

# **Won-Door FireGuard Owner's Manual**

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**Operation &  
Maintenance  
Guide**

**Model CTRL2K  
Controller**

**Revision Date: July 12, 2002**

**Part Number: 018698**

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## Frequently asked questions about the Won-Door FireGuard system.

- **How do I operate the door?**  
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- **How do I get the door to open?**  
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- **How do I reset the door?**  
See page 6
- **Why is my door beeping?**  
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- **Who do I call for service?**  
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# Standard Operation

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Won-Door FireGuard folding partitions are a part of the fire and life safety equipment of your building and may only be installed and serviced by factory trained personnel. However, it is essential that building personnel have a basic understanding of their purpose and operation.

Reading this manual will acquaint you with the system and how it works. Suggestions on periodic preventive maintenance are outlined in the “Preventive Maintenance” section beginning on page nine. For information regarding various fault conditions or trouble signals, refer to “Operator Troubleshooting” on page twelve.

## Normal Operation

The Underwriters Laboratories Inc. listed Won-Door FireGuard assembly is normally in the open position, typically in a storage pocket, closing upon a signal from either a supervised four wire smoke detector or building fire alarm system. Typically, the signal is generated when a set of isolated electrical contacts change state. The door assembly operates on a low voltage DC system which includes batteries, battery charger and a microprocessor. A 120 volt line connected to a junction box in the storage pocket near the “Control Box” is used to continually charge the batteries to their optimum voltage. Upon activation of a building alarm the door will close automatically. The speed at which the door closes can vary, but it is typically set about 10 inches per second.

Concurrent with the building alarm will be an audible signal sounding a steady tone indicating that the system is in the “Fire Mode.” It will remain in this condition until the system is physically reset as described later in this manual.

The leading edge of the door is equipped with a special sensor. Upon encountering an obstruction the door will stop - only light pressure is needed to activate the sensor – pause momentarily, then continue closing. Once the door is in the fully closed position it can be reopened by:

- Pressing the exit hardware. As little as four pounds of pressure applied anywhere on this plate will cause the door to retract a preset distance from its closed position. If the exit hardware is activated again after the door has stopped, it will open an additional distance equal to the established opening width. After retracting to the prescribed opening width, the door will pause, then recycle closed.
- Pressing the exit hardware then pushing against the leading edge in the open direction while the motor is still engaged. The door will continue to open until the leading edge is released, then the door will pause, and re-cycle closed.
- Operating it manually after pressing the exit hardware. Once the door stops, and while it is pausing, push the leading edge of the door back as far and quickly as desired. This will allow more space for people to pass through the opening. After the leading edge is released, the door will pause then recycle closed.
- Operating it manually by physically pushing the door back to create an opening. This method can be used if there is a complete loss of power.

## Resetting the system

Once the fire alarm has been cleared, the door can be reset and

retracted to its fully open position by:

- First, pressing the rocker switch on the side of the door near the leading edge to the marked Close/Clear position. Or alternately turning the optional key switch in the close door direction. The horn turns off, and the door relaxes.
- Then by pressing the rocker switch to the Open/Mute position or turning the optional key switch to the open door direction. The door retracts to its fully open position.

Note that the door cannot be reset if the fire alarm is still sending a signal to the door. As long as the signal is present, the door will ignore attempts to reset it.

When the door is not in the fire mode operate the door by:

- Pressing the rocker switch to the Close/Clear position or turning the optional key switch in the close door direction while the door is closed. Any faults that are present and making the horn turn on will clear if the fault condition no longer exists and the horn will turn off.
- Pressing the rocker switch to the Close/Clear position or turning the optional key switch to the close door position while the door is stopped or open.. The door closes. Any faults that are present and making the horn sound will clear if the fault condition no longer exists.
- Pressing the rocker switch to the Open/Mute position or turning the optional key switch to the open door position while the door is closing. The door stops..
- Pressing the rocker switch to the Close/Clear position or turning the key switch to the close door position while the door is opening. The door stops. Faults are cleared if possible and the horn stops.
- Pressing the rocker switch to the Open/Mute position or turning the key switch to the open door direction while the

- door is stopped or closed. The door opens.
- Pressing the rocker switch to the Open/Mute position or turning the key switch to the open door direction while the door is open. Nothing happens.
- Holding the switch in the Open/Mute position for approximately 2 seconds will temporarily silence the horn.

It is recommended that the Won-Door FireGuard assembly be operated at least quarterly. This can be done without setting the building into an alarm condition by using the rocker switch/optional key switch.

The door is designed, and can be optionally installed so that it will close upon loss of AC power in the building. If this occurs, the door can be reset into the pocket by pressing the rocker switch to the door open position or turning the optional key switch to the open door direction after the power has been restored.

# Preventive Maintenance

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It is recommended that the door assemblies be operated at least quarterly (by use of the rocker switch) and that the following maintenance procedures be performed:

## Inspections

- **The chain.** The door assembly is chain driven. The chain is located in a guide track between the tracks in which the door panels travel. The drive sprocket is located immediately adjacent to the DC motor, and the return idler can be found at the opposite end. Proper chain tension must be maintained to insure reliable door operation. With the door in the fully open or retracted position, find the approximate midpoint of the opening. At the midpoint, the chain should be resting on the chain guide. If the chain has fallen out of the guide or if the door refuses to stay in the closed or open position, the tension of the chain may need to be adjusted. If so, contact the Won-Door Service Department for assistance.
- **The door track system.** Locating the track system 3 1/4" above the ceiling line substantially reduces the possibility of damage. Nevertheless, periodic visual inspection of both tracks along the entire length of the opening is required. If damage is observed, contact Won-Door for service to insure

- proper operation in an emergency condition.
- **The leading edge obstruction detector.** This is the aluminum cap on the leading edge of the door assembly. Sensing switches located behind this cap, are connected to the microprocessor. The edge cap should be firmly attached to the lead post assembly of the door and installed so that the only movement is for the activation of the sensors. Test for proper operation by placing the door in the open position. Close the door by operating the switch in the close direction. While the door is closing, depress the leading edge. If the door does not stop quickly or if the edge cap is loose or improperly aligned, contact the Won-Door Service Department to schedule a service call.
- **Operation from open to closed position.** Close each Won-Door FireGuard door by pressing the rocker switch. Check for smooth operation across the entire opening. As the door closes, make sure that the leading edge fully seats into the striker. Open the door by pressing the rocker switch. As the door opens, see that the door stops in the properly stacked position.
- **The exit hardware.** With the door in the fully closed position, depress the exit hardware to ensure that the door opens the desired amount. (i.e.: the door will open to a minimum of 32" and stop).
- **The trolleys and panel pins.** Inspect the trolleys and panel pins for damage.
- **The sweeps.** Check the top and bottom sweep for proper seal. If there are tears, or holes, the sweep

should be repaired. If the damage is extensive, it should be replaced.

## Lubrication

- **The chain.** There should always be a light film of lubrication coating the entire chain, indicating adequate lubrication. Use a light chain oil.
- **The tracks and support trolleys.** Apply a light film of lithium grease along the inside of the track as well as on the trolley rollers.

## Cleaning

The Won-Door FireGuard doors are easy to clean. The panels, lead posts and bottom of the track are to be cleaned with a mild soap and water base cleaner. Cleaning should be done quarterly unless excessive dirt buildup occurs. In that case, the door should be cleaned more frequently.

# Operator Troubleshooting

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The Won-Door FireGuard system is based around a microprocessor which receives input from the various integral door components. Monitoring of these inputs is continuous, occurring approximately 20 times per second. If for any reason a fault condition occurs, an audible signal will be transmitted from a horn supplied with the door.

- 1) **A continuous tone** means that the door is in fire mode and will seek the closed position. As soon as the initiating device has been cleared the door can be reset by operating the rocker or key switch to the closed position. It can then be operated back into the pocket.
- 2) **A single beep** means that the **disconnect switch** has been turned off and the door is being serviced. The disconnect switch is located at the top of the control box. The red paddle on the switch can be removed to prevent the switch from being turned back on while the door is being serviced.
- 3) **Six beeps** mean that the door needs to be re-zeroed. To re-zero simply close the door making sure that the leading edge of the door enters the striker before the door stops.
- 4) The following trouble codes have specific patterns to aid in identifying problems.

Pattern	Trouble Condition
1-1-1	Low Battery Voltage
1-1-3	Bad Battery
1-2-1	Low AC Voltage
1-3	Motor Power Fuse Tripped
1-4-1	Communication Power Fuse Tripped
2-1	Hindrance
2-3	Drive Train Error
2-5	Path Obstruction - Close Door Method
3-2	Exit Hardware or Patron Input Stuck
3-3	Limit Switch Failure
4-1	EEPROM Checksum Failure

Pattern	Trouble Condition
1-1-2	High Battery Voltage
1-1-4	Missing Battery
1-2-2	High AC Voltage
1-3-1	Control Power Fuse Tripped
1-3-2	MUX Power Fuse Tripped
2-2	Direction Error
2-4	Path Obstruction - Light Beam Method
3-1	Door Block Stuck
3-2-1	Key Switch Stuck
3-4	Key Switch Failure - Both on simultaneously
4-1-1	Firmware Error

Pattern	Trouble Condition
4-2	ROM, RAM, or A/D failure
5-1	Thermal Lockout

Pattern	Trouble Condition
4-3	MUX Communication Failure
5-2	Security Violation

# Appendix A

## Auxiliary Relays

Three relays are provided for use in monitoring the door from a remote location such as a building control center. These relays are energized by the controller and have form C dry contacts rated for a one (1) amp resistive load up to 30 volts dc.

**Alarm** The alarm relay is pulled in whenever the door is in the fire mode. This mode happens when the building alarm system or a four wire smoke detector triggers due to an emergency condition. The contacts are found on the lower part of terminal strip TB2 in the section marked ALARM inside the control box. The terminals are marked NO for normally open, NC for normally closed, and W for the wiper. The conduit access for low voltage circuits is found at the top of the box.

**Fault** Just up from the alarm section of TB2 is the fault section. The contacts are again labeled NO for normally open, NC for normally closed and W for wiper. This relay is energized anytime the system is healthy. Any fault on the system causes the relay to drop out.

**Door**

**Status** The contacts for this relay are at the top of the TB2 terminal strip. Again, this form C relay is labeled NO for normally open, NC for normally closed and W for the wiper. This relay is pulled in only when the door is in the closed position. The relay is off for any other position; open, stopped, while closing, or while opening.

To schedule service or request additional information contact the  
**Won-Door Service Department at 1-800-890-2111**



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