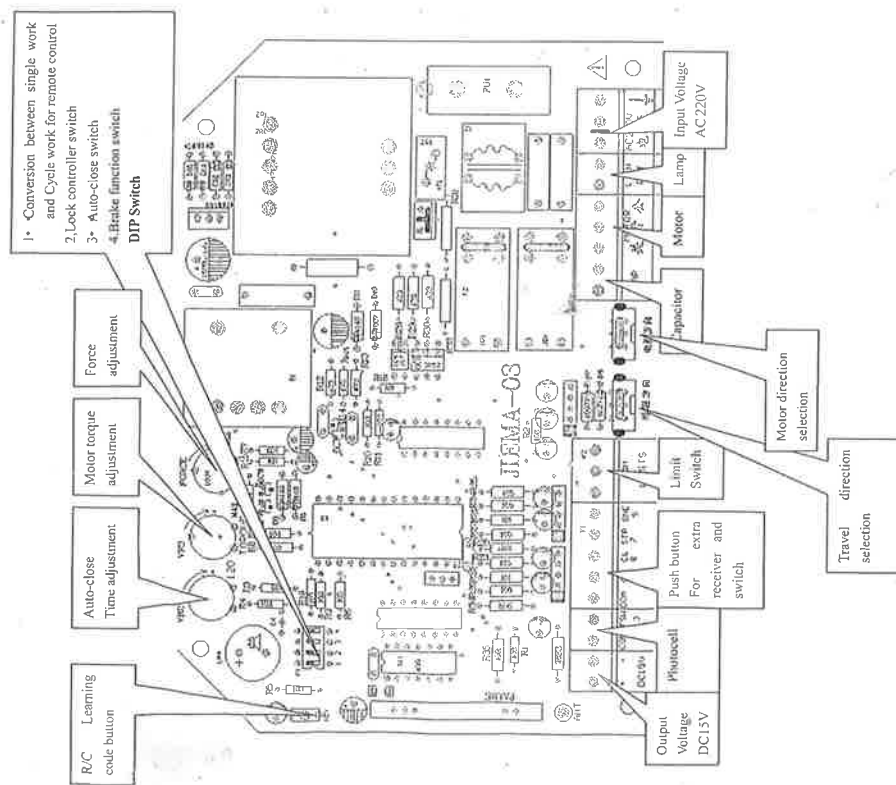


# Gate Operator

## Instruction



## HF-series Remote Control Automatic Gate Operator Instruction

Thank you for purchasing the **HANGFA** brand **HEFA380** 、 **HF220** 、 **HF200** 、 **HF180** model remote control automatic gate operator. Please read this instruction before operation. Hoping you achieve a successful operation.

※ **Brief:** The HF-series remote control automatic gate operator is adapted to drive the sliding gate and flexible gate. Also it can be used as the driving power of low-speed running mechanism. The HF-series remote control automatic gate operator is designed for single-phase 220V/110V AC or DC, its starting torque is strong. In case of power failure, unload from the worm gear mechanism in time, and then it will to be affected manually to open or close the gate. Designed with electronic protection function, also the optional remote control device can operate the gate within 100 meters. The HF-series remote control automatic gate operator is a hi-tech. Product with the optical-mechanical-electrical technology integrated excellent processing, high effective drive, accurate control system and excellent tightness and theft-proof function as well. Here the following we introduce its application on the sliding gate and flexible gate as an example.

### ※ Specification and Characteristics of the Gate Operator:

	HF 180	HF 200	HF 220/HEFA380	HF 200Z
Power	Single Phase 220V AC, 50Hz			12V 、 24V DC
Gear/Sprocket Rotation	48 RPM	48 RPM	48 RPM	≥ 60 RPM
Open Speed	12M per minute	12M per minute	12M per minute	≥ 12M per minute
Torque Output	16 N.m	16 N.m	18 N.m	12 N.m
Ambient Temp.	-30℃ — +60℃			
N . W .	14Kg	14Kg	16Kg	12Kg

### ※ Construction Profile of the Gate Operator:

This machine is consists of the motor, worm, gear, driven gear etc. The specific motor drives the worm, the worm transfers the motion to the worm gear and the driven gear (sprocket) and the driven gear as the rack.

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### 3. Adding and deleting remote control:

Please press "R/C rolling code switch", the led light, then press the any keys on remote control two times, when the red led flash three times and hear "click", the setting is complete. Keep "R/C learning code switch" 8-10S till red led will light all the time, then release the button, which will delete all the remote controls before.

### 4. Connect cable method:

- From left side to right side;
- 1,2 point: Photocell power
- 3,4 point: photocell message terminal( Open)
- 5 point: public cable for external switch.
- 6 point: Open.
- 7 point: close.
- 8 point: stop.
- 9 point: open-close-stop cycle
- 10,11,12 point: Travel switch terminal;

### Setting method:

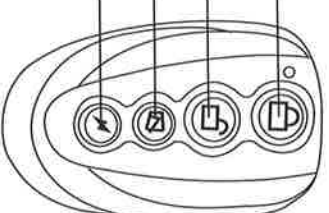
- DIP SW 1, Dip "ON" each key could work circularly(open-close-stop), Dip "OFF", Open, close, stop dividedly for each key;
- DIP SW 2, Dip "ON" The controller is lock; Dip "OFF", without this function;
- DIP SW 3, Dip "ON" Auto-closing the gate, Dip "OFF", without this function;
- DIP SW 4, Dip "ON" Brake function, Dip "OFF", without this button;
- VR2: Adjust the time Auto-closing door, Left 0—Right 120S.
- VR3: Power from left to right(L: min R: max).
- FORC: Rebound power from left to right(L: min R: max)

No.1: Lock controller

No.2: Unlock/Stop

No.3: Close

No.4: Open



# Manual for new controller

## New controller (ZD-268)

### ●Overshoot the gate travel protection;

When the gate arrive terminal point (Opening or closing position), you just only do activation against on remote control, then the gate will move(Closing or opening), which will avoid that gate overshoot terminal point.

### ●Remote control memory function in case of power failure;

When Remote control lock the switch outside, please press the "stop" button on remote control to make it activation. It is impossible to break power for activation, which could protect everything inside gate.

### ●Motor protection by itself in case of gate travel failure;

Within 90S, motor will automatically stop in case of gate travel failure.

### ●Selectable delayed closing from 1-120S for gate.

### ●Adjustable operator torque;

Upon sensing an obstacle (big resistance) when the gate is moving, the operator will cause the gate to stop. The gate will not move again until obstacle is disappear. Operator torque is adjustable to best match power as requested.

### ●Adjustable operator force of rebound meet obstacle;

Upon sensing an obstacle when the gate is moving, the operator will move the gate to the open position. This force of rebound is adjustable.

### ●Remote control automatically locks when not operating within 60S to avoid touch by error.

### ●Led show the problem on controller;

There is a 6pcs of Led to check problem for photocell, "open" button, "close" button, "stop" button, button cycle, open limit switch, close limit switch.

### ●This controller could program 30pcs remote controls (Rolling code is 16pcs). When you set the 31st, the first one fail automatically.

## Operate instruction:

1. Remote control set: When you select the DIP SW 1 "OFF", this button "No.3" is Close function; this button "No.4" is Open function; This button "No.2" is stop function. When you select the DIP SW 1 "ON", each button could learn code(who learn code, who work), the function order is "open-close-stop" cycle setting.

2. Lock controller: when the Dip SW2 "ON", please push the button "close" on remote control, the controller is lock. So, by that time it is invalid for remote control and terminal of controller, only push the button "open", it is unlock.

Note: When you select cycle work for remote control, you could lock controller, otherwise not.

Shown as drawing 1: The motor transfers its motion energy to the sprocket through the worm and gear, the driven gear, and the worm gear will both rotating when the clutch is engaged, so the door will be open or close under electric control. When in power failure, get the clutch disengaged through the disengage key (turn 90° clockwise), this machine will be affected manually to open or close the gate.

### ※ Wiring Diagram of the control system - Refer to the instructions of the control panel.

### ※ Installation and Application on the Sliding Gate:

1. The gate operator is commonly employed to open or close the sliding gate, as shown in Drawing 1. The electrical control system is installed in the control room, the radio receiver connected to the control panel and it can be operated both by press-button or remote controller conveniently.

2. The guild rail made of 60mmX60mm angle steel, fitting as Drawing 2. Arranging this way, can reduce the shock when a car pass and convenient to clean the rubbish on its both side. A limit device is to be employed on top of the sliding gate to avoid the gate sliding off the guild rail. If not equipped with limit device, it still in a potential dangerous of the door may slide off the guild rail and turn over.

### 3. Installation and Adjustments:

(1) When installation and adjustment, first to take of its plastic - cover and disengage the clutch by using the disengage key.

(2) When fitting the driven rack, and enough clearance is required between the driven rack and driven gear on vertical direction, hand push or pull the door, it should be flexible and freely in its full travel range.

(3) Before fitting the magnetic-iron supporting frame, the limit position should be pointed out first, test as the following: Disengage the worm gear mechanism, move the door to half way, check the wire connection, switch on the power and start with the press button, if no error, get the gear mesh with the worm. Electrical start and open the gate take the magnetic-iron close to the dry reed switch limiter, if the gate stopped, it indicates that the supporting plate is prepared for open limit, if not, the supporting plate is for close limit. As drawing 3.

(4) After fitting the magnetic-iron supporting frame, adjust the distance between magnetic-iron and dry reed switch to 20mm  $\pm$  5.

(5) Testing open and close door repeatedly till in a suitable position.

### ※ Installation and Adjustments on the Flexible door

HF-220, 180 model of the doors opening machine can also adapted to the flexible gate,

Installation as shown in drawing 4. The following notes should be to be attention:

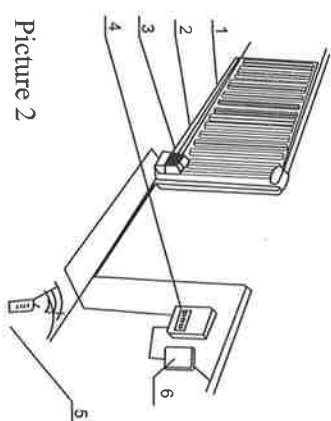
- 1、The gate open/close speed is designed at 12 meters per minute. The model of the sprocket on the driven shaft is 5#, teeth 16z.
- 2、The substructure of the gate operator need an enough weight, otherwise the drive head will skid on the guild rail and fail to get the flexible door in motion.
- 3、The limit switch installed under the substructure, the magnetic-iron fitted on surface of the concrete ground, about 20mm of clearance between.
- 4、The foundation of the flexible gate should consider the problem of rainwater out-let and the limit switch should to be waterproof treated.

#### ※Maintenance:

- ◇ When turning the disengage key, to sure not too fierce, otherwise it will skid and out of function
- ◇ Check the earth grounding in a periodical of one month

#### ※Error finding and solutions:

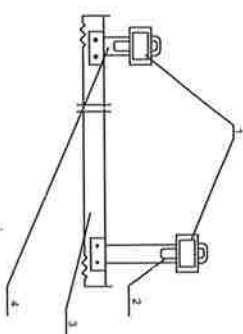
Error Features	Error Point and Reason	Solution
Motor fail to run	1、Power failure 2、Capacitor broken 3、Motor coil broken 4、Relay in poor contact 5、Code of the radio transmitter and receiver is not the same.	1、Recover the supply cord 2、Change the capacitor 3、Change the stator coil of the motor 4、Grinding the relay contact 5、Adjust the radio code to the same
Limit invalid	1、Dry reed relay broken in the magnetic switch 2、Magnetic switch too far from magnetic-iron 3、Open/close gate too speed	1、Change the magnetic switch 2、Adjust the distance between magnetic switch and magnetic-iron in $20\text{mm} \pm 5$ . 3、Adjust the sprocket, get the open/close door speed at 12 meters per minute.
Remote control failure	1、Old cell in the radio transmitter 2、Error antenna adjustment 3、Screened by the radio receiver panel	1、Change a new cell 2、Adjust the antenna 3、Uncover the radio receiver panel.



Picture 1

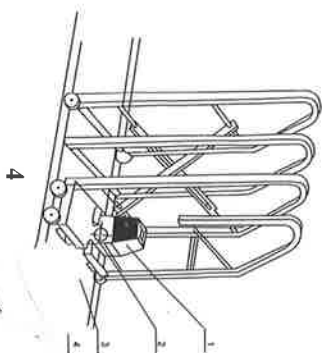
- 1、Sliding gate
- 2、Driven Gear
- 3、Gate Operator
- 4、Press-button Controller
- 5、Radio Transmitter
- 6、Radio Receiver

- 1、Magnetic Switch
- 2、Sliding gate
- 3、Magnetic-iron
- 4、Magnetic-iron Supporting Frame
- 5、Rack Supporting Column
- 6、Driven Rack
- 7、Driven Gear
- 8、Angle Steel
- 9、Supporting Plate
- 10、Embedded Bolt
- 11、Embedded Foundation Piece



Picture 3

- 1、Square Magnetic-iron
- 2、Top Magnetic-iron Supporting Frame
- 3、Rack
- 4、Bottom Magnetic-iron Supporting Frame



Picture 4

- 1、Gate Operator
- 2、Sprocket
- 3、Limit Switch
- 4、Magnetic-iron