



► Brushless – DC Motors

5642

- Peak torque..... 0.8 Nm
- Max. Current..... 40 A
- Weight..... 650g
- Dimensions..... Ø 42 mm
H 87.5 mm

Compact, and high torque density are the main features of this BLDC motor. It is suitable for high T°C and high vibration applications (automotive heavy duty harsh environments) and it integrates a position sensor.

► Features & Benefits

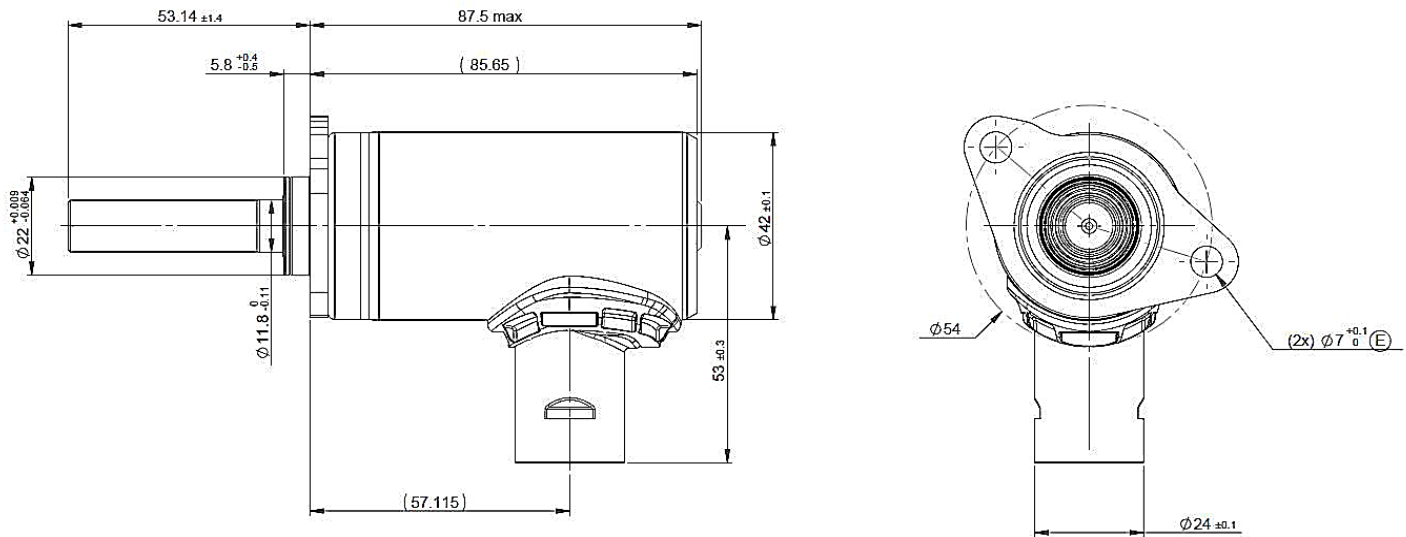
| Features | Benefits |
|--|---|
| Brushless DC motor with high-resolution sensors | No additional position sensor required |
| Compact design: Ø 42mm HALT tested: -70 to 200°C at 40g RMS | Easy to control for simple integration into existing drive interfaces |
| High torque: peak torque up to 1.4 Nm | Outstanding response time for dynamic positioning |
| Fast: up to 10, 000 RPM High mechanical power: up to 180W | High power density with small installation space, adapted for engine downsizing |
| Adapted to standard BLDC driving mode Operating temperature: [-40°; +150°C] | No maintenance needed due its high service life and robustness |
| IP67 / IP6K9K | Excellent reliability for use in engine and powertrain applications |

► Technical data

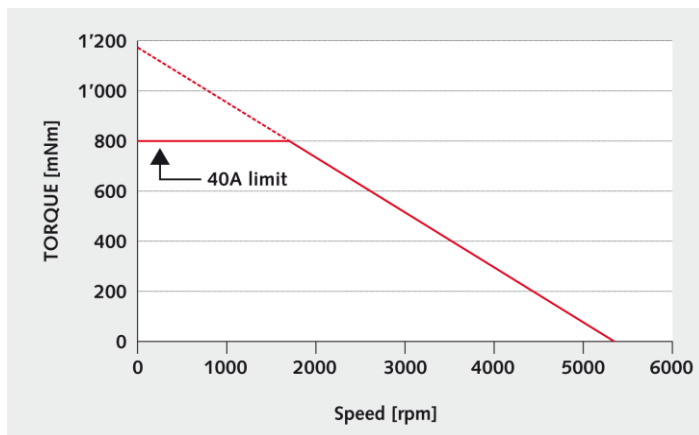
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|---------------------|-------|-----|-------------------------|------|----------------------|
| Mass | 0.650 | kg | Detent torque | 0-85 | mNm |
| Phase Number | 3-Δ | - | Motor constant | 78 | mNm/W ^{1/2} |
| Nominal Voltage | 12 | V | Torque constant | 20 | mNm/A |
| Phase Resistance | 65 | m Ω | Continuous stall torque | 300 | mNm |
| Phase Inductance | 31 | μH | Max static torque | 800 | mNm |
| Step per revolution | 30 | - | No load speed | 5500 | rpm |
| Tightness | IP67 | - | Rotor Inertia | 12 | kg.mm ² |

Nota: values at ambient temperature

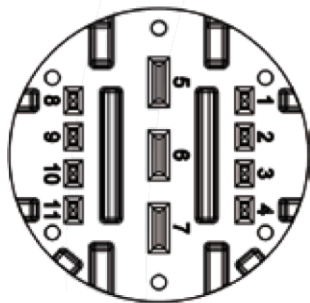
► Dimensions



► Dynamic characteristics

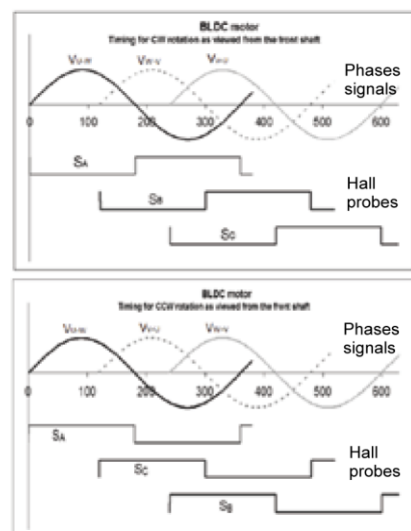


► Electrical Interface and commutation sequence



| PIN OUT | |
|---------|---------------|
| PIN | CONFIGURATION |
| 1 | FREE |
| 2 | SB |
| 3 | H1 |
| 4 | SC |
| 5 | W |
| 6 | V |
| 7 | U |
| 8 | H2 |
| 9 | SA |
| 10 | GND |
| 11 | SUPPLY |

Hall Probes & phases signals



Special requirements upon customer specifications. Right to change without notifications reserved

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► Electrical Interface and commutation sequence

Temperature range -40°C/140°C

Vibration level..... Up to 15g – bandwidth 0-1600Hz

Nota: Overall specifications depend on sensor options and driving duty cycles.

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