



keonn

Retail RFID
Systems

AdvanSafe-200™

Overhead RFID loss prevention
system with beam steering





Video

Benefits:

- Improved store aesthetics, by having a store entrance free from obstacles
- Shrinkage reduction
- Minimization of false alarms with its beam steering technology
- Combination of loss-prevention and product identification in one system
- Provides data to detect which products suffer more theft attempts
- Very quick detection
- Continuous detection field
- One master unit can be connected to a slave unit, which reduces costs

Applications:

- Loss prevention at retail stores
- Loss prevention at warehouses

Product overview

AdvanSafe is an **overhead loss prevention system** based on RFID UHF that detects the tagged items that pass through an entrance, verifies if those items have been purchased, and triggers an acoustic and/or visual alarm if any item has not been purchased.

AdvanSafe uses **multiple antenna beams** and **electronic beam steering** to detect which tags are static and which are moving, avoiding false alarms.

AdvanSafe can use **four configurations** for checking if a tagged item has been paid:

- Checks the EAS bit of NXP chips
- Checks if the EPC code includes a pre-defined pattern that signals that the product has or not been paid
- Checks against the POS database if the product has been purchased
- Checks bulk theft: trigger an alarm if a certain number of tags are read in a certain time period (e.g. a few seconds).

AdvanSafe uses **primary units** and **secondary units**:

- The primary unit has an integrated reader, antenna, controller, acoustic alarm and visual alarm.
- The secondary unit comprises antenna and visual alarm.

One secondary unit can be connected up to one primary unit. This reduces costs for stores with wide entrances.

AdvanSafe works with any hard and soft Gen2 RFID UHF tags.

The tag chip and inlay chosen should provide a reading distance longer than the height at which AdvanSafe-200 will be installed in all tag orientations.

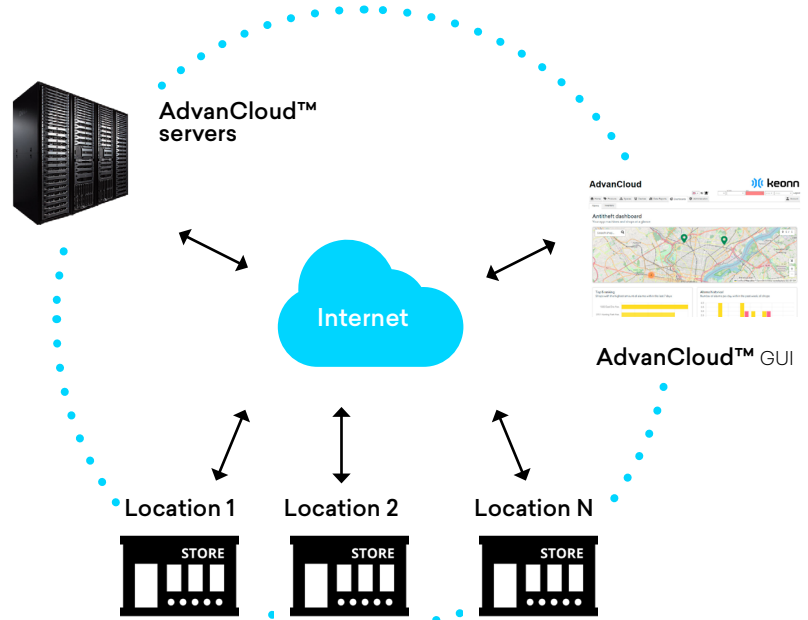
AdvanSafe-200 includes advanced processing techniques for minimizing false alarms.

AdvanSafe can be ordered in 2 models:

- Suspended wires mount
- Ceiling mount

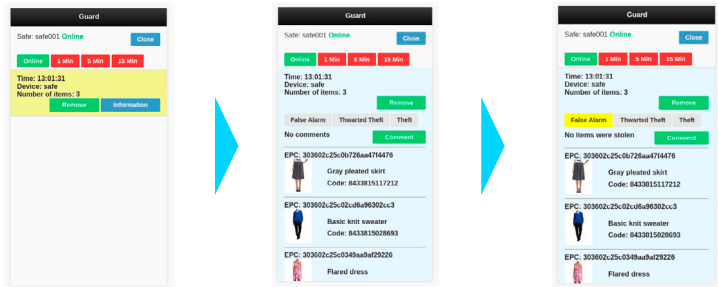
Connection to AdvanCloud

AdvanSafe can be optionally connected to AdvanCloud cloud-based software platform.



The products that trigger an alarm can be shown on a **smartphone** managed by store staff or security staff, in order to:

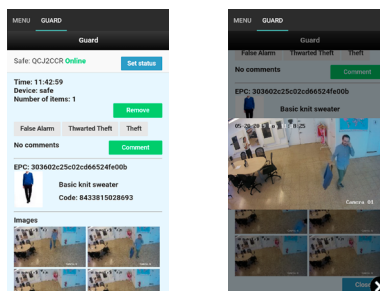
- Thwart theft attempts
- Register the event: false alarm, thwarted theft, theft



This information can then be analyzed for **business intelligence** purposes:

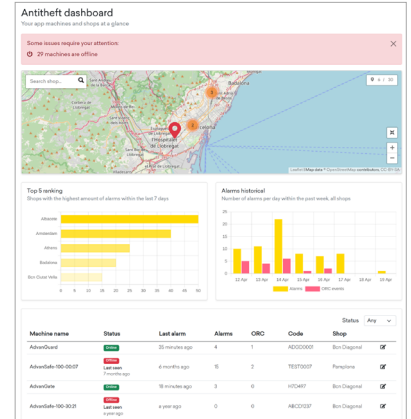
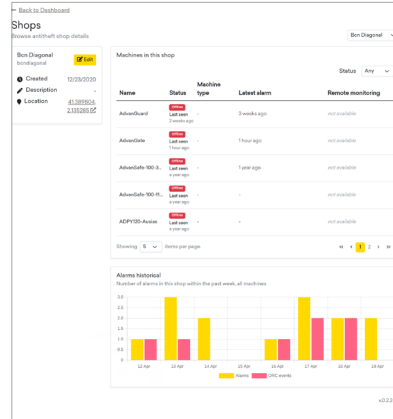
- Theft attempts by day and time of day
- Products that suffer more theft attempts
- Stores with more theft activity
- ...

Optionally, AdvanSafe can be connected to a camera and send images of the person passing by when the alarm is triggered, to any smartphone.



Anti-theft dashboard

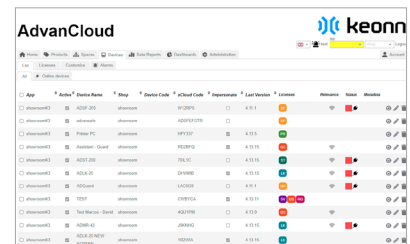
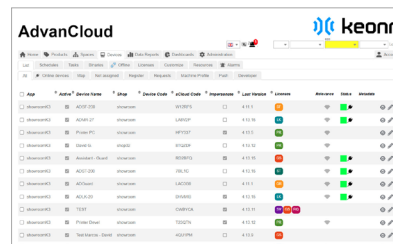
If AdvanSafe is connected to AdvanCloud, the status of AdvanSafe as well as the alarms triggered can be monitored through the AdvanCloud loss-prevention dashboard.



The alarms historical by shops are shown on the dashboard with details of machine status.

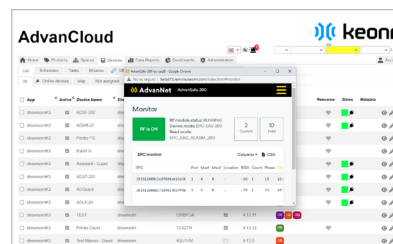
The dashboard will show your active systems on the map, providing alarm information.

Device remote management



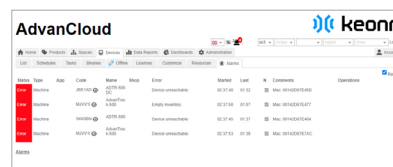
List of devices (online/offline)

Check if devices connected to AdvanCloud are online (green) or offline (red).



Remote Acces to AdvanNet (Keonn RFID readers)

Acces remotely to AdvanNet from AdvanCloud for managing Keonn RFID readers.



Check device health status

Monitor the active device's health with detailed diagnostics of errors.

Technical Specifications



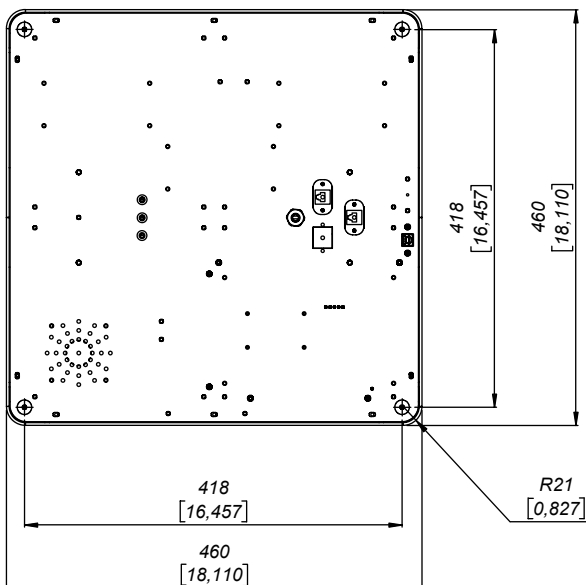
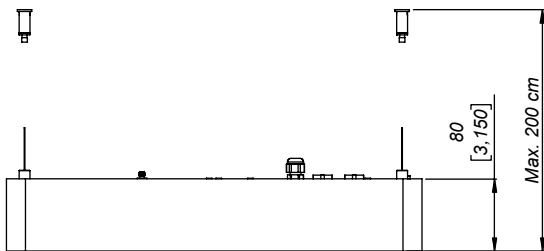
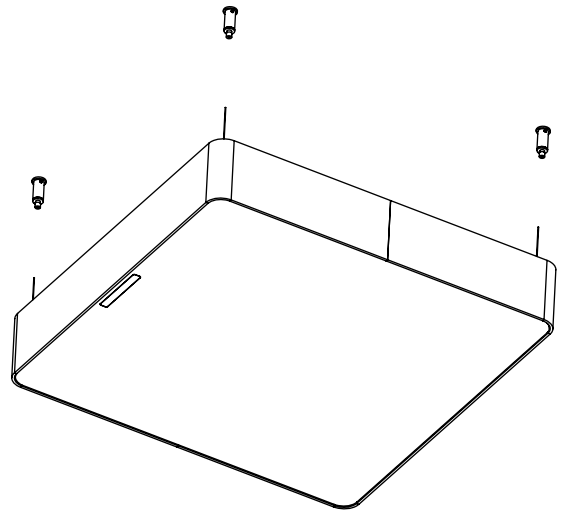
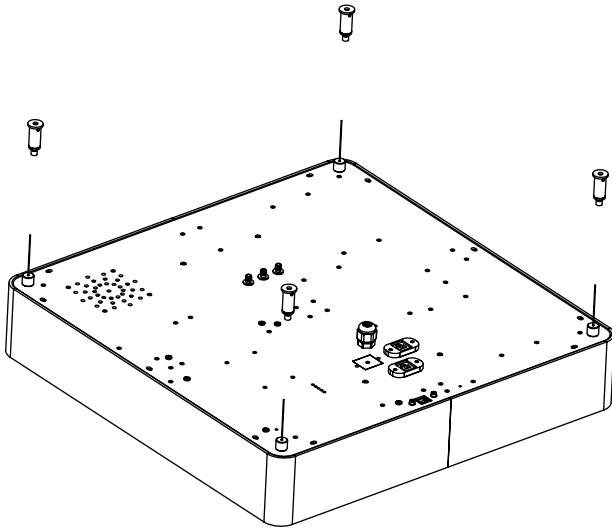
| | |
|-------------------------------|--|
| Operating Frequency | FCC (NA, SA) (902 - 928) MHz ETSI (EU, IN) (865.6 - 867.6) MHz MIC (KR) (910 - 914) MHz SRRC-MII (P.R.China) (920.125 - 924.875) MHz (1) Australia (AU) (920.750 - 925.250) MHz New Zealand (NZ) (922.250 - 927.250) MHz Israel (IS) (915.0 - 917.0) MHz (2) Japan (JP) (916.8 - 920.8) MHz (3) Brazil (902 - 907.5) MHz (915 - 928) MHz by using channel selection Chile (916 - 928) MHz by using channel selection Peru (916 - 928) MHz by using channel selection Taiwan (922 - 928) MHz by using channel selection Open Region (4) (865 - 869) MHz and (902 - 928) MHz (by using channel selection) (5) |
| Detection Height | 2 - 3 m (recommended) Maximum: 3.5 m (Use maximum height with caution. Read distance depends highly on tag model and products being used) |
| Radiation pattern | Multiple beam |
| Beam width | 90° / 40° (surrounding widths of all beams) |
| Polarization | Circular |
| Alarm Light | Light Emitting Diode (LED) |
| Alarm Audio | Signal Buzzer |
| Relay output | Dry contact output 24 VDC / 0.5 A / Resistive load |
| Alarm function Preset | System gives audio and light alarm by detection of any of the EAS supported modes |
| Power supply | Power over Ethernet |
| Energy Consumption | < 14 W max., < 3 W idle |
| Reader Power | Maximum 31,5 dBm (may be limited to conform to country or area regulations) Recommended max. 30 dBm |
| Radiated power | 2 W ERP, 3.2 W EIRP |
| Interface | Ethernet and USB |
| Transponder Protocol Standard | EPC Class1 Gen2 |
| Operating System | Linux - Fully open |
| Temperature range | -20°C to +55°C |
| Dimensions | Suspension mount 460 mm x 460 mm x 80 mm (18.1 in x 18.1 in x 3.1 in) Ceiling mount 460 mm x 460 mm x 121.5 mm (18.1 in x 18.1 in x 4.8 in) |
| Weight | Suspension mount Primary unit: 5.655 Kg (12.5 lb) - Secondary unit: 5.060 Kg (11.2 lb) Ceiling mount Primary unit: 6.375 Kg (14.1 lb) - Secondary unit: 5.780 Kg (12.8 lb) |
| Material Housing | Aluminum and methacrylate |
| Color | Off white |
| Human exposure | EN 50364 |
| EMC | EN 301 489, EN 300 220 |
| Air Interface (EU) | EN 302 208 v1.2 |

(1) RF conducted power is limited to 30 dBm.

(2) Open channel specified applies to ETSI/FCC versions.

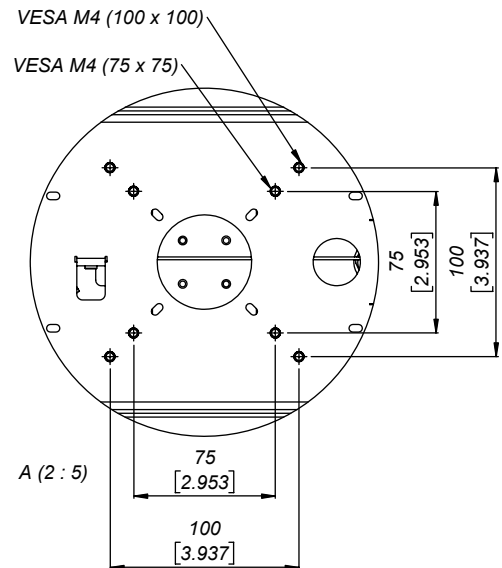
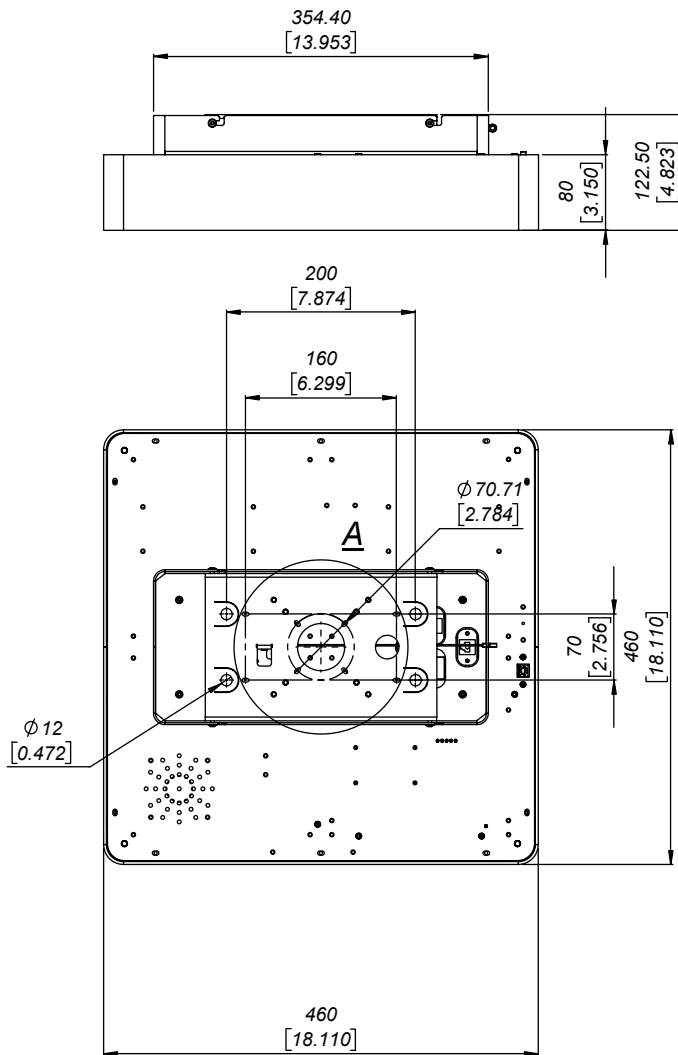
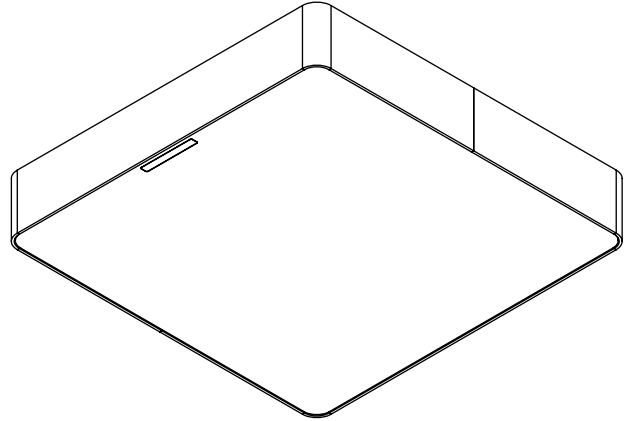
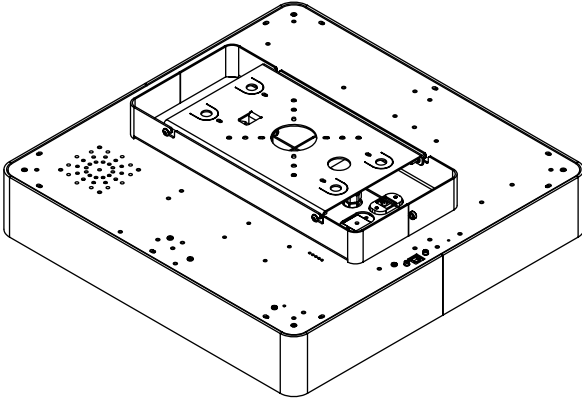
(3) Band is defined as a carrier sub-set from FCC. There is no specific Surface Acoustic Wave (SAW) filter for the band. Given the maximum conducted power there shouldn't be problems with local regulation.

Mechanical specifications of the model with suspended wires



Units in millimeters and [inches]

Mechanical specifications of the model ceiling mount



Units in millimeters and [inches]

Product codes for ordering

| ADSF | - | o | t | m | FF | - | BS | - | mmm | |
|------|---|---|---|---|----|---|----|---|-----|---|
| | | | | | | | | | | o = overhead |
| | | o | | | | | | | | overhead |
| | | | | | | | | | | t = type |
| | | | m | | | | | | | primary |
| | | | s | | | | | | | secondary |
| | | | | | | | | | | m = mount |
| | | | | c | | | | | | Ceiling mount (attached to the ceiling or suspended with a pole, pole not included) |
| | | | | s | | | | | | Suspended with metallic wires (included) |
| | | | | | | | | | | FF = frequency band |
| | | | | | EU | | | | | ETSI |
| | | | | | US | | | | | FCC |
| | | | | | CH | | | | | China |
| | | | | | | | | | | BS = beam shape |
| | | | | | | | 22 | | | Pencil beam shape (maximum gain) |
| | | | | | | | | | | mmm = model |
| | | | | | | | | | 200 | model number |

Examples:

ADSF-omcEU-22-200:

- AdvanSafe
- Overhead
- Primary unit
- Ceiling mount (attached to the ceiling or suspended with a pole)
- ETSI frequency band
- Pencil beam shape
- Model 200

ADSF-ossUS-22-200:

- AdvanSafe
- Overhead
- Secondary unit
- Suspension mount
- FCC frequency band
- Pencil beam shape
- Model 200



Copyright © Keonn Technologies S.L.
All rights reserved.

Information in this publication
supersedes all earlier versions.
Specifications subject to change
without notice.

