

# 60系列永磁无刷齿轮减速电机

## 60 SERIES OF BRUSHLESS DC MOTOR

### 电机基本特性 Basic Characteristics Of Motor

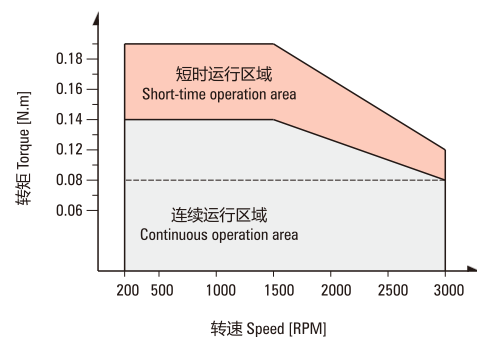
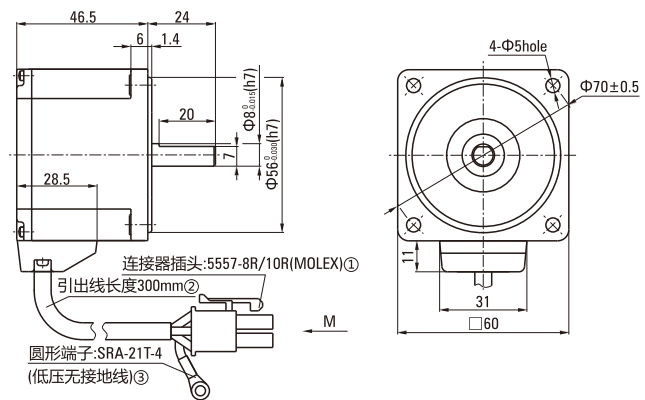
● 25W (DC电源时适用于24VDC/36VDC/48VDC) 25W (DC Power Supply When Applied To 24VDC/36VDC/48VDC)

|                                     |   |  |                     |                     |                               |
|-------------------------------------|---|--|---------------------|---------------------|-------------------------------|
| 额定功率(连续) Rated power (Continuous)   | W   | 25(15W/25W)  |                     |                     |                               |
| 额定转速 Rated speed                    | r/min   | 3000   |                     |                     |                               |
| 额定转矩 Rated torque                   | N.m   | 0.08   |                     |                     |                               |
| 瞬时最大转矩 Instantaneous maximum torque | N.m   | 0.12   |                     |                     |                               |
| 转子转动惯量 Rotor moment of inertia      | J:10 <sup>-4</sup> kg.m <sup>2</sup>            | 0.042  |                     |                     |                               |
| 速度控制范围 Speed control range          | RPM   | 200~3000   |                     |                     |                               |
| 速率变化率<br>Speed control range        | 对负载 On load                                     | ±1.0%以下: 条件0~额定转矩、额定转速、额定电压、常温<br>Below ±1%: condition 0~rated torque, rated speed, rated voltage, room temperature                              |                     |                     |                               |
|                                     | 对电压 On voltage                                  | ±1.0%以下: 条件额定电压±10%、额定转速、额定负载、常温<br>Below ±1%: condition rated voltage ±10%, rated speed, rated load, room temperature                           |                     |                     |                               |
|                                     | 对温度 On temperature                              | ±1.0%以下: 条件使用环境温度-10°C~+40°C额定转速、额定负载、额定电压<br>Below ±1%: Conditions of ambient temperature -10°C~+40°C rated voltage, rated load and rated speed |                     |                     |                               |
| 电源输入<br>Power input                 | 额定电压 Rated voltage                              | V  | 单相Single phase 110V | 单相Single phase 220V | 24VDC(可选Optional 36VDC/48VDC) |
|                                     | 电压容许范围 Voltage tolerance range                  |  | ±10%                |                     |                               |
|                                     | 频率 Frequency                                    | Hz   | 50/60               | /                   |                               |
|                                     | 频率容许范围 Frequency tolerance range                |  | ±5%                 | /                   |                               |
|                                     | 额定输入电流 Rated input current                      | A  | 1.0                 | 0.6                 | 1.7                           |
|                                     | 瞬时最大输入电流<br>Instantaneous maximum input current | A  | 2.0                 | 1.2                 | 2.6                           |

### 圆轴型光电机 Circular Shaft Type Optical Motor

● Z2BLD25-□A-30S □—电压 Voltage 24/36/48/110/220

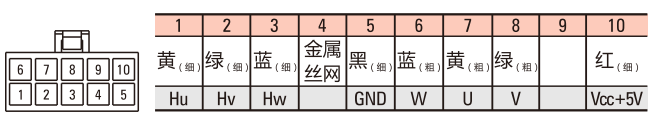
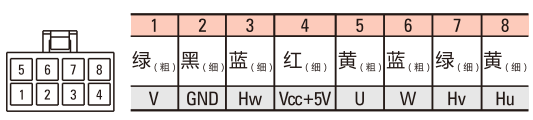
● Z2BLD25-220A-30S 曲线图 Diagram (ZD标准驱动器 ZD Standard Drive)



①Connector: 5557-8R/10R (MOLEX) ②The sheath length of lead line 300mm ③Round terminal: SRA-21T-4 (Low ground)

● 低压电机接线插孔对应信号说明  
Low Voltage Wrie Plughole Corresp-onding Signal Explanation

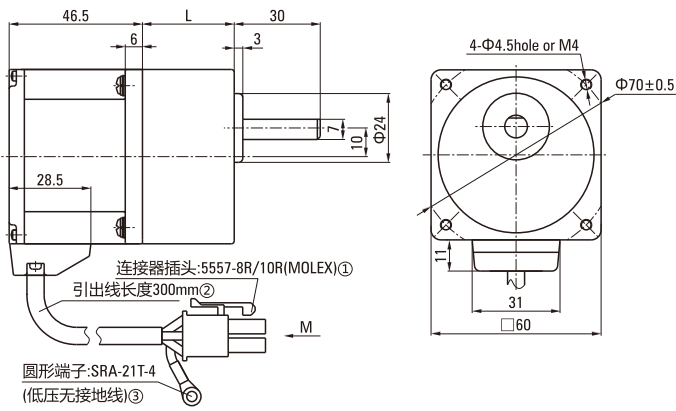
● 高压电机接线插孔对应信号说明  
High Voltage Wrie Plughole Corresp-onding Signal Explanation



## 25W

### ● 平行轴减速机 Parallel Shaft Speed Reducer

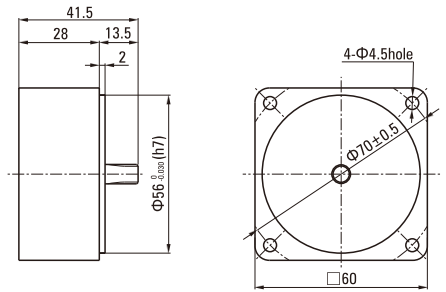
Z2BLD25-□GN-30S/2GN□K □—电压 Voltage 24/36/48/110/220  
□—速比数值 Velocity Ratio Value



①Connector: 5557-8R/10R (MOLEX) ②The sheath length of lead line 300mm ③Round terminal: SRA-21T-4 (Low ground)

### ● 中间减速器 Decimal Gearhead

2GN□K □—速比数值, 一般为10 Velocity Ratio Value, Generally 10



| 减速器型号<br>Gearhead Model | 减速比<br>Gear Ratio | L尺寸<br>Dimension |
|-------------------------|-------------------|------------------|
| 2GN□K                   | 3~18              | 32&41            |
|                         | 20~200            | 41               |

●减速器型号的□中为减速比的数值  
Enter the gear ratio in the box (□) within the model name

### ● Z2BLD15-□GN-30S/2GN□K整机容许力矩 (单位: N.m) Z2BLD15-□GN-30S/2GN□K Machine Allowable Torque (Unit: N.m)

| 型号 Model    | 电机轴转速<br>Motor Speed | 减速比<br>Reduction Ratio |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|----------------------|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|             |                      | 3                      | 3.6  | 5    | 6    | 7.5  | 9    | 10   | 12.5 | 15   | 18   | 20   | 25   | 30   | 36   | 50   | 60   | 75   | 90   | 100  | 120  | 150  | 180  | 200  |      |
| Z2BLD15-□GN | 200~1500RPM          | 0.18                   | 0.22 | 0.30 | 0.36 | 0.45 | 0.54 | 0.60 | 0.75 | 0.91 | 1.08 | 1.09 | 1.36 | 1.63 | 1.96 | 2.72 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|             | 2000RPM              | 0.15                   | 0.18 | 0.26 | 0.31 | 0.38 | 0.45 | 0.51 | 0.64 | 0.77 | 0.92 | 0.92 | 1.15 | 1.38 | 2.30 | 2.50 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|             | 2500RPM              | 0.14                   | 0.17 | 0.23 | 0.28 | 0.35 | 0.42 | 0.46 | 0.58 | 0.70 | 0.84 | 0.84 | 1.05 | 1.25 | 1.51 | 2.09 | 2.27 | 2.83 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|             | 3000RPM              | 0.12                   | 0.14 | 0.19 | 0.23 | 0.29 | 0.35 | 0.39 | 0.48 | 0.58 | 0.70 | 0.70 | 0.87 | 1.05 | 1.25 | 1.74 | 1.88 | 2.35 | 2.82 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |

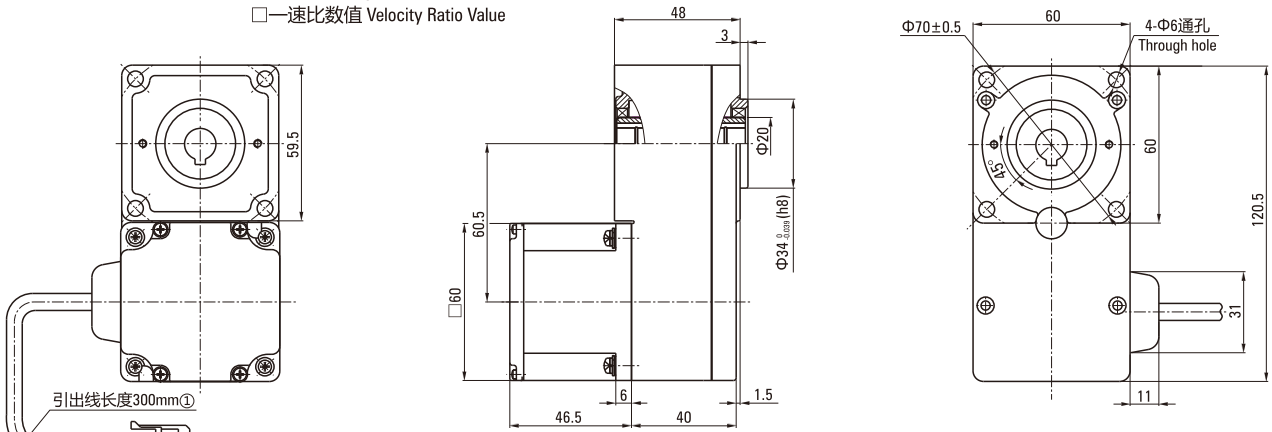
### ● Z2BLD25-□GN-30S/2GN□K整机容许力矩 (单位: N.m) Z2BLD25-□GN-30S/2GN□K Machine Allowable Torque (Unit: N.m)

| 型号 Model    | 电机轴转速<br>Motor Speed | 减速比<br>Reduction Ratio |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|----------------------|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|             |                      | 3                      | 3.6  | 5    | 6    | 7.5  | 9    | 10   | 12.5 | 15   | 18   | 20   | 25   | 30   | 36   | 50   | 60   | 75   | 90   | 100  | 120  | 150  | 180  | 200  |      |
| Z2BLD25-□GN | 200~1500RPM          | 0.30                   | 0.36 | 0.50 | 0.60 | 0.75 | 0.91 | 1.00 | 1.26 | 1.51 | 1.81 | 1.81 | 2.27 | 2.72 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|             | 2000RPM              | 0.26                   | 0.31 | 0.43 | 0.51 | 0.64 | 0.77 | 0.85 | 1.06 | 1.28 | 1.53 | 1.53 | 1.92 | 2.30 | 2.76 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|             | 2500RPM              | 0.23                   | 0.28 | 0.39 | 0.46 | 0.58 | 0.69 | 0.77 | 0.97 | 1.16 | 1.39 | 1.39 | 1.74 | 2.09 | 2.51 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|             | 3000RPM              | 0.19                   | 0.23 | 0.32 | 0.39 | 0.48 | 0.58 | 0.64 | 0.81 | 0.97 | 1.16 | 1.16 | 1.45 | 1.74 | 2.09 | 2.90 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |

注Note: 表格中的□ (灰底部分) 表示旋转方向与电机转向一致。The □ (gray) in the table indicates that the rotation direction is consistent with the motor. (不同转速及速比下的力矩为ZD标准驱动器下测试所得。The torque under different speed and speed ratio is obtained under the ZD standard.)

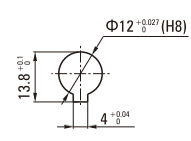
### ● L型减速机 L Type Speed Reducer

Z2BLD25-□GNL-30S/2GN□LC □—电压 Voltage 24/36/48/110/220  
□—速比数值 Velocity Ratio Value



①Lead wire length 300mm ②Connector: 5557-8R/10R (MOLEX)  
③Round terminal: SRA-21T-4 (Low ground)

### ● 输出轴内孔结构 The Output Shaft Hole Structure



● Z2BLD15-□GNL-30S/2GN□LC整机容许力矩 (单位: N.m) Z2BLD15-□GNL-30S/2GN□LC Machine Allowable Torque (Unit: N.m)

| 电机轴转速<br>Motor Speed | 减速比<br>Reduction Ratio | 5    | 10   | 15   | 20   | 30   | 50   | 100  | 200  |
|----------------------|------------------------|------|------|------|------|------|------|------|------|
| 200~1500RPM          |                        | 0.27 | 0.54 | 0.82 | 1.09 | 1.63 | 2.72 | 5.44 | 10.9 |
| 2000RPM              |                        | 0.23 | 0.46 | 0.69 | 0.92 | 1.38 | 2.30 | 4.60 | 9.20 |
| 2500RPM              |                        | 0.21 | 0.42 | 0.63 | 0.84 | 1.25 | 2.09 | 4.18 | 8.37 |
| 3000RPM              |                        | 0.17 | 0.35 | 0.52 | 0.70 | 1.05 | 1.74 | 3.49 | 6.97 |

注Note: 表格中的所有速比旋转方向与电机转向相反。All gearbox output turn direction in form are opposite as motor turn direction.  
(不同转速及速比下的力矩为ZD标准驱动器下测试所得。The torque under different speed and speed ratio is obtained under the ZD standard.)

● Z2BLD25-□GNL-30S/2GN□LC整机容许力矩 (单位: N.m) Z2BLD25-□GNL-30S/2GN□LC Machine Allowable Torque (Unit: N.m)

| 电机轴转速<br>Motor Speed | 减速比<br>Reduction Ratio | 5    | 10   | 15   | 20   | 30   | 50   | 100  | 200   |
|----------------------|------------------------|------|------|------|------|------|------|------|-------|
| 200~1500RPM          |                        | 0.50 | 1.00 | 1.51 | 2.01 | 2.72 | 4.53 | 9.06 | 16.40 |
| 2000RPM              |                        | 0.43 | 0.85 | 1.28 | 1.70 | 2.30 | 3.83 | 7.67 | 13.90 |
| 2500RPM              |                        | 0.39 | 0.77 | 1.16 | 1.55 | 2.09 | 3.49 | 6.97 | 12.60 |
| 3000RPM              |                        | 0.29 | 0.58 | 0.87 | 1.16 | 1.74 | 2.90 | 5.81 | 11.62 |

注Note: 表格中的所有速比旋转方向与电机转向相反。All gearbox output turn direction in form are opposite as motor turn direction.  
(不同转速及速比下的力矩为ZD标准驱动器下测试所得。The torque under different speed and speed ratio is obtained under the ZD standard.)