CEDES The Sensor Pioneers.

CEDES North America
7107 Ohms Lane | Minneapolis | MN 55439 USA
+1 612 424-8400 | info@cedes.com | www.cedes.com

CabSafe™ System

Elevator door protection

The 2019 version of the North American Safety Code for Elevators and Escalators (ANSI A17.1-2019 / CSA B44 -19) is now required by many Authorities Having Jurisdiction (AHJs). This version of the Code has new requirements beyond just detecting objects between the elevator doors (2D detection field). Objects approaching the elevator entrance (3D detection field) is now a requirement as well as self-monitoring functionality. The CEDES CabSafe system, composed of a 2D light curtain, a 3D sensor and a controller, have been third-party certified to fulfill the 2019 Code requirements.

FEATURES

- CabSafe 3D-sensor prevents accidents and damage to elevator doors
- Reliable detection of people and objects in front of the cab using TOF technology
- Increased safeguarding of elevator entrance area
- Ideal for both new facilities and modernization

BENEFITS

- State-of-the-art 3D infrared image sensor for true 3D protection
- Transom mounted – flush, semi flush and surface mounting available
- Fully compliant with all 2D and 3D detection requirements in A17.1-2019 / B44-19

Unlike a traditional radar-based system

- Not disturbed by metal objects in the field
- Can detect stationary as well as moving people and objects
- Clearly defined and stable detection area
- Fully testable with doors fully open as required by the new standard
- Not subject to upcoming FCC limitations of frequency bands that currently allows UWB for interference protection

The CabSafe system consists of three major parts:
- a CabSafe controller;
- a CabSafe 2D light curtain, and
- a CabSafe 3D sensor.

The CabSafe 2D light curtain and the CabSafe 3D sensor are connected to the CabSafe controller. The CabSafe controller is connected to the elevator or door control.

The CabSafe 2D performs detects people and objects between the doors. When mounted on the elevator cab door(s). The CabSafe 2D is suitable for both center- and side-opening applications and can be used both in static (light curtain remains stationary) and dynamic installations (light curtain travels with the door[s]).

The CabSafe 3D is a transom-mounted sensor used to detect approaching objects in accordance with the code. The CabSafe 3D is either flush mounted in the transom or mounted on the back of the transom using an optional stainless steel bracket.

The CabSafe controller evaluates the state of the CabSafe 2D and CabSafe 3D sensors and provides a single output to the elevator controller or door controller that represents the CabSafe system status in accordance with code requirements. Several LED indicators are included to indicate the state of the CabSafe 2D, the CabSafe 3D and the output.

The CabSafe system is configured using DIP switches on the CabSafe controller that define:
- CabSafe 3D mounting location - left, right or center
- Door closing signal – CabSafe 2D or external signal
- Opening height – 7 to 10 ft
- Output logic polarity – standard and inverted
- CabSafe 3D operating frequency – Group A and Group B

Multiple CabSafe controller variants are available:

- CabSafe 100 controllers use 24 VDC input power and have either a solid-state or relay output. These controllers are available as bare printed circuit boards (PCB) for panel mounting, a printed circuit board with a DIN-rail mounted carrier or in an IP54 enclosure.

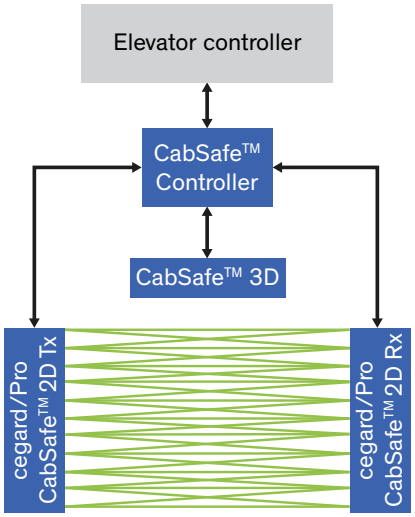
- CabSafe 200 controllers feature a wide-ranging input power capability (85 … 264 VAC / 19.2 … 37 VDC) and a relay output in an IP54 enclosure.

The standard CabSafe 3D-FB sensor has a black-anodized mounting bracket and is suitable for the following applications:
- Side-opening applications with mounting heights to 8 ft (96 inches) and opening widths to 4.5 ft (54 inches)
- Center-opening applications with mounting heights to 10 ft (120 inches) and opening widths to 4.5 ft (54 inches)

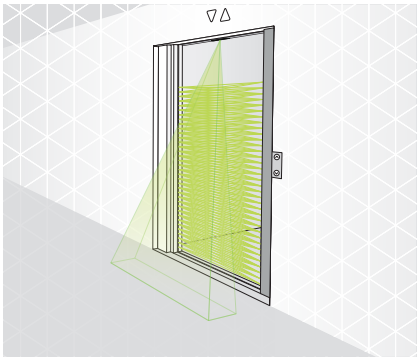
CabSafe 3D Tall Door (TDL / TDR) variants are available for side-opening applications with mounting heights to 10 ft (120 inches) and opening widths to 4.5 ft (54 inches).

Additionally, an optional silver finish variant (similar color to stainless steel) is available (CabSafe 3D-FS) for both standard and tall door applications.

The CabSafe system is also capable of fulfilling elevator applications with wider openings. Please contact your local CEDES representative for support with these applications.

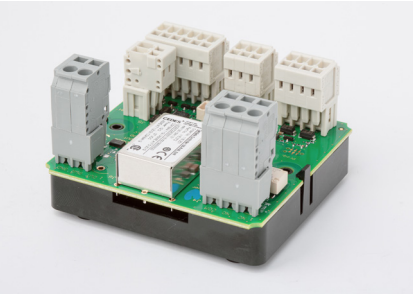


CabSafe system overview

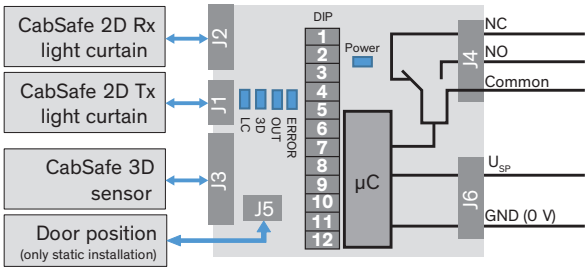


CabSafe detection fields

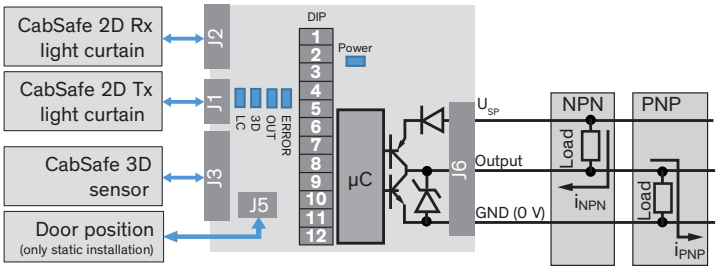
CabSafe 100 controllers



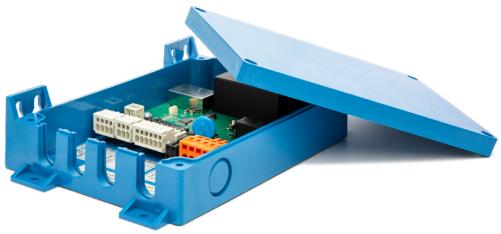
CabSafe 100 with relay

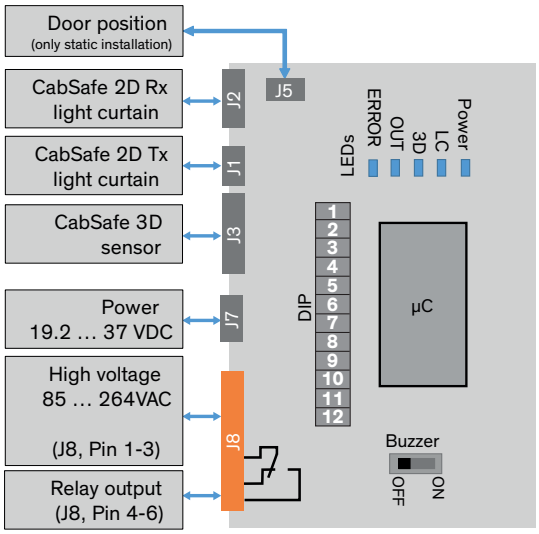


CabSafe 100 with solid-state output



CabSafe 200 controllers

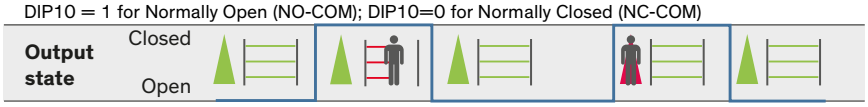




Output state of the relay

DIP10 = 0 for Normally Open (NO-COM); DIP10=1 for Normally Closed (NC-COM)

DIP10 = 1 for Normally Open (NO-COM); DIP10=0 for Normally Closed (NC-COM)



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Mounting possibilities

CabSafe 3D flush mounting

CabSafe 3D with back of transom mounting

Why use the CEDES CabSafe system?

- It provides reliable detection of persons and objects approaching the elevator entrance
- It provides reliable detection of persons and objects between the elevator doors
- It is Third-party certified for Electrical Safety compliance (A17.5-2019 / B44.1-19)
- It is Third-Party certified to be 2019 Elevator Code compliant (A17.1-2019 / B44-19)
- It is Third-party tested for FCC Class B Emission compliance which fulfills both residential and industrial use
- It is Third-party tested for FCC Class A Immunity compliance which fulfills both residential and industrial use
- It is Third-party tested for FDA Eye Safety compliance
- Flush mount and stainless steel back-of-transom mount of CabSafe 3D provides robust solutions for your applications

CSA GROUP

Certificate of Compliance

Certificate: 80040205 Master Contract: 187273

Project: 80067826 Date Issued: 2021-03-16

Issued To: Cedes AG
Science Park
Landquart, Graubunden, 7302
Switzerland

Attention: Remo Degiacomi

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Issued by: Rowell Manipula
Rowell Manipula

C US

CSA B44.1/ASME A17.5

PRODUCTS
CLASS - C241102 - ELEVATOR EQUIPMENT-Enclosed Elevator and Escalator Electrical Equipment
CLASS - C241182 - ELEVATOR EQUIPMENT-Enclosed Elevator Electrical Equipment-Certified to U.S. Standards

2D Light curtain sensor, Model: cegard/Pro, rated: 10Vdc to 30Vdc, 150mA max

Note:
1) Connection cord with length exceeding 2 meters shall be protected in a raceway.

3D sensor, Model: CabSafe-3D, rated 24.0 to 28.8Vdc, 450mA RMS at 24Vdc

Note:

DQD 507 Rev. 2019-04-30 © 2018 CSA Group. All rights reserved. Page 1

liftinstituut

CERTIFICATE OF COMPLIANCE

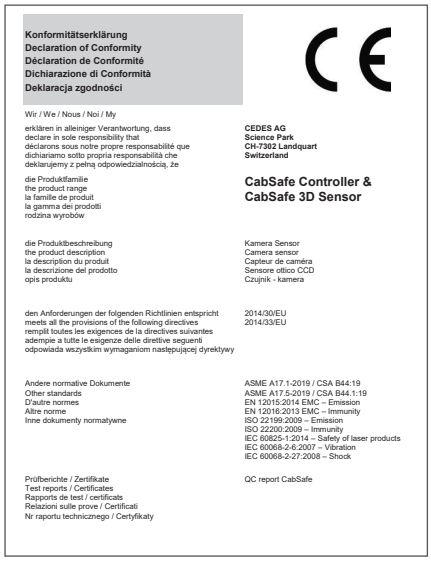
issued by Liftinstituut B.V.

Certificate no.	:	NA20-0842-1004-035-01 Revision no.: 1
Description of the product	:	Reopening Device for Power-Operated Horizontally Sliding Doors and Gates with Detection of Approaching Objects and Detection of Objects in the Door Path
Trademark	:	CEDES
Model / Type no.	:	CabSafe System (containing controller, 3D sensor and cegard/Pro 2D light curtain system)
Name and address of the manufacturer	:	CEDES AG Kantonstrasse 14 7302 Landquart, Switzerland
Name and address of the certificate holder	:	CEDES AG Kantonstrasse 14 7302 Landquart, Switzerland
Certificate issued on the basis of the following requirements	:	ASME A17.1-2019 / CSA B44:19
Test location	:	CEDES, Landquart Switzerland
Date and number of the laboratory report	:	None
Date of verification of compliance	:	Nov. 2019 – May 2020, Dec. 2020 – Feb. 2021
Annexes with this certificate	:	Certificate of Compliance Report no: NA20-0842-1004-035-01 Rev.1
Additional remarks	:	See chapter 5 of the supporting report belonging to this certificate This revision replaces certificate NA20-0842-1004-035-01 of May 29th, 2020
Conclusion	:	The product as referred to in this certificate meets the requirements of the ASME A 17.1-2019 / CSA B44:19, taking into account any additional remarks mentioned above

Amsterdam
Date : February 26rd, 2021 ing A.J. van Ommen Certification decision by
Valid thru : May 29th, 2023 International Business Manager

Liftinstituut B.V. · Buiksloterweerplein 381 · P.O. Box 36527 · 1020 MA Amsterdam Netherlands · www.liftinstituut.com
Registered at the KvK under number 34137353

F23-05-02-v12.0



Konformitätserklärung
Declaration of Conformity
Déclaration de Conformité
Dichiarazione di Conformità
Deklaracja zgodności

CE

Wir / We / Nous / Noi / My

erklären in alleiniger Verantwortung, dass
declare in sole responsibility that
déclarons sous notre propre responsabilité que
dichiariamo sotto propria responsabilità che
deklarujemy z pełną odpowiedzialnością, że

CEDES AG
Science Park
CH-7302 Landquart
Switzerland

die Produktfamilie
the product range
la famille de produit
la gamma dei prodotti
rodzina wyrobów

CabSafe Controller & CabSafe 3D Sensor

die Produktbeschreibung the product description la description du produit la descrizione del prodotto opis produktu	Kamera Sensor Camera sensor Capteur de caméra Sensore ottico CCD Czujnik - kamera
den Anforderungen der folgenden Richtlinien entspricht meets all the provisions of the following directives remplit toutes les exigences de la directives suivantes adempie a tutte le esigenze delle direttive seguenti odpowiada wszystkim wymaganiom następującej dyrektywy	2014/30/EU 2014/33/EU
Andere normative Dokumente Other standards D'autre normes Altre norme Inne dokumenty normatywne	ASME A17.1-2019 / CSA B44:19 ASME A17.5-2019 / CSA B44.1:19 EN 12015:2014 EMC – Emission EN 12016:2013 EMC – Immunity ISO 22199:2009 – Emission ISO 22200:2009 – Immunity IEC 60825-1:2014 – Safety of laser products IEC 60068-2-6:2007 – Vibration IEC 60068-2-27:2008 – Shock
Prüfberichte / Zertifikate Test reports / Certificates Rapports de test / certificats Relazioni sulle prove / Certificati Nr raportu technicznego / Certyfikaty	QC report CabSafe

For these documents, CabSafe operating instructions, troubleshooting tools, product specifications and additional product information, visit www.cedes.com, or scan the QR code (right) to be taken directly to the CabSafe product information page.

CE RoHS C US FC

Ordering information

Standard CabSafe 100 / 200 systems

Used in center-opening applications up to 10 ft opening height / side-opening applications up to 8 ft opening height and opening widths to 4.5 ft (54 inches).

Part number	Description
116 346	**CabSafe SY-24V-RLY-7FT-3DFLUSH** CabSafe 100 Controller with relay output on PCB carrier (24 VDC, 0.6 A required), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable, CabSafe 3D-FB sensor with 5 m cable – flush mounting
116 347	**CabSafe SY-24V-RLY-7FT-3DSS** CabSafe 100 controller with relay output on PCB carrier (24 VDC, 0.6 A required), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable, CabSafe 3D-FB sensor with 5 m cable and stainless steel back of transom bracket
116 471	**CabSafe SY-MOD-RLY-7FT-3DFLUSH** CabSafe 200 controller with relay output (85 ... 264 VAC or 19.2 ... 37 VDC power), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable, CabSafe 3D-FB sensor with 5 m cable – flush mounting
116 472	**CabSafe SY-MOD-RLY-7FT-3DSS** CabSafe 200 Controller with relay output (85 ... 264 VAC or 19.2 ... 37 VDC power), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable, CabSafe 3D-FB sensor with 5 m cable and stainless steel back of transom bracket

CabSafe 200 / tall door systems

Used in side-opening applications up to 10 ft opening height and opening widths greater than 3.6 ft (42 inches) and less than 4.5 ft (54 inches).

Part number	Description (includes 10 ft LC accessories)
116 692	**CabSafe SY-MOD-RLY-FBTDR-3DFLUSH** CabSafe 200 controller with relay output (85 ... 264 VAC or 19.2 ... 37 VDC power), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable, CabSafe 3D-TDR-FB sensor with 5 m cable – flush mounting
116 693	**CabSafe SY-MOD-RLY-FBTDR-3DSS** CabSafe 200 controller with relay output (85 ... 264 VAC or 19.2 ... 37 VDC power), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable, CabSafe 3D-TDR-FB sensor with 5 m cable and stainless steel back of transom bracket
116 694	**CabSafe SY-MOD-RLY-FBTDL-3DFLUSH** CabSafe 200 controller with relay output (85 ... 264 VAC or 19.2 ... 37 VDC power), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable, CabSafe 3D-TDL-FB sensor with 5 m cable – flush mounting
116 695	**CabSafe SY-MOD-RLY-FBTDL-3DSS** CabSafe 200 controller with relay output (85 ... 264 VAC or 19.2 ... 37 VDC power), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable, CabSafe 3D-TDL-FB sensor with 5 m cable and stainless steel back of transom bracket

For other configurations, or for wider opening widths, please contact your local CEDES representative.

CabSafe 2D only systems

3D sensor and accessories ordered separately

Part number	Description
116 696	**cegard/Pro SY-1722-36, C 100-R-00, 24V** CabSafe 100 controller with relay output on PCB carrier (24 VDC, 0.6 A required), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable
116 697	**cegard/Pro SY-1722-36, C 200-R-00, MOD** CabSafe 200 controller with relay output (85 ... 264 VAC or 19.2 ... 37 VDC power), CabSafe 2D cegard/Pro transmitter and receiver with 5 m cable

CabSafe controllers

Part number	Description
116 092	**CabSafe controller 100-PP-00, PC** CabSafe controller with solid-state output on PCB carrier
116 251	**CabSafe controller 100-R-00, EVR, PC** CabSafe controller with relay output on PCB carrier
116 120	**CabSafe controller 100-PP-00, BX** CabSafe controller with solid-state output in IP54 enclosure rating
116 118	**CabSafe controller 100-R-00, EVR, BX** CabSafe controller with relay output in IP54 enclosure rating
116 426	**CabSafe controller 200-R-00, WVR, BX** CabSafe controller with relay output in IP54 enclosure rating (wide ranging power supply)

CabSafe 2D components

Part number	Description
116 073	**cegard/Pro Tx-1722-36, CS, NA** CabSafe 2D transmitter
116 074	**cegard/Pro Rx-1722-36, CS, NA** CabSafe 2D receiver
111 895	**Connection cable, CabSafe transmitter** M8×4 to Wago 734-103, 5 m length
115 851	**Connection cable, CabSafe receiver** M8×6 to Wago 734-104, 5 m length
104 195	**Extension cable, CabSafe transmitter** M8×4 male to M8×4 female, 3 m length, black
109 841	**Extension cable, CabSafe receiver** M8×6 male to M8×6 female, 3 m length, blue

CabSafe 3D components

Part number	Description
115 867	**CabSafe-3D-FB Sensor** CabSafe 3D sensor - black, mounting plate, (2) black spanner screws, spanner bit
116 400	**CabSafe-3D-FB TDL Sensor** CabSafe 3D tall door sensor – sensor mounted on left as you look into the elevator cab, black, mounting plate, (2) black spanner screws, spanner bit
116 531	**CabSafe-3D-FB TDR Sensor** CabSafe 3D tall door sensor – sensor mounted on right as you look into the elevator cab, black, mounting plate, (2) black spanner screws, spanner bit
116 532	**CabSafe-3D-FS Sensor** CabSafe 3D sensor - silver, mounting plate, (2) silver spanner screws, spanner bit
116 533	**CabSafe-3D-FS TDL Sensor** CabSafe 3D tall door sensor – sensor mounted on left as you look into the elevator cab, silver, mounting plate, (2) black spanner screws, spanner bit
116 534	**CabSafe-3D-FS TDR Sensor** CabSafe 3D tall door sensor – sensor mounted on right as you look into the elevator cab, silver, mounting plate, (2) black spanner screws, spanner bit
115 850	**Connection cable, CabSafe 3D** M8×6 to Wago 734-106, 5 m length
109 841	**Extension cable, CabSafe 3D** M8×6 male to M8×6 female, 3 m length, blue
116 221	**CabSafe 3D stainless steel back of transom bracket** Includes bracket, drilling template, (4) mounting screws and bushing

Other accessories

Part number	Description
102 250	Vision shield, 7 ft length (2,100 mm)
102 751	Mounting profile, 7 ft length (2,067 mm)
102 973	Spacer profile, 7 ft length (2,100 mm)
102 251	Vision shield, 10 ft length (3,015 mm)
102 750	Mounting profile, 10 ft length (2,992 mm)
102 252	Spacer profile, 10 ft length (3,048 mm)
102 995	Cable guide wires
116 237	CabSafe 2D hardware bag – generic installation
116 555	Magnetic switch for CabSafe external signal, 3 m cable (301 928 Wago 732-02 connector pre-installed)
104 797	Magnetic switch for CabSafe external signal, 3 m cable (flying leads - no connector)
301 985	Magnetic actuator for CabSafe external signal
301 928	Wago 732-02 connector for CabSafe external signal
116 122	CabSafe system Quick Start Guide
116 370	CabSafe 3D back of transom Quick Start Guide

For these CabSafe operating instructions, troubleshooting tools, product specifications and additional product information, visit www.cedes.com, or scan the QR Code (right) to be taken directly to the CabSafe product information page.

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