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The Proper Installation of Photoelectric Sensors on Vehicular Commercial Door Operators

Introduction

According to UL 325, vehicular commercial door operators manufactured before 2010 must be equipped with one of the following 3 options:

1. Constant-pressure-to-close function, only
2. Three-button control function, only, with placard and instructions stating to mount control in line of site, or
3. A suitable external entrapment protection device when the system is controlled by any other remote or unattended features.

For operators manufactured after August 2010, there are only 2 options:

1. Constant-pressure-to-close, only, or
2. A suitable, monitored, external entrapment protection device. If the operator is being activated with any remote or unattended controls without monitored, external entrapment protection, then typically, that entrapment protection device is an edge sensor or a photoelectric sensor.

Photoelectric Sensor Entrapment Protection Installation Height

Photoelectric sensors, when used for external entrapment protection, must be installed parallel to the floor and no higher than six inches above the floor. In the past, some commercial door technicians have installed photoelectric sensors at a height of three feet or more above the finished floor in an effort to protect vehicles. Installing the entrapment protection sensors higher than six inches violates UL 325 requirements, violates manufacturers' instructions and creates a dangerous environment that could expose the dealer and the building owner to liability. If vehicle protection is required, additional devices may be used, but they may never take the place of the primary monitored entrapment protection device.

Ancillary Protection – Not Used for Entrapment Protection

For additional vehicle protection devices such as safety edges, light curtains, or vehicle loop detectors, additional sets of photo eyes can be utilized. Note that any ancillary protection provided for vehicular protection is not required to be monitored; however, systems with monitored entrapment protection provide feedback when the system is not functioning properly.

Note: Technical Data Sheets are information tools only and should not be used as substitutes for instructions from individual manufacturers. Always consult with individual manufacturers for specific recommendations for their products and check the applicable local regulations.

This Technical Data Sheet was prepared by the members of DASMA's Operator & Electronics Division Technical Committee. DASMA is a trade association comprising manufacturers of rolling doors, fire doors, grilles, counter shutters, sheet doors, and related products; upward-acting residential and commercial garage doors; operating devices for garage doors and gates, sensing devices, and electronic remote controls for garage doors and gate operators; as well as companies that manufacture or supply either raw materials or significant components used in the manufacture and installation of the Active Members' products.

Important

UL 325 and manufacturers' instructions instruct homeowners and building maintenance personnel to conduct the required regular testing of automatic garage door and operator systems to ensure ongoing safe operation. The manufacturer's instructions provided with the commercial door operator should be reviewed concerning this testing.

Testing

Testing of the safety systems includes monthly testing of the photoelectric sensors for commercial door openers to verify proper working order. To test the photoelectric sensor, start the door moving down. Then apply a controlled obstruction in the path of the photoelectric beam. Verify that the commercial door movement reverses direction and that the door returns to the fully open position.

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