

## NOVA Series

# NOVA 15-40-B8 P30 LW

Inrunner BLDC motor with closed housing

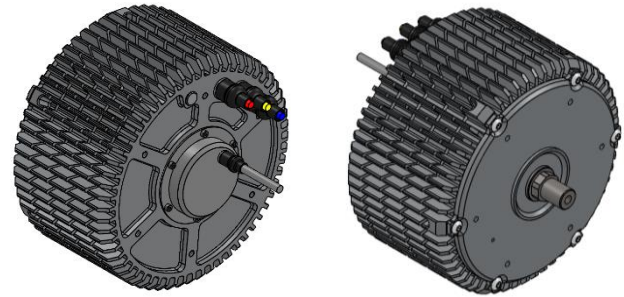


### Overview

The NOVA 15 Light-Weight ("LW") is from our family of super rugged inrunner BLDC motors and has been specifically designed for mission critical applications, including uncrewed systems and aerospace.

### Features

- Super robust housing for applications in the harshest environments
- Designed for high shock and vibration loads
- Qualified to MIL-STD 810H
- Best power-to-weight-to-robustness ratio in its class
- Wear-free position and temperature sensors included in standard
- Optimized shaft for Plettenberg propeller coupling



### Specifications

Part number	02-044.040.12-000-346
Peak output power	12 kW
Peak torque (max. 5s) <sup>(1)</sup>	32 Nm
Max. speed	8,000 rpm
Voltage range	40-120 V
Speed constant (kV)	62 rpm/V
Diameter	138 mm
Length	80 mm
Weight	2,460 g
Phase cable length	100 mm
Sensor cable length	400 mm
Recommended phase cable extension	6 mm <sup>2</sup> AWG
Protection class	IP54
Mounting	Front & back
Direction of rotation	Both
Cooling	Air cooled
Ambient temperature range	-20 to +60 °C
Max. temperature of stator (as measured by sensor)	+100 °C
Position sensor types	Hall effect sensor with UVW-commutation signals
Temperature sensor	NTC 47 kΩ
Number of poles	30
Number of windings	8
Peak thrust	60 kg with 40x13.3" prop

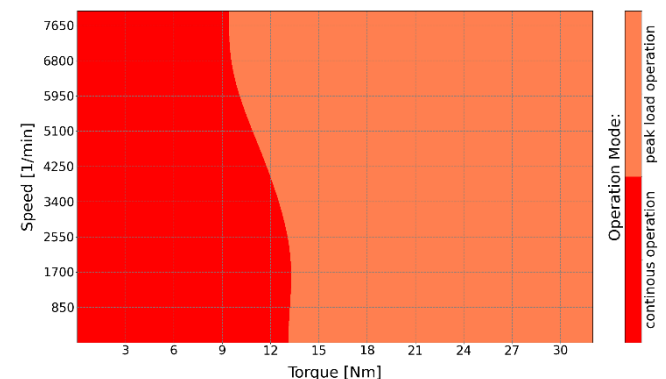
#### Notes:

<sup>(1)</sup> Peak torque with sensor-guided ESC. If using sensorless ESC, peak torque may be 10-20% lower.

### Complementary Products

- Plettenberg propeller coupling: PC LW 6K 12
- Plettenberg ESCs: MST 60-260, MST 60-290, MST 80-240, MST 140-200
- Third party ESC from Allocortech
- Plettenberg gold connectors: GC6-00 / GC6-90

### Heatmap



Note: Assuming 25°C ambient temperature and 10 m/s airflow.

### Options & Customization

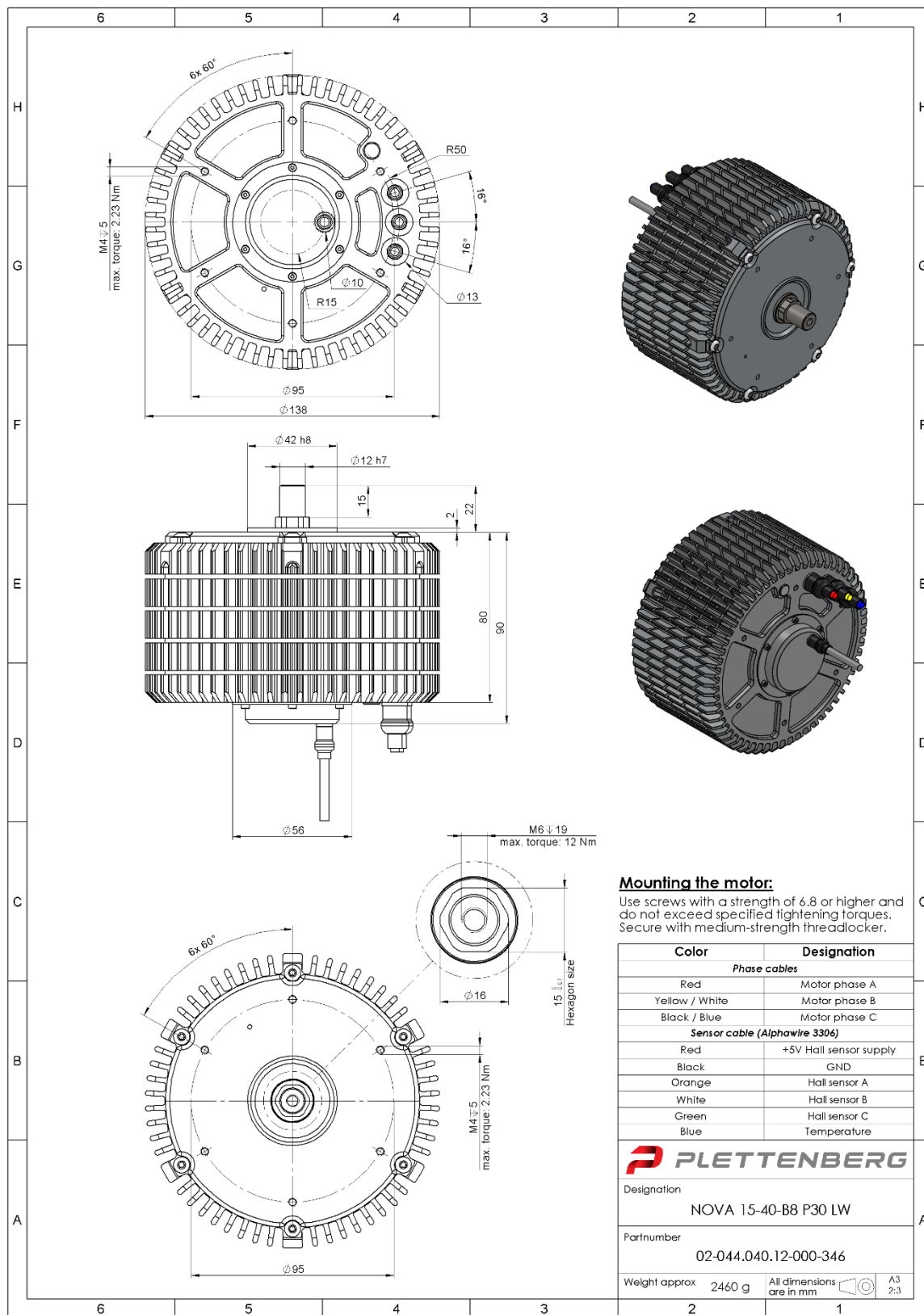
- Custom winding/kV versions
- MIL-STD 810H test reports
- MTBF/S report
- IP67 protection class
- Aerospace or MIL-DTL-38999 connectors
- Mechanical customization or frameless kits
- High/low temperature versions
- High RPM versions
- Propeller study
- RTCA DO160 qualification

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**Mounting the motor:**  
 Use screws with a strength of 6.8 or higher and do not exceed specified tightening torques. Secure with medium-strength threadlocker.

Color	Designation
<b>Phase cables</b>	
Red	Motor phase A
Yellow / White	Motor phase B
Black / Blue	Motor phase C
<b>Sensor cable (Alphawire 3306)</b>	
Red	+5V Hall sensor supply
Black	GND
Orange	Hall sensor A
White	Hall sensor B
Green	Hall sensor C
Blue	Temperature

Designation	NOVA 15-40-B8 P30 LW
Partnumber	02-044.040.12-000-346
Weight approx	2460 g
All dimensions are in mm	A3 2:3

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