

# Instruction Manual for Control Panel (Compatible for Fero models)

## with soft start and soft stop low speed wisdom type

(Read carefully)

**Product model:** Two wires multi-function wisdom type V-D36

**System Methods:** remote control and motor integrated with intelligent control

**Object:** Two channels two wires inward (outward) swing gate opener

**Main electrical function:** AC, DC type (AC 220V, DC 24V)

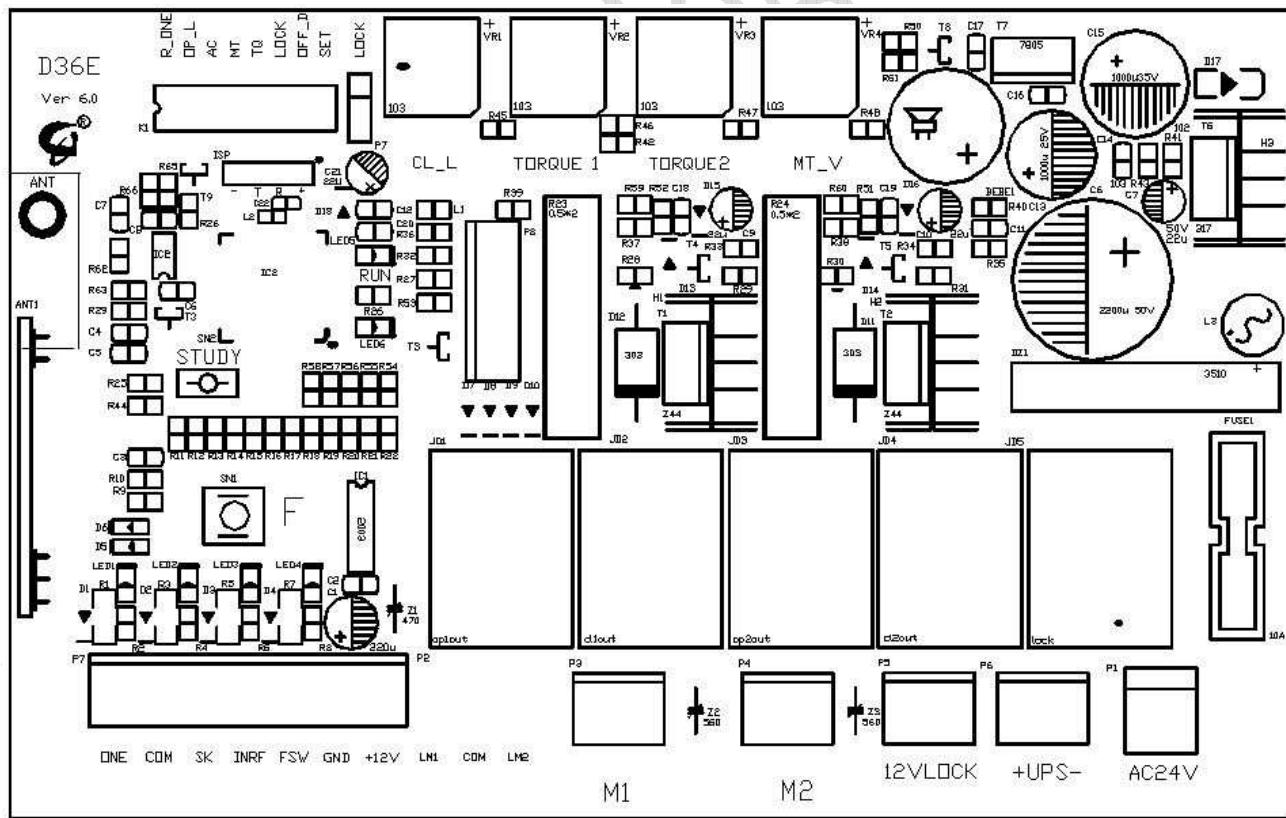
Rated power :180W

Wiring distance: within 30 meters

Remote control distance: within 50 meters

**Installation:** Wall-mounted or desktop

**Frequency:** 433.92MHZ learning encrypted rolling code type



### FERO-M2 (V-D36) Control Board

V-D36 control board is specially designed according to 24V DC door opener, improved through D33. With soft start and soft stop low speed function, encrypted remote control ,higher confidentiality .This system can also optionally available with a back-up battery. When power off, the battery provides 24V DC power supply to continue working. The battery must be installed reversely, to avoid wall bracket hit power terminals during installation. As long as the door work under correct procedure, the circuit board do not need

maintenance normally. Install the control panel as close as possible to the place where the door motor is connected with minimum diameter of 1.5mm 2 core wires, to reduce the pressure drop and ensure system performance.

## I . Function and features:

- 1. Anti-collision design:** when the door travel is completed, only after press reverse key, the motor can be activated so that the over-travel can be avoided.
- 2. Motor time protection:** Avoid long time running when travel failure, the time set to 2-240 seconds.
- 3. Auto close function:** the time can be adjusted from 1~240 seconds.
- 4. Motor strength adjustment:** motor running strength can be adjusted separately. When barrier blocks, the door stops travel in case of clamping people or object.
- 5. Motor opening and closing low speed function:** this function make the door running more steady .
- 6. High security:** remote control with high sensitivity,far remote distance and strong anti-interference.Using the most advanced jump codec technology, more safe and secretive than the traditional remote control (code number 6561 groups) in the market.Password number up to 100 million units, can not be deciphered.
- 7. Anti-clamping function:** During door closing,when there are obstacles blocking the infrared ,the door will automatically stop and run in the opposite direction, to prevent injuries or folder object.
- 8. LED fault display:** it is easy to carry out maintenance and use through LED screen.

## II . Red DIP switch setting:

### RED DIP switch function of the control panel can be setting as followings

#### **Red DIP switch 1 = Remote control with single key and three key interchange:**

Turn on RED DIP switch 1 to OFF = **▲open** **■stop** **▼close** **□lock** four keys control individually.  
Turn on RED DIP switch 1 to ON = single key cycle, that is which key to be coded that is the key perform cycle action. For example: use **▲open** to study ,press **▲open** = door open, press **▲open** again=door stop, press **▲open** once more=door close, press **▲open** again=door open, cycle in this way.Using single key control function,the remote control can control at most four gates. For example use **▲open** to control gate 1, use **▼close** to control gate 2, use **■stop** to control gate 3, use **□lock** to control gate 4.

#### **Red DIP switch 2 = Opening sequence function**

Turn on **RED DIP** switch 2 to **OFF** , gate 1 and gate 2 open at the same time.

Turn on **RED DIP** switch 2 to **ON**, gate 2 will open 5 seconds earlier than gate 1.

#### **Red DIP switch 3 = Auto close function**

Turn on **RED DIP** switch 3 to **OFF**, without auto function.

Turn on **RED DIP** switch 3 to **ON** with auto close function.

With auto close function,the door will open to the limit, and perform auto close delay, function light flashing in 1HZ, stop indicator light flashing indicate timing of door close. When reach the setting time, the controller will perform auto close action.

Setting of auto close time: Turn on RED DIP switch 3 and 8 to ON, press F key, each press 1 second, how much time you want for the auto close, how many times you press F. After setting, you should turn on RED DIP switch 8 to off, DIP switch 3 position do not change. When perform auto close action, the door should open to the limit and detect the signal of open to the limit.

#### **Red DIP switch 4=Low speed function during opening and closing**

Motor with low speed function. With low speed function, the motor will automatic deceleration in place about

1 meter way from door completely closed position. Turn on RED DIP switch 4 to OFF, close low speed function. Turn on DIP switch 4 to ON with low speed function.

#### **Red DIP switch 5= Resistance bounce function**

Turn on RED DIP switch **5 to OFF**, the motor will automatically stop when meet obstructions during opening or closing. Turn on RED DIP switch 5 to ON, if meet obstructions during opening the motor will automatically stop. During closing, if meet obstructions the motor will stop first, and then open the door to open limit in case of clip person or vehicle.

#### **Red DIP switch 6 = Lock function**

Turn on RED DIP switch 6 to OFF, the electric lock do not output voltage during opening.

Turn on RED DIP switch 6 to ON, during opening, motor will close and reverse 1 second, electric lock get electric and start action 2 seconds, motor start opening. Electric lock will hold electric 3 seconds and release when the motor start opening.

#### **Red DIP switch 7 = Lock key open single door function**

Turn on RED DIP switch **7 to OFF**, **unlock** key of the remote control can open single door that is when press **unlock** key of the remote control door 2 (later closed door) will open solely. Turn on RED DIP switch **7 to ON**, **unlock** key can not open door solely.

#### **Red DIP switch 8= SET:**

Turn on RED DIP switch 8 to ON, start function setting.

During normal working you should turn RED DIP switch 8 back to OFF.

P7 jumper junction: jumper inserted in two pins of LOCK side remote control with lock function, pressing "stop" + "lock" at the same time to lock and unlock.

### **III. System setting**

#### 1. Slow speed soft stop adjustment operation:

Low speed Opening and closing can be set in two modes: double leaves opening and closing time can be set.

#### **First mode: auto set low speed opening and closing time**

After completely install and adjust the motor, (when setting the door should be on the close position, this is very important), turn on red DIP switch 8 and 4 to ON, and press open button of the control panel (or open button of the remote control) to open to door, motor will automatically running. Open and close double leaves in sequence, after double leaves running to the close limit, turn on red DIP switch 8 to OFF, buzzer will make a sound, setting is finished. Low speed open and close time is set automatically by system, door motor will auto decelerate at the position one meter away from completely close and open.

#### **Second mode: manually set low speed opening and closing time**

After completely install and adjust the motor, (when setting the door should be on the close position, this is very important), turn on red DIP switch 8 and 4 to ON, and press open button of the control panel (or open button of the remote control) to open to door, motor will automatically running. Open the first door firstly, user can press stop button of the remote control during motor running, motor will slow down quickly. This position is motor 1 low speed position, motor 2 is the same. During closing, motor 2 close firstly, user press stop button of the remote control when motor run to proper position, this position is motor 2 low speed position, motor 1 is the same. After double leaves run to the close limit, turn on red DIP 8 switch to OFF, buzzer will make a sound, setting is finished. Motor 1 and motor 2 low speed time during opening and closing is set by user.

**CL\_L (close sequence): motor close sequence adjustment, can be adjust between 0-10 seconds.**

**TORQUE 1 and TORQUE 2 (motor strength adjustment): clockwise to increase the strength, anti-clockwise to decrease the strength.**

**MT-V (low speed strength): adjust motor strength during low speed close. Clockwise to increase the strength, anti-clockwise**

## 2. Add Remote controls operation:

Remote control adopt the latest encrypted rolling code, can not be copied, with better confidentiality and safety. Press white **SN2 study** button (noted it is the white rectangle button) of the control board, LED 6 indicator light off, release your hand and press **Lock** of the remote control twice as soon as possible, you will hear one sound “DI” and the study is finished. To add more remote controls, just repeat the above steps. Key points for learning of remote control: 1. the remote control not too close to the control panel, it is better to press at your back. 2. Press **Lock** within one second after pressing the **STUDY** key of the control panel. 3. don't press the **STUDY** key again after finishing study.

The controller can be equipped up to 298 remote controls, with the 298 remote control, the first one will be invalid (that is can not used).

## 3. Delete all the remote controls operation:

Long press white **SN2 STUDY** button (noted it is the white rectangle button) of the control board, 8s later, you will hear “DI”, indicator light change from off to on, release set key and remote controls deleted.

## 4. Door close sequence: motor close sequence adjustment

When the door have floor, closing angle can be adjusted from 0-30s.

## 5. Strength adjustment 1:(Torque 1)

Motor 1 running strength adjustment: the running strength can be adjusted by TORQUE 1, motor will stop when meet big resistance, in case clip person or object.

### Strength adjustment 2:(Torque 2)

Motor 1 running strength adjustment: the running strength can be adjusted by TORQUE 1, motor will stop when meet big resistance, in case clip person or object.

## 6. Auto close function setting: User's can set the auto function self.

Turn on RED DIP switch 3 to ON, it is with auto close function.

Turn on RED DIP switch 3 to OFF, it is without auto close function.

When setting auto close function, door open to the open limit, perform auto close delay, function light flashing in 1HZ. When reach the setting time, controller perform auto close operation. Auto close time can be adjust by auto close potentiometer.

Auto close time setting: Turn on RED DIP switch 8 and switch 3 to ON, press F key, one press one second, after setting, turn on RED DIP switch 8 back to OFF, and position of switch 3 do not changed.

## Note: Check the rotate direction of the motor

Make sure that the door work in correct direction after the control board connected to power. Press **▲open** of the remote control, the door should open. Press **▼close** of the remote control, the door should close. Close and open state is very important. If the direction is not correct, door will operate in opposition way. If find motor direction is wrong, only need to reverse red wire and black wire of motor 1 or reverse red wire and black wire of motor 2. That is if motor 1 direction is wrong, reverse red wire and black wire of motor 1. If motor 2 direction is wrong, reverse red wire and black wire of motor 2. If both of the motors direction are wrong, reverse red wire and black wire of motor 1, reverse red wire and black wire of motor 2.

## IV. Components for swing gate opener:

1. DC power supply(optional component like power reserve UPS): UPS do not need maintenance, automatically charging and supply power. During installation, connect UPS plug to UPS interface of the control panel. Install fuse of the UPS, pay attention to the direction of the plug, if it is reversely, UPS may burn.
2. Access code lock use outlet button or inter phone to open the door (card reader optional accessories, if added): Connect +12v power interface of the card reader to +12V power interface of the control board,

connect -12V power interface of the card reader to GND power interface of the control board, connect PUSH/ON of the card reader to OPEN interface of the control board (Noted: Access card reader should be compatible with control board of our company, that is PUSH / ON output is a low voltage signal negative output).

3. Button switch (Far distance button single key cycle function): This control board with far distance button control function, when you need to add external button, connect button switch to single key interface and public interface of the control board, button switch perform in this way:

When the door close:----- Open, during opening:----- Stop

When the door open:----- Close, during closing:----- Stop

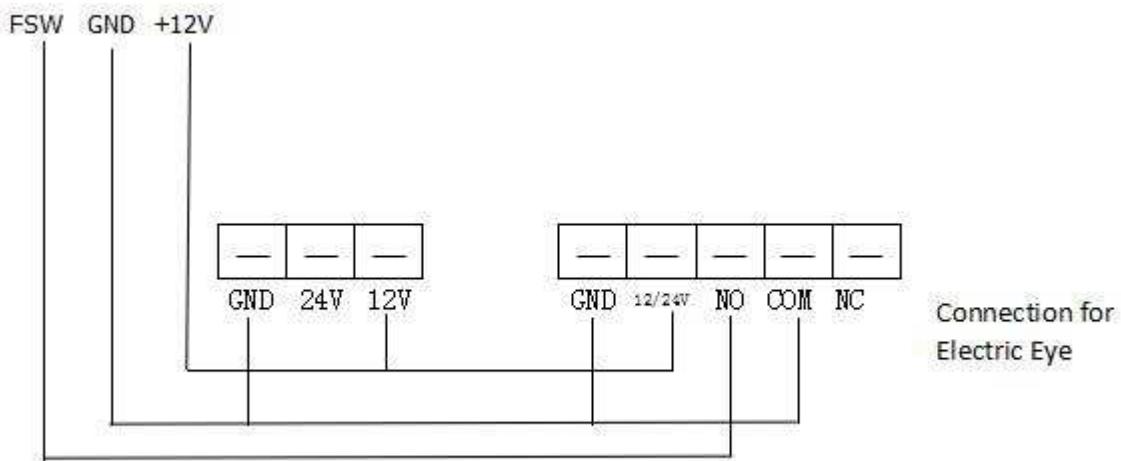
4. 12V electric lock interface: when the door is completely closed, 12V DC lock is used to avoid opened by force. If want to install electric lock, you must turn on RED DIP switch 6 to ON, during opening, motor will close and reverse 1 second, electric lock get electric and start action 2 seconds, motor start opening. Electric lock will hold electric 3 seconds and release when the motor start opening.

5. Ground sensor or infrared auto close interface: After the car (recommend to add ground sensor) or person (recommend to add Infrared) passing, motor automatically close, using this interface. Connect NO (Normal open) of the ground sensor or NO (Normal open) of the infrared to ground sensor interface of the control board, connect COM of ground sensor or COM of infrared to COM of the control board. When the door open to the limit, detecting gate opener to the limit, if ground sensor interface input terminal has normal close signal input, ground sensor will be function. When car or person leave ground sensor position or infrared position, ground sensor function, after ground sensor or infrared signal remove 3s, motor start working, performing auto close. When signal terminal of the ground sensor detect signal input, door will automatically stop and perform open action, open to the limit. Detect ground sensor signal again, after ground sensor signal remove, perform auto close.

6. The control board can be connected with infrared (connection as following).

Jump the infrared to normal open, or connect to NO.

During closing of the motor, when photocell has action, the motor will stop 2s and then perform opening.



## V. Attentions:

1. The working voltage of the controller is  $\sim 220V \pm 10\%$ , don't connect to 380V.
2. The wire buried underground should use thick, double conductor. The three-core shielding layer of

travel switch should be well grounded and not a adapter between. The conducting wire should be set into PVC tube or pipe and do waterproof processing.

3. The default value is 90 seconds. Use battery of DC12V, 27A for remote control, working life is one year. Remote control can not be moisture, crashed. If want to reset password, please refer to password setting.
4. If the remote distance is short, please check if the mainframe is installed in the position that is shielded by metal objects or nearby.
5. Non-professional personal is forbidden to install the controller and circuit. We are out of responsibility for any personal safeties caused.
6. If the controller has any quality problem, please send it to agent . If repaired by self, we are out of responsibility for any loss caused by self-repair.

## Safeties & Cautions:

- (1) All the operations must be implemented according to the instructions, this is very important to personal safety.
- (2) Please read instructions carefully before installation.
- (3) Please keep the instructions properly for future use.
- (4) Our product is in strict accordance with the instructions for the design and manufacture. Any violation of the instructions may damage the product or cause dangers.
- (5) Our company is out of responsibility for any operation or use violating the instructions.
- (6) Installation must comply with relevant safety standard.
- (7) All the machine fittings must comply with national standard related.
- (8) Our company is out of responsibility for the consequences caused by user's ignoring the process requirements of precision components during operation.
- (9) Safety devices (like photoelectric switch, sensor etc.)should be installed to avoid damage.
- (10) Any attempts to change the structure of the components is forbidden.
- (11) The installation personnel should give detailed operation methods to the users as well as the regulations under emergency, also the "instructions "should offered.
- (12) Only the operations indicated in INSTRUCTIONS are allowed.
- (13) During installation, keep the children and other unrelated person away from the installation site.
- (14) No unsafe factors around the installation site.
- (15) Power supply should in accordance with the demand.
- (16) Both the door opener and the door body must be well grounded.  
Electric leakage as well as short protection device should be equipped.
- (17) Before electric control system operate, remove all the barriers within the door covering area and any vehicles or person are forbidden to pass.
- (18) Both the installation position and height of main control box should be proper, do not be exposed to sunlight and rain, forbidden to let children to operate the remote controller as well as control panel switch.
- (19) If it is necessary to install a outer shield, consider that if it may shield signal of the remote control.
- (20) Keep the remote control away from children in case of accident.
- (21) Any attempts to dismantle this machine privately is forbidden, only the professional technician is allowed to make the maintenance.
- (22) Before system maintenance, cut off the power supply, and check if the grounding system is correct.