

# FL42RBL Series

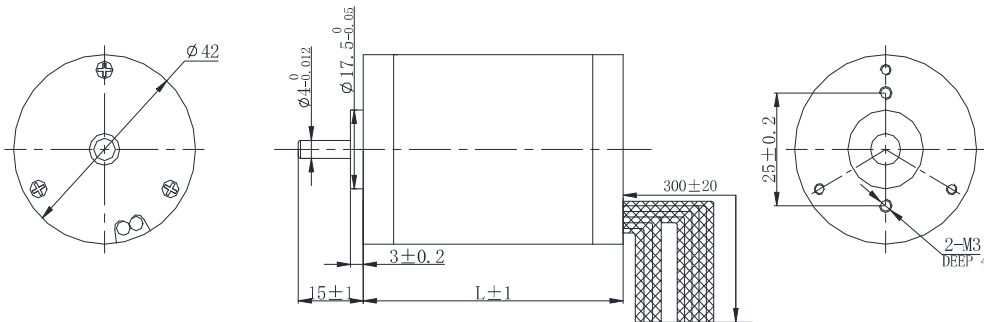
常规无刷电机  
Regular BLDC Motor



FULLING MOTOR

## 机械尺寸

(Dimensions)



选件 Options



接插件



齿轮箱



编码器

## 特性概要

(General Specifications)

|                              |                                          |
|------------------------------|------------------------------------------|
| 绕组连接方式 (Winding Type)        | 星形 (Star connection)                     |
| 霍尔分布角度 (Hall Effect Angle)   | 120度电角度 (Electrical Angle of 120 degree) |
| 径向间隙 (Radial Play)           | 0.02mm@450g                              |
| 轴向间隙 (Axial Play)            | 0.08mm@450g                              |
| 最大径向负载 (Max radial force)    | 10N 距法兰10mm (10mm From the flange)       |
| 最大轴向负载 (Max axial force)     | 2N                                       |
| 介电强度 (Dielectric Strength)   | 600VAC/1S                                |
| 绝缘电阻 (Insulation Resistance) | 100MΩ, 500VDC                            |
| 环境温度 (Ambient Temperature)   | -20°C ~ +50°C                            |
| 绝缘等级 (Insulation Class)      | Class B                                  |

## 接线说明

(Electric Connection)

| 引出线型号<br>Type | 引出线颜色<br>Color | 功能<br>Functions |
|---------------|----------------|-----------------|
| UL1007 AWG26  | 蓝色 (Blue)      | 霍尔电源正 (Vcc)     |
|               | 黄色 (Yellow)    | 霍尔 U (Hu)       |
|               | 棕色 (Brown)     | 霍尔 V (Hv)       |
|               | 红色 (Red)       | 霍尔 W (Hw)       |
|               | 绿色 (Green)     | 霍尔电源负 (GND)     |
| UL1007 AWG22  | 红色 (Red)       | U相 (Phase U)    |
|               | 棕色 (Brown)     | V相 (Phase V)    |
|               | 黑色 (Black)     | W相 (Phase W)    |

## 电性能

(Electrical Specifications)

|                                  | 单位 (Unit)         | FL42RBL30-24V-4009A-P | FL42RBL60-24V-4030A-P | FL42RBL85-24V-4060A-P | FL42RBL93-24V-6375A-P |
|----------------------------------|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 极数 (Number of poles)             |                   | 8                     |                       |                       |                       |
| 相数 (Number of phases)            |                   | 3                     |                       |                       |                       |
| 额定电压 (Rated voltage)             | VDC               | 24                    |                       |                       |                       |
| 额定转矩 (Rated torque)              | mN.m              | 20                    | 56                    | 150                   | 115                   |
| 连续运行转矩 (Continuous stall torque) | mN.m              | 24                    | 68                    | 180                   | 138                   |
| 额定速度 (Rated speed)               | RPM               | 4000                  | 4200                  | 4000                  | 6300                  |
| 额定功率 (Rated power)               | W                 | 8.4                   | 25                    | 62                    | 76                    |
| 峰值转矩 (Peak torque)               | mN.m              | 60                    | 170                   | 450                   | 350                   |
| 峰值电流 (Peak current)              | A                 | 1.5                   | 4.2                   | 11.2                  | 11.5                  |
| 线电阻 (Line to line resistance)    | ohms@20°C         | 5.9                   | 1.6                   | 0.71                  | 0.325                 |
| 线电感 (Line to line inductance)    | mH                | 5.1                   | 1.94                  | 0.86                  | 0.36                  |
| 转矩常数 (Torque constant)           | mN.m/A            | 39.8                  | 41.04                 | 40.5                  | 30.6                  |
| 反电势 (Back EMF)                   | Vrms/KRPM         | 2.95                  | 3.04                  | 3.0                   | 2.27                  |
| 转动惯量 (Rotor inertia)             | g.cm <sup>2</sup> | 15.6                  | 33                    | 84                    | 94                    |
| 机身长度 (Motor length) L            | mm                | 30                    | 60                    | 85                    | 93                    |
| 重量 (Weight)                      | Kg                | 0.25                  | 0.4                   | 0.7                   | 0.8                   |