Technology Solutions for Retail

AdvanSafe-300

Overhead RFID Loss Prevention System



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Benefits:

- All-in-one solution: loss prevention + product detection
- Ultra-fast detection
- Better store aesthetics: no obstacles at the entrance
- Reduced shrinkage
- Fewer false alarms thanks to beam-steering technology
- Direction of movement: the alarm triggers only when the product leaves the store
- Provides data to identify which products suffer the most theft attempts
- Continuous detection area
- A primary unit can connect to a secondary unit, reducing costs
- Different LED colors available
- Easy integration with assisted and self-checkout systems
- Together with AdvanPay and AdvanGo, it offers a complete RFID payment + loss prevention solution

Applications:

- Loss prevention in retail stores
- Loss prevention in warehouses

Product overview:

AdvanSafe-300 is the only loss prevention system on the market that combines RFID detection (beam steering) with a millimeter-wave sensor (AdvanView). This combination makes it possible to:

- Detect tagged products as they pass through the entrance, check whether they were paid for, and trigger a visual and/or audible alarm if they were not.
- Distinguish moving products from static ones, reducing false alarms.
- Detect whether a person actually crosses the entrance, avoiding alarms from signal reflections or people who approach without passing through.
- Determine the direction of movement, so alarms trigger only when leaving the store.
- Detect which products leave the store, providing valuable data for retail analytics.

AdvanSafe supports **multiple configurations** to check whether a product was paid for:

- Checks the EAS bit of NXP chips or Impinj Gen2X protected mode
- Checks whether the EPC code contains a predefined pattern indicating the product was paid for
- Query against the POS database
- Query against the AdvanCloud EAS module
- Mass-theft detection: triggers the alarm if multiple tags are read within a short period of time

AdvanSafe uses **primary and secondary units**:

- Primary unit: integrated reader, antenna, controller, audible and visual alarm
- Secondary unit: antenna and visual alarm
- A secondary unit can be connected to a primary unit (ideal for wide entrances)
- Includes several 5V 100mA GPO outputs and a relay
- Compatible with rigid and flexible UHF Gen2 RFID tags
- The selected tag must have a read range greater than the installation height

AdvanSafe can be ordered in 4 models:

- Cable-suspended mount
- Ceiling mount
- Flush mount
- Pole mount

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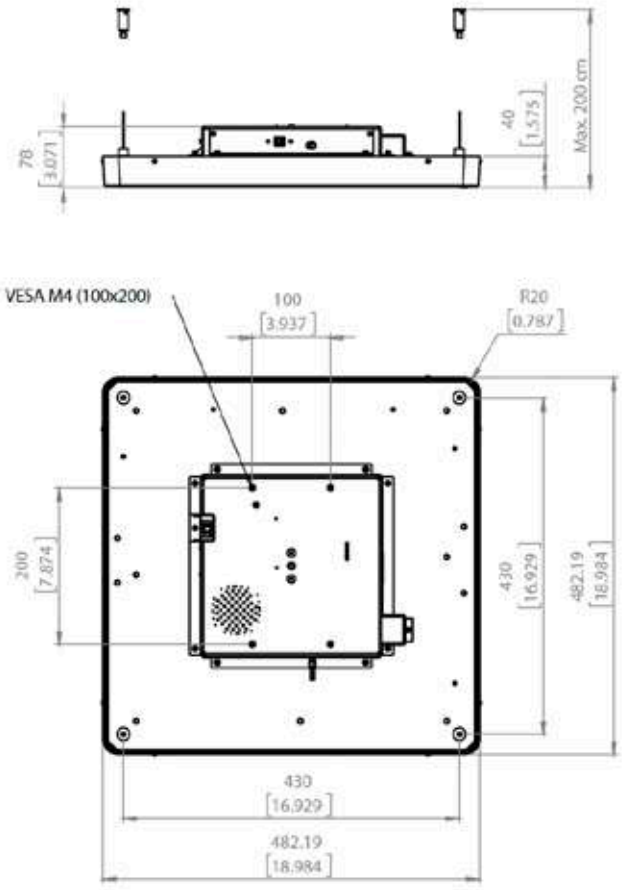
Technical specifications

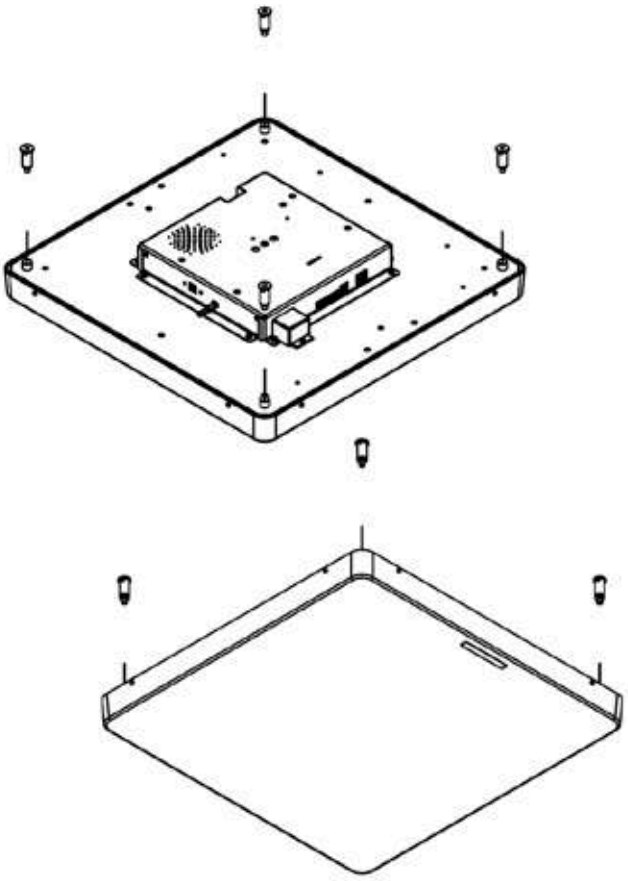
Operating frequency	FCC (NA, SA) (902 - 928) MHz ETSI (EU, IN) (865.6 - 867.6) MHz MIC (KR) (910 - 914) MHz SRRC-MII (P.R. China) (920.125 - 924.875) MHz (1) Australia (AU) (920.750 - 925.250) MHz New Zealand (NZ) (922.250 - 927.250) MHz Israel (IS) (915.0 - 917.0) MHz (2) Japan (JP) (916.8 - 920.8) MHz (3) Brazil (902 - 907.5) MHz (915 - 928) MHz via channel selection Chile (916 - 928) MHz using channel selection Peru (916 - 928) MHz using channel selection Taiwan (922 - 928) MHz using channel selection Open region (4) (865 - 869) MHz
Detection height	2.5 - 3 m (recommended) Maximum 3.5 m (Use the maximum height with caution. Read distance depends on the tag and products used)
Radiation pattern	Multiple beams
Beam width	90° / 40° (surrounding widths of all beams)
Polarization	Circular
Alarm light	Light-emitting diode (LED)
Alarm audio	Audible signal
Relay output	Dry contact output 24 VDC / 0.5 A / resistive load
Preset alarm function	The system emits an audible and visual alarm when any of the EAS modes is detected
Power supply	Power over Ethernet
Power consumption	< 14 W max., < 3 W idle
Read power	Maximum 31.5 dBm (may be limited to comply with country or regional regulations) Recommended maximum 30 dBm
Radiated power	2 W ERP, 3.2 W EIRP
Interface	Ethernet and USB
Transponder standard protocol	EPC Class 1 Gen2 / Gen2x
Operating system	Linux
Temperature range	-20°C to +55°C
Dimensions	Suspension bracket 482 mm x 482 mm x 78 mm (19 in. x 19 in. x 3.1 in.) Ceiling mount 482 mm x 482 mm x 92 mm (19 in. x 19 in. x 3.6 in.) Flush mount 482 mm x 482 mm x 92 mm (19 in. x 19 in. x 3.6 in.)
Weight	Suspension bracket Primary unit: 3.7 kg (8.2 lb) - Secondary unit: 3.4 kg (7.5 lb) Ceiling mount Primary unit: 4.2 kg (9.3 lb) - Secondary unit: 3.9 kg (8.6 lb) Flush mount Primary unit: 4.8 kg (10.6 lb) - Secondary unit: 4.5 kg (9.9 lb)
Housing material	Co-extruded ABS acrylic
Color	White, black; custom colors by volume.
Human exposure	EN 50364
EMC	EN 301 489, EN 300 220
Air interface (EU)	EN 302 208 v1.2

(1) Conducted RF power is limited to 30 dBm.
(2) The specified open channel applies to ETSI/FCC versions.
(3) The band is defined as a subset of FCC carriers. There is no SAW filter specific to the band; given the maximum conducted power, there should be no issues with local regulations.

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Mechanical specifications: cable-suspended model

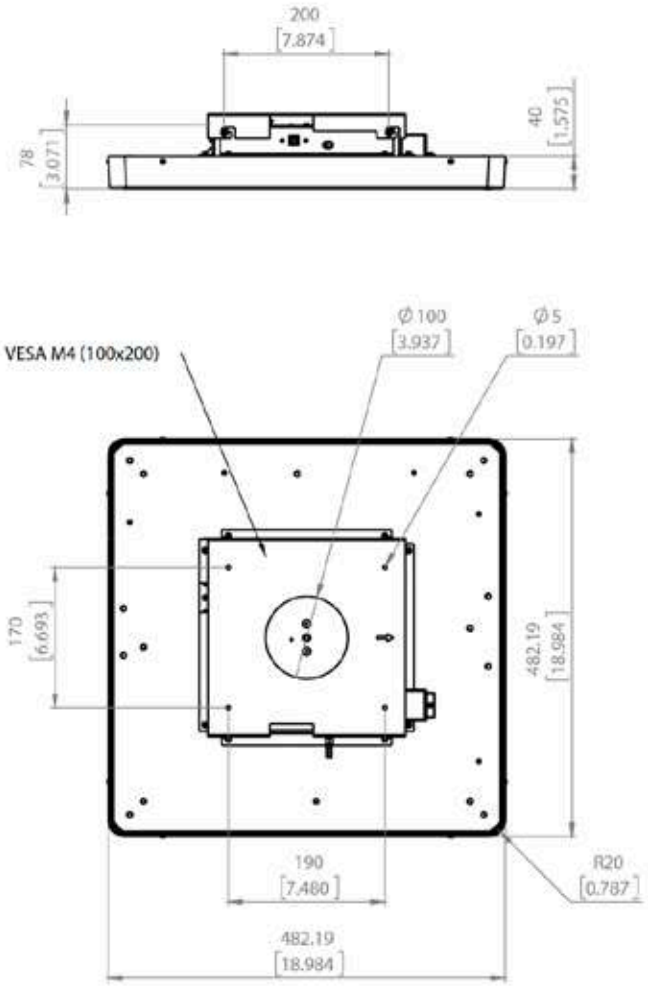


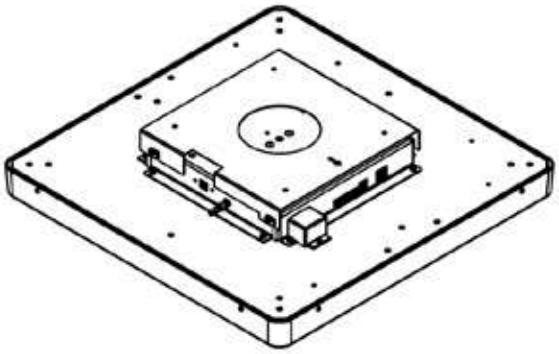


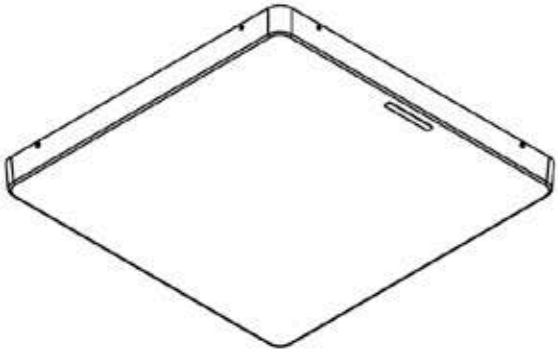
Units in millimeters and [inches]

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Mechanical specifications: ceiling-mount model



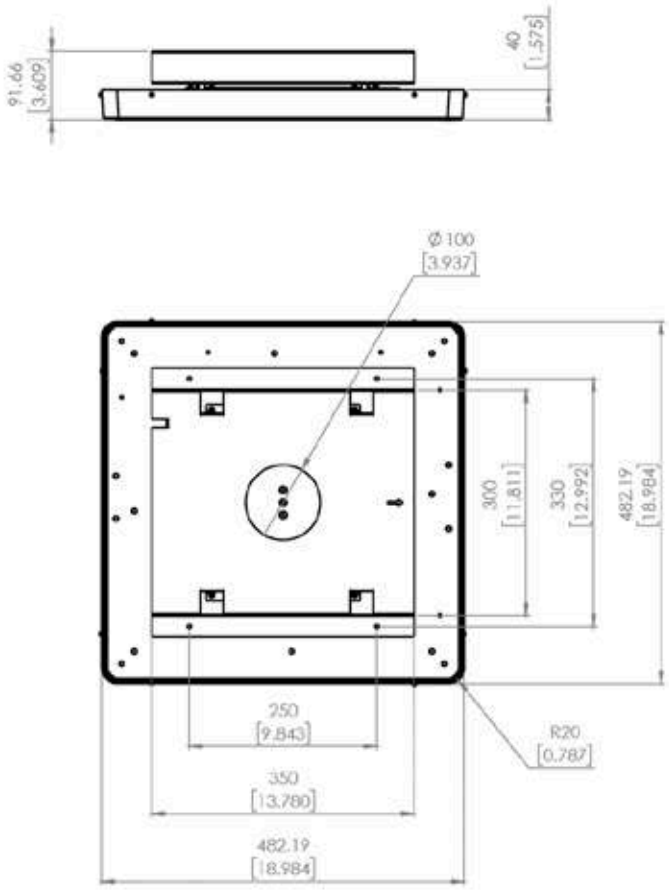


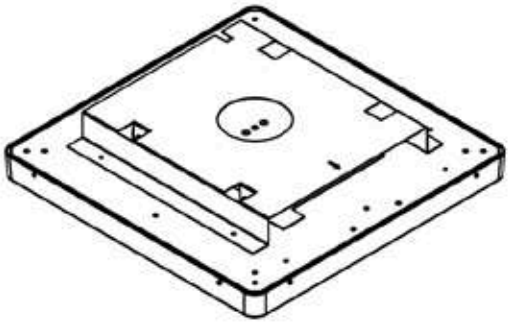


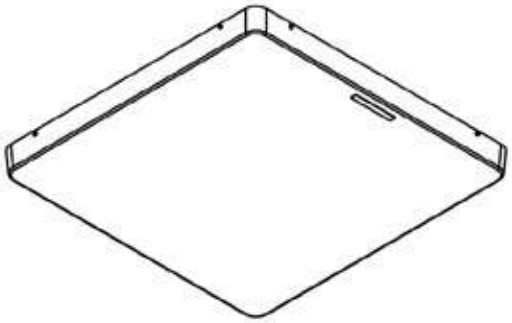
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Mechanical specifications: flush-mount model







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