



CEDES CabSafe Door Protection System

Technical Specification for ARCHITECTS, CONSULTANTS, AND SPECIFIERS

The elevator door protection system shall consist of a Light Curtain, a Time-of-Flight (ToF) Sensor and a Controller. The system shall be designed to detect persons and objects that are in the path of the elevator cab doors or approaching the elevator cab door entrance in accordance with ANSI A17.1-2019 / CSA B44-19. The system shall also be designed to ignore stationary persons or objects that are not entering the elevator.

The detection means for objects in the path of the elevator doors (2D field) shall be an infrared light curtain with a minimum of 106 light beams that form a dense crisscross pattern. The detection field of the light curtain shall be no less than 63 inches (1.6 m) high, have 100,000 Lux ambient light immunity, and an operating range of 13.1 ft (4 m). Automatic gain adjustment will also be implemented to minimize the amount of energy required for operation.

The Time-of-Flight (ToF) sensor (approaching object detection means / 3D field) shall detect approaching persons or objects in accordance with ANSI A17.1-2019 / CSA B44-19 requirements. It shall be mounted flush in the elevator cab transom or via a back-of-transom stainless steel housing and shall not extend down into the clear opening of the elevator entrance by more than 3 mm. The sensor shall fulfill FDA requirements and have an assigned accession number from the FDA. The sensor shall also implement a “sleep” mode to minimize energy consumption when the doors are closed.

The Light Curtain and the Time-of-Flight sensor shall plug directly into a separate Controller. The Controller will manage the signals from these devices and provide a single system output as the reopening device signal to elevator control. The Controller shall perform continuous testing of the Light Curtain and the Time-of-Flight (ToF) sensor. It shall also manage the configuration parameters for the connected devices.

The system shall be third-party certified by a Nationally Recognized Testing Laboratory (NRTL) for use in elevator systems in accordance with ANSI A17.5-2019 / CSA B44.1-19. The system shall also be third-party certified for use in elevator systems in accordance with Clause 2.13.5 Reopening Device(s) for Power-Operated Horizontally Sliding Doors and Gates as defined by ANSI A17.1-2019 / CSA B44-19. Furthermore, the system shall be suitable for both static (Light Curtain is stationary) and dynamic mounting (Light Curtain moves with the elevator cab doors) applications.