

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 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

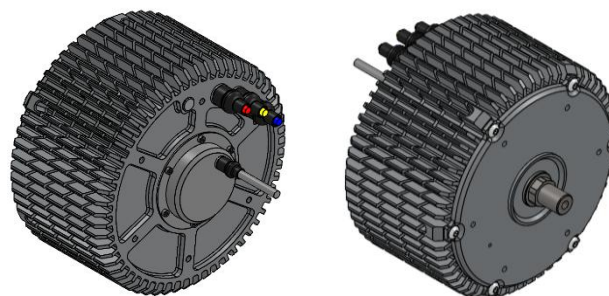
Specifications

| | |
|--|---|
| Part number | 02-044.040.12-000-346 |
| Peak output power | 12 kW |
| Peak torque (max. 5s) ⁽¹⁾ | 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 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⁾ | 36 mΩ |
| Phase inductance ⁽²⁾ | 58 μH |
| Peak thrust | 60 kg with 40x13.3" prop |

Notes:

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

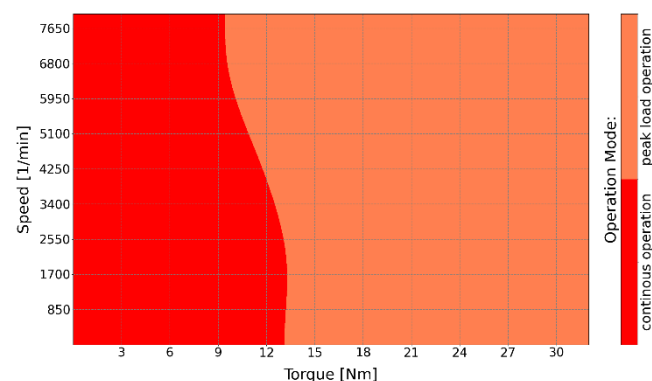
⁽²⁾ Phase-to-phase value



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

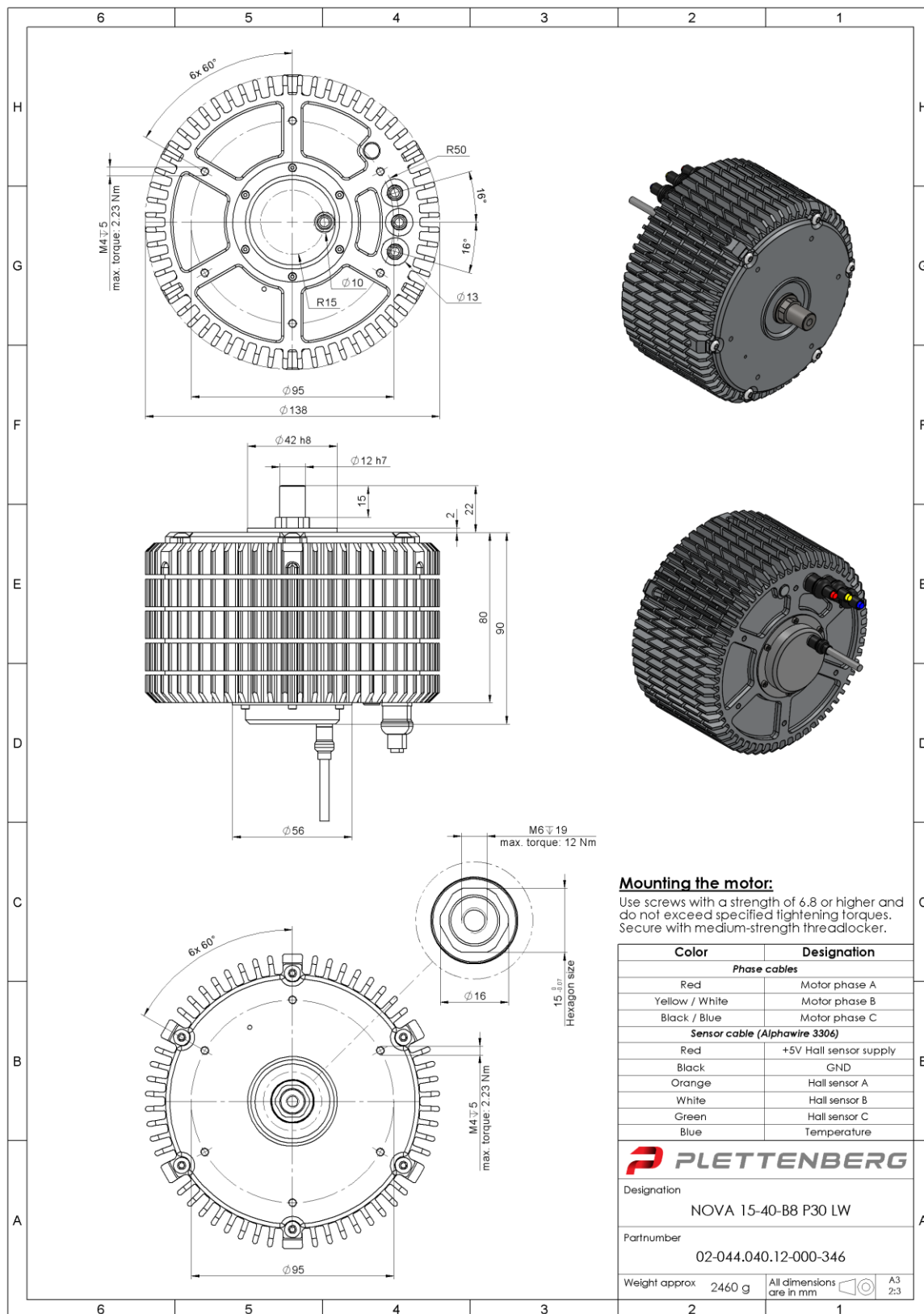
- Custom winding/kV versions
- MIL-STD 810H test reports
- MTBF/S report
- IP67 protection class
- Aerospace or MIL-DTL-38999 connectors
- Mechanical customization or frameless kits
- High/low temperature versions
- High RPM versions
- Propeller study
- RTCA DO160 qualification

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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 |
|--------------------------------------|------------------------|
| <i>Phase cables</i> | |
| Red | Motor phase A |
| Yellow / White | Motor phase B |
| Black / Blue | Motor phase C |
| <i>Sensor cable (Alphawire 3306)</i> | |
| 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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