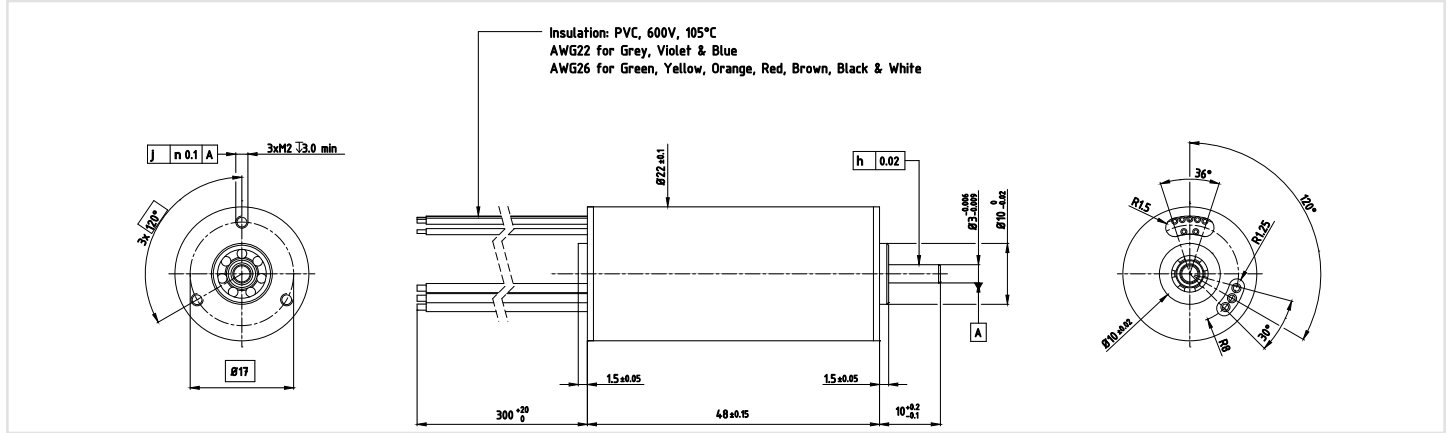


22ECT48 Ultra ECT™

4 pole

Ø22mm

54W



22ECT48 10B - **

| Electrical Data | ** | 14 | 23 | 35 | |
|---|-------------|-------------|-------------|-------------|-----------------------------------|
| 1 Nominal Voltage | U_N | 12 | 24 | 24 | Volt |
| 2 Optimization Direction | - | Symmetrical | Symmetrical | Symmetrical | - |
| 3 No-Load Speed | n_0 | 10,140 | 11,950 | 7,950 | rpm |
| 4 Typical No-Load Current | I_0 | 155 | 120 | 70 | mA |
| 5 Max Continuous Mechanical Power (@25°C) | P_{max} | 54.0 | 54.0 | 54.0 | W |
| 6 Max Continuous Current | $I_{e max}$ | 3.7 | 2.2 | 1.5 | A |
| 7 Max Continuous Torque | $M_{e max}$ | 41.6 (5.9) | 41.1 (5.82) | 40.8 (5.78) | mNm (oz-in) |
| 8 Back EMF Constant | K_e | 1.17 | 1.95 | 2.94 | V/1000 rpm |
| 9 Torque Constant | k_M | 11.2 | 18.6 | 28.1 | mNm/A |
| 10 Motor Regulation | R/k^2 | 2.95 | 3.01 | 3.04 | $10^3/Nms$ |
| 11 Motor Regulation | $k/R^{1/2}$ | 18.4 (2.61) | 18.2 (2.58) | 18.1 (2.57) | $mNm/W^{1/2}$ (oz-in/ $W^{1/2}$) |
| 12 Internal Resistance - phase to phase | R_i | 0.37 | 1.04 | 2.40 | ohms |
| 13 Line to Line Resistance at Connectors | R_L | 0.40 | 1.07 | 2.43 | ohms |
| 14 Inductance Phase to Phase | L | 0.04 | 0.11 | 0.24 | mH |
| 15 Mechanical Time Constant | t_m | 1.8 | 1.9 | 1.9 | ms |
| 16 Electrical Time Constant | t_e | 0.11 | 0.10 | 0.10 | ms |

| General Data | | | |
|---|-------------------|---------------------------|----------------|
| 17 Maximum Motor Speed | n_{max} | 20,000 | 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 | - | 6.8 | N |
| 21 Axial Static Force w/o Shaft Support (max) | - | 45 | N |
| 22 Maximum Winding Temperature | - | 125 (257) | °C (°F) |
| 23 Thermal Resistance | R_{th1}/R_{th2} | 2.1 / 12 | °C/W |
| 24 Thermal Time Constant | t_w | 962 | s |
| 25 Weight | - | 98 (3.46) | g (oz) |
| 26 Rotor Inertia | J | 6.3 | $g \cdot cm^2$ |
| 27 Hall Sensor Electrical Phasing | - | 120 | Electrical ° |

| With hall effect sensors | |
|--------------------------|----------------|
| Wire | Description |
| Grey | Phase 1 |
| Violet | Phase 2 |
| Blue | Phase 3 |
| Green | 3.5 to 24V |
| Yellow | GND |
| Orange | Sensor 1 |
| Red | Sensor 2 |
| Brown | Sensor 3 |
| Black | Thermistor (+) |
| White | Thermistor (-) |

