# CEDES
The Sensor Pioneers.

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
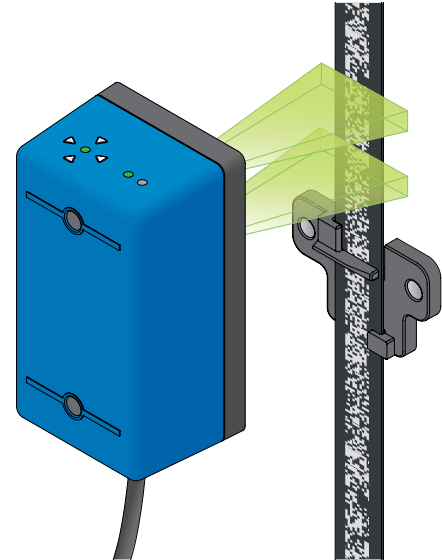
OPTICAL

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

	CAN	RS485
Length	0.5 ... 5 m (customer specific lengths on request)	
Connector	RJ45	
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

CE UKCA RoHS CSA TÜV CERTIFIED

CEDES AG is certified according to ISO 9001: 2015.

APS Sensor dimensions

12
44
42.8
45.6
103.6
56.6
69
18.8

All dimensions in mm
Proportions not to scale
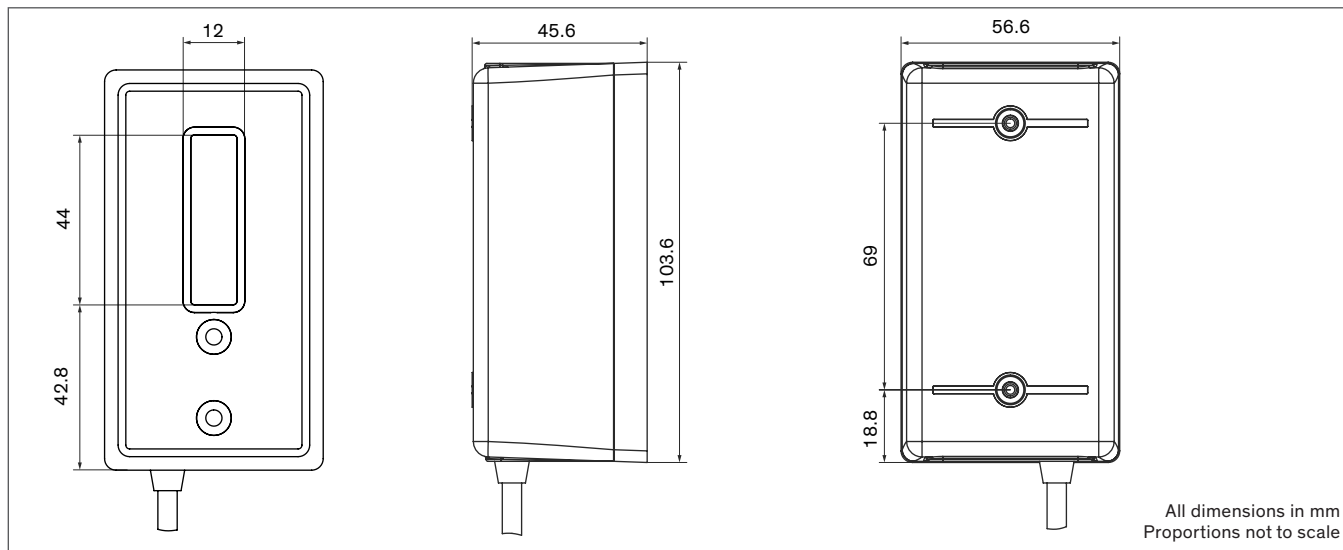
APS code tape dimensions

LEFT V xx
900
up to 1500 m
LEFT V xx
10
19
0.6

All dimensions in mm
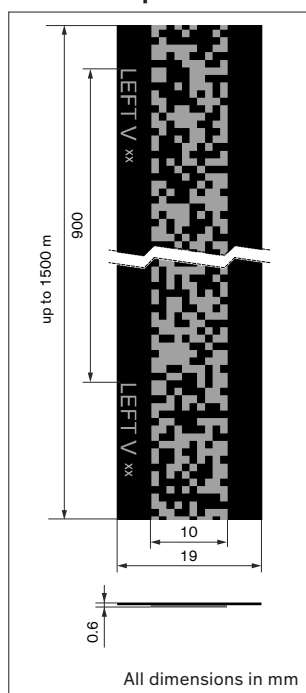
Mounting position examples

Top tension lock
Guide clip on guide rail
APS sensor on car roof
Guide clip on guide rail
Code tape

Top tension lock
Position indicator clip on landing door operator
APS sensor on car door operator
Position indicator clip on landing door sill
APS sensor on car door sill
Code tape
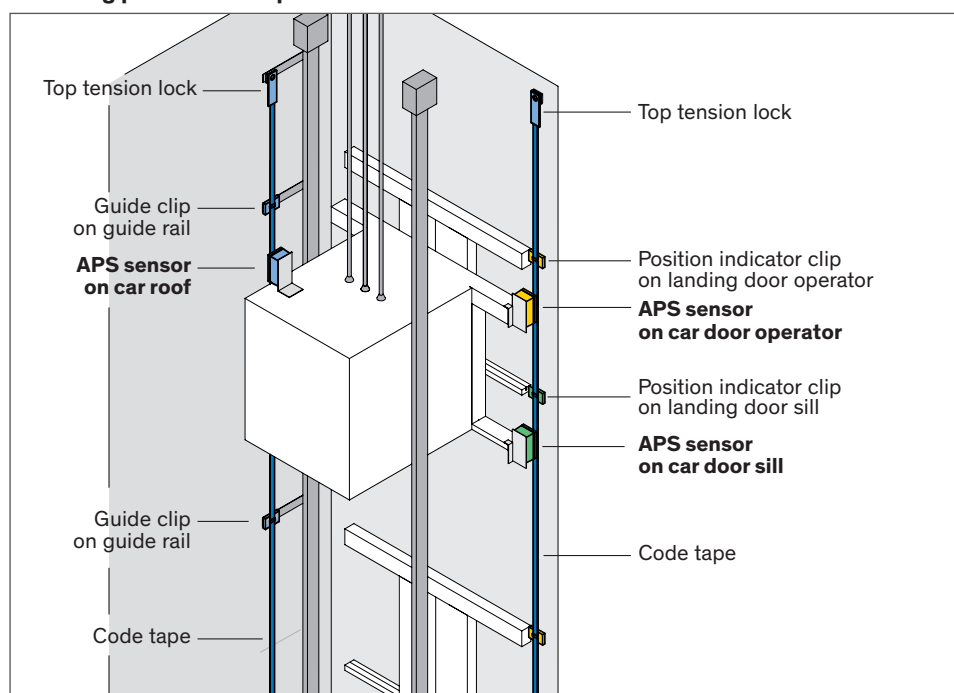
RJ45 plug connections (CAN interface)

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
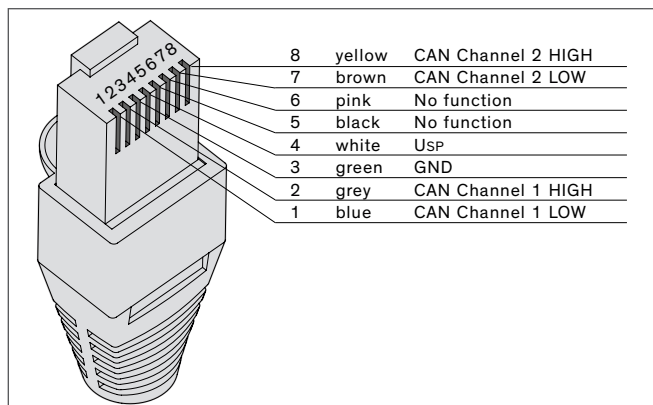
RJ45 plug connections (RS485 interface)

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