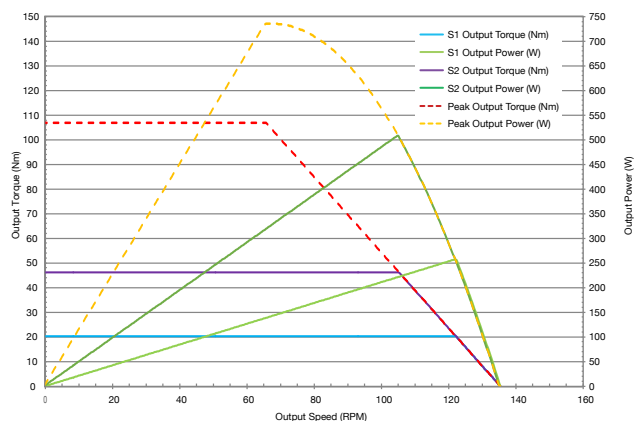
Email: [sales@electrocrafter.com](mailto:sales@electrocrafter.com)  
[www.electrocrafter.com](http://www.electrocrafter.com)

# MPP24 Motor Performance Cont.

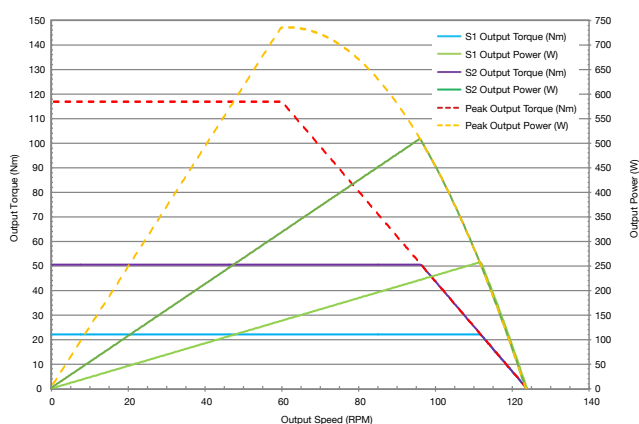
## 28:1 Ratio



## 30:1 Ratio



## 33:1 Ratio



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