

EVERYTHING
YOU WANTED TO KNOW
ABOUT UL325



UL325

Effective March 1, 2000, new standards were mandated by Underwriters Laboratory (UL) for the gate operator industry. The intent of this brochure is to introduce you to the UL requirements that most operators must adhere to for proper UL approval.

Who is Underwriters Laboratory (UL)?

Established in 1894, UL is a non-profit organization that tests products in the interest of public safety. They are considered a leader in testing for North America.

What is the origin of UL325?

The initial release of UL325 was announced in 1973 and did not cover gate openers. In the early 1990's, several laws were enacted setting mandatory requirements for residential garage door openers, such as sensing devices and motion sensors. However, at that point UL did not address safety-related issues with gate operators outside the home. Since then, a citizens group and the gate operator manufacturers have taken steps to revise and update UL325 for overall safety relating to gate operators.

What is a UL standard?

A UL standard is a list of minimum requirements developed via an open, non-exclusionary process for manufacturers to use in designing products. Compliance is voluntary; however, a standard is sometimes mandated by state and local requirements.

How is a UL standard applied?

The standard is used as a basis to test products at a nationally recognized testing laboratory. Products that pass testing are "Listed" and receive a "Mark". When a product passes the tests, the manufacturer applies a label on the product to identify it as a UL Listed product.

Can other laboratories be used for testing to UL standards?

When a standard is defined, third party companies, such as ETL, may interpret the guidelines without the guidance of UL for their testing requirements.

What happens if a city or state mandates UL and the product does not have that listing?

If the installing company and respective manufacturer cannot prove the product is listed with UL, the installation may be deemed as unsatisfactory by the local government. At this point the installing company can either remove the products and install new product that are UL Listed, or try to have the site field inspected for a fee.

What gate types are under UL325?

A moving barrier such as a swinging, sliding, raising, lowering or rolling-gate that controls entrance and / or exit for vehicles and completes the perimeter of a defined area. This includes:

- Vehicular Vertical Pivot **Barrier** Gate Operator (or System)
- Vehicular Horizontal **Slide** Gate Operator (or System)
- Vehicular **Swing** Gate Operator (or System)

Are there different types of UL325 Classes?

Yes. There are four gate operator classifications. Class I is considered the most stringent class achievable and can be used in all of the other classes on installation.

Class I: Residential

A gate operator intended for use in a home. A home is defined as a one to four single family dwelling, or a garage or parking area associated therewith.

Class II: Commercial or General Public Access

A gate operator intended for use in a commercial location. Commercial locations include: gated communities, hotels, garages, retail stores, or other building that service the general public.

Class III: Industrial or Limited Access

A gate operator intended for use in an industrial location. Industrial locations include: factories, loading dock areas or other locations not intended to service the general public.

Class IV: Restricted Access

A gate operator intended for use in a guarded industrial location. Guarded Industrial Locations include: airport security areas or other restricted access locations not servicing the general public, in which unauthorized access is prevented via supervision by security personnel.

A gate operator is only one component of the installation. Are other components required to satisfy UL325 standards?

Yes. An important component is obstruction sensing. Each class must have at least one independent primary and one independent secondary means to protect against entrapment and react to obstructions within 2 seconds. There is flexibility to allow variations of equipment for the installer. Furthermore, there are differences in the types of protection used per class. For example, the inherent obstruction sensing is the only allowable primary means of protection for a slide gate used at a residential home.

Gate Operator Entrapment				
UL 325 Installation Class	Slide Gate Operator		Swing & Gate Barrier (arm) Operator	
	Primary Type	Secondary Type	Primary Type	Secondary Type
Class I and II	A	B1, B2 or D	A or C	A, B1, C or D
Class III	A, B1 or B2	A, B1, B2, D or E	A, B1 or C	A, B1, C, D or E
Class IV	A, B1, B2 or D	A, B1, B2, D or E	A, B1, C or D	A, B1, C, D or E

What are the obstruction sensing types?

There are six types of obstruction sensing systems.

- Type A: Inherent obstruction sensing system, self-contained within the operator. This system must sense and initiate the reverse of the gate within two seconds of contact with a solid object.
- Type B1: Connections provided for a non-contact sensor. A non-contact device, such as a photo eye can be used as a secondary protection.
- Type B2: Connections provided for a contact sensor. A contact device such as an edge device can be used for secondary protection.
- Type C: Inherent adjustable clutch or pressure relief valve.
- Type D: Connections provided for a control requiring continuous pressure to operate the operator open and close.
- Type E: Built-in audio alarm. Examples include sirens, horns, or buzzers.

Furthermore, there is an exception to this provision. "An operator for a vehicular barrier (arm) that is not intended to move toward a rigid object closer than 2 feet, and does not have a pinch point between moving parts by virtue of the operator's design or as a result of installation in accordance with instructions supplied with the operator as specified in Paragraph 51.8.4, is not required to be provided with means to protect against entrapment."

Are there any special UL325 Provisions of Note? Yes.

1. Class I and II operators must have an audio alarm that will function if two obstructions are sensed during the same open or closed cycle.
2. A type B1 and B2 device, serving as the primary safety device, shall be monitored for correct operation at least once during each open and close cycle.
3. After sensing an obstruction, the gate must begin to reverse within two seconds and resulting in the gate reversing a minimum of two inches.

How will the new standards effect the dealers?

1. Gate operator manufacturers will state the class each operator is rated for.
2. Sales people must match the site application with the class of operator.
3. Primary and secondary safety devices must be provided and matched to both the operator and site conditions.
4. Warning signs must be permanently attached to the gate (a photograph of the gate is recommended for proof of warning sign installation).
5. It is recommended that an installation checklist and a customer sign-off form be utilized.
6. Service and preventative maintenance contracts should be offered to or may be requested by the customers to ensure safe and proper operation of the gate system.
7. UL325 does not address gate operators installed before relevant provisions went into effect.

Can you summarize the gate installation requirements for UL?

The recommendations for installing a gate operator include;

1. On gate installations, the opening and closing areas must be protected by non-contact sensors (such as photo eyes and gate edges). Contact

sensors should also be provided on gate leading edge and trailing edge as well as post mounts.

2. A wired sensor such as a gate edge shall be located, and its wiring attached, so that it is not damaged during operation.
3. A wireless sensor should be installed within line of site and is not blocked by building structures, trees, bushes or similar obstructions.

Are LiftMaster gate operators UL325 Listed?

Yes. Over 95% of our operators are UL listed for the most stringent Class I standards. If you need assistance reviewing which style operators are intended for your particular installations or for more information on specific style slide, swing or barrier operators, please call us or visit us on the web: www.sentexsystems.com.

Since each operator requires a primary and secondary means to sense and react to obstructions, what has LiftMaster done to simplify this portion?

We have redesigned all approved operators to use built-in obstruction sensing (Type A) as a primary means of protection and have a full complement of safety edges and photo eyes to meet the requirements of secondary entrapment protection.

Note: This brochure is not intended as a complete outline of the UL325 standards, but to provide some important background information on how it applies to the gate operator industry. For more copies of this brochure please contact us via the web: www.sentexsystems.com.

