

## HB5515 Hollow Brushless Servo Motor

Outrunner brushless motor, with driver and serial ports  
Cables run-through the hollow hole  
Application: Humanoid Robots

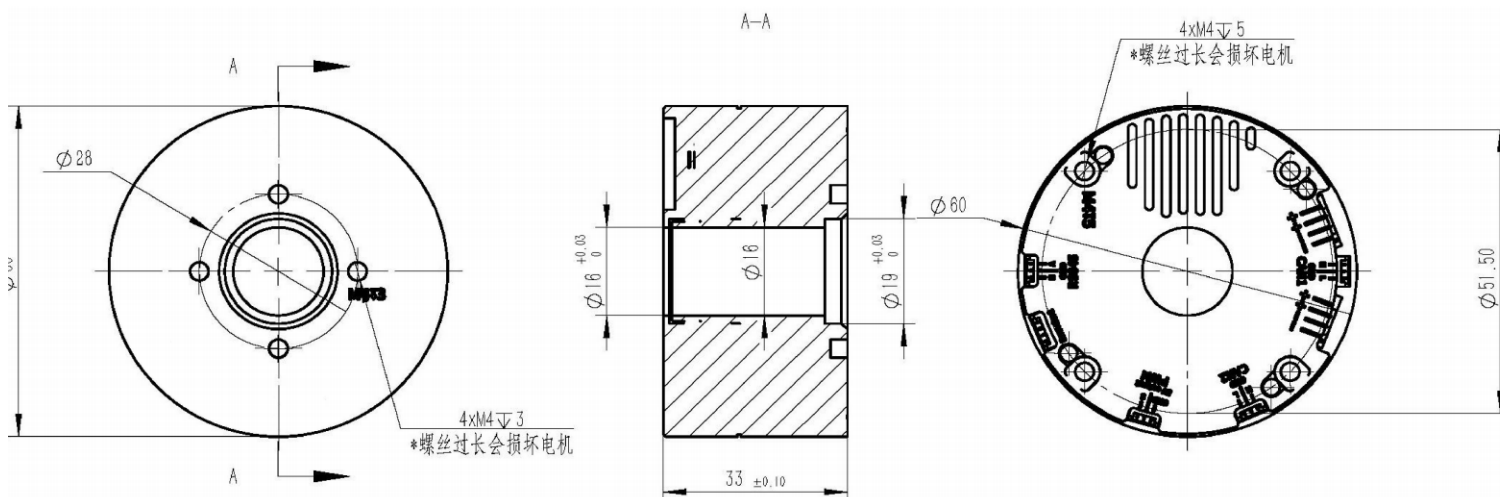


(mounting face side)



(back side)

## Dimension



## Specification

| Basic Parameter                                     | Unit              | Type:HB5515                                   |
|-----------------------------------------------------|-------------------|-----------------------------------------------|
| Motor type                                          |                   | Brushless Servo Motor                         |
| Voltage range                                       | V                 | 12~24                                         |
| Peak torque                                         | N.m               | 1                                             |
| Rated torque                                        | N.m               | 0.4                                           |
| Peak current                                        | A                 | 6                                             |
| Continuous current                                  | A                 | 1.5                                           |
| Instantaneous power                                 | W                 | 144                                           |
| Rated power                                         | W                 | 36                                            |
| Outer diameter                                      | mm                | 60                                            |
| Minimum inner diameter                              | mm                | 16                                            |
| Height                                              | mm                | 33                                            |
| Weight                                              | g                 | 290                                           |
| <b>Motor Parameter</b>                              |                   |                                               |
| Number of pole pairs                                | Pair              | 14                                            |
| Wire resistance                                     | ohm               | 1.35                                          |
| Wire inductance                                     | uH                | 800                                           |
| Torque constant                                     | N.M/A             | 0.21                                          |
| Speed constant                                      | v/krpm            | 21.8                                          |
| <b>Control Accuracy Parameter</b>                   |                   |                                               |
| Maximum speed                                       | rpm               | 2700                                          |
| Minimum speed                                       | rpm               | 0.01                                          |
| Encoder type                                        |                   | Single turn absolute value                    |
| Encoder resolution                                  | bit               | 16                                            |
| Repeated positioning accuracy                       | °                 | ±0.006                                        |
| Absolute accuracy                                   | °                 | ±0.006                                        |
| Rated of speed change                               | %                 | <±0.5                                         |
| Speed resolution                                    | Hz                | 0.0001                                        |
| <b>Dynamic Parameter</b>                            |                   |                                               |
| Rotor Inertia                                       | Kgcm <sup>2</sup> | 59.7                                          |
| Bearing type                                        |                   | 71804AC                                       |
| Bearing accuracy                                    |                   | P5                                            |
| Bearing dynamic load Cr                             | kN                | 3.6                                           |
| Bearing static load C0r                             | kN                | 2.5                                           |
| Working temperature range                           | °C                | 5~50                                          |
| Noise                                               | dB                | <50                                           |
| <b>Interface Parameter</b>                          |                   |                                               |
| Number of interface                                 |                   | 7                                             |
| Control interface①                                  |                   | CAN&CAN FD                                    |
| Control interface②                                  |                   | PWM                                           |
| Configuration interface                             |                   | RS485                                         |
| The Second encoder interface                        |                   | Only support our hollow encoder module        |
| <b>Support Mode</b> (changes with fireware upgrade) |                   |                                               |
| Position mode                                       |                   | Position speed current three closed loop mode |
| Speed mode                                          |                   | Speed closed loop mode                        |
| Current(torque)mode                                 |                   | Torque closed loop mode                       |