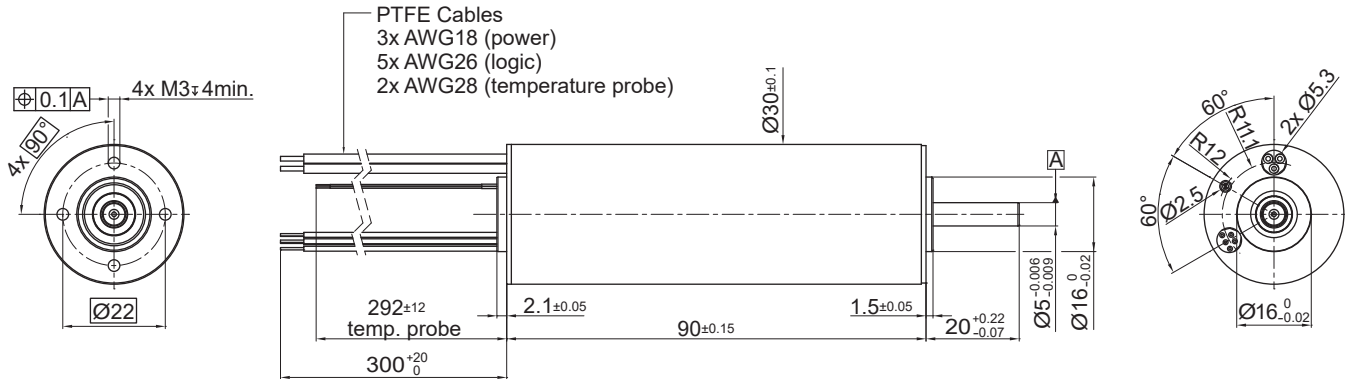


30ECT90 Ultra EC™

Ø 30 mm • 4-pole • 244 W



Dimensions in mm

| Electrical Data | Symbol | 30ECT90 10B-xxx.01 | | | Unit |
|--|-------------|--------------------|-------------|-------------|--|
| | | 4 | 6 | 8 | |
| 1 Nominal Voltage | U_N | 24 | 36 | 48 | Volt |
| 2 Optimization Direction | - | Symmetrical | Symmetrical | Symmetrical | - |
| 3 No Load Speed | n_0 | 21,370 | 21,690 | 22,100 | rpm |
| 4 Typical No Load Current | I_0 | 1050 | 640 | 575 | mA |
| 5 Max. Continuous Mechanical Power (@25°C) | P_{max} | 244.0 | 244.0 | 244.0 | W |
| 6 Max. Continuous Current | $I_{e,max}$ | 21.0 | 14.0 | 10.4 | A |
| 7 Max. Continuous Torque | $M_{e,max}$ | 225 (31.86) | 221 (31.3) | 219 (31.02) | mNm (oz-in) |
| 8 Back EMF Constant | k_E | 1.12 | 1.66 | 2.21 | V/1000 rpm |
| 9 Torque Constant | k_M | 10.7 | 15.8 | 21.1 | mNm/A |
| 10 Motor Regulation | R/k^2 | 0.2 | 0.3 | 0.3 | 10 ³ /Nms |
| 11 Motor Regulation | $k/R^{1/2}$ | 63.5 (9) | 62.3 (8.83) | 61.4 (8.69) | mNm/W ^{1/2} (oz-in/W ^{1/2}) |
| 12 Internal Resistance - phase to phase | R_l | 0.03 | 0.06 | 0.12 | ohms |
| 13 Line to Line Resistance at Connectors | R_L | 0.04 | 0.08 | 0.13 | ohms |
| 14 Inductance Phase to Phase | L | 0.01 | 0.02 | 0.03 | mH |
| 15 Mechanical Time Constant | τ_m | 1.1 | 1.2 | 1.2 | ms |
| 16 Electrical Time Constant | τ_e | 0.27 | 0.26 | 0.25 | ms |

| General Data | | | | | |
|---|-----------|--|---------------------------|--|-------------------|
| 17 Maximum Motor Speed | n_{max} | | 25,000 | | rpm |
| 18 Ambient Working Temperature Range | - | | -30 to +100 (-22 to +212) | | °C (°F) |
| 19 Ambient Storage Temperature Range | - | | -40 to +100 (-40 to +212) | | °C (°F) |
| 20 Ball Bearings Preload | - | | 13.5 | | N |
| 21 Axial Static Force w/o Shaft Support (max) | - | | 134 | | N |
| 22 Maximum Winding Temperature | - | | 150 (302) | | °C (°F) |
| 23 Thermal Resistance | R_{th} | | 0.7/5.9 | | °C/W |
| 24 Thermal Time Constant | τ_w | | 1,659 | | s |
| 25 Weight | - | | 380 (13.41) | | g (oz) |
| 26 Rotor Inertia | J | | 45.00 | | g-cm ² |
| 27 Hall Sensor Electrical Phasing* | - | | 120 | | Electrical ° |

*Also available without Hall sensors

| Wire | Description |
|--------|----------------|
| Gray | Phase 1 |
| Violet | Phase 2 |
| Blue | Phase 3 |
| Green | 4 to 24V DC |
| Yellow | GND |
| Orange | Sensor 1 |
| Red | Sensor 2 |
| Brown | Sensor 3 |
| Black | Thermistor (+) |
| White | Thermistor (-) |

with hall effect sensor

