

## START BY READING THESE IMPORTANT SAFETY RULES

GB-1



These safety alert symbols mean **Caution** – a personal safety or property damage instruction. Read these instructions carefully.



This gate opener is designed and tested to offer reasonable safe service provided it is installed and operated in strict accordance with the following safety rules.

Failure to comply with the following instructions may result in serious personal injury or property damage.



**Keep gate balanced.** Sticking or binding gates must be repaired. **Do not attempt to repair the gates yourself.** Call for service.



**Handle tools and hardware carefully and do not wear rings, watches or loose clothing** while installing or servicing a gate opener.



Installation and wiring must be in compliance with your local building and electrical codes. **Connect the power cord only to properly earthed mains.**



Ensure that **persons** who **install, maintain or operate the gate opener follow these instructions.**



**Disengage all existing gate locks** to avoid damage to gate opener.



Keep additional accessories **out of the reach of children. Do not allow children to operate push button(s) or remote control(s).** Serious personal injury from a closing gate may result from **misuse** of the opener.



**Disconnect electric power to the gate opener before making repairs.**



**CAUTION: Activate opener only when the gate is in full view, free of obstructions and opener is properly adjusted. Do not allow children to play near the gate.**



Keep this **manual** where it can be readily **referenced during maintenance.**

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### TECHNICAL DATA

Power supply . . . . . 230V/50-60Hz  
 Absorbed power . . . . . 4W  
 Max. load . . . . . 1100W  
 Protection fuses . . . . . 1 (5A)  
 Housing degree of protection . . . . . IP54

### WARRANTY

**LIFTMASTER** warrants to the first retail purchaser of this product that the product shall be free from any defect in materials and/or workmanship for a period of 24 full months (2 years) from the date of purchase for the **Electronic Control**. Upon receipt of the product, the first retail purchaser is under obligation to check the product for any visible defects.

**Conditions:** The warranty is strictly limited to the reparation or replacement of the parts of this product which are found to be defective and does not cover the costs or risks of transportation of the defective parts or product.

This warranty does not cover non-defect damage caused by unreasonable use (including use not in complete accordance with **LIFTMASTER**'s instructions for installation, operation and care; failure to provide necessary maintenance and adjustment, or any adaptations of or alterations to the products), labor charges for dismantling or reinstalling of a repaired or replaced unit or replacement batteries.

A product under warranty which is determined to be defective in materials and/or workmanship will be repaired or replaced (at **LIFTMASTER**'s option) at no cost to the owner for the repair and/or replacement parts and/or product. Defective parts will be repaired or replaced with new or factory rebuilt parts at **LIFTMASTER**'s option.

This warranty does not affect the purchaser's statutory rights under applicable national legislation in force nor the purchaser's rights against the retailer arising from their sales/purchase contract. In the absence of applicable national or EC legislation, this warranty will be the purchaser's sole and exclusive remedy and neither **LIFTMASTER** nor its affiliates or distributors shall be liable for any incidental or consequential damages for any express or implied warranty relating to this product.

No representative or person is authorized to assume for **LIFTMASTER** any other liability in connection with the sale of this product.

The LiftMaster control unit can be used with any common 230V gate openers. However, LiftMaster cannot give any warranty for trouble-free operation if the unit is not connected up according to specifications.

## ELEKTRICAL INSTALLATION 2

The electronic control unit supplied is required for operation of the **wing gate actuator**. This control unit comprises an electronic microprocessor-control system employing the latest technology. It may be used for the connection of 1 or 2 motors and offers all connection possibilities and functions necessary for **safe and reliable operation**.

The electrical connections for single- or double gates are given in **Illustration 2**.

The control box containing the motor control module is to be fitted with cable entry at bottom. It should not be continuously exposed to direct sunlight. For weather protection, we recommend the fitting of a small protection roof.

Thanks to the electronic control unit, fine adjustment of the push-pull torque is possible. When correctly adjusted, gate movement can be easily blocked by hand.

**For the OPEN and CLOSED positions, the gate requires a stable end stop as the swing gate actuator unit is not fitted with limit switches and the electronic controls are switched off by time.**

## CONNECTION OVERVIEW

The control unit should be connected up last, i.e. after the motor has been mounted, the necessary cables laid and the Infrared Sensors or contact strips fixed in place.

In the case of permanent mounting, means of separating the system from the mains must be provided. The contact spacing of the main switch used in this connection must be at least 3 mm.

## NOTE:

In these instructions, relay contacts are designated as *NC (normally closed)* and *NO (normally open)*.

- **NC contacts are closed, and open when actuated**
- **NO contacts are open, and close when actuated**

TERMINAL	DESCRIPTION
PE	Earth supply cord
PE	Earth motor 1
PE	Earth motor 2
C1	Capacitor motor1
1	Direction CLOSED (L1.1) motor 1
2	MP
3	Direction OPEN (L1.2) motor 1
C1	Capacitor motor 1
C2	Capacitor motor 2
4	Direction CLOSED (L1.1) motor 2
5	MP
6	Direction OPEN (L1.2) motor 2
C2	Capacitor motor 2
7	Flashing light MP 230Volt ~
8	Flashing light L1 230Volt ~
9	E-lock drive NO
10	E-lock drive NO
11A	Safety input 0V (socket module 1)
12A	Safety input +24V (socket module 1)
13A	Switching input 1 (socket module 1)
14A	Limit switch contact 1 (factory bridged)
15A	Limit switch contact 1 (factory bridged)
16A	Push button motor 1 only, NO
17A	Push button motor 1 only, NO
11B	Safety input 0V (socket module 2)
12B	Safety input +24V (socket module 2)
13B	Switching input 2 (socket module 2)
14B	Limit switch contact 2 (factory bridged)
15B	Limit switch contact 2 (factory bridged)
16B	Push button motor 1 + 2 NO
17B	Push button motor 1 + 2 NO

**FUNCTION AND DESCRIPTION OF DIP SWITCHES**

Dip switch 1	ON - IR Sensor OFF - Contactstrip only for socket module 2 in connection with module 801696
Dip switch 2	ON - Reversal to direction "OPEN" after recognizing the obstacle OFF - Stop - after recognizing the obstacle
Dip switch 3	ON = Dead man's operation on OFF = Dead man's operation off

**FUNCTION AND DESCRIPTION OF POTENTIOMETERS**

Potentiometer 1	Operating times up to 45 seconds (safety function only, i.e. set to longer than actually required)
Potentiometer 2	Delay operation of second door up to 120 seconds
Potentiometer 3	Automatic admission up to 120 seconds

**DESCRIPTION OF LEDS**

<b>LED1</b>	Impulse to M1+M2	<b>on:</b> Impulse <b>off:</b> no Impulse
<b>LED2</b>	Impulse to M1 (Pedestrian-Function)	<b>on:</b> Impulse <b>off:</b> no Impulse
<b>LED3</b>	<i>Limit switch</i> LED turns off when limit switch is operated	
<b>LED4</b>	<i>Limit switch</i> LED turns off when limit switch is operated	

**Note:** If both LED's turn off when operating the limit switch, the cables will have to be changed.

**FORCE ADJUSTMENT AND AUTOMATIC SWITCH OFF**

The drive force of the motors is adjusted with potentiometers M1 and M2. The control unit has an automatic force shut-off. If the gate encounters an obstacle during operation, it stops. The force required to stop a door and to actuate shut-off increases as potentiometers M1 and M2 are set to higher values.

The force shut off feature is not generally used in outdoor installations. Gates which are large, heavy or move sluggishly should not have a drive with force shut off, as this feature could be actuated e.g. by strong winds. Unplug the cable leading from the force module in order to interrupt the force shut off.

After a force shut off, door 2 should always be closed first in order to ensure correct closure of a 2 leaf gate.

The force shut off may not be used as the only safety measure. Other safety measures, based on use of Infrared Sensor, Contact Strips etc. must also be used.

**SAFETY** 3 - 6

**SAFETY MODULE**

The type of safety model used depends on the kind of protection required. The safety module is used to evaluate and function test the safety devices employed in accordance with ZH1 494 and CEN.

801689 module for LiftMaster Infrared Sensor 770E. 801696 module must be used with Infrared Sensor 100263 or a Contact Strip. An 8.2 Kohm test resistor is required in this connection (this is supplied along with the module).

**OPERATION WITHOUT SAFETY MODULE**

Unplug the two safety modules and replace the control unit. The control unit's internal test routine indicates that the modules are not being used, and the control unit is not blocked

**Operation without safety devices is dangerous, and is not permitted.**

**DEAD MAN'S OPERATION**

In the dead man's-mode of operation, a gate can be used without safety devices if the operator has a full overview of the system's operation.

Three dip switches are situated in the top part of the control unit. Set dip switch 3 to ON. The control unit then only functions while continuous control signals are given by means of a transmitter, key or pushbutton. If the control signals are interrupted, the gate stops and will move in the opposite direction when the next signal is received.

**OPERATION WITH INFRARED SENSOR TYPE**

**LIFTMASTER 770E AND SAFETY MODULE 801689** 3

When connecting this IR Sensor a permanent examination of the IR Sensor and the according cables is granted. The IR Sensor is failsafe and is in accordance to the regulations to connect only cables with the same markings (*white/white 11A/11B and black/black 13A/13B*).

**OPERATION WITH INFRARED SENSOR**

**TYPE LIFTMASTER 100236 AND SAFETY MODULE 801696** 4

The IR Sensor will be connected with the 8.2 KΩ resistor (which is included). The connection of 2 IR Sensors is possible through serial connection (terminals 3 and 4 of the IR Sensors and the 8.2 KΩ resistor are connected in series) (Safety inputs 11-12-13 A/B).

**OPERATION WITH CONTACT STRIPS AND MODULE 801696**

The contact strips work in the same way as photoelectric barrier type LifMaster 100263. With self-monitoring strips which have their own control unit, e.g. light strips, the 8.2 Kohm test resistor should be clamped in the lead. With non-self-monitoring contact strips, it is advisable to clamp the test resistor to the end of the strip to permit full testing of the strip. Several contact strips can be used in series. Connection to 11B/13B (socket module 2)

**FEELER FOR WING 1 (MOTOR 1)** 5

**FEELER FOR WINGS 1 + 2 (MOTOR 1 + 2)** 6

**COMBINED OPERATION WITH CONTACT STRIPS AND INFRARED SENSOR**

Each one of the two safety inputs works independently. They can be configured in any desired way to meet requirements. LiftMaster drives WGO300 and WGO400 do not require a limit switch for proper functioning. If it sufficient to provide a sturdy stop on the floor, so that the gate always moves the same distance. The contacts have jumpers fitted at the factory.

**ELECTRIC LOCKS:** In order to permit the use of various electro-lock systems, contact 9-10 is designed for potential free closure. The contact is closed 1 second before the motor starts up, and stays in this condition for about 3 seconds. In other words, the lock is unlocked before the door opens and remains actuated for 3 seconds to ensure that it does not get locked again. This function is also operative during closure of the gate.

**INITIAL OPERATION AND TRANSFER**

- Connect up the control unit including the safety inputs
- Connect up the gate and lock the motors
- Connect the control unit to the mains
- Check whether any of the LEDs of the safety module have lit up; this indicates that the control unit has been blocked because one of the safety devices has been triggered
- Have the limit switches been jumpered? (This should be done in the factory for 14A and 15A, and for 14B and 15B.)
- Using a screwdriver, adjust the force of potentiometers M1 and M2 (middle left) initially to about 30-50%, depending on the size and weight of the gate
- Adjust potentiometer P1 to 50% (time adjustment).
- Set potentiometers P2 and P3 to left-hand stop
- Are the end stops in the Open and Closed directions fixed (present).
- Now push the test button on the control unit; both doors of the gate should open
- If only one door opens, the other must have been connected up wrongly.
- Make any fine adjustments that may be necessary
- Check the operation of all safety devices
- Connect the receiver, and "teach" the transmitter how to work with the system.
- Instruct the personnel who will be operating the system
- Complete the transfer form

**INITIAL SETTING OF REMOTE CONTROL 7**

The PTT-approved, charge-free radio remote control unit functions with a **computer pre-programmed private security code (approximately 3.5 billion code possibilities)**. In this way, your swing gate control unit can only be activated by handset with the correct code. The operating range depends on local conditions. The receiver module of the motor control unit has a built-in self-learn function. It can be set in accordance with the pre-programmed code of the handset by pressing the learn button (**Illustration 7**).

The control unit comprises 2 learn channels. In this way, the handset may be used to open or close one gate only or both gates simultaneously. When, for example, channel 1 **(1)** receives the remote control code of the first control button of the handset, then only one gate is opened. When the second channel **(2)** is set in accordance with the remote control code of the second control button, then both gates are operated when this button is pressed.

In order to configure the control PCB pre-programmed code in accordance with the handset, the learn and transmit buttons for the required channel must be pressed and held until the associated LED lights up briefly. When a multi-control handset is used, this procedure must be repeated for each control button and associated learn channel.

**Repeat this procedure for every transmitter.**

**ANTENNE:** An antenna is connected to the radio reception module. If a longer range is required, connect an external antenna (ANT4X-1LM) (**Illustration 7**).

**DELETION OF PROGRAMMED REMOTE-CONTROL CODES**

Press the corresponding learn button **(1 or 2)** approx. 10 sec. on the receiver PCB until the learn LED goes off. The code memorised with this learn button has now been deleted.

**REPROGRAMMING**

When reprogramming, the above-mentioned coding steps must be repeated for all remote-control handsets in operation and their control buttons. The operating range of the remote-control unit depends on local conditions. Press and hold the button on the handset (approx. 2 seconds) until the gate begins to move. In the PTT-approved frequency range for the radio control of gates, there are also medical, industrial, scientific, military and household radio systems in operation, some of which have a very high transmission range. The close proximity of such a radio installation could lead to a reduction in operating range or temporary interference in your radio remote-control system.

**ACCESSORIES & REPLACEMENT PARTS 8**

	27MHz	418MHz	433MHz	
<b>(1)</b> Models	750E	4180E	4330E	1-Function Remote Control
<b>(2)</b> Model	751E			1-Function Remote Control with Dipswitch
<b>(3)</b> Models	752E	4182E	4332E	2-Function Remote Control
<b>(4)</b> Models		4183E	4333E	3-Function Remote Control
<b>(5)</b> Model	754E			4-Function Remote Control
<b>(6)</b> Models		4180E	4335E	3-Function Mini-Remote Control
<b>(7)</b> Models	727E	787E	747E	Wireless keyless entry
<b>(8)</b> Models	801245	801221		
	801238,	801504		Module
<b>(9)</b> Model	704090			Accessory package incl. Capacitor
<b>(10)</b> Model	WGO300L/WGO400L			Motor left hand
	Model WGO300R/WGO400R			Motor right hand
<b>(11)</b> Model	100263E/770E			Infrared Sensor
<b>(12)</b> Model	100027			1-Function Keypad (Flush mount - 100010)
	Model 100041			2-Function Keypad (Flush Mount - 100034)
<b>(13)</b> Model	801337			Adapter
<b>(14)</b> Model	760E			Outside Keylock
<b>(15)</b> Model	FLA230-2			Flashing Light Kit
<b>(16)</b> Model	801689			Module for 770E (Infrared Sensor)
<b>(17)</b> Model	801696			Module for 100263E (Infrared Sensor)
<b>(18)</b> Model	16200LM			Door in door switch
<b>(15)</b> Model	ANT4X-1LM			Antenna Extension Kit