



# APS-5101

APS

**OBJECT DETECTION SYSTEMS**

**SICK**  
Sensor Intelligence.



### Ordering information

Application	Items supplied	Type	Part no.
Driver assistance system for aircraft tractors in order to avoid collisions between airplanes and other objects during the towing process	LMS511 2D Li-DAR sensor Mounting kit 1 for mounting the LMS511 Mounting kit 2 for adjusting the LMS511 on mounting kit 1 Operator display Mounting set for operator display Ethernet switch Buzzer USB stick with operating instructions Power supply cable (female connector open) for LMS511 (20m) Connecting cables for operator display (5 m) Connecting cables for operator display (10 m) Ethernet connection cable (angled) for operator display (5 m) Power supply cable (female connector open) for Ethernet switch (10 m)	APS-5101	1069176

Other models and accessories → [www.sick.com/APS](http://www.sick.com/APS)



### Detailed technical data

#### Features

<b>Application</b>	Driver assistance system for pushback, maintenance and maneuver towing at the airport
<b>Areas of application</b>	Airport
<b>Number of sensors</b>	1
<b>Scanning frequency</b>	25 Hz
<b>Aperture angle</b>	180°, horizontal
<b>Angular resolution</b>	0.25°
<b>Vehicles</b>	Pushback tractors without towbar
<b>Requirements for objects to be protected</b>	Aircraft properties: Aircraft fuselage height: > 80 cm Track: 4.5 m–15 m Wheelbase: 10 m–32 m
<b>Working range</b>	0.7 m ... 80 m
<b>Heating</b>	✓

#### Mechanics/electronics

<b>Dimensions display (W x D x H)</b>	142 mm x 44 mm x 98 mm (with mounting 130 mm depth)
---------------------------------------	---

<b>Weight</b>	3.7 kg, 4.286 kg with brackets (LMS511) 360 g, 600 g with mounting (Display)
<b>Supply voltage</b>	24 V DC (19.2 V DC ... 28.8 V DC)
<b>Power consumption</b>	27 W (≤ 92 W), With heating
<b>Installation position</b>	Pushback tractor, rear side left or rear side right, 20 cm - 60 cm from ground (LMS511)
<b>Machine operating voltage</b>	19.2 V DC ... 28.8 V DC, 24 V DC
<b>Laser class</b>	1, eye-safe (IEC 60825-1:2014)

### Performance

<b>Working range</b>	0.7 m ... 80 m
<b>Display</b>	4.3" touch display
<b>Functions</b>	Audible and visual collision warning Maneuver assistant Aircraft type detection
<b>Number of laserscanners</b>	1
<b>Monitored area</b>	Area under the docked aircraft behind the aircraft tractor
<b>Warning zones</b>	3
<b>Self-diagnostics</b>	✓

### Interfaces

<b>GPS</b>	✓, optional
Function	Speed-based warning concept
<b>Ethernet</b>	✓
Function	Software updates via web interface
Electrical connection	M12, 4-pin
<b>Switching inputs</b>	✓ (2)
Function	Silent signal Swivel chair
<b>Switching outputs</b>	✓
Function	Acoustic warning
<b>Operator interface</b>	Touch display

### Ambient data

<b>Ambient operating temperature</b>	-25 °C ... +50 °C
<b>Ambient temperature, storage</b>	-25 °C ... +60 °C

### General notes

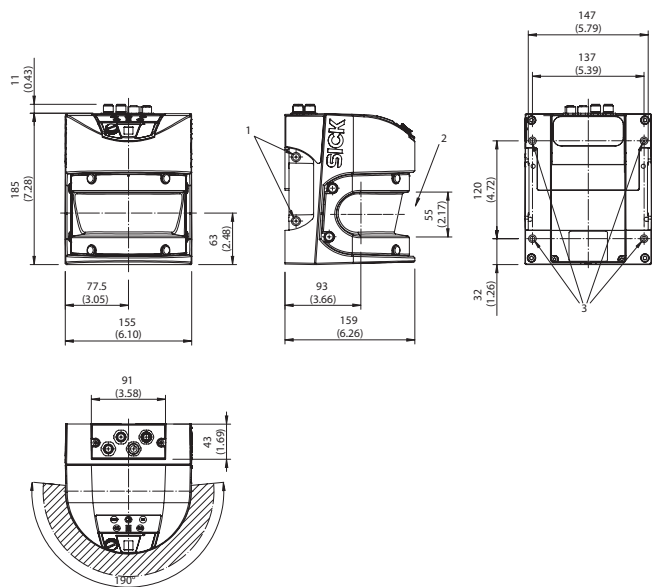
<b>Items supplied</b>	LMS511 2D LiDAR sensor Mounting kit 1 for mounting the LMS511 Mounting kit 2 for adjusting the LMS511 on mounting kit 1 Operator display Mounting set for operator display Ethernet switch Buzzer USB stick with operating instructions Power supply cable (female connector open) for LMS511 (20m) Connecting cables for operator display (5 m) Connecting cables for operator display (10 m) Ethernet connection cable (angled) for operator display (5 m) Power supply cable (female connector open) for Ethernet switch (10 m)
-----------------------	--

Classifications

<b>ECLASS 5.0</b>	27339090
<b>ECLASS 5.1.4</b>	27339090
<b>ECLASS 6.0</b>	27339090
<b>ECLASS 6.2</b>	27339090
<b>ECLASS 7.0</b>	27339090
<b>ECLASS 8.0</b>	27339090
<b>ECLASS 8.1</b>	27339090
<b>ECLASS 9.0</b>	27330190
<b>ECLASS 10.0</b>	27330190
<b>ECLASS 11.0</b>	27330190
<b>UNSPSC 16.0901</b>	25172105

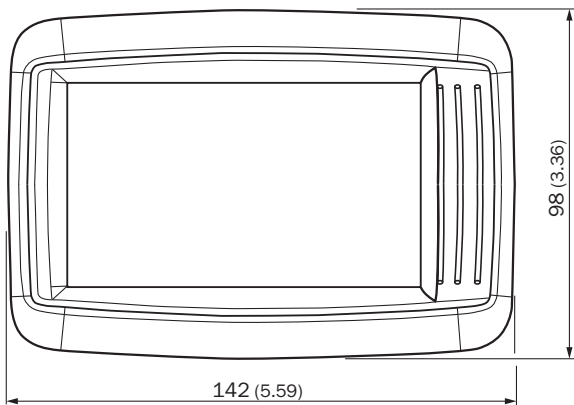
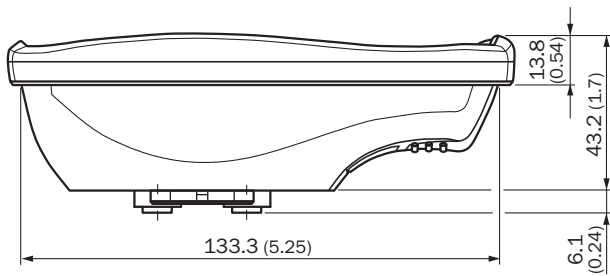
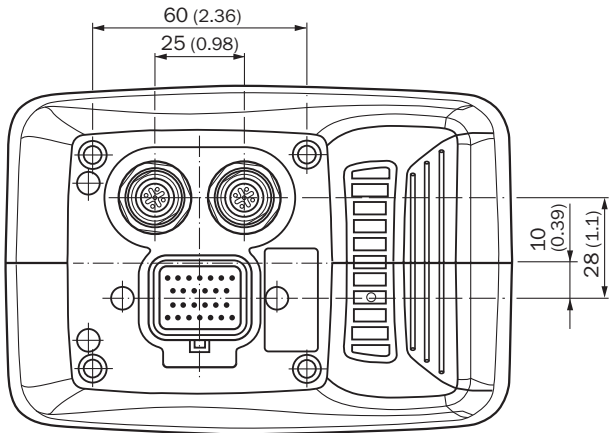
Dimensional drawing (Dimensions in mm (inch))

LMS511

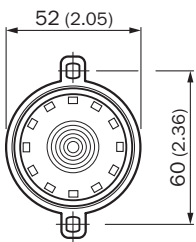


- ① 4 screw holes M8 x 9
- ② Do not block front screen
- ③ 4 screw holes M6 x 8

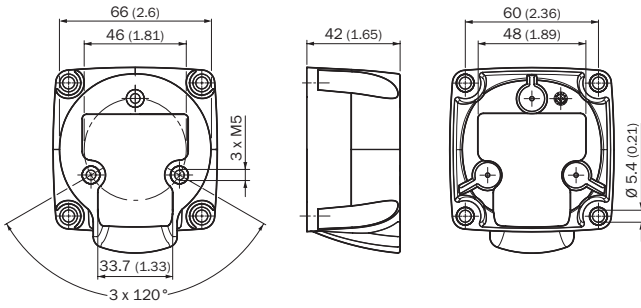
Operator display



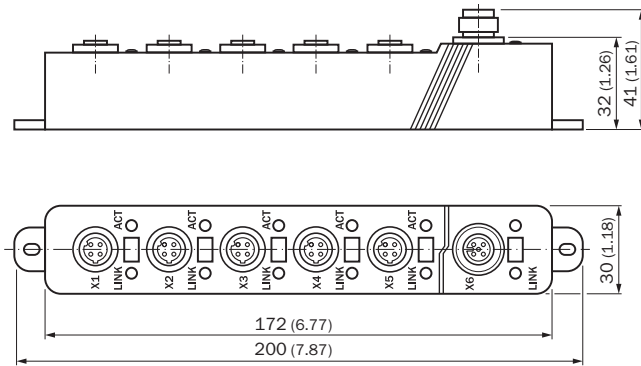
Buzzer



Mounting set for operator display



Ethernet switch



## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)