

NOVA Series

NOVA 15-70-A2 P30 LW

Inrunner BLDC motor with closed housing

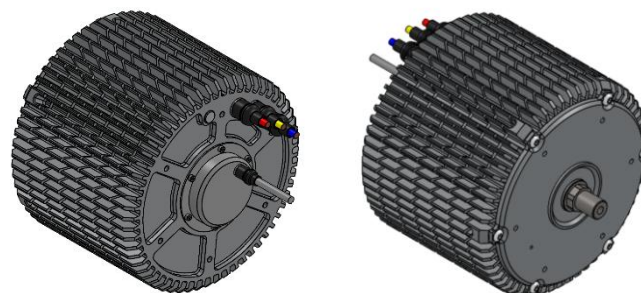


Overview

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



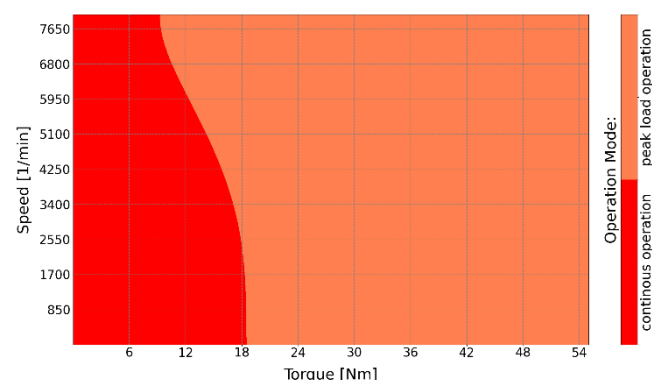
Specifications

Part Number	02-044.070.12-000-354	
Peak output power	20	kW
Peak torque (max. 5s) ⁽¹⁾	55	Nm
Max. speed	8,000	rpm
Voltage range	30-100	V
Speed constant (kV)	83	rpm/V
Diameter	138	mm
Length	110	mm
Weight	3,660	g
Phase cable length	100	mm
Sensor cable length	400	mm
Recommended phase cable extension	10	mm ²
	7	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	2	
Phase resistance ⁽²⁾	14	mΩ
Phase inductance ⁽²⁾	19	μH
Peak thrust	90 kg with 48x16.4" prop	

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

Notes:

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

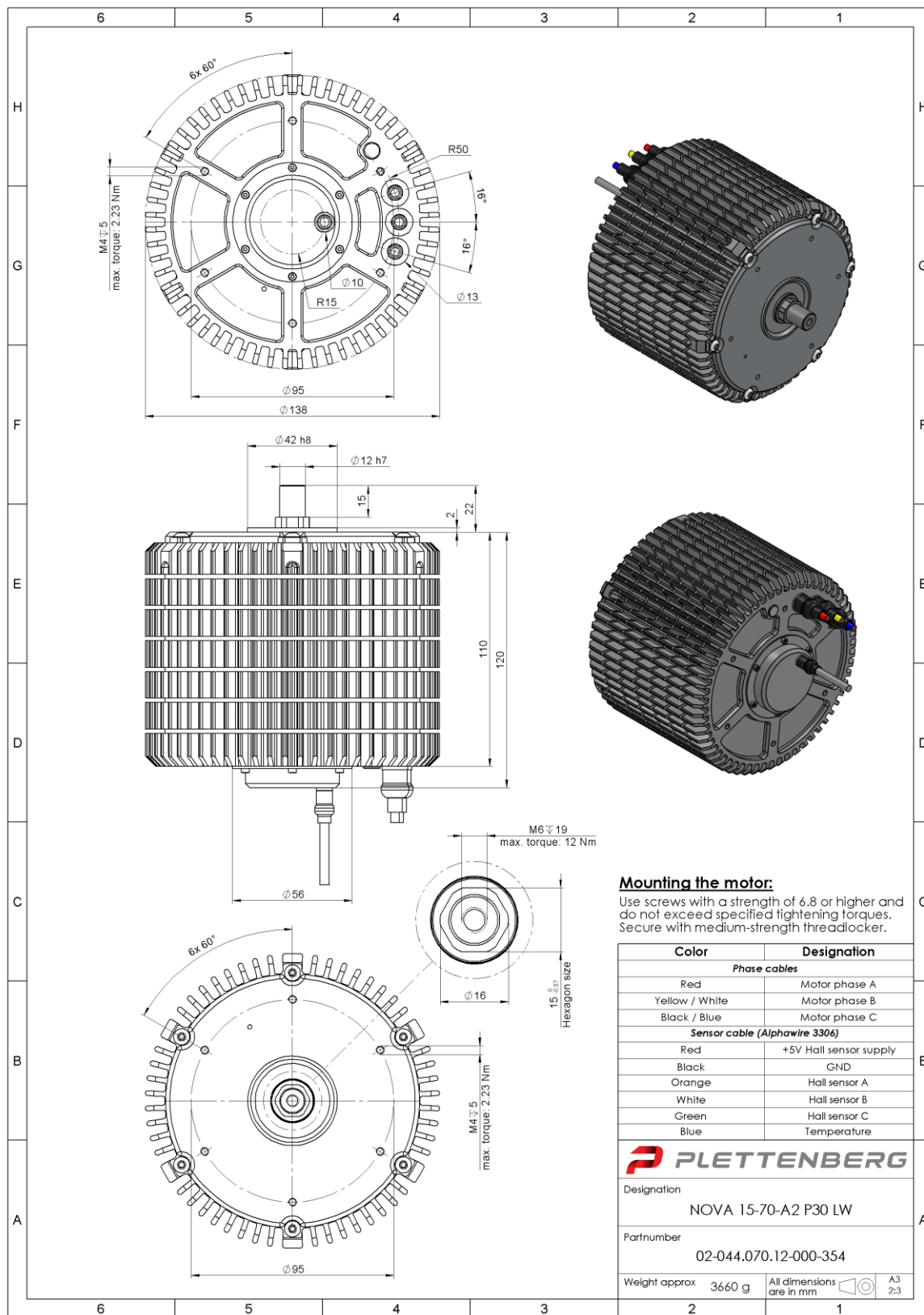
⁽²⁾ Phase-to-phase value

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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 15-70-A2 P30 LW
Partnumber	02-044.070.12-000-354
Weight approx	3660 g
All dimensions are in mm	

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