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Datasheet VM600M-18W0115

Art.-No: VM600M-18W0115-RH20029-0110

Discontinued

VM600M - Expert eMotors

Synchronous electric motors and generators for mobile applications perfectly matched to the VP600 inverter product line.

VM600M Features

- maximum lifetime
- high efficiency especially at partial load
- scalable performance and easy implementation of redundancy

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For reference reports go to:
www.aradex.com/en/electric-mobility



| Product overview | |
|------------------|--|
| Article no. | VM600M-18W0115-RH20029-0110 |
| Finishing | black |
| Description | "DirectDrive" VECTOPOWER motor for mobile applications, optimized to 1:1 speed of the cardan shaft; Winding in star connection |
| Motor topology | PM- reluctance |

| Size | |
|-------------------|----------|
| Weight | 170 kg |
| Diameter shaft | 48 mm |
| Length shaft | 80 mm |
| Total length | 675.5 mm |
| Length | 595.5 mm |
| External diameter | 247 mm |

| Technical data | |
|--|--|
| Noiminal torque ¹⁾ | 600 Nm |
| Rated speed | 1450 1/min |
| Nominal current UVW, per phase | 241 A _{rms} |
| Terminal voltage (AC) | 272 V |
| Cos Phi | 0.85 |
| Torque constant | 2.49 Nm/A _{rms} |
| Peak current UVW, per phase | 500 A _{rms} |
| Max. overload for 1 min ²⁾ | 1150 Nm |
| Max. overload for 3 min ²⁾ | 800 Nm |
| Max. overload for 10 min ²⁾ | 600 Nm |
| Voltage constant | 154 V/ 1000 rpm |
| Efficiency at continuous load (up to) | 93 % |
| Number of pole pairs | 4 |
| Electrical wiring | Star connection |
| Rotary encoder | <ul style="list-style-type: none"> Resolver |
| Shaft design | cylindrical with shaft key |
| Temperature sensors | PTC, PT100 |
| Technical notes | <p>¹⁾ Continuous torque at: 1450 rpm, 440VDC, 15l/min coolant flow rate at 35°C and 25°C ambient temperature, dT=95K</p> <p>²⁾ Max. torque at: < 1450 rpm, 440VDC, 15l/min coolant flow rate at 65°C and 25°C ambient temperature</p> |

Cooling

| | |
|---|----------------------|
| Liquid cooling | yes |
| Cooling medium | Water/glycol (50:50) |
| Min. coolant pressure | 0.5 bar |
| Max. coolant temperature without derating | 35 °C |
| Max. coolant temperature with derating | 65 °C |

Environment

| | |
|--|--------|
| Max. ambient temperature in operation | 65 °C |
| Min. ambient temperature in operation | -25 °C |
| Protection class according to EN 60529 | IP67 |

Pin settings

Sign

Properties

| | |
|-------------|----------------|
| Plug type | A DF A 015 |
| Plug design | 17 pol, Typ"E" |

| pin-no. | operation | type | I/O |
|---------|-------------|------|-----|
| 1 | Resolver P+ | male | |
| 2 | Resolver P- | male | |
| 3 | Resolver A+ | male | |
| 4 | Resolver A- | male | |
| 5 | Resolver B+ | male | |
| 6 | Resolver B- | male | |
| 7 | NC | | |
| 8 | NC | | |
| 9 | NC | | |
| 10 | NC | | |
| 11 | NC | | |
| 12 | NC | | |
| 13 | NC | | |
| 14 | PT100 | male | |
| 15 | PT100 GND | male | |
| 16 | PTC | male | |
| 17 | PTC GND | male | |

Attachments

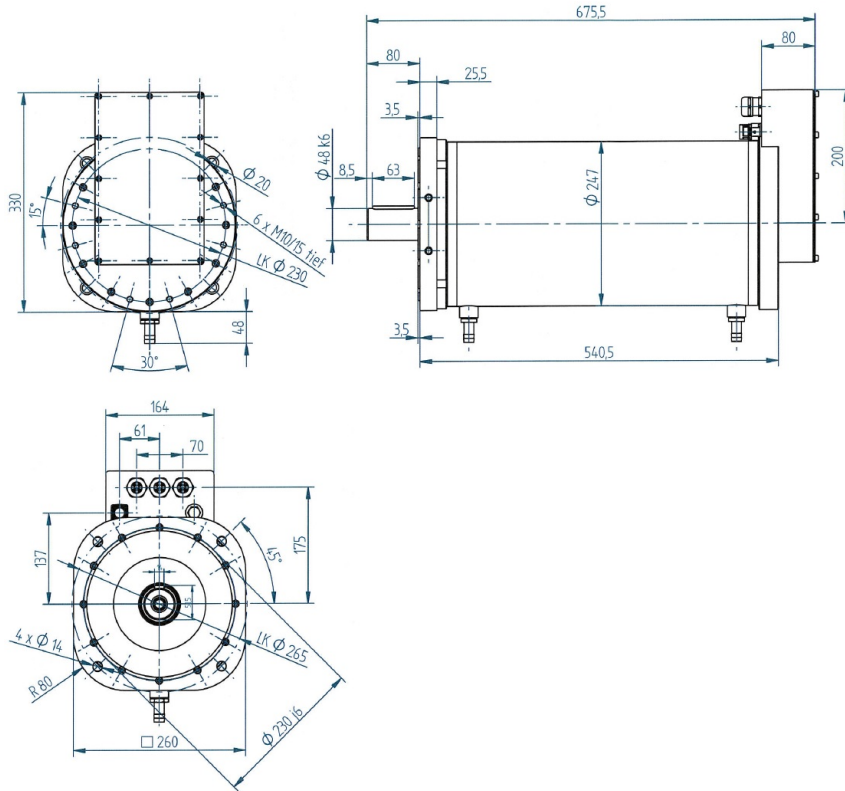


Illustration: Dimensions

Motor characterisitc S1

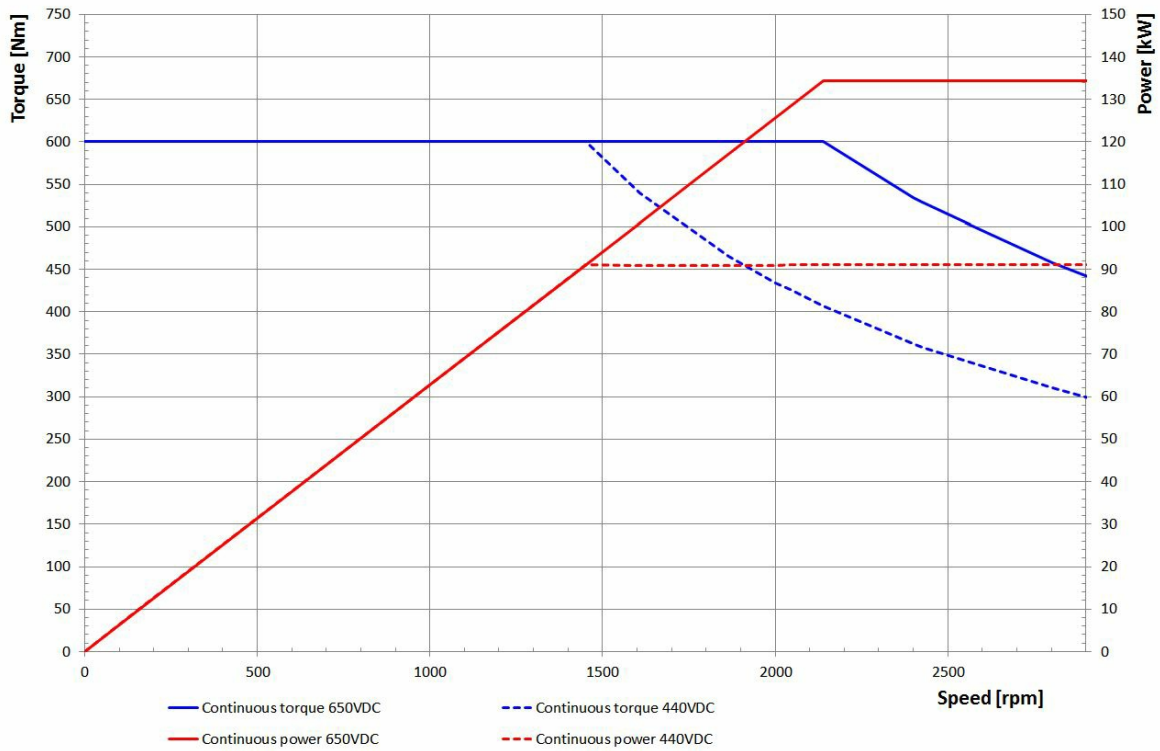


Illustration: S1 torque and power curve

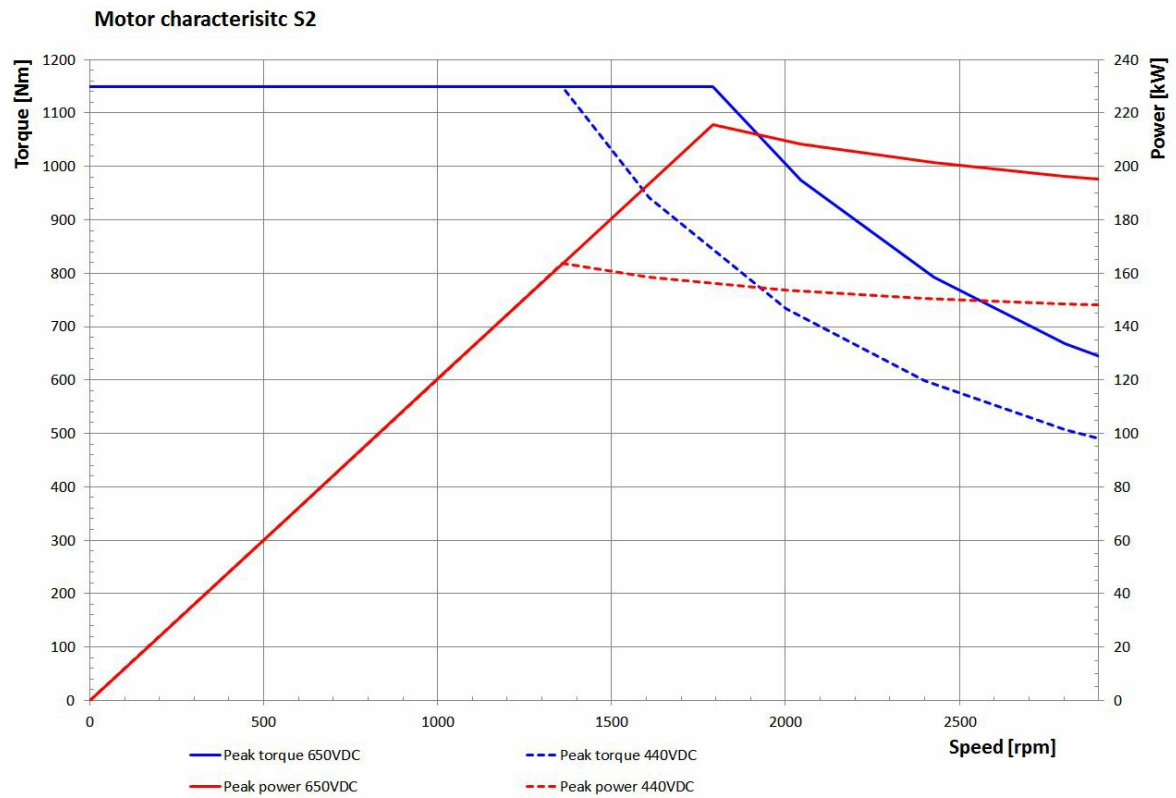


Illustration: S2 torque and power curve