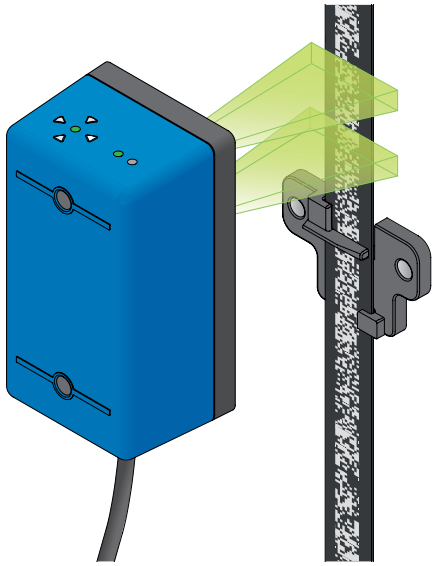
# APS – Absolute Positioning System

## Technical data

### FEATURES

- SIL 3 certified
- Wear-free, contactless principle
- Absolute position up to 1,500 m with a resolution of 0.5 mm
- Velocity up to 20 m/s with a resolution of 0.001 m/s
- Integrated building compression detection, no additional sensors needed
- Floor level detection using mounting clips
- Very robust system due to high light reserve and dual camera readout
- Insensitive to dust and smoke
- CAN, RS485 or customer-specific interfaces available
- Simple and flexible mounting



### OPTICAL

| | | |
|---|---|---|
| Position resolution | | 0.5 mm |
| Velocity resolution | | 1 mm/s |
| Range of velocity measurement | | ±0 ... 20 m/s |
| Distance between APS sensor and APS code tape | | 105 mm |
| Readout tolerance: | Distance | ±15 mm |
| | Left-right | ±15 mm |

### MECHANICAL

| | |
|---|---|
| Housing (h × w × d) | 103.6 × 56.6 × 45.6 mm |
| Enclosure rating | IP65 |
| Temperature range | -20°C ... +65°C |

### ELECTRICAL

| | |
|---|---|
| Supply voltage $U_{SP}$ | 24 VDC ±20% |
| Max. current consumption | 100 mA |
| Max. power-up inrush current | 200 mA |
| Termination | |
| - CAN | 100 Ω (internally) |
| - RS485 | 120 Ω (internally) |
| Scanning rate | 200 Hz |

### CODE TAPE

| | |
|---|---|
| Max. length | 1,500 m |
| Material | Stainless steel body (1.4310) |
| Width | 19 mm |
| Thickness | 0.6 mm (steel body 0.2 mm) |

### CONNECTION CABLE AND ELECTRICAL CONNECTION

| | | |
|---|---|---|
| Length | 0.5 ... 5 m (customer specific lengths on request) | |
| Connector | RJ45 | |
| | **CAN** | **RS485** |
| 1 – blue | CAN Channel 1 LOW | RS485 Channel 1 A |
| 2 – grey | CAN Channel 1 HIGH | RS485 Channel 1 B |
| 3 – green | GND (0 V) | GND (0 V) |
| 4 – white | $U_{SP}$ | $U_{SP}$ |
| 5 – black | No function | No function |
| 6 – pink | No function | No function |
| 7 – brown | CAN Channel 2 LOW | No function |
| 8 – yellow | CAN Channel 2 HIGH | GND_SEC |

### GENERAL

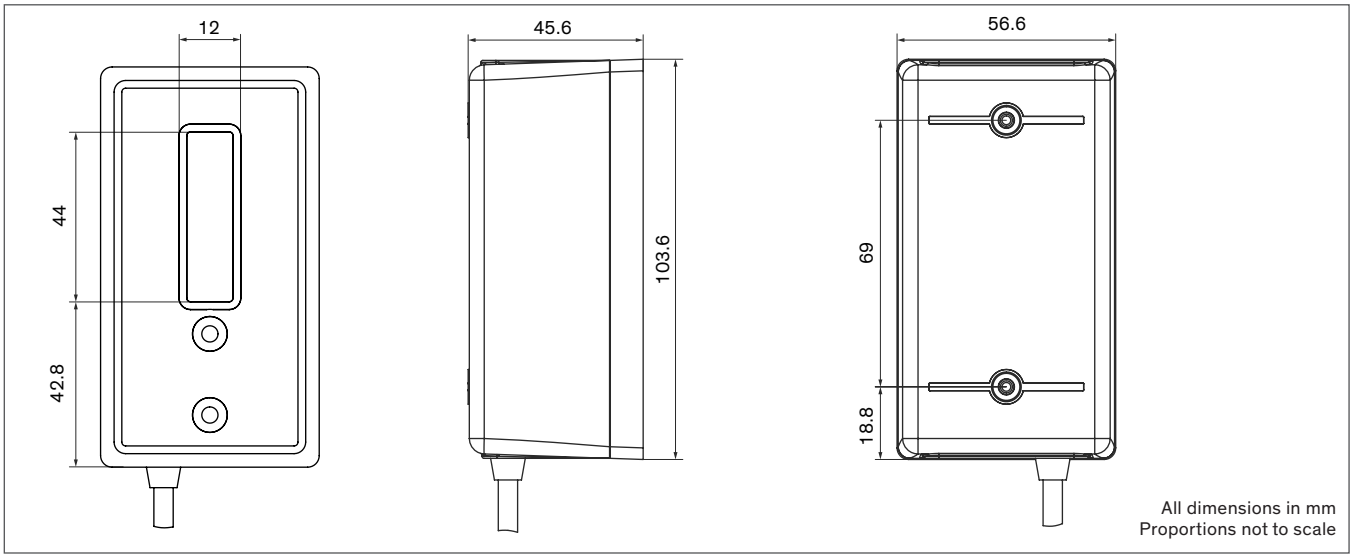
| | |
|---|---|
| EMC emission | EN 12015:2014 |
| EMC immunity | EN 12016:2013 |
| Vibration | IEC 60068-2-6:2007 |
| Shock | IEC 60068-2-27:2008 |
| RoHS | 2011/65/EU |
| Certificates | CE, UKCA, TÜV, CSA |
| Safety category | EN 61508:2010, SIL 3 |
| | EN 81–1/2 +A3:2009 |
| | EN 81-20/50:2014 |
| | CSA B44.1-14/ASME A17.5-2014 |
| | ASME A17.1-2013/CSA B44-13 |

CEDES AG is certified according to ISO 9001: 2015.

CEDES AG reserves the right to modify or change technical data without prior notice.

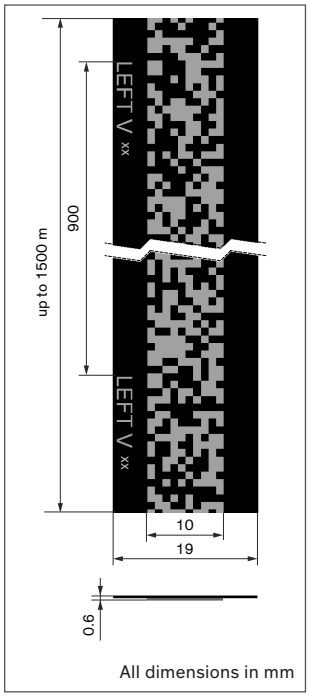
CEDES AG
Science Park | CH-7302 Landquart
Phone: +41 81 307 2323
info@cedes.com | www.cedes.com

## APS Sensor dimensions



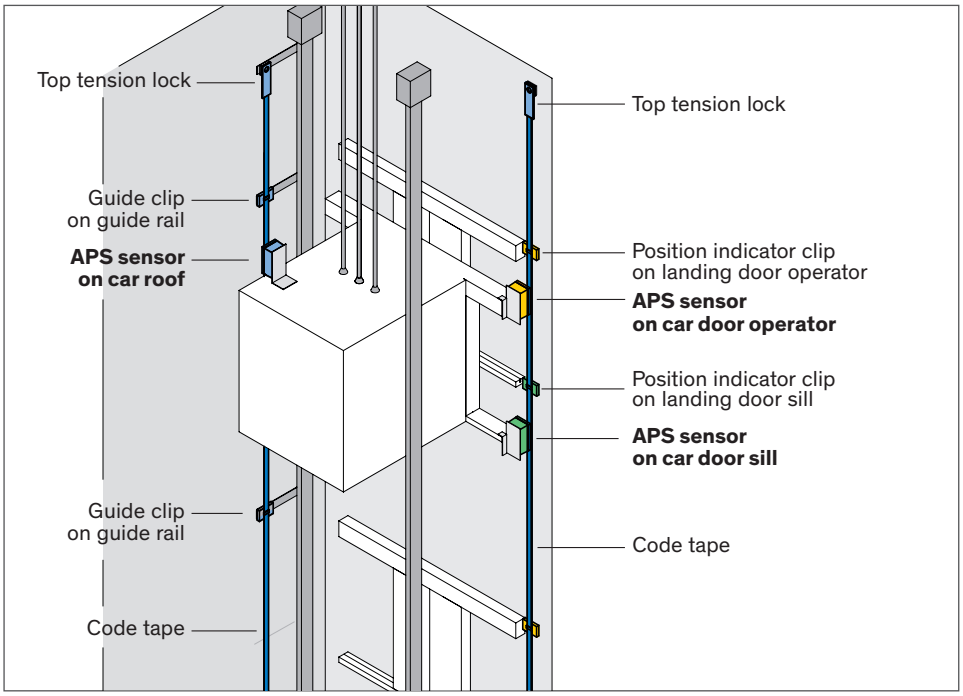

All dimensions in mm
Proportions not to scale

## APS code tape dimensions

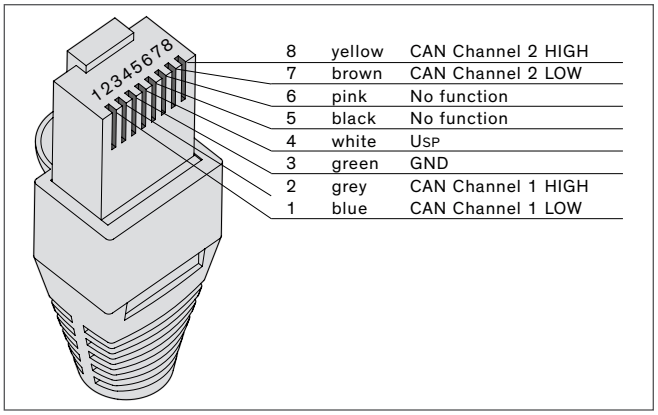



All dimensions in mm

## Mounting position examples

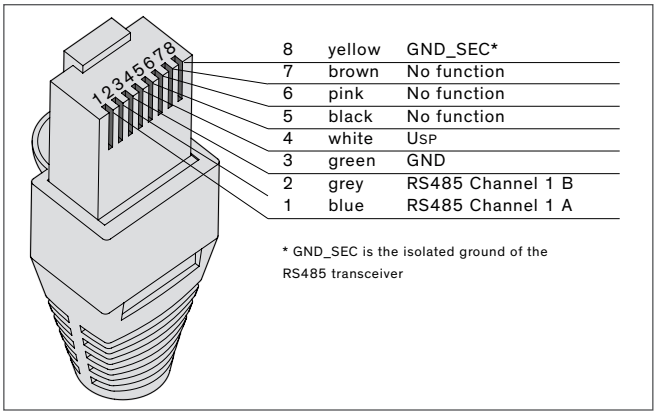



## RJ45 plug connections (CAN interface)




| | | |
|---|---|---|
| 8 | yellow | CAN Channel 2 HIGH |
| 7 | brown | CAN Channel 2 LOW |
| 6 | pink | No function |
| 5 | black | No function |
| 4 | white | $U_{SP}$ |
| 3 | green | GND |
| 2 | grey | CAN Channel 1 HIGH |
| 1 | blue | CAN Channel 1 LOW |

## RJ45 plug connections (RS485 interface)




| | | |
|---|---|---|
| 8 | yellow | GND_SEC* |
| 7 | brown | No function |
| 6 | pink | No function |
| 5 | black | No function |
| 4 | white | $U_{SP}$ |
| 3 | green | GND |
| 2 | grey | RS485 Channel 1 B |
| 1 | blue | RS485 Channel 1 A |

* GND_SEC is the isolated ground of the RS485 transceiver

001 202 en | 221019 | V 4.1