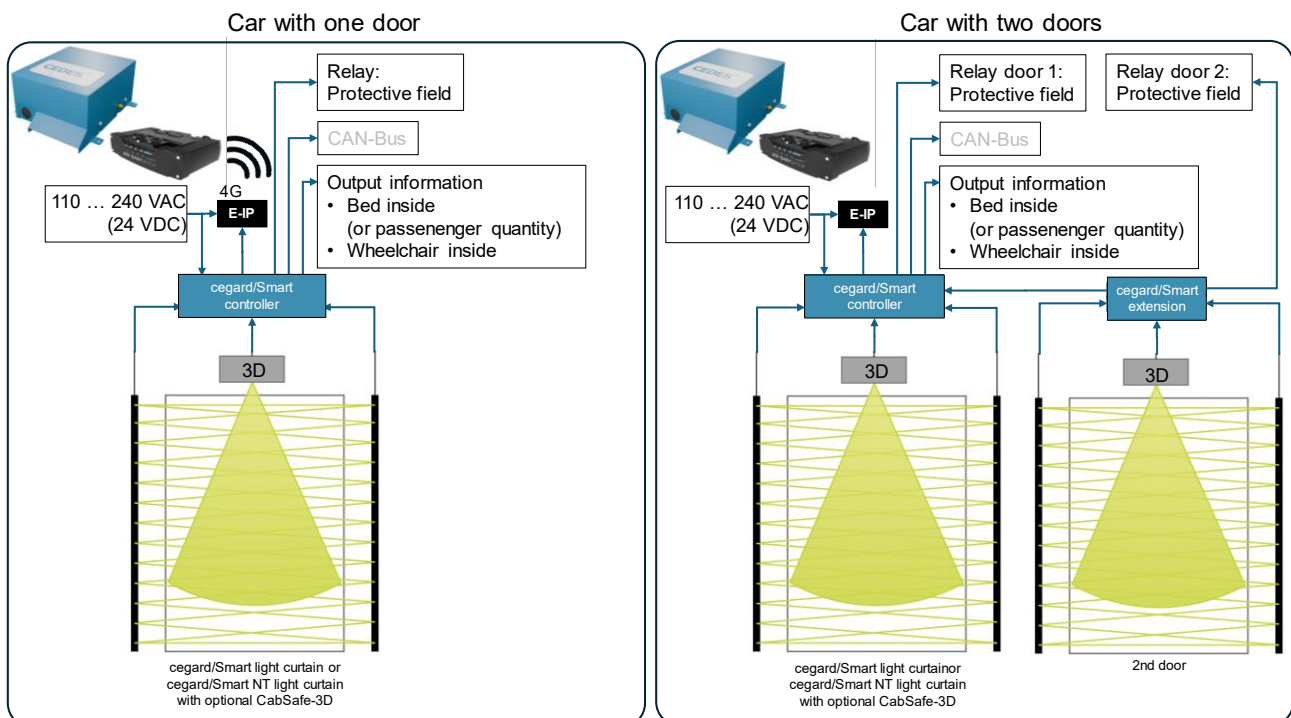
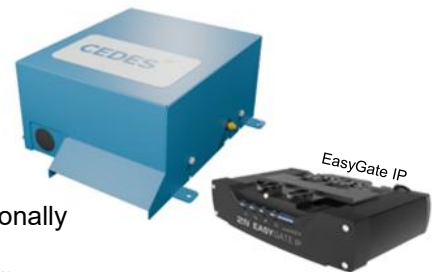


# cegard/Smart

Light curtain with the cegard/Smart CGSM-B-OR1, -B-PC1 controller

## BENEFITS

- ▶ Two models that meet customer-specific application requirements
  - CGSM-B-OR1 for the object recognition of hospital beds and wheelchairs to enable e.g. priority runs
  - CGSM-B-PC1 for people counting to enable insights into people flow in the building or for dispatcher systems
- ▶ Easy installation by any elevator technician (dynamic mounting)
- ▶ Semiconductor IOs and CAN-Bus interface for easy communication with the elevator controller
- ▶ Supports one or two car doors applications (e.g. front and rear car doors) using an extension module
- ▶ Depending on the model chosen and associated components, the cegard/Smart system is capable of fulfilling:
  - ASME A17.1-2016 / CSA B44-16 and earlier
  - ASME A17.1-2019 / CSA B44-19 and later
  - ASME A17.5-2019 / CSA B44.1:19 and
  - EN 81-20:2020
- ▶ Software update for new object types to be recognized or counted optionally available
- ▶ Update in preparation to integrate the CEDES Elevate cloud connection



## Controllers cegard/Smart CGSM-B-OR1, -B-PC1

### ELECTRICAL

|                                              |                                                                                                |
|----------------------------------------------|------------------------------------------------------------------------------------------------|
| Supply voltage USP                           |                                                                                                |
| - Low voltage (J2) DC input                  | 19.2 ... 37 VDC                                                                                |
| - High voltage (J1) AC input                 | 100 ... 240 VAC                                                                                |
| Max. power-up time                           | < 5 sec                                                                                        |
| Typ. power consumption (LC / 3D sensor):     |                                                                                                |
| - 1x Light curtain (LC)                      | 10 W                                                                                           |
| - 1x LC + 1x 3D-sensor                       | 20 W                                                                                           |
| - 2x LC + 2x 3D-sensor + extension           | 45 W                                                                                           |
| Inrush current (including LC and 3D sensor): |                                                                                                |
| - At 24 VDC                                  | 500 mA RMS                                                                                     |
| - At 115 VAC                                 | 350 mA                                                                                         |
| - At 230 VAC                                 | 200 mA                                                                                         |
| Output                                       | 1x NC/NO relay<br>2x Solid state (Push-Pull)<br>1x CAN (*)                                     |
| Max. relay current                           | 200 VAC / 5 A<br>125 VDC / 0.5 A<br>30 VDC / 5 A                                               |
| Min. switching current (relay)               | 0.1 A / 5 VDC                                                                                  |
| Max. number of mechanical relay operations   | > 20 × 10 <sup>6</sup>                                                                         |
| Max. relay switching voltage                 | 300 VDC                                                                                        |
| Typical system response time                 |                                                                                                |
| - CabSafe 3D                                 | < 250 ms                                                                                       |
| - cegard/Smart 2D                            | 20 ms + response time cegard/Smart LC                                                          |
| Output voltage Push-Pull outputs             | +24 VDC ± 20%<br>(short circuit approved)                                                      |
| Max. output load (push-pull)                 | 100 mA, 100 nF                                                                                 |
| CGSM-B-OR1                                   |                                                                                                |
| Push-pull output designation                 |                                                                                                |
| - IO1 (Bed detection)                        | 0 VDC - No bed inside<br>24 VDC - Bed inside                                                   |
| - IO2 (Wheelchair detection)                 | 0 VDC - No wheelchair inside<br>24 VDC - Wheelchair inside                                     |
| CGSM-B-PC1                                   |                                                                                                |
| Push-pull output designation                 |                                                                                                |
| - IO1 (passenger detected)                   | 0 VDC - No person detected<br>24 VDC (100ms)- 0 VDC (100 ms) – Rectangular pulse per passenger |
| - IO2                                        | Na                                                                                             |
| CAN-Interface                                | (*) Contact CEDES for more information                                                         |

### MECHANICAL

|                        |                                               |
|------------------------|-----------------------------------------------|
| Dimensions (w x h x l) |                                               |
| Controller             | 250 × 191 × 110 mm<br>(9.84 × 7.52 × 4.33 in) |
| Extension              | 153 × 148 × 45 mm<br>(6.02 × 5.82 × 1.77 in)  |
| Housing material       | Metal                                         |
| Housing color          | Blue                                          |
| Netto weight           |                                               |
| Controller             | 2 kg                                          |
| Extension & cable      | 0.9 kg                                        |
| Enclosure rating       | IP20                                          |
| Temperature range      |                                               |
| - Operation            | -30 °C ... +50 °C<br>(-22 °F ... +122 °F)     |
| Humidity               | Max. 95%, non-condensing                      |
| Max. altitude          | 2,000 m above sea level                       |

### GENERAL

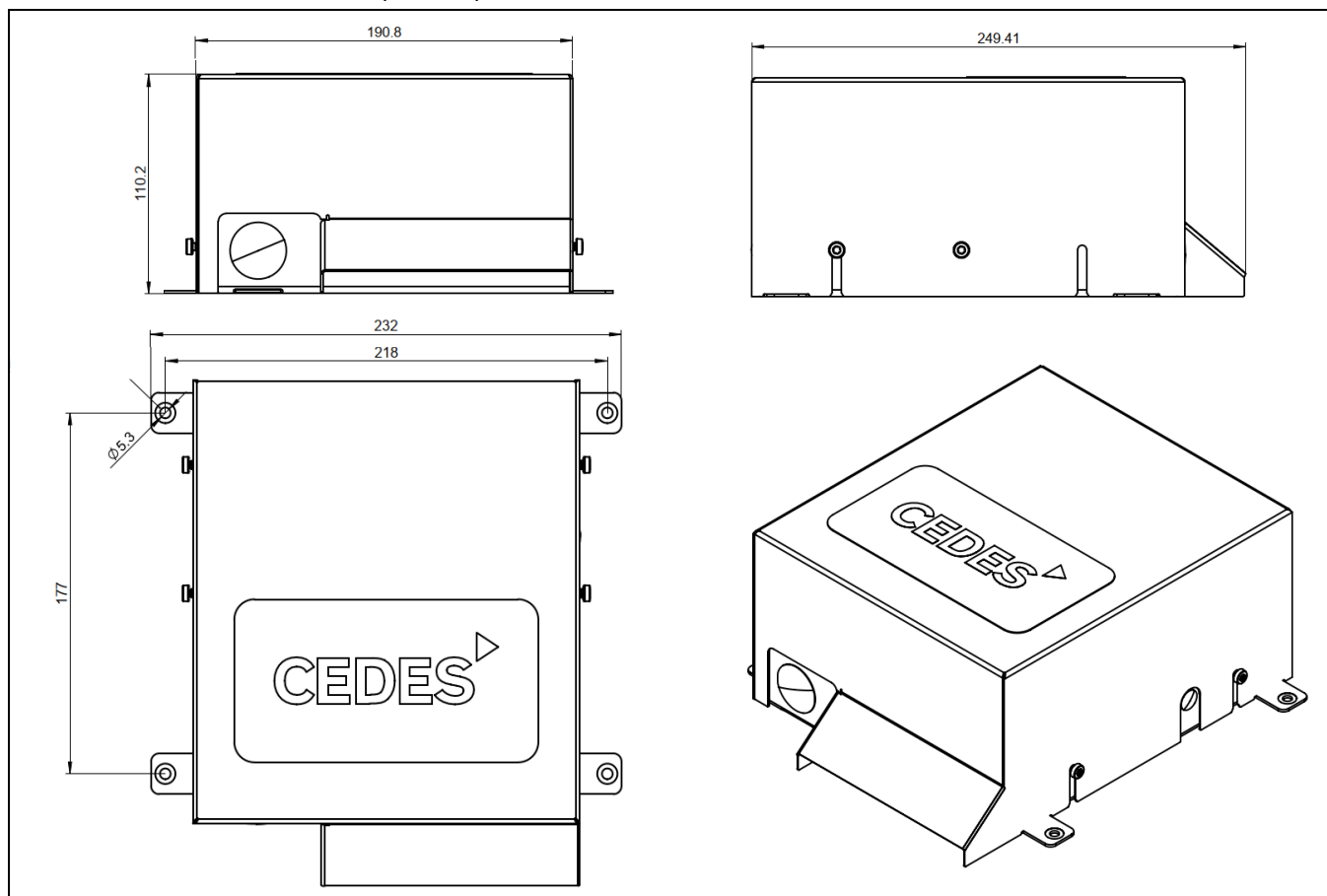
|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| EMC emission    | EN 12015:2021                                                |
| EMC immunity    | EN 12016:2013, ISO22200:2009                                 |
| Vibration       | IEC 60068-2-6:2007                                           |
| Shock           | IEC 60068-2-27:2008                                          |
| RoHS, REACH     | 2011/65/EU, 1907/2006 EU                                     |
| FCC             | 2014/30/EU, 2014/33/EU Class B                               |
| Certificates    |                                                              |
| - Liftinstituut | ASME A17.1-2019 / CSA B44:19<br>ASME A17.1-2022 / CSA B44:22 |
| - USA / Canada  | cCSAus; CSA B44.1:19 / ASME A17.5-2019                       |

Information about the Easygate IP device is available on  
[www.CEDES.com](http://www.CEDES.com)

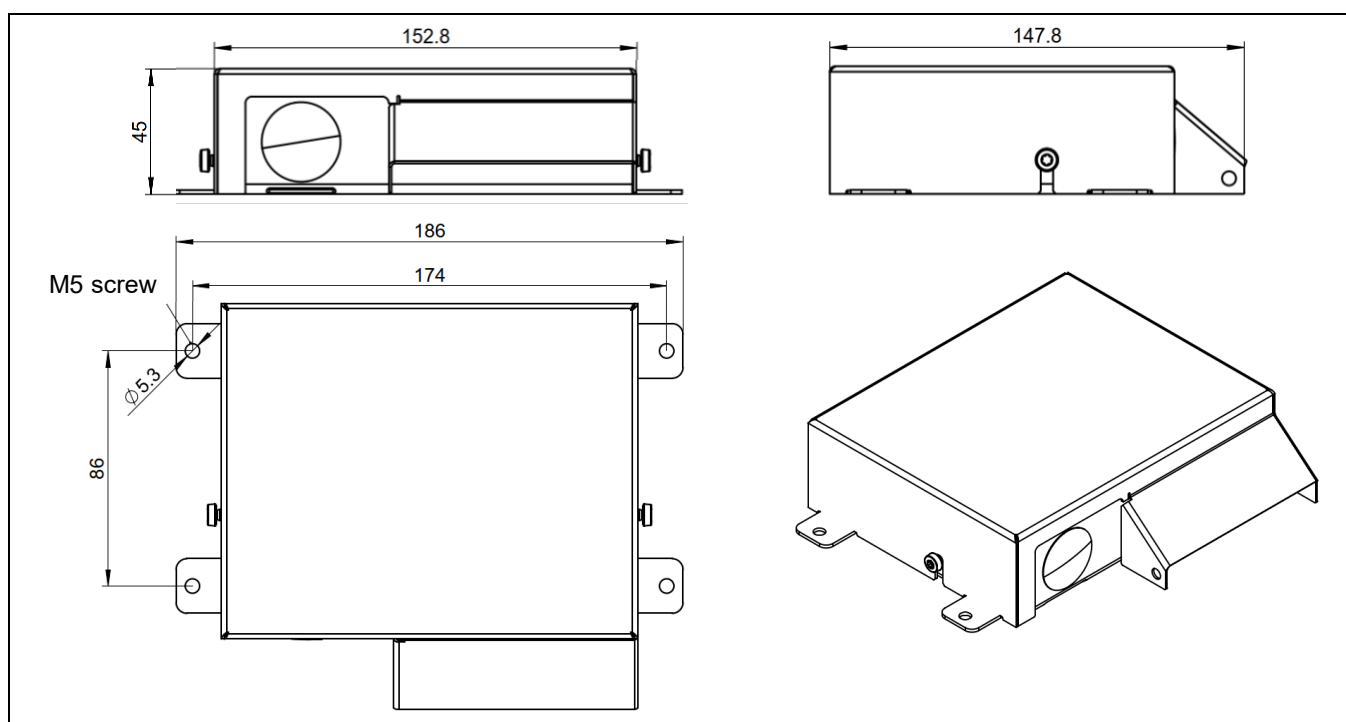


CEDES AG is certified according to ISO 9001: 2015.

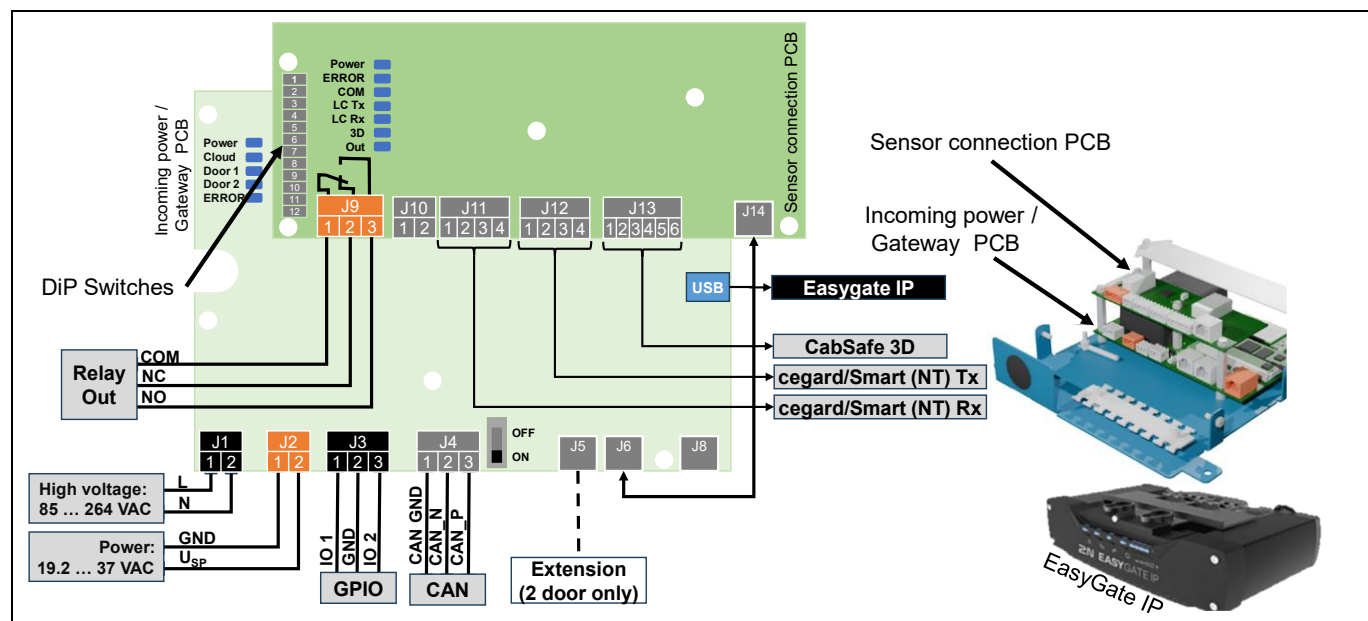
## Dimensions – controller (in mm)



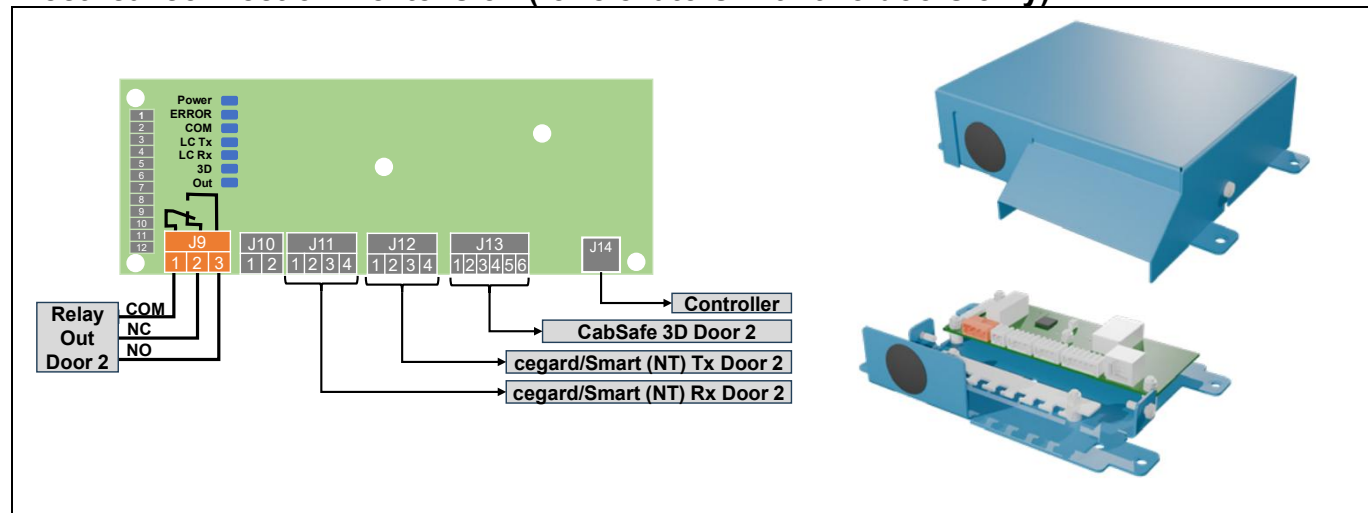
## Dimensions - extension module



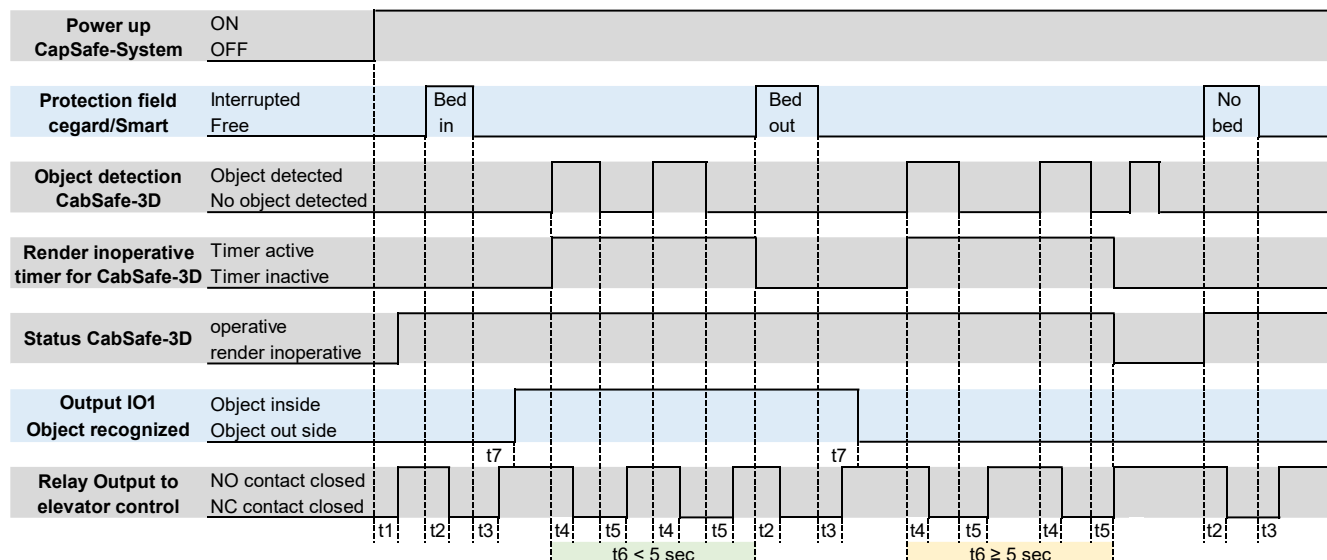
## Electrical connection - controller



## Electrical connection – extension (for elevators with two doors only)



## Timing diagram CGSM-B-OR1

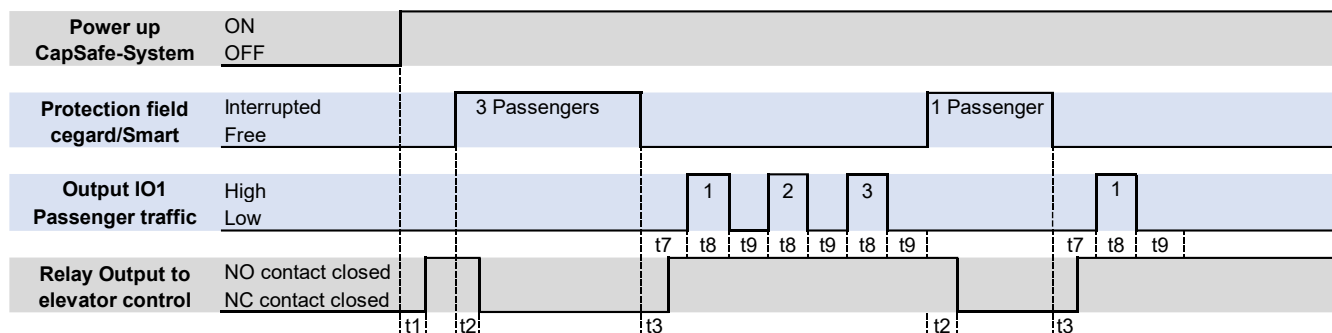


| Time                                                                                                                                                                                                                        | Value                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| t <sub>1</sub> Power-on time                                                                                                                                                                                                | < 5 s                   |
| t <sub>2</sub> Typ. reaction time of the cegard/Smart controller output caused by an object entering the detection field of the cegard/Smart 2D sensor                                                                      | <140 ms                 |
| t <sub>3</sub> Typ. release time of the CabSafe controller output after clearance of the detection field of the cegard/Smart 2D sensor                                                                                      | <20 ms + light curtain  |
| t <sub>4</sub> Typ. reaction time of the cegard/Smart controller output caused by an object detection of the CabSafe 3D sensor                                                                                              | <250 ms                 |
| t <sub>5</sub> Typ. release time of the cegard/Smart controller output after clearance of the detection field of the CabSafe 3D sensor                                                                                      | 1.7 s                   |
| t <sub>6</sub> Rendering inoperative timer (Chapter 6.3). Resets on interruption of cegard/Smart 2D sensor or upon reopening of doors after closure. If end of timer is reached, CabSafe 3D sensor is rendered inoperative. | ≥5 s acc. to A17.1-2019 |
| t <sub>7</sub> Typ. reaction and release time to indicate "bed in" or "bed out"                                                                                                                                             | < 300 ms                |

The correct status of the two outputs is linked to the following boundary conditions:

- the car offers only space for one bed or one wheelchair and
- for elevators with two car doors (e.g. front and rear): the two doors do not open simultaneously.

## Timing diagram CGSM-B-PC1

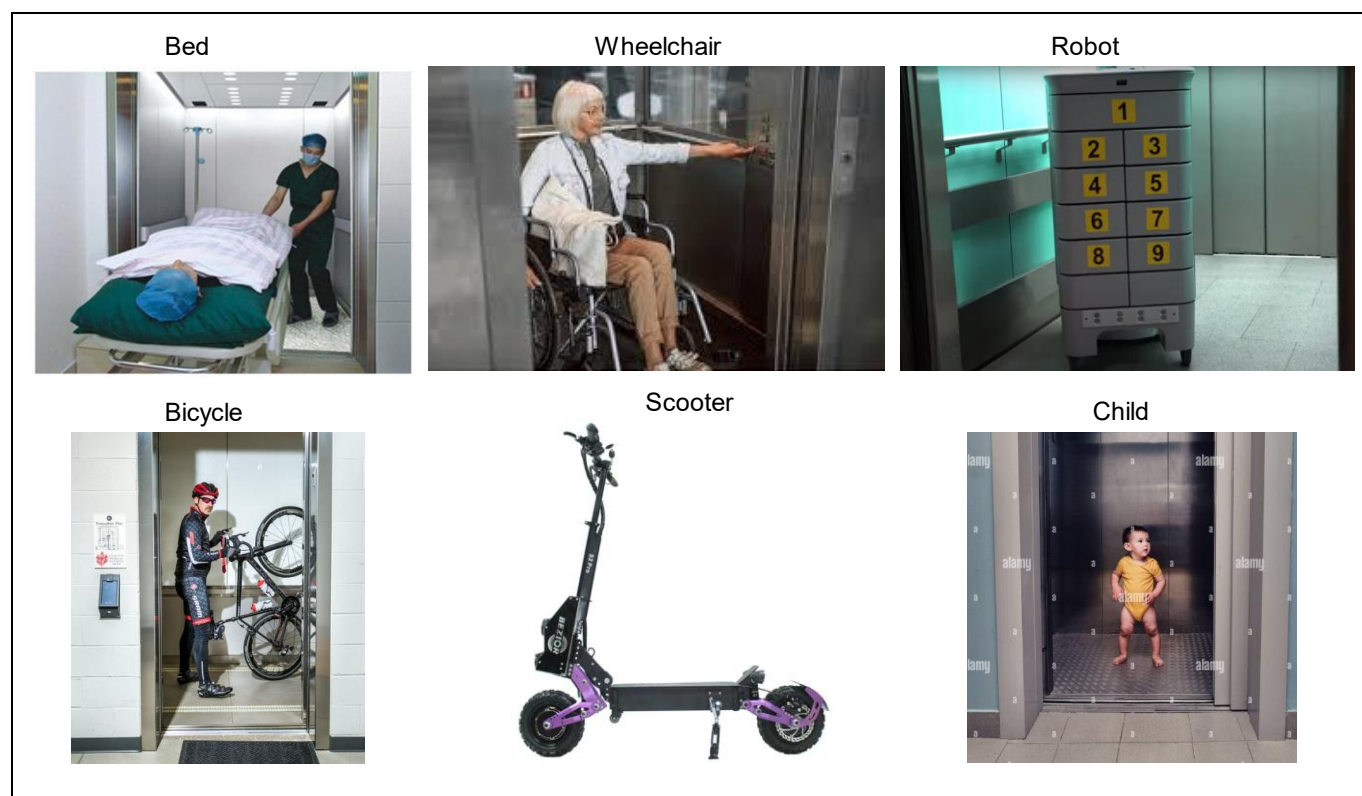


| Time                                                                                                                                                   | Value                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| t <sub>1</sub> Power-on time                                                                                                                           | < 5 s                  |
| t <sub>2</sub> Typ. reaction time of the cegard/Smart controller output caused by an object entering the detection field of the cegard/Smart 2D sensor | <140 ms                |
| t <sub>3</sub> Typ. release time of the CabSafe controller output after clearance of the detection field of the cegard/Smart 2D sensor                 | <20 ms + light curtain |
| For t <sub>4</sub> , t <sub>5</sub> , t <sub>6</sub> see timing diagram CGSM-C-OR1                                                                     |                        |
| t <sub>7</sub> Typ. reaction and release time to indicate passenger traffic                                                                            | <300 ms                |
| t <sub>8</sub> Rectangular pulse "high"                                                                                                                | 100 ms                 |
| t <sub>9</sub> Rectangular pulse "low"                                                                                                                 | 100 ms                 |

Remark: The correct status of the two outputs is linked to the following boundary condition:

- for elevators with two doors: the two doors do not open simultaneously.

## Typical objects for recognition:



Ask your CEDES representative for the detection of further objects!