

NOVA 15-50-B4 P30 WK iMST 80-240

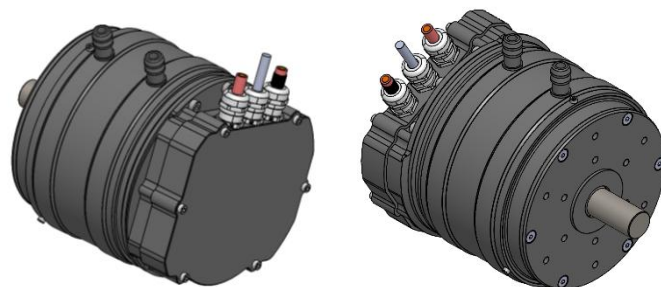
Inrunner BLDC motor with closed housing

Overview

The NOVA 15 Water-Cooled ("WK") with integrated electronic speed controller MST 80-240 ("iMST 80-240") 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 harsh environments
- Wear-free position and temperature sensors included in standard
- Integrated Plettenberg ESC (MST 80-240)



Specifications Motor

| | | |
|--|--|-------|
| Part number | 02-044.050.01-000-389 | |
| Peak output power | 15 | kW |
| Peak torque (max. 5s) | 28 | Nm |
| Max. speed | 8,000 | rpm |
| Voltage range | 15-80 | V |
| Speed constant (kV) | 99 | rpm/V |
| Diameter (ex. water inlet) | 140 | mm |
| Length | 127.5 | mm |
| Weight | 3,800 | g |
| Protection class | IP54 | |
| Mounting | Front | |
| Direction of rotation | Both | |
| Cooling | Water 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 | 4 | |
| Recommendations for water cooling | 7 liters-per-minute at max. 40°C inlet temp and max. 2 bar / 29 PSI. | |

Specifications Integrated MST 80-240⁽¹⁾

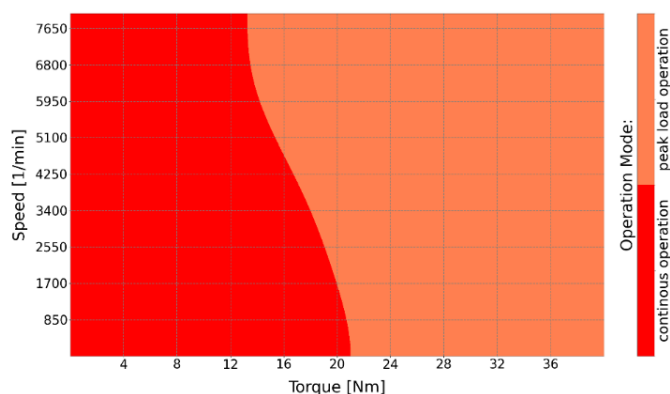
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|-----------------------------------|--|-------------------------------|
| Continuous power | 17.6 | kW |
| Electric RPM limit | 240,000 | 1/min |
| Voltage range | 15-80 | V |
| Continuous current | 220 A | (at 25°C ambient temperature) |
| | 175 A | (at 50°C ambient temperature) |
| | 125 A | (at 75°C ambient temperature) |
| Maximum current | 400 A (max. 2 seconds) | |
| Interfaces | RS232 plus either CAN bus 2.0A or PWM or analog (please provide preference upon placing order) | |
| | DC power cable length | 300 ⁽²⁾ |
| Recommended power cable extension | 16 | mm ² |
| | 5 | AWG |
| Control cable length | 900 | mm |

Notes:

⁽¹⁾ Please refer to MST operating manual for more details.

⁽²⁾ For extension of DC power cable a **cable extension kit with capacitor** is required, depending on operating voltage and current. The total length of all battery connection cables (positive and negative together) must not exceed 1 meter. Please refer to MST operating manual for more details.

Heatmap



Complementary Products

- Cable extension kit with matching capacitor (2,000 mm)

Options & Customization

- Custom winding/kV versions
- MIL-STD 810H or RTCA DO160 qualification
- MTBF/S report
- IP67 protection class
- Aerospace or MIL-DTL-38999 connectors
- Mechanical customization
- High RPM versions



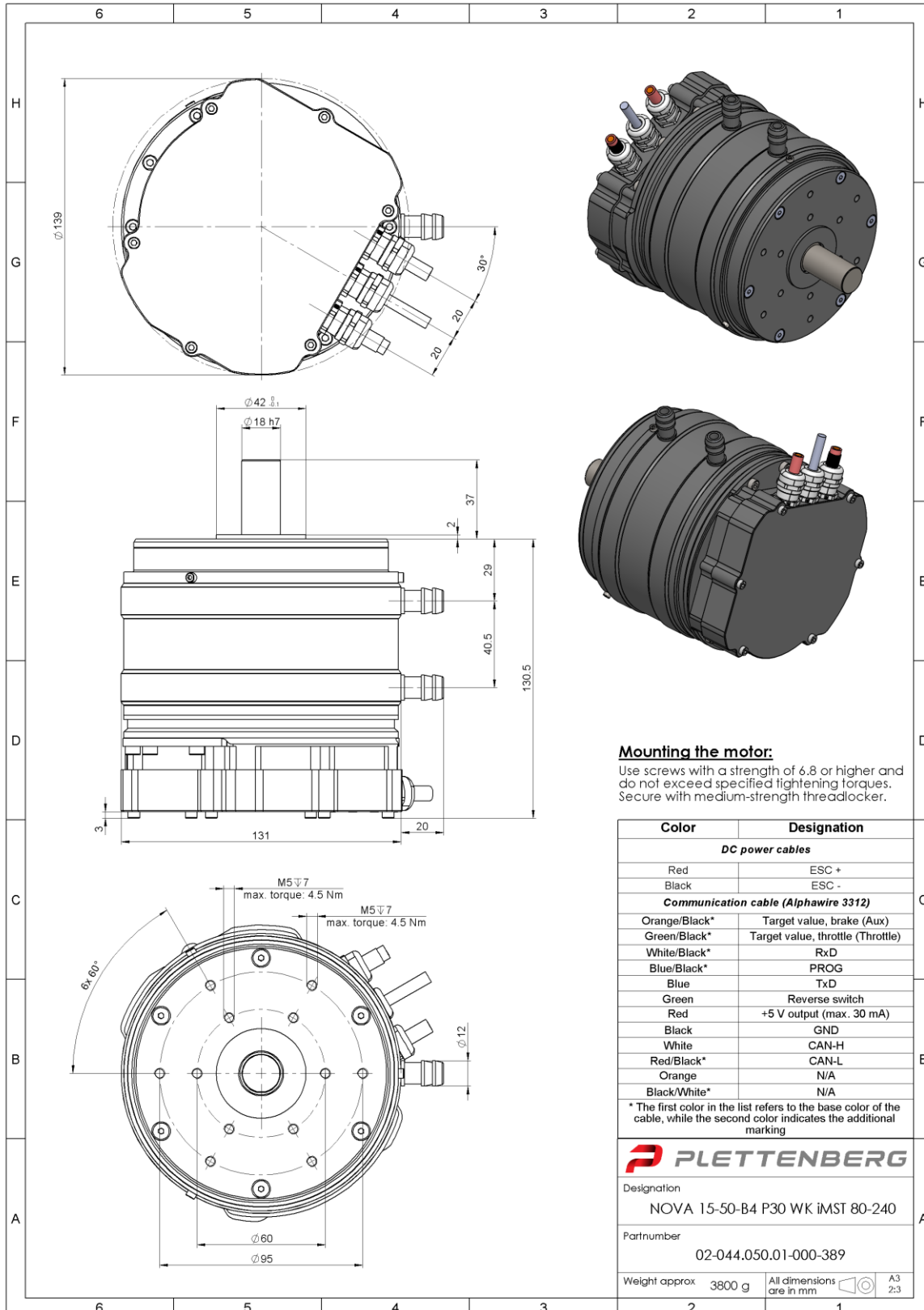
NOVA Series

Note: Assuming water temperature of 40°C and 7 l/min flow.



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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.

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