

EVERYTHING
YOU WANTED TO KNOW
ABOUT UL325



CHAMBERLAIN
Sentexsystems

The leading manufacturer of Gate Operators, Telephone Entry,
Radio Controls and Access Control products



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

Who is Underwriters Laboratory (UL)?

Established in 1894, UL is a not-for-profit third party organization that tests products in the interest of public safety. They are considered a leader in testing for North America.

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 with special nomenclature 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, many interpretations are used to create the final testing requirements. Third party companies, such as ETL, must interpret the guidelines without the guidance of UL.

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 will be deemed as unsatisfactory. At this point the installing company can either remove the products and install new products that are UL Listed, or try to have the site field inspected for a fee.

What is the new UL325 standard?

This standard is part of a larger grouping entitled "Standard for Door, Drapery, Gate, Louver and Windows Operators and Systems". It contains basic requirements for products under a Listing and Labeling agreement. UL325 covers products to be installed in accordance with the National Electrical Code and address safety concerns for potential fire and electrical hazards.

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 operators, 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.

When does the new UL325 standard go into effect?

The latest version of the UL325 was released on September 18, 1998. All labeled gate operators built by the manufacturer after March 1, 2000 must comply.

What gate types are under UL325?

A moving barrier such as a swinging, sliding, raising, lowering, rolling, or the like, that are a stand-alone passage barrier that controls entrance and / or egress by persons or vehicles and completes the perimeter of a defined area. This includes, but is not limited to:

Vehicular Vertical Pivot Gate Operator (or System)

Vehicular Horizontal Slide Gate Operator (or System)

Vehicular Swing Gate Operator (or System)

Vehicular Vertical Slide Gate Operator (or System)

Are there different types of UL325 Classes?

Yes. There are four gate operator classifications. Class 1 is considered the most stringent class achievable and can be used in all of the other classes on installation.

Class I: Residential

A vehicle gate operator (or system) intended for use in a home of one to four single family dwellings, or a garage or parking area associated therewith.

Class II: Commercial or General Public Access

A vehicular gate operator (or system) intended for use in a commercial location or building such as a multi-family housing unit (five or more single family units), hotel, garages, retail store, or other building, servicing the general public.

Class III: Industrial or Limited Access

A vehicular gate operator (or system) intended for use in an industrial location or building such as a factory or loading dock area or other locations not intended to service the general public.

Class IV: Restricted Access

A vehicular gate operator (or system) intended for use in a guarded industrial location or building such as an airport security area 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 a primary and secondary means to sense 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.

What is the actual provision for General Entrapment Protection?

According to paragraph 30A.1.1 of UL325 dated September 18, 1998.

"A vehicle gate operator or vehicular barrier (arm) operator shall have provision for, or supplied with, at least one independent primary and one independent secondary means to protect against entrapment."

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."

What are the obstruction sensing types?

There are six types of obstruction sensing systems.

Type A: Inherent obstruction sensing system. This system must sense and initiate the reverse of the gate within 2 seconds of contact with a solid object. The system is self-contained within the operator.

Type B1: Provision for connection of a non-contact sensor. Any non-contact (pro-active) device can be used, such as photo eyes. This can be used as a secondary protection.

Type B2: Provision for connection of a contact sensor. Examples include an edge device or equivalent. This can be used for secondary protection.

Type C: Inherent adjustable clutch or pressure relief valve.

Type D: Provision for connection of, or provided with, an actuating device requiring continuous pressure.

Type E: Inherent audio alarm. Examples include sirens, horns, or buzzers.

Are there any special UL325 Provisions of Note? Yes.

1. Class I and II operators must have an audio alarm that shall function if 2 sequential activations of the obstruction sensing device occur.
2. A type B1 and B2 device, serving as the primary safety device, shall be monitored for the presence and correct operation of the device, including the wiring to it, at least once during each open and close cycle.
3. After sensing an obstruction, reversing must begin within 2 seconds and reverse a minimum of 2 inches.
4. After any obstruction reversal by either an A or B2 device, the timer to close must be disabled until reset.
5. If a type C device is chosen, swing gates must not exert more than 40 pounds of force after initial start-up.
6. Manufacturers cannot have products listed that used safety edges only for protection on swing gates.

How will the new standards effect the dealers?

1. Gate operator manufacturers will state the class of each operator.
2. Sales personnel 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 affixed to the gate panel (a photograph of the installation is recommended for proof of proper installation).
5. It is recommended that an installation checklist and a customer sign-off form be utilized.
6. Service and preventative maintenance contracts will be requested by the customers to ensure safe and proper operation of the system.
7. UL325 does not address gate operators installed before relevant provisions have taken/will take effect.

Can you summarize the gate installation requirements for UL?

The recommendations for installing a gate operator are listed in each operator manual and include;

1. On vehicular gate installations, the opening and closing areas must be protected by non-contact sensors. Contact sensors should also be provided on gate leading edge and trailing edge as well as post mounts.
2. A wired sensor shall be located, and its wiring arranged, so that communications between sensor and gate operator is not subjected to mechanical damage.
3. A wireless sensor shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstructions, and shall function under the intended end-use conditions.

Are SENTEX SYSTEMS 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 Sentex done to simplify this portion?

We have redesigned all approved operators to utilize inherent obstruction sensing (Type A) as a primary means of protection and have a full array of safety edges and photoelectric eyes to meet the requirements of secondary protection.



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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