

NOVA Series

NOVA 15-50-B8 P30 LW

Inrunner BLDC motor with closed housing

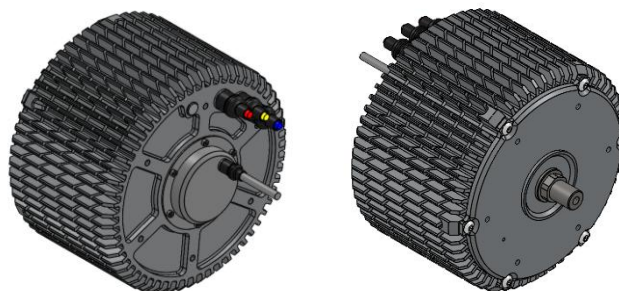


Overview

The NOVA 15 Light-Weight ("LW") is from our family of super rugged inrunner BLDC motors and has been designed for a wide range of mission critical applications.

Features

- Super robust housing for applications in the harshest environments
- 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	02-044.050.12-000-349
Peak output power	15 kW
Peak torque (max. 5s) ⁽¹⁾	40 Nm
Max. speed	8,000 rpm
Voltage range	30-160 V
Speed constant (kV)	48 rpm/V
Diameter	138 mm
Length	90 mm
Weight	2,860 g
Phase cable length	100 mm
Sensor cable length	400 mm
Recommended phase cable extension	6 mm ² 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
Phase resistance ⁽²⁾	43 mΩ
Phase inductance ⁽²⁾	69 μH
Peak thrust	67 kg with 42x15.2" prop

Notes:

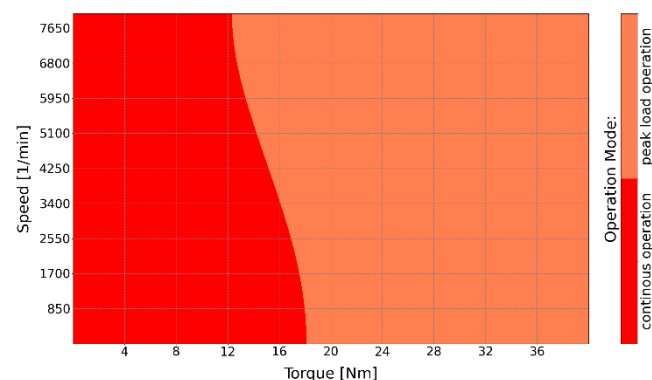
⁽¹⁾ Peak torque with sensor-guided ESC. If using sensorless ESC, peak torque may be 10-20% lower.

⁽²⁾ Phase-to-phase value

Complementary Products

- Plettenberg propeller coupling: PC LW 6K 12
- Plettenberg gold connectors: GC6-00 / GC6-90

Heatmap



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

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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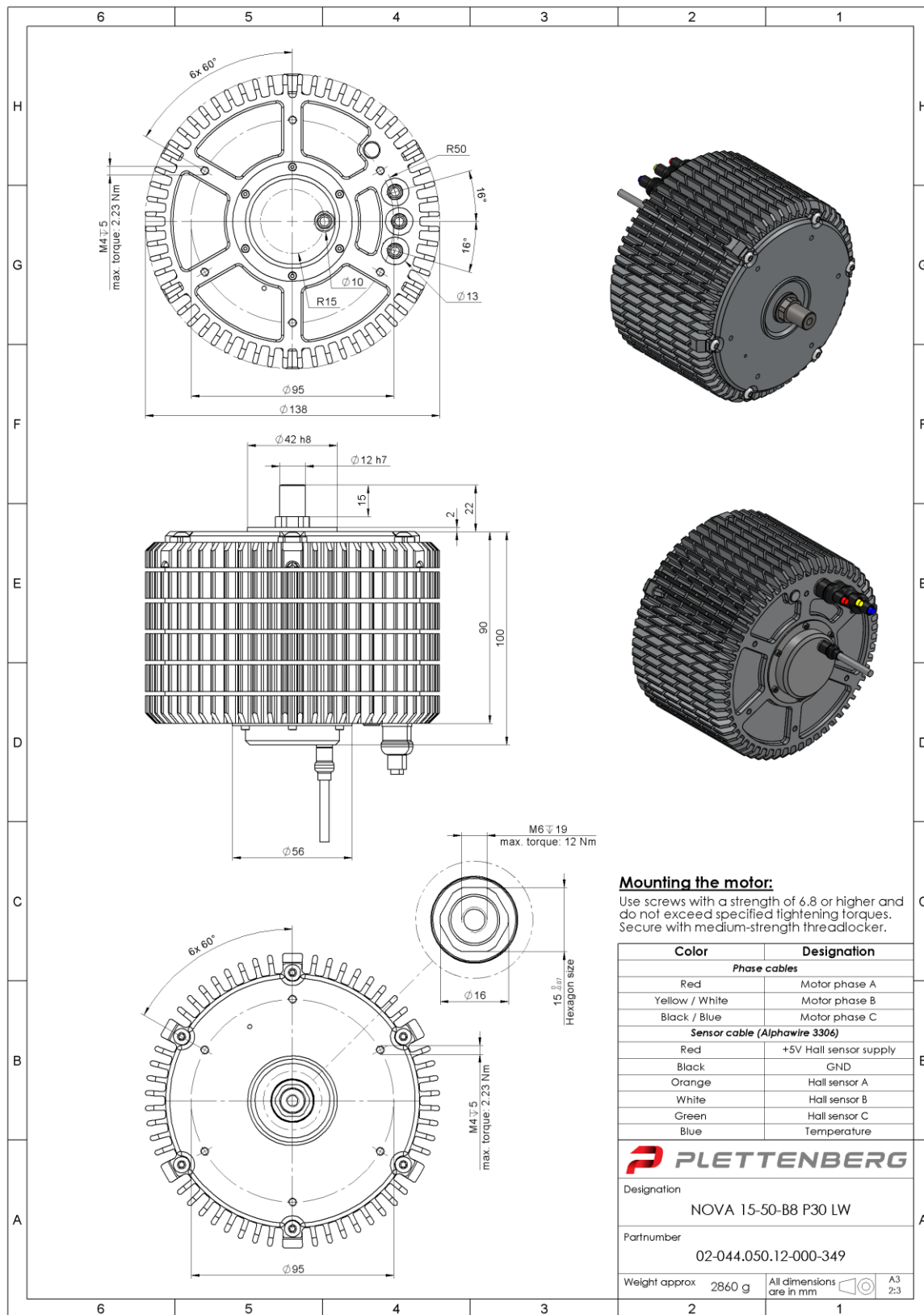
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Inrunner BLDC motor with closed housing



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

PLETTENBERG	
Designation	
NOVA 15-50-B8 P30 LW	
Partnumber	
02-044.050.12-000-349	
Weight approx	2860 g
All dimensions are in mm	A3 2:3

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