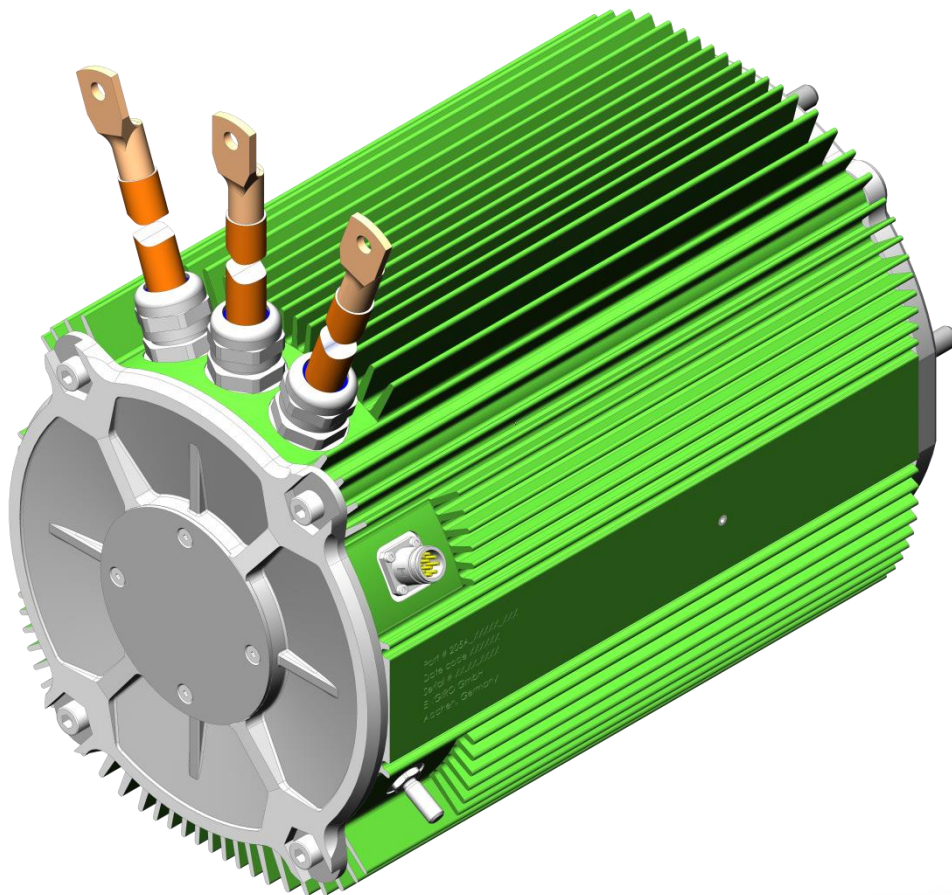


205A-12013-ABC

air-cooled motor / generator with up to 31 kW continuous power



KEY FEATURES

- permanent magnet synchronous machine
- air-cooled
- high peak power for motor applications
- convincing cost-benefit ratio
- recommended voltage range from 48V to 200V
- delivery with controller possible

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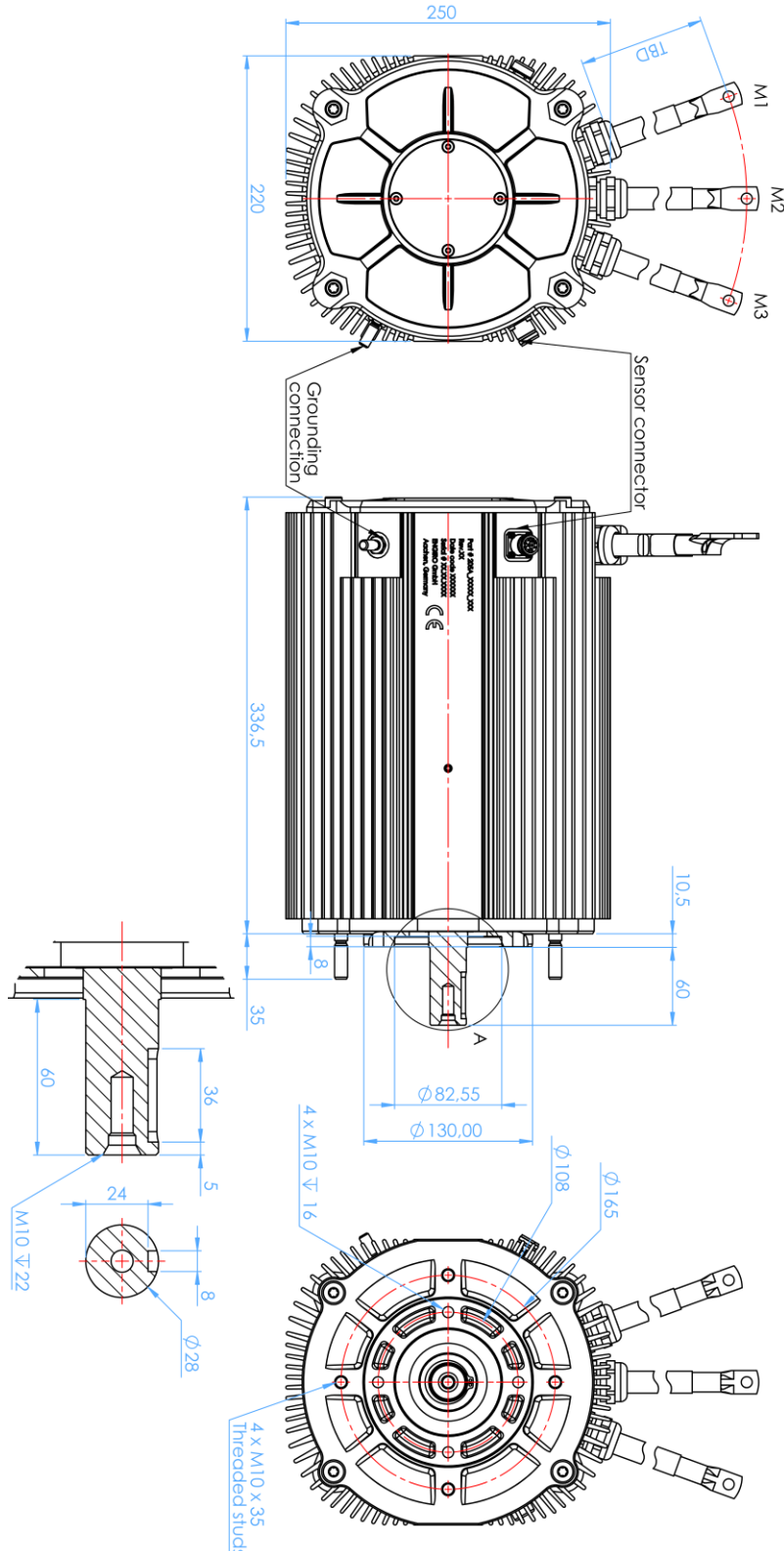
| Nominal Operation (S1, cooling as specified below) | | | | |
|--|-----------------|-------|---|--------------------------|
| Torque | T_{nom} | | 78 | Nm |
| Power | P_{nom} | | 31 | kW |
| Speed | n_{nom} | | 3750 | rpm |
| Phase rms-current | I_{nom} | | 225 ^{1,2)} | A |
| Battery voltage (DC) | U_{nom} | | 140 | V |
| Electric frequency | $f_{el,nom}$ | | 250 | Hz |
| Power factor | $\cos(\varphi)$ | | 0.76 | |
| Maximal Values (S2, 10s, cooling as specified below) | | | | |
| Torque | T_{max} | | 301 | Nm |
| Power | P_{max} | | 71 | kW |
| Phase rms-current | I_{max} | | 962 ²⁾ | A |
| Battery voltage (DC) | U_{max} | | 200 | V |
| Speed | n_{max} | | 8000 | rpm |
| Electric frequency | $f_{el,max}$ | | 533 | Hz |
| Electrical Data | | | | |
| Number of phases | | | 3 | |
| Number of pole pairs | | | 4 | |
| Maximal efficiency | | | 96 | % |
| T/I constant ($I < I_{nom}$) | | | 0.35 | Nm/ A_{rms} |
| U/n constant (AC) at a temperature of 30°C | rms: | 22.2 | peak: | 37.7 |
| | | | | V/(1000rpm) |
| K_e constant (AC) at a temperature of 30°C | rms: | 0.053 | peak: | 0.09 |
| | | | | V/(rad*s ⁻¹) |
| Additional Data | | | | |
| Weight (w/o cables) | | | 37 | kg |
| Rotor moment of inertia | | | 0.019 | kg*m ² |
| Protection category | | | IP6K9K ³⁾ | |
| Maximal motor temperature | | | 120 | °C |
| Allowed ambient temperature | | | -20 ... 45 ⁴⁾ | °C |
| Cooling (medium, flow rate, inlet temperature, pressure) | | | air, > 12 m/s, ≤ 25°C | |
| Temperature monitoring | | | 1 x KTY84-130 | |
| Type approval | | | CE, EN 60034 | |
| Customs tariff number | | | 8501 5230 | |
| Connectors | | | | |
| Power terminals | | | 3 x 50mm ² cables with M8 cable lugs | |
| Weight power cables | | | 3.3 | kg |
| Length power cables | | | 2 | m |
| Signal connectors | | | M16, 10 Pin | |

¹⁾ Nominal current strongly dependent on cooling as specified below. / ²⁾ The cables must not exceed a temperature of 140 °C at any time. Temperature and service life depend on the installation condition. / ³⁾ Please note that the IP6K9K rating is only valid if the machine is installed with suitable cable glands and an appropriate sealed interface at the drive side of the motor (flange and/or shaft). Please contact ENGIRO for further questions. / ⁴⁾ other range on request

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Available Type Variants

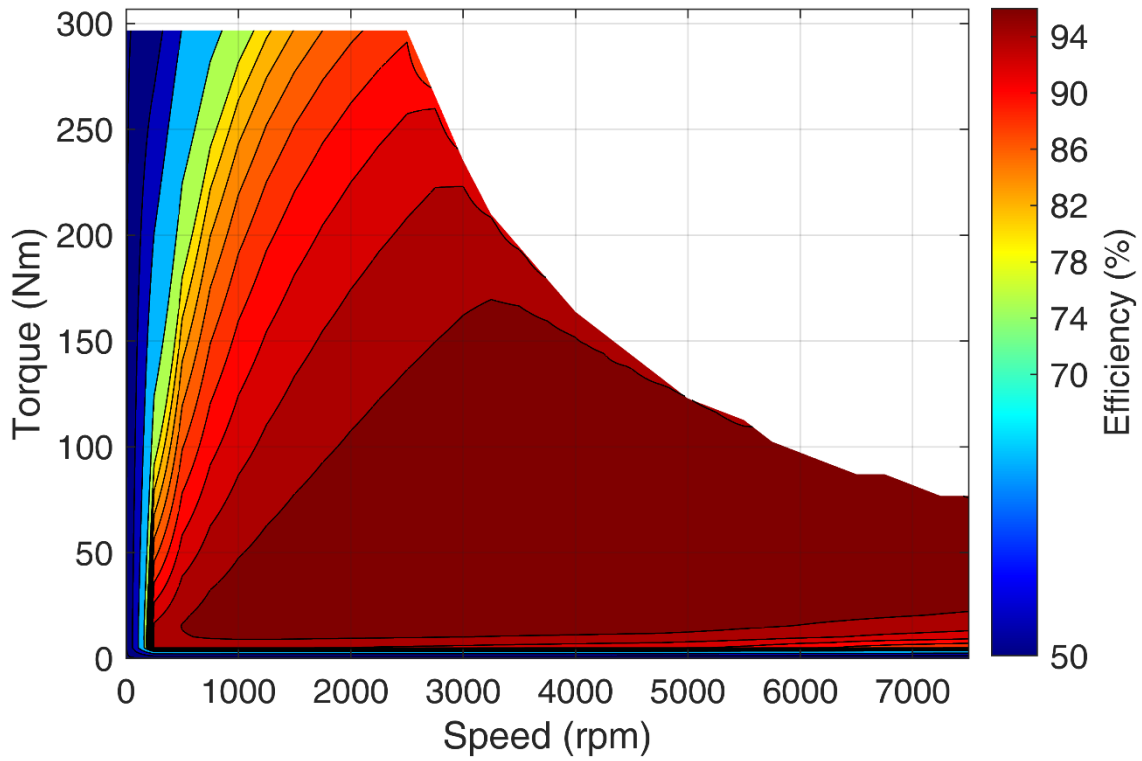
| type number | A: flange | B: shaft | C: position sensor |
|-------------|-------------|----------------------------------|--------------------|
| 205A-12013- | S: standard | S: cylindrical shaft with keyway | E: sin/cos encoder |



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Simulated Efficiency of Motor Application

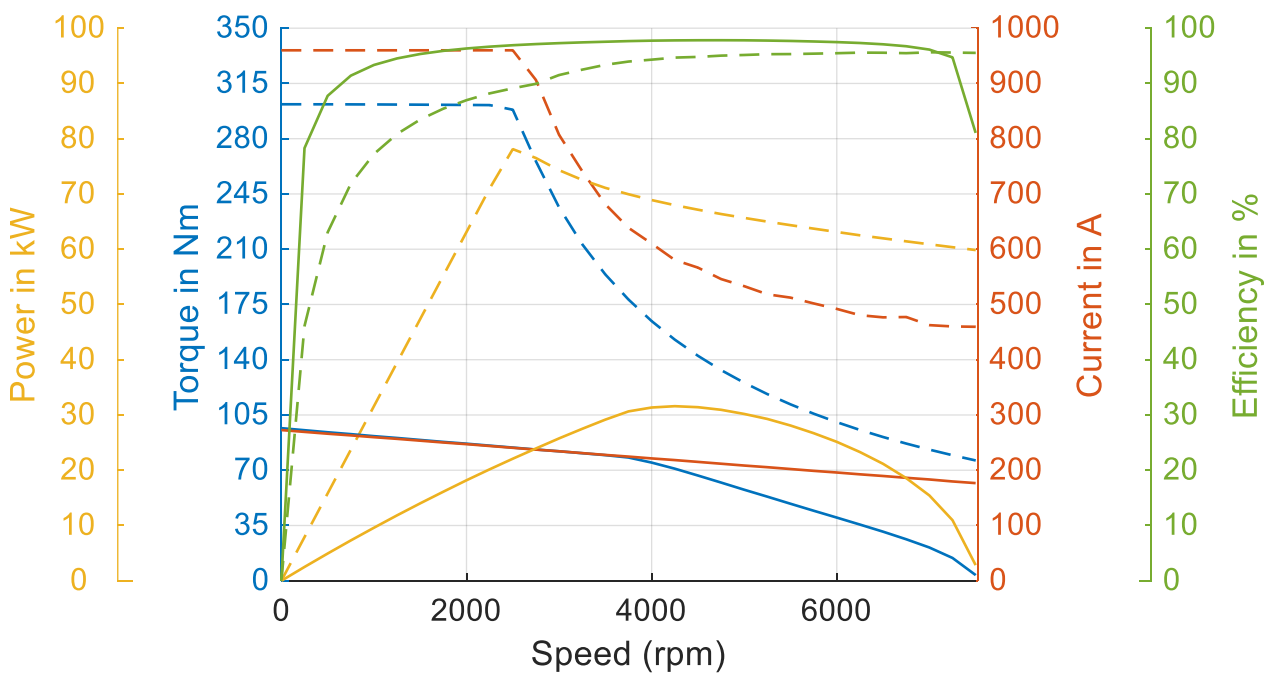
(electric machine only; $U_{nom} = 140\text{ V}$; machine at 140 °C ;)



Simulated Characteristic Motor Parameters

$U_{nom} = 140\text{ V}$

solid lines: continuous; dashed lines: maximum;



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