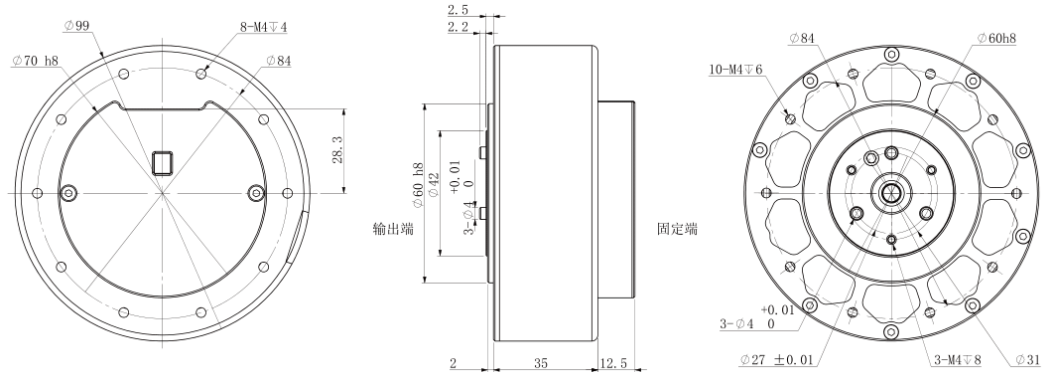


## MG8016-i6 v2

### DIMENSIONS [mm]



Weight : 750g approx.



### MOTOR DATA

### Outer Rotor Brushless DC Motor with Planetary Reducer

|    |                             |                    |          |
|----|-----------------------------|--------------------|----------|
| 1  | Nominal Voltage             | VDC                | 48       |
| 2  | Nominal Torque              | Nm                 | 12       |
| 3  | Nominal Speed               | rpm                | 258      |
| 4  | Nominal Current             | A                  | 8.4      |
| 5  | Max Speed                   | rpm                | 320      |
| 6  | Max Torque                  | Nm                 | 26       |
| 7  | Max Current                 | A                  | 15       |
| 8  | Max Output Power            | W                  | 670      |
| 9  | Speed Constant              | rpm/V              | 6.9      |
| 10 | Torque Constant             | Nm/A               | 1.5      |
| 11 | Winding Type                |                    | $\Delta$ |
| 12 | Number of Winding Turns     |                    | 17       |
| 13 | Resistance (phase to phase) | $\Omega$           | 0.55     |
| 14 | Inductance (phase to phase) | mH                 | 0.54     |
| 15 | Number of Poles             |                    | 40       |
| 16 | Rotor Inertia               | $\text{gcm}^2$     | 2570     |
| 17 | Working Temperature         | $^{\circ}\text{C}$ | -20~+80  |
| 18 | Gear Reduction Ratio        |                    | 6:1      |
| 19 | Gear Backlash               | arcmin             | $\leq 6$ |
| 20 | Bearing Nominal Load        | N                  | 1120     |

### DRIVER DATA

### 32-bit MCU / FOC Control / Trapezoidal Acceleration

|    |                         |     |                                                                    |
|----|-------------------------|-----|--------------------------------------------------------------------|
| 21 | Input Voltage           | VDC | 12~60                                                              |
| 22 | Output Current          | A   | Nominal 15 / Max 30                                                |
| 23 | Encoder for Motor       |     | 18-bit Absolute Angle-sensing Magnetic Encoder                     |
| 24 | Encoder for Reducer     |     | None                                                               |
| 22 | Communication           |     | RS485 or CAN                                                       |
| 23 | Communication Frequency | Hz  | RS485 : 500 / CAN : 2000 (based on default baud rate)              |
| 24 | RS485 Baud Rate         | bps | 9.6K, 19.2K, 38.4K, 57.6K, 115.2K(default), 230.4K, 460.8K, 1M, 2M |
| 25 | CAN Baud Rate           | bps | 125K, 250K, 500K, 1M(default)                                      |
| 26 | Control Cycle           |     | Torque Loop 32KHz / Speed Loop 8KHz / Position Loop 4KHz           |

### DRIVER INTERFACE PIN ASSIGNMENT

|               |                         |
|---------------|-------------------------|
| Pin --- A / H | RS485 - A / CAN - H     |
| Pin --- B / L | RS485 - B / CAN - L     |
| Pin --- V-    | Power Supply - Negative |
| Pin --- V+    | Power Supply - Positive |
| Pin --- A / H | RS485 - A / CAN - H     |
| Pin --- B / L | RS485 - B / CAN - L     |
| Pin --- T     | UART Transmitter        |
| Pin --- R     | UART Receiver           |
| Pin --- G     | Signal GND              |

## MG8016-i6 v2

### CHARACTERISTIC CURVE

