

LIGHT BARRIER FOR REOPENING ELEVATOR DOORS

ABSTRACT OF THE DISCLOSURE

An apparatus for detecting an object adjacent an elevator door includes a housing (47) mounted at an upper edge of a car door opening (38) and in which are mounted a plurality of short range detector pairs (50) and a plurality of long range detector pairs (53). Each short range detector pair includes a transmitter (14,25,40) for generating a relatively short range infrared beam (18,27,42) toward a path of travel (16) of an elevator door (17) across the door opening and a short range receiver (15,26,41) for detecting a reflection (31) of the beam from a facing surface (17b) of the door and generating a short range beam detection signal. Each long range detector pair is positioned adjacent an associated one of the short range detector pairs and includes a transmitter (19,28,43) for generating a relatively long range infrared beam (21,30,45) across the path of travel and a receiver (20,29,44) for detecting a reflection (23) of the beam from an object (22) near the door opening and generating a long range beam detection signal. A control (11) is connected to each detector pair for turning on the transmitters and for reopening the closing door in response to the long range beam detection signal. The control responds to each short range detection signal during closing of the door to disable the associated long range transmitter and responds to termination of the short range detection signal during opening of the door to enable the associated long range transmitter to prevent detection of the moving door by the long range receivers from reopening the door.

(Fig. 1)

This Sheet Has Been Replaced

