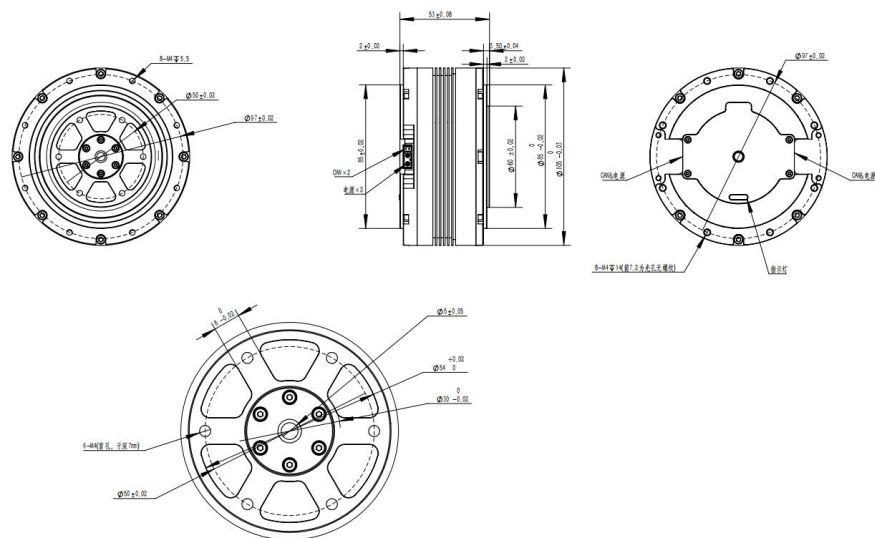


3. EC-A8112-P1-18H 电机简介

3.1 产品安装尺寸



3.2 产品参数、实测数据及特性曲线

| 性能参数 | | |
|-------------------------------------|--------|--------|
| 减速比(Reduction Ratio) | | 18 |
| 额定电压(Rated Voltage) | V | 48 |
| 额定母线电流(Rated Bus Current) | A | 13.3 |
| 额定相电流(Rated Phase Current) | A | 15.9 |
| 额定功率(Rated Power) | W | 638.4 |
| 额定转速(Rated Speed) | RPM | 155 |
| 额定扭矩(Rated Torque) | Nm | 30 |
| 峰值转速(Peak Speed) | RPM | 157 |
| 峰值相电流(Peak Phase Current) | A | 60 |
| 峰值扭矩(Peak Torque) | Nm | 90 |
| 电机平均效率(Efficiency) | | 78% |
| 扭矩常数(Torque Constant) | Nm/A | 2.1 |
| 电机重量(Weight) | g | 868 |
| 减速器背隙(Backlash) | Arcmin | 12 |
| 电机尺寸(外径×厚度)(Motor Size) | mm | 105×53 |
| 中空孔直径 (Hole Diameter) | mm | 5 |
| 通信方式(Communication Mode) | | CAN |
| 通信波特率(Communication Baud Rate) | | 1M |
| 是否具有双编码器(Double Encoder) | | 是 |
| 轴向载荷和径向载荷(Axial And Radial Loads) | KN | 2.81 |
| 抗弯矩(Bending Moment Resistance) | Nm | 98 |
| 交叉滚子轴承型号(Cross Roller Bearing Type) | | 7005 |

| | | |
|-----------------------------------------|-------------------|--------|
| 电机的转子惯量(The Rotor Inertia Of The Motor) | kgmm ² | 153.69 |
| 扭矩密度(Torque Density) | Nm/kg | 103.69 |

注意！本文说明书所示转速无特殊说明均指输出端的转速。

EC-A8112-P1-18H 产品实测数据-堵转

| 电压 V | 母线电流 A | 输入功率 W | 扭矩 Nm | 相电流 A | 转速 RPM | 效率 | 扭矩/相电流 |
|-------|---------|--------|-------|-------|--------|------|--------|
| 48V | 0.06 | 2.88 | 2.2 | 2.99 | 0 | 0 | 0.74 |
| | 0.11 | 5.28 | 4.1 | 4.26 | 0 | 0 | 0.96 |
| | 0.13 | 6.24 | 6.4 | 4.94 | 0 | 0 | 1.30 |
| | 0.19 | 9.12 | 8.7 | 5.99 | 0 | 0 | 1.45 |
| | 0.25 | 12.00 | 10.6 | 7.07 | 0 | 0 | 1.50 |
| | 0.31 | 14.88 | 13.6 | 7.98 | 0 | 0 | 1.70 |
| | 0.42 | 20.16 | 16.2 | 9.18 | 0 | 0 | 1.76 |
| | 0.47 | 22.56 | 17.5 | 9.75 | 0 | 0 | 1.79 |
| | 0.53 | 25.44 | 18.5 | 10.31 | 0 | 0 | 1.79 |
| | 0.64 | 30.72 | 20.1 | 11.33 | 0 | 0 | 1.77 |
| | 0.84 | 40.32 | 22.8 | 12.84 | 0 | 0 | 1.78 |
| | 0.92 | 44.16 | 24 | 13.57 | 0 | 0 | 1.77 |
| | 0.97 | 46.56 | 26.1 | 13.92 | 0 | 0 | 1.88 |
| | 1.16 | 55.68 | 28.1 | 15.17 | 0 | 0 | 1.85 |
| | 1.37 | 65.76 | 31.2 | 16.38 | 0 | 0 | 1.90 |
| | 1.6 | 76.80 | 33.5 | 17.68 | 0 | 0 | 1.89 |
| | 1.88 | 90.24 | 36.2 | 19.1 | 0 | 0 | 1.90 |
| | 2.17 | 104.16 | 38.1 | 20.53 | 0 | 0 | 1.86 |
| | 2.38 | 114.24 | 40.1 | 21.48 | 0 | 0 | 1.87 |
| | 2.67 | 128.16 | 43.3 | 22.69 | 0 | 0 | 1.91 |
| | 3.08 | 147.84 | 45.3 | 24.25 | 0 | 0 | 1.87 |
| | 3.5 | 168.00 | 48.4 | 25.85 | 0 | 0 | 1.87 |
| | 4.02 | 192.96 | 51.9 | 27.64 | 0 | 0 | 1.88 |
| | 4.37 | 209.76 | 54 | 28.79 | 0 | 0 | 1.88 |
| | 4.9 | 235.20 | 57 | 30.34 | 0 | 0 | 1.88 |
| | 5.56 | 266.88 | 59.5 | 32.07 | 0 | 0 | 1.86 |
| | 6.72 | 322.56 | 63.6 | 34.85 | 0 | 0 | 1.82 |
| | 7.66 | 367.68 | 68.1 | 37.08 | 0 | 0 | 1.84 |
| | 8.68 | 416.64 | 72.2 | 39.19 | 0 | 0 | 1.84 |
| | 10.31 | 494.88 | 75.1 | 42.24 | 0 | 0 | 1.78 |
| 11.56 | 554.88 | 78.9 | 44.55 | 0 | 0 | 1.77 | |
| 12.79 | 613.92 | 81.6 | 46.75 | 0 | 0 | 1.75 | |
| 13.78 | 661.44 | 84.6 | 48.36 | 0 | 0 | 1.75 | |
| 16.04 | 769.92 | 86.9 | 51.45 | 0 | 0 | 1.69 | |
| 19.44 | 933.12 | 89.2 | 55.35 | 0 | 0 | 1.61 | |
| 22.05 | 1058.40 | 91.5 | 58.07 | 0 | 0 | 1.58 | |
| 23.36 | 1121.28 | 94.7 | 59.44 | 0 | 0 | 1.59 | |

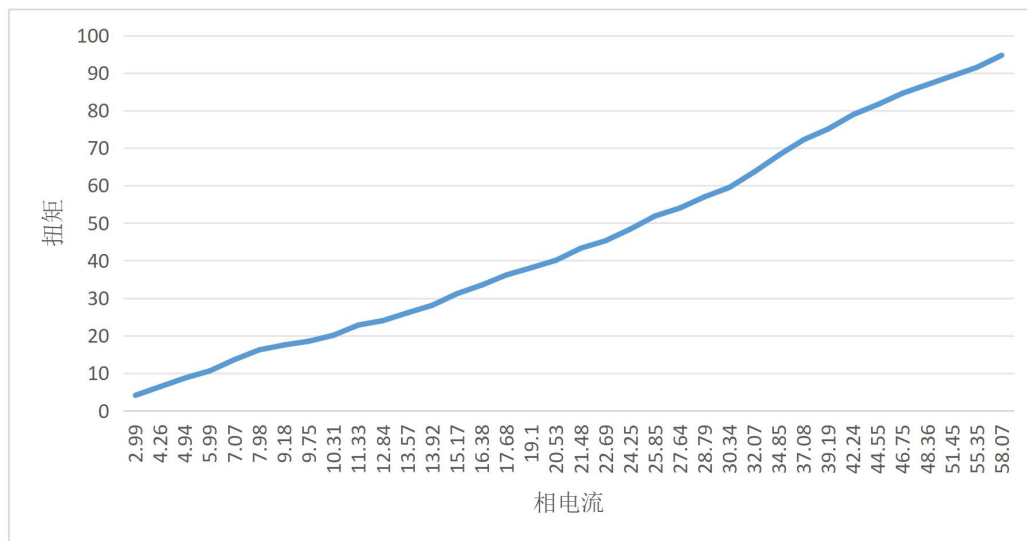
注意！不同个体具有一定的差异，差异范围在 5%以内。

EC-A8112-P1-18H 产品实测数据-缓增负载

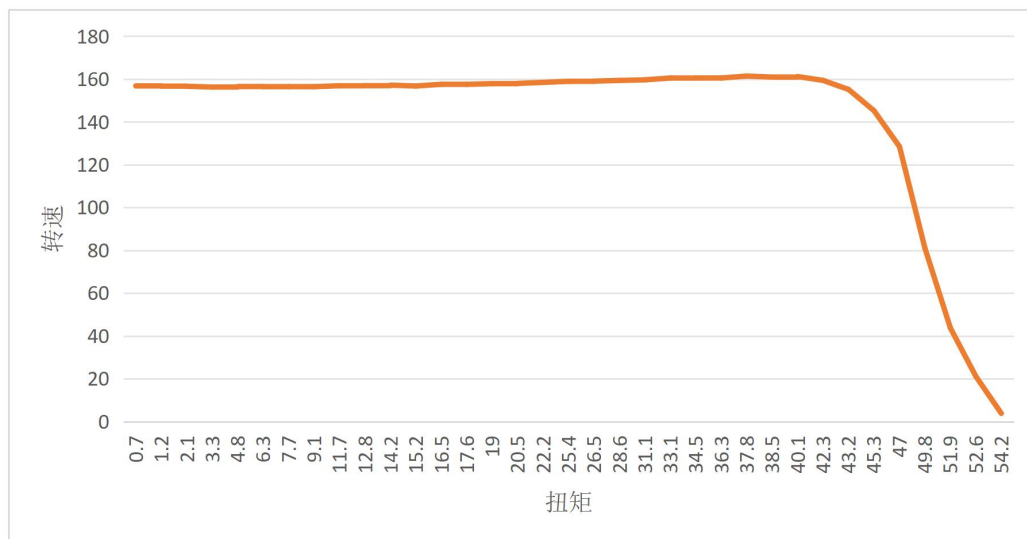
| 电压 V | 母线电流 A | 输出功率 W | 扭矩 Nm | 转速 RPM | 相电流 A | 效率 | 扭矩/相电流 |
|-------|--------|--------|--------|--------|-------|------|--------|
| 48V | 1.14 | 11.49 | 0.7 | 156.8 | 0.94 | 21% | 0.74 |
| | 1.21 | 19.69 | 1.2 | 156.73 | 1.07 | 34% | 1.12 |
| | 1.24 | 34.44 | 2.1 | 156.61 | 1.18 | 58% | 1.78 |
| | 2.14 | 54.09 | 3.3 | 156.54 | 2.05 | 53% | 1.61 |
| | 3.00 | 78.51 | 4.8 | 156.2 | 3.35 | 55% | 1.43 |
| | 3.21 | 103.19 | 6.3 | 156.43 | 3.33 | 67% | 1.89 |
| | 3.63 | 126.09 | 7.7 | 156.38 | 4.08 | 72% | 1.89 |
| | 4.36 | 149.01 | 9.1 | 156.38 | 5.12 | 71% | 1.78 |
| | 5.01 | 191.56 | 11.7 | 156.36 | 5.99 | 80% | 1.95 |
| | 5.76 | 210.16 | 12.8 | 156.8 | 7.10 | 76% | 1.80 |
| | 6.41 | 233.21 | 14.2 | 156.84 | 7.36 | 76% | 1.93 |
| | 6.50 | 250.00 | 15.2 | 157.07 | 7.48 | 80% | 2.03 |
| | 7.05 | 270.72 | 16.5 | 156.69 | 9.23 | 80% | 1.79 |
| | 7.72 | 290.21 | 17.6 | 157.47 | 9.00 | 78% | 1.96 |
| | 8.11 | 313.25 | 19 | 157.45 | 9.62 | 80% | 1.98 |
| | 8.59 | 338.69 | 20.5 | 157.78 | 10.40 | 82% | 1.97 |
| | 9.66 | 367.03 | 22.2 | 157.89 | 11.31 | 79% | 1.96 |
| | 11.11 | 421.21 | 25.4 | 158.37 | 13.52 | 79% | 1.88 |
| | 11.95 | 440.82 | 26.5 | 158.86 | 14.49 | 77% | 1.83 |
| | 12.77 | 476.05 | 28.6 | 158.96 | 15.51 | 78% | 1.84 |
| | 13.57 | 518.70 | 31.1 | 159.28 | 16.80 | 80% | 1.85 |
| | 14.92 | 553.03 | 33.1 | 159.56 | 18.46 | 77% | 1.79 |
| | 16.74 | 579.49 | 34.5 | 160.41 | 19.58 | 72% | 1.76 |
| | 16.55 | 609.80 | 36.3 | 160.43 | 20.11 | 77% | 1.81 |
| | 18.28 | 634.96 | 37.8 | 160.42 | 21.54 | 72% | 1.75 |
| | 18.23 | 650.35 | 38.5 | 161.32 | 21.52 | 74% | 1.79 |
| | 19.45 | 675.40 | 40.1 | 160.85 | 24.20 | 72% | 1.66 |
| | 20.18 | 713.52 | 42.3 | 161.09 | 25.44 | 74% | 1.66 |
| | 21.67 | 720.60 | 43.2 | 159.3 | 27.10 | 69% | 1.59 |
| | 22.94 | 735.57 | 45.3 | 155.07 | 25.73 | 67% | 1.76 |
| 24.42 | 714.30 | 47 | 145.14 | 32.84 | 61% | 1.43 | |
| 23.66 | 669.51 | 49.8 | 128.39 | 25.73 | 59% | 1.94 | |
| 13.87 | 439.93 | 51.9 | 80.95 | 30.21 | 66% | 1.72 | |
| 10.26 | 240.64 | 52.6 | 43.69 | 30.55 | 49% | 1.72 | |
| 12.11 | 119.81 | 54.2 | 21.11 | 29.66 | 21% | 1.83 | |
| 6.19 | 22.02 | 55.2 | 3.81 | 30.95 | 7% | 1.78 | |

注意！不同个体具有一定的差异，差异范围在 5% 以内。

3.3 EC-A8112-P1-18H 电机扭矩曲线-堵转



3.4 EC-A8112-P1-18H 电机负载-转速曲线图



3.5 EC-A8112-P1-18H 电机堵转温升时间

| 堵转温升时间 (30 度->100 度) | |
|----------------------|--------|
| 扭矩(Nm) | 时间(S) |
| 20 | 37'18" |
| 22.5 | 18'52" |
| 25 | 7'42" |
| 26 | 5'45" |
| 30 | 2'18" |
| 32 | 51" |

3.6 EC-A8112-P1-18H 电机恒定负载-转速温升时间

| 负载温升时间 (30 度->100 度) | | |
|----------------------|--------|-------|
| 转速(RPM) | 扭矩(Nm) | 时间(S) |
| 77.5 | 15 | 可持续使用 |
| | 20 | 9'15" |
| | 25 | 3'27" |
| | 30 | 1'24" |
| | 35 | 42" |