

HOW DO INFRARED LIGHT CURTAINS IMPROVE THE PERFORMANCE OF ELEVATORS?

First, a bit of history - as passenger elevators became automated, elevator doors were typically equipped with mechanical safety shoes (or buffers) to make sure that people weren't struck and possibly injured by closing doors. (A major reason for litigation was - and still is - alleged passenger injury when entering or exiting an elevator.)

The shoes had to make direct contact with the obstruction to operate. Because elevator doors were fairly heavy, it took time to slow, stop and reverse door direction. This often resulted in personal injury or equipment damage. Clearly, a way other than physical contact had to be found to prevent doors from closing on passengers.

ENTER THE LIGHT CURTAIN

Light curtains offer a means of detecting a presence in the door path without actual contact. They also provide sensory input to hold the doors fully open while passengers enter or exit the elevator, reducing the potential for contact and possible injury.

No one appreciates doors closing on them, especially the elderly, infirm and those passengers with children or luggage. Light curtains allow passengers to move freely in and out of the elevator, holding the doors open as long as 'beams' are blocked in the door opening.

A GENTLE NUDGE TOWARD EFFICIENT OPERATION

A well-designed light curtain incorporates methods of recognizing when the 'beams' have been blocked for a considerable period. Some units incorporate a buzzer/nudging interface to audibly and physically signal that whoever is obstructing the door should move either in or out of the elevator. This interface can also provide reduced speed and torque instructions to the closing mechanism to gently shut the doors, using reduced pressure that causes no personal injury or damage to equipment.

BENEFITS OF LIGHT CURTAINS

Mechanical shoes were prone to wear out or be damaged by day-to-day operation; electrical contactors would corrode and a significant amount of time would be spent in the replacement of this equipment. This meant that the cost of repair was aggravated by the inconvenience of downtime and expense.

However, a typical light curtain is designed to easily replace obsolete mechanical systems with a quickly installed, unobtrusive product that requires no on-site adjustment.

With the added benefit of protecting the elevator doors themselves from damage, light curtains increase the life expectancy of the elevator and reduce the need for costly unplanned maintenance.

INSTALLING A LIGHT CURTAIN

A typical light curtain installation should take no more than 2 hours - many are installed in half that time. An intelligent light curtain kit will provide all the necessary components for a proper fit, including easy-to-follow instructions, cables and brackets down to ties, a cobalt drill-bit and a screwdriver.



Draka offers several light curtains from a variety of manufacturers. Please refer to the chart on the following page to compare features and functionality.

Pepperl+Fuchs AL2109

Operating Voltage	Sensors/ Beams	Overall Length/ Sensing Length	Operating Range	Integrated Controller	Light Immunity	Enclosure	Standards Approvals	Cross Section W x D	Cable Length
11-30 VDC	21/135	2 m / 1.8 m (6.5 ft / 5.9 ft)	3.5 m (11.5 ft)	Yes	<100,000 LUX	IP54	UL, CE	9x34 mm (0.35x1.34 in)	5 m (16.4ft)

Formula Systems SafeScreen

Operating Voltage	Sensors/ Beams	Overall Length/ Sensing Length	Operating Range	Integrated Controller	Light Immunity	Enclosure	Standards Approvals	Cross Section W x D	Cable Length
24 VDC	24/47	2.14 m / 2.14 m (7 ft / 7 ft)	1.8 m (6 ft)	Yes	50,000 LUX	IP54	UL, cUL, CE	30 x 20 mm (1.18 x 0.8 in)	4 m (13 ft)

Formula Systems SlimScreen

Operating Voltage	Sensors/ Beams	Overall Length/ Sensing Length	Operating Range	Integrated Controller	Light Immunity	Enclosure	Standards Approvals	Cross Section W x D	Cable Length
24 VDC	18/35	1.86 m / 1.86 m (6 ft / 6 ft)	1.5 m (5 ft)	No	50,000 LUX	IP54	UL, cUL, CE	9 x 26 mm (0.35 x 1 in)	3.4 m (11 ft)

Formula Systems SafeZone3D

Operating Voltage	Sensors/ Beams	Overall Length/ Sensing Length	Operating Range	Integrated Controller	Light Immunity	Enclosure	Standards Approvals	Cross Section W x D	Cable Length
24 VDC	24/47 and 17 w/3D	2.14 m / 2.14 m (7 ft / 7 ft)	1.8 m (6 ft)	Yes	50,000 LUX	IP54	UL, cUL	15 x 36 mm (0.59 x 1.42 in)	3.4 m (11 ft)

Telco MIS-SE-5

Operating Voltage	Sensors/ Beams	Overall Length/ Sensing Length	Operating Range	Integrated Controller	Light Immunity	Enclosure	Standards Approvals	Cross Section W x D	Cable Length
12-36 VDC	40/194	2 m / 2 m (6.5 ft / 6.5 ft)	5 m (16.4 ft)	Yes	50,000 LUX	IP65	CE	10 x 28 mm (0.4 x 1.1 in)	5 m (16.4 ft)

CEDES MiniMax 79

Operating Voltage	Sensors/ Beams	Overall Length/ Sensing Length	Operating Range	Integrated Controller	Light Immunity	Enclosure	Standards Approvals	Cross Section W x D	Cable Length
10-30 VDC	33/79	2.1 m / 1.8 m (6.9 ft / 5.9 ft)	3 m (10 ft)	Yes	>75,000 LUX	IP65	CE, cCSAus, EN 954	12 x 16 mm (0.5 x 0.6 in)	5 m (16.4 ft)

CEDES MiniMax 159

Operating Voltage	Sensors/ Beams	Overall Length/ Sensing Length	Operating Range	Integrated Controller	Light Immunity	Enclosure	Standards Approvals	Cross Section W x D	Cable Length
10-30 VDC	33/159	2.1 m / 1.8 m (6.9 ft / 5.9 ft)	3 m (10 ft)	Yes	>75,000 LUX	IP65	CE, cCSAus, EN 954	12 x 16 mm (0.5 x 0.6 in)	5 m (16.4 ft)

CEDES Cegard Max

Operating Voltage	Sensors/ Beams	Overall Length/ Sensing Length	Operating Range	Integrated Controller	Light Immunity	Enclosure	Standards Approvals	Cross Section W x D	Cable Length
17-240 VAC/DC	16 to 32/ 74 to 154	2 m (6.5 ft)	5 m (16 ft)	No	>100,000 LUX	IP65*	CE, cCSAus	12 x 16 mm (0.5 x 0.6 in)	5 m (16.4 ft)

*optional IP 67 edge, IP 54 controller



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