

## Certificate of Quality

This product has been tested and proved to be qualified for delivery.

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## Joint Distribution

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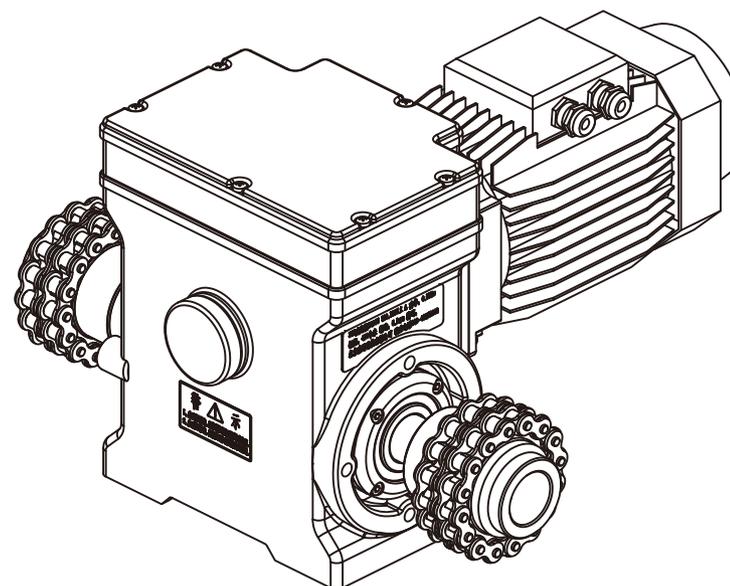
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# 3GG<sup>®</sup>

## Ventilation and Curtain Gear Motor

### User Manual



## Joint Distribution

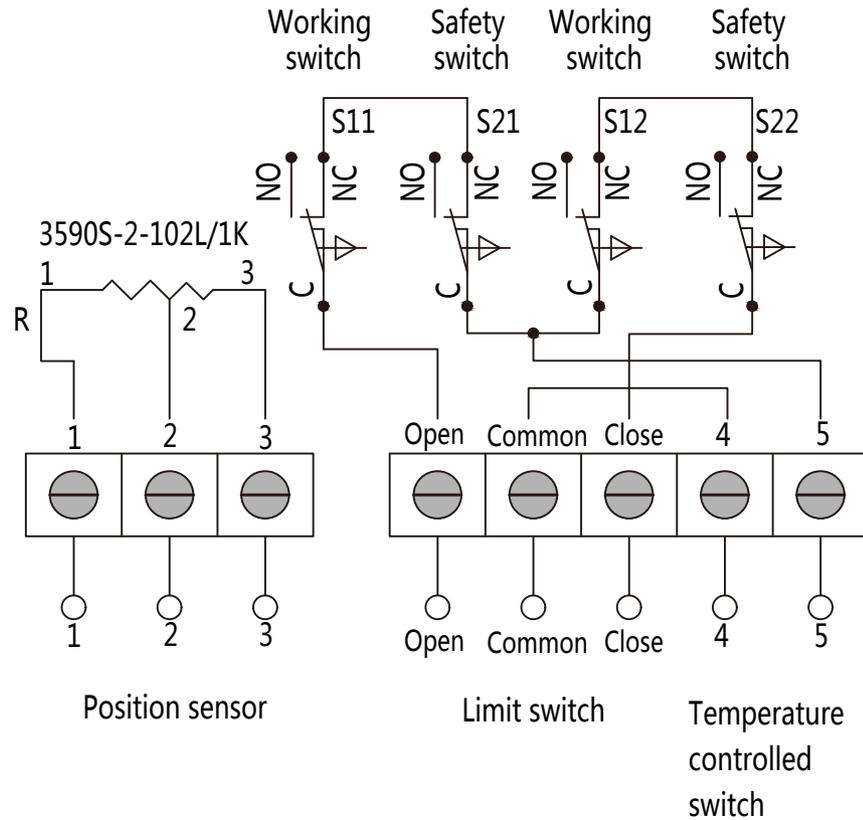
Beijing Shengsi Technology CO., LTD.

Beijing Fenglong Greenhouse Technology CO., LTD.

## 7. Common failures and solutions

Item	Faults	Reasons	Solutions
1	Abnormal noise	A: Worm gear or gear broken; B: Bearings abrasion or broken; C: Insufficient grease oil.	A: Contact for repair; B: Contact for repair; C: Add more grease oil.
2	Limit Position incorrect	A: Didn' t adjust limit switch accurately; B: Limit switch failed.	A: Readjust limit switch; B: Contact for repair.
3	Stop or movement is not smooth	A: Inspect the connection of the motor and other parts; B: Inspect if transmission parts meet the requirement.	Cut off power, and stop operation; A: Adjust installation; B: Adjust and replace the transmission parts.

## 6.6 Diagram for limit switch wiring



**Limit switch adjustment diagram**

## Introduction

Beijing Shengsi Technology Co.,Ltd is a high-tech R&D company integrated with design, production and sales. We are specialized in manufacturing of mechanical and electronic products for modern agriculture and livestock industry. We have our workshop more than 40,000 square meters, and file more than 10 patents each year.

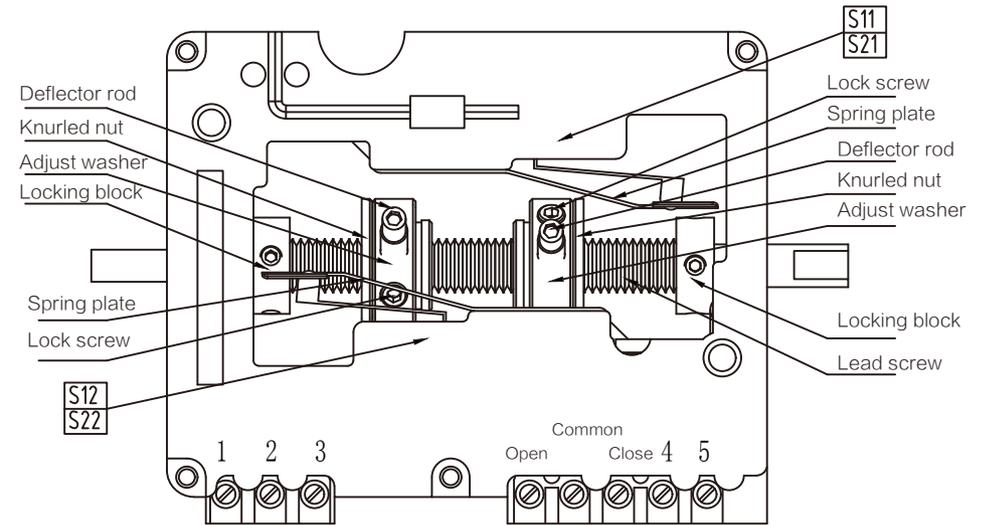
Beijing Shengsi has a total management quality control system, and establishes its own restrict and trackable quality system to ensure supply qualified products.

Thanks for your continuous support and trust. Thanks for our supplier's full cooperation and help. We will do our utmost to provide customer's with highest quality products and efficient full service.

"To create value for customer, to fulfill their dream. "

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Due to product improvements, the products you purchase may not exactly match the contents of the manual.

But this will not affect the normal use of the product. The contents of this manual are subject to change without notice.

Hope you will understand it! For your better use of this product, please read this manual carefully, thank you.

## 6.2 Working theory of limit switch

When the system is running to the extreme position (fully open or fully closed), the knurled nut is moved on the lead screw to the locking block, and when the two are in contact, they are locked to each other and rotate with the lead screw, then the upper positioning bolt hits the spring plate, opens the working limit switch S11/S12, and cuts off the circuit in time. In order to ensure everything is ok, the safety limit switch S21/S22 works when the working limit switch S11/S12 fails, thus achieving double insurance effect.

## 6.3 Limit switch position setup

Please mark the fully open position and fully close position so it is easy for further operation.

## 6.4 Fully close position limit switch setup

- (1) Adjust the drive shaft to the fully closed limit position to determine which working limit switch is active at this time (S11 or S12) ;
- (2) Move the knurled nut to the corresponding locking block to make the two contact;
- (3) According to the Knurled Nut's position, rotate the adjusting washer, then, make the deflector rod on the adjusting washer just hits the spring plate, and open the working limit switch S11/S12.

## 6.5 Fully open position limit switch setup

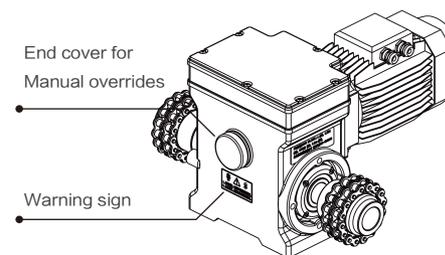
Same like set up of the fully close position limit switch from step 1 to step 3, just based on fully open position as set up objective.

# 1. Safety instructions and precautions

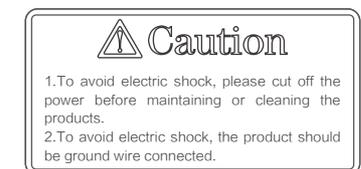
## 1.1 Precautions for use

- (1) Please read and follow the user manual to maintain and operate the 3GG gear motor, which will extend the service life of the gear motor;
- (2) Make sure the ground wire is connected reliably when operate the motor;
- (3) The input voltage of 3GG Gear motor is 3 phase(380V). For the wiring job, it should be performed by the professionals or electrician to avoid accidents that endanger personal safety due to electric shock;
- (4) Contact the supplier or distributor in case product failure, inform with details like product name, series number and specifications, don't disassemble gear motor, remove or replace of the parts in the motor;
- (5) The main applications for the motor are greenhouse ventilation and screening system, livestock shed curtaining, ventilation, hoisting system;
- (6) Cut off the power when install or tear down the product to prevent electricity shock;
- (7) Do not do dangerous actions such as external impact to the product to prevent the product from being damaged;
- (8) The product is not allowed to be disassembled or repaired without the authority of Beijing Shengsi during product warranty time.

## 1.2 Safety Warning



Warning sign content



### 1.3 Warning and precautions:

 **Please operate this motor in the right way to avoid human injury or property loss.**

- a.** Please keep the kids away from this motor in operation to avoid any danger.
- b.** Do not install or uninstall the product with power on.
- c.** When uninstall the product, take off the loading to avoid any damages to human being or the product.
- d.** Please cut off the power when thundering to avoid lightning strikes.
- e.** Do not put in water or use in water. If there is water, there will be a malfunction.
- f.** Set up limit switch then tighten the bolt to prevent water leakage or electricity leakage.
- g.** When the power cable needs to be lengthened, please make sure the connection is sealed well and no leakage is allowed to prevent fire and electricity shock.
- h.** Please don't toss or throw this product to avoid outside shock, otherwise its function may be damaged.
- i.** Please keep working area neat and clean to avoid other materials falling involved in the motor.

### Special attention

1. After the three-phase line is connected and tested, the wiring sequence (position) can not be changed. If the wiring sequence is changed, the limit control will be invalid, and the Gear motor will not stop normally, causing damage to the facility. The order of the three-phase lines cannot be changed, not only the wiring at the motor terminals, but also the three-phase into line and the three-phase wiring in the control cabinet.
2. Adjusting the limit, two reciprocating travel (Curtain, Ventilation) should be automatically completed to confirm that the limit control wiring is correct. Otherwise, it cannot be concluded that the line control wiring is correct, which may cause the Gear motor not to work properly in one direction during application.

## 4. Operation instructions

- 4.1 Install the product under the guidance of installation method.
- 4.2 Connect the wire as per instructions for limit switch adjustment.
- 4.3 Connect wire to the power supply according to electric motor wiring indication, switching wire to change direction of the motor rotation.
- 4.4 Before starting motor, the electrician should check carefully.
- 4.5 In case of product failure, don't disassemble the product, check the product according solutions listed as below, if still can not operate normally, please contact our sales directly.

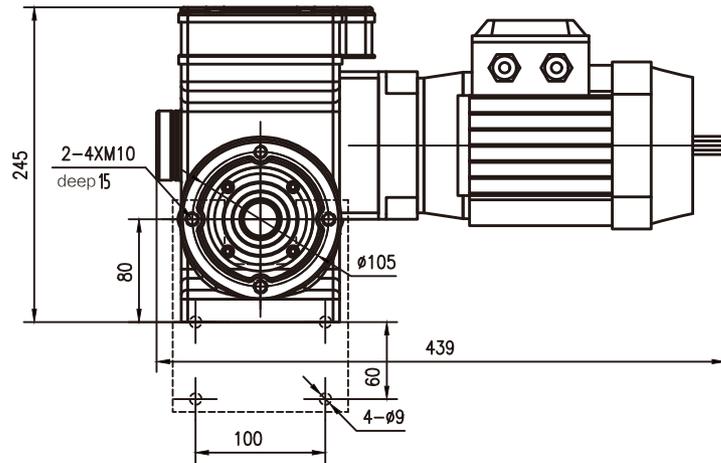
## 5. Repair and maintenance

- 5.1 Installation should be guided under experienced professionals, to make sure that the output axle alignment is in straight line, and all parts are running smoothly.
- 5.2 For daily maintenance of the motor, user have to make sure the motor moisture protection, rust-protection and anti-blocked.

## 6. Adjustment of limit switch

### 6.1 Introduction of limit switch

Limit switch mechanism includes Thread Shaft, Adjusting washer, Knurled Nut, Lock block, Spring plate, Deflector Rod, Lock screw, Working Limit Switch S11/S12 and Safety Limit Switch S21/S22, etc. The adjusting washer and knurled nut are connected (loose the screwing nut, then can adjust the Knurled nut position on the thread shaft) . When threaded shaft is rotated, while knurled nut doesn't rotate, Knurled nut can move forwards and backwards through the thread shaft.

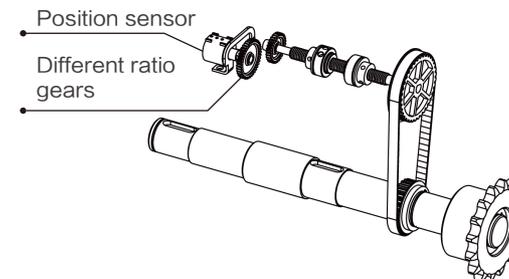


## 2. Technical and supporting requirements

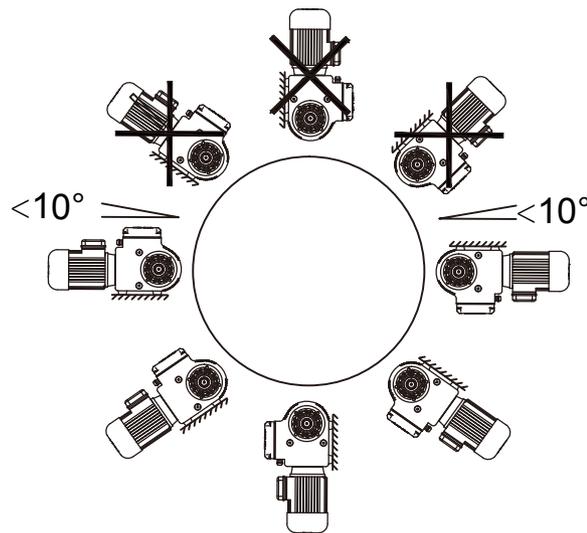
### 2.1 Product features

- (1) It is composed of 3 phase electric motor, gear boxes, limited switches etc;
- (2) This is dual shaft design for vent system and curtain system;
- (3) Compact structure, reliable performance, easy installation and operation, reverse self-locking, with limit control switch, achieve automatic control with control cabinet ;
- (4) This product has a manual overrides function. When there is a power failure or product failure occurs, remove the end cap of the Gear motor, and rotate the release lever manually by a wrench to normally rotate the worm ;

(5) This product is available with a potentiometer position sensor kit. You can choose to buy. The kits includes a bracket, wrench, locking rings and other spare parts. They include different ratio gears to adjust the transmission shaft of different proportions of gear ratio. The gear has 14 teeth, 15 teeth, 18 teeth, 20 teeth, 24 teeth, 25 teeth, 30 teeth, 32 teeth, 36 teeth, 40 teeth. Designed by our engineers, the center distance can be adjusted freely. All gears can be paired and available in a variety of gear ratios. This set of components kits can be pre-installed at the factory. Before the user purchase, the user has to measure and specify the range of output shafts circles. Before delivery, the locking ring is free and not counts. When the user adjusts the actual limit during actual installation, the locking ring should be locked in the correct position. See attachment of detailed instructions.



### 3.3 Installation diagram



## 2.2 Parameters

Model Parameters	G4003	G4005
Speed	2.6rpm	5.2rpm
Rated Current	1.9A	
Rated Power	0.55Kw	
Torque	400N · m	
Voltage	AC 380V ( 3 Phase )	
Frequency	50Hz	
Working Temperature	-10° ~ 50°	
IP	IP55	
Limit range ( Counted by output rotation )	90 rotation	

## 2.3 Accessory Requirements

- ( 1 ) User need to have 3 phase AC power source and relevant electric cable;
- ( 2 ) Take reference from this user manual for the installation position and size;
- ( 3 ) Prepare the relevant tools for motor installation.

## 3. Installation methods

### 3.1 There are two ways to install the product, namely bottom mounting and side mounting.

( 1 ) Mounting threaded hole type :

G4003 and G4005 Gear Motor Mounting thread hole is M10.

( 2 ) Bottom mounting :

The mounting position is at the bottom of the product and there are 4 fixed threaded holes. Fixed by 4 corresponding models bolts.

( 3 ) Side Mounting :

The mounting position is on one side of the output shaft end. There are 4 fixed threaded holes. Fixed by 4 corresponding models bolts.

### 3.2 Installation sketch map

