

Automatic Gate Instructions

Version 1 – JProud June 2008

Hollin Applications, have designed this control to remotely operate a gate using a Warner Electric Industrial Linear Actuator.

The Basic Control Kit consists of a 12 volt battery box and either solar or mains powered charger. A switch control circuit with coded RF receiver. The control is also supplied with 2 coded RF key fobs.

Mounting.

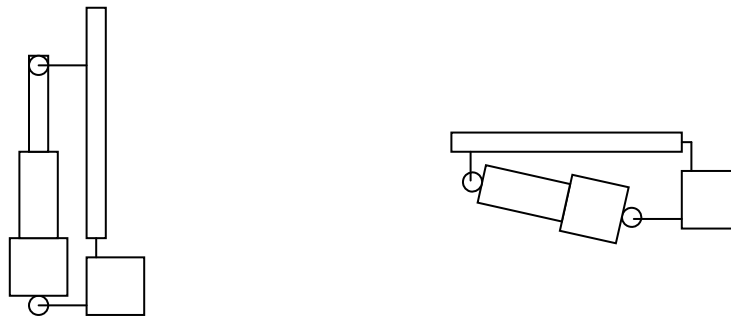
The Control box should be mounted on the gatepost at a height off the ground in excess of 1 meter. The higher the greater the range from the RF key fob.

Keypad option: If the control has been supplied with full keypad then this box contains the Radio receiver, position this unit as high as possible and fully accessible from either side of the gate.

Two brackets should be designed to locate the Actuator onto the gate. Pivot pins of 12mm should be used. The Actuator has a retract length of 640mm and extend length of 1040mm.

It is advisable to use a piece of card or wood with the 2 lengths marked to enable easy fixing of the mount points.

The rear housing of the Actuator has a stronger mechanical advantage if placed at an angle to the close gate.



Position Testing.

The dip switch on the circuit board should have number 1 the brown switch set to off. This sets the control to direct switching not latched. Pressing button 1 will retract the ram, opening the gate and pressing button 11 will close the gate extending the ram. Releasing the button will stop the Actuator.

After testing the dip-switch can be set back to 1 for latched operation.

Once the Actuator is fitted the control can be switched using the handset to show the opening and close of the gate. The Battery supplied will switch the gate for a minimum of 20 operations before requiring charging, This allows for easier testing of the gate.

This Actuator works by sensing a jamming at the end of stroke and switching itself off. Either use the mechanical fixed limits on the actuator and the full 400mm stroke (preferred) or build the mount pins and gate stops strong enough to withstand the 335Kg force.

Mains Charger: Once the gate is operational, run the mains cable to the supply, always use an earth leakage circuit breaker with this unit. Be careful keeping all connections water tight , and possibly place the cable in an armoured sheath, if run underground.

Solar Panel Charger: Locate the solar panel facing south as out of shade as possible. Locate at an angle of approximately 45 degrees, do not place horizontally where water can sit on the panel. The charger will continually trickle charge the sealed lead acid battery. During periods of low light/ temperature and heavy use of the gate the battery may discharge. In which case occasionally top up charge with a regular mains car battery charger.

Operation

There are 3 switchable modes for the unit:

Switch 1 and 2 off: (set-up build and test mode)

The control works in intermittent operation. The Linear Actuator will only move when the keyfob or control side mount button is pressed. Releasing the button stops the Actuator.

This mode should always be used to set up the end positions on the Actuator. It also gives better control of the gate movement, if the gate is only required to open a little for pedestrian access, or if the user is worried about the gate opening with a vehicle, person or stock in the way.

Switch 1 on and Switch 2 off:

This is latched mode where a single press of either button will begin an open or close sequence. Button II (RH) on the handset pressed once will extend the Actuator and Close the gate, Button I (LH) on the handset pressed once will retract the Actuator and Open the gate.

This uses the limit switches built into the Actuator to switch off at end of stroke.

Once the gate is moving pressing either button again will stop the Actuator as emergency stop. Pressing 1 or 11 again will restart the open or close sequence.

Switch 1 on and Switch 2 on:

This is the Auto close mode.

Pressing button I (LH) will open the gate by retracting the Actuator, after a short time the gate will close Automatically. Again pressing either button on the keyfob will act as emergency and stop the sequence.

In latched and auto mode the system stops the linear actuator, using the limit switches on the unit. The control itself will switch off the output after a set amount of time. This is preset at 32 seconds.

The time between open and auto close is adjustable on the circuit using the small screw slot. Fully Anti-Clockwise equates to 3 seconds delay and fully clockwise to 300 seconds delay,,

The Auto-Retract feature has the possibility of hitting an object, the following options are available,

Loud Alarm Sounder

Flashing beacon

Through beam light sensor cut-offs.

Over load sensing of the Actuator motor.

Remote emergency stop buttons.

Options – Remote Keyswitch.

The control has the option to be supplied with a Separate keyswitch for internal gate operation. A separate three-core cable should be run to the control box. And connected as per the wiring detail in the key switch box and battery control box.

Switch to Auto for normal operation.

Switch to locked fixes the Gate in that position, either closed or opened.

RF control is disabled as a security feature if the key switch is locked in either position.

Options - Overload Trip Circuit

This option offers current sensing to the Linear Actuator, should the current rise above an adjustable level then the Actuator will stop.

Press the button twice to restart the Linear Actuator once the obstacle has been moved.

The level of current / load can be adjusted using the on circuit potentiometer. Anti-clockwise increases the current level, be careful when setting the level, keep to the minimum that will open and close the gate.

Options – Keypad

The preset keycode on this unit is the same as the keyfobs.

The Keypad allows coded opening and closing of the gate. Once the correct code is entered the gate can be opened and closed with similar features to the keyfobs.

Make button presses definite and precise to stop false presses. Mount the keypad so that it is easily accessible from either side of the gate. The box contains the key fob receiver, so higher will increase the key fob range. The keypad can be supplied with a small aerial to increase the range more.

Once the key code has been pressed correctly the top LED will illuminate for 2 minutes. During this time the gate can be opened and closed using the * and # buttons on the keypad. * is equivalent to key fob button 1 and will open the gate, # to button 11 and close. Latch and Auto Close work similarly with the dip switches on the circuit.

Pressing the incorrect button will cause the LED to flash and lock out the gate system First time this flashes for 10 seconds , second false entry for 20 secs and so on.... A correct input will reset the false input to 10 second timer.

If you would like a different code or change of code on the keypad, then please call and we will send a new chip.

Option – Solenoid Lock

The solenoid lock is supplied to locate the gate in the open or closed position. The 10mm pin will retract whenever the Actuator moves and spring out when the Actuator stops. It is supplied with a steel strike plate.

The solenoid can be used to lock the gate in the open or closed position, or both.

Mount the unit on the gate using the two holes and supplied self tapper screws, then locate the strike plate in the end post.

Option - Light Beam Sensors

The light beam sensors will stop all Actuator movement whilst the beam is broken.

Align one sensor across the driveway at the hinge posts and the other just out of rear of the moving gate to give best coverage for the moving gate. Remember not to allow the gate to break the beam.

To align the beam,

1. Set the gate in the closed position and in non-latched mode.
2. Press the gate close button on the key fob, this will release the solenoid and energise the light sensor.
3. With the key fob button pressed align the reflector with the sender at a distance of 300mm
4. Once aligned the LED in the sensor should illuminate.
5. Widen the gap testing every 300mm.
6. The maximum distance is 7 metres.

Once aligned locate the reflector and sender securely

Option - Beacon/Buzzer

Locate the beacon and buzzer unit on top of the gate post.

Every time the linear actuator moves the beacon will flash and alarm sound

Hollin Applications Ltd. accept no responsibility for incorrect mounting and use of this system.

All parts are covered by our 1 year return to base warranty.



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