Metrasens Vantage User Guide

V2.0| 2025

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Foreword

The equipment described in this guide is subject to continuous development and improvement. Consequently, there may be minor variations in specifications, facilities or operations that are not covered in this guide. Every effort has been made to ensure that the information provided in this guide is accurate at the time of going to print. If any errors or omissions are noticed, please notify Metrasens Ltd.

The equipment must be operated and maintained only by suitably trained and qualified personnel.

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Patents

Metrasens screening technology used in Metrasens Ultra® is protected by the following patents and patent applications:

US 10,109,178 B2, US 10,431,067 B2, US 10438474 B2, US 10109177 B2, US 11,609,286 B2, US 11,550,074 B2, US 10,191176 B2, GB 2207417.3, GB 2912499, JP 6426101, JP 6426101, IT 2912499, P38257GB1, P38482GB1 and P38483GB1.

About this guide

This guide describes the operation of the Metrasens Vantage screening system.

It provides detailed information on the specifications, maintenance, features and operation of the System

It is intended for use by all technical personnel and suitably trained staff who operate the System.

Document version : v2.0

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Original language

English is the original language of this guide. If you are reading a translated version of this guide and have a question about the intended meaning of any translated text, always consult the original English-language guide. If you do not have a copy, please request a copy directly from Metrasens.

1. Warranty

1.1. OVERVIEW

The product is warrantied against defects in materials and workmanship for the period stated in the product terms and conditions of sale. The start date of any such warranty is the date of the invoice. However, if the product is installed by Metrasens (hereby known as The Company), or a Company approved service agent, the warranty will start from the date of the completed installation.

If the product fails within this warranty period, and the product has been used in accordance with this User Guide, The Company will repair or exchange the product at no charge, with a product at least functionally equivalent to the original product.

This warranty also covers any replacement products or parts provided as part of a warranty claim from the date of the replacement or repair for ninety days or for the remaining portion of the original product's warranty, whichever provides longer coverage. In the event of a warranty claim, the Customer is responsible for return shipping costs. The Company is responsible for repair and/or replacement costs and shipping costs back to the Customer.

1.2. EXCLUSIONS

This warranty does not apply:

- If the product has been tampered with in any way, this includes removal or defacement of serial numbers, opening the casing, or any modifications of any sort unless carried out by the Company itself or a Company approved Service agent. If an approved service agent is authorized to carry out any modifications this will be stated in writing by the Company.
- If the product has been damaged in any way, externally or internally. This includes damage caused by accident, water/dust ingress, abuse, misuse and/or misapplication.
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1.3. LIMITATIONS

To the maximum extent permitted by law, this warranty and the remedies set forth above are exclusive and in lieu of all other warranties, remedies, and conditions, whether oral or written, express or implied. The Company specifically disclaims any, and all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. If the Company cannot lawfully disclaim or exclude implied warranties under applicable law, then to the extent possible any claims under such implied warranties shall expire on the expiration of the warranty period.

To the maximum extent permitted by law, The Company is not responsible for direct, special, incidental, or consequential damages resulting from any breach of warranty or condition, or under any other legal theory. For consumers who have the benefit of consumer protection laws or regulations in their country of purchase or, if different, their country of residence, the benefits conferred by this warranty are in addition to all rights and remedies conveyed by such consumer protection laws and regulations. To the extent that liability under such consumer protection laws and regulations may be limited, The Company's liability is limited, at its sole option to replacement with a new or graded product, to a repair of the product or supply of the repair service again. No approved reseller, agent or employee is authorized to make any modification, extension, or addition to this warranty.

2. Important Information

2.1. CRITICAL SAFETY INFORMATION

Metrasens Vantage is designed for use outside the "9 Gauss" line.

Metrasens Vantage should not be used to replace current pre-MRI screening procedures.

The safety of staff and patients is best served by the combination of conscientious screening protocols; thorough staff training AND installation of a ferromagnetic detection system used in the correct manner.

All Metrasens ferromagnetic detection products are entirely passive in operation and are completely safe for your staff, patients, and MRI image quality.

2.2. INTENDED USE STATEMENT

Metrasens Vantage is a ferromagnetic detection system designed to be placed immediately outside an MR door (Zone IV entrance), or alternative locations deemed suitable by Metrasens certified personnel. Metrasens Vantage warns trained personnel whether potentially dangerous ferromagnetic objects, which could become projectiles and cause physical harm, are approaching an MR room.

2.3. MANUFACTURERS RECOMMENDATIONS

Metrasens Vantage augments MR facilities' existing safety practices.

- It is an additional final objective safety check immediately prior to the MR room.
- It should not be used as a replacement for any aspect of the existing safety protocols and methods.
- It should not be used to enable a weakening or diminishment of any aspect of the existing safety protocols and methods.
- Metrasens strongly encourages strengthening the existing MR safety protocols and methods in addition to adopting Metrasens Vantage.

Metrasens Vantage is intended to be used in the manner that is specified in this manual, otherwise the protection provided by the equipment may be impaired.

Metrasens Vantage should not be used if it is malfunctioning in any way.

Metrasens Vantage is an entry control system and is intended for use where people or equipment passing through the System will directly enter the MR room (zone IV).

Metrasens Vantage is intended to enable MR personnel to pass in and out of the MR room without triggering extraneous audible alarms due to magnetic interference caused by movement of the MR door.

The audible alarm is triggered when the System identifies a person within the vicinity of the MR door at the same time a ferrous object is being detected.

- Intentional avoidance of system detection in order to take ferrous objects into the MR room to avoid an audible alarm is not proper use of the Metrasens Vantage system.
- This also applies to passing any equipment into the MR room whilst circumventing the System's sensors.

ALWAYS

- Read all user guides and become fully acquainted with all aspects of using the equipment.
- Follow the recommended cleaning procedures.
- Ensure only Metrasens-approved replacement parts are used to maintain the equipment as alternatives may result in decreased performance and/or invalidate the warranty.
- Switch off the unit and call Metrasens if you suspect the unit is malfunctioning. Set out clear signage that the System is turned off and not detecting.

DO NOT

- Attempt to operate or maintain the equipment if you are unauthorized, unqualified, or unfit to do so.
- Make any modifications to the equipment without the express permission of Metrasens.
- Attempt to operate the equipment if it has not been properly installed as specified in the installation guide.
- Use the equipment if it is damaged or faulty in any way, or where there is any doubt about its safe operation.
- Attempt to operate the equipment outside of the specified operating parameters.
- Use the equipment for any purpose other than specified in the user guides.
- Attempt to operate the equipment in an environment not specified in this user guide.
- Open the casing of the detection module or view module. This action could cause the System to malfunction and automatically invalidate the warranty.

3. Technical specifications

3.1. HARDWARE

Visual Indication	Multi-color indicators reflect system status.
Audible Alerts	User-Configurable audio and volume for clear notification
System Display	7″ (17.8cm) color touchscreen with variable backlight
Mounting	Wall or ceiling mount (VESA FDMI MIS-D standard)
View Module Interface	RJ45 Connections to the View Module and System Display. *See Installation Manual for more details*

3.2. WEIGHTS AND DIMENSIONS

Part	Weight	Height	Width	Depth
Detection Module standalone	6.6lb (3kg)	53.9″ (137cm)	2.2″ (6cm)	3″ (7.8cm)
Detection Module with System Display	8lb (3.6kg)	59.5″ (151cm)	2.2″ (6cm)	3″ (7.8cm)
View Module	4lb (1.8kg)	7.8″ (19.8cm)	8″ (20.2cm)	6.3″ (16.1cm)

3.3. PACKAGING SPECIFICATIONS:

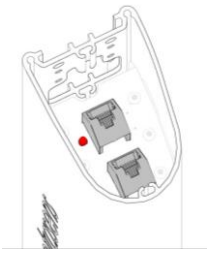
Part	Weight	Height	Width	Depth
Packaging as shipped	37lb (17kg)	8.7″ (22cm)	60″ (151cm)	14.2″ (36cm)

3.4. ELECTRICAL POWER

POE provides system power; specifications are outlined below.

Power over Ethernet (PoE) Port	PoE++ 802.3bt (Type 4) RJ45 Socket Located on View Module
Power over Ethernet (PoE) Source Requirements	PoE++ 802.3bt (Type 4). Must be rated to supply 90W at 52-57V.

3.5. CONNECTIVITY



Detection Systems	
View Module Interface RJ45	RJ45 Connections to the View Module and System Display. *See Installation Manual for more details.*
System Display RJ45	RJ45 Connections to the Detection Module. *See Installation Manual for more details.*
View Module	
Detection Modules Interface Connectors	RJ45 Connections to the Detection Modules. *See Installation Manual for more details.*
Cabling Requirements	CAT6 SFTP ethernet cable or above.
Dry Contact	SwitchCraft TA3FLX Contact closure occurs across pins 1 and 2. Maximum rating: 48V AC/DC, 2A Alert connection is made starting at the same time as the final alert turns red.

3.6. OPERATING CONDITIONS

- Metrasens Vantage is to be operated indoors only.
- Ambient temperature 5°C to 40°C humidity 20% to 90% (non-condensing).

4. Maintenance and service

The purpose of this section is to advise hospital/MRI staff on how to test the Metrasens Vantage ferromagnetic detection (FMD) system and to check that it is working properly to the specification it had when installed.

Every Metrasens Vantage installation is unique in terms of the magnetic environment it senses. During installation your system was optimized to its magnetic environment, and the specifics of testing are therefore unique to your site.

There is therefore no highly quantitative calibration test that can be performed in-situ. However, there are several procedures that may be adopted on a regular basis to ensure that Metrasens Vantage is fully functioning at its installed performance.

Your choice will depend, to an extent, upon the risk and safety policies of your unit. Here we outline the recommended procedures.

4.1. EQUIPMENT MAINTENANCE AND SERVICE

In the the unlikely event of a repair or upgrade being required, the performance of the System must subsequently be retested by a Metrasens approved engineer in accordance with the Installation and Setup Instructions prior to being put back into service.

There are no internal user serviceable parts internal to the System. If maintenance or servicing are required, please contact the Metrasens team.

4.2. WHAT TO DO IF YOU SUSPECT A FAULT

In order of priority.

1. Inform all staff who operate the MRI that there may be a fault and that they must be extra-vigilant.
2. Place a warning sign on the Sensor Units as a reminder.
3. Inform Metrasens immediately to arrange for an engineer to come out.

4.3. CLEANING

The exterior surfaces of the Metrasens Vantage system modules may be cleaned using a soft cloth dampened with an aqueous solution of detergent and or disinfectant of a type compatible with powder coated surfaces and plastic.

Cleaning agents suitable for use on computer monitors in the medical environment would typically be suitable for cleaning the System.

Care should be taken not to apply excessive quantities of liquid which might run or drip through joints in the product casing.

4.4. COMPLIANCE

Metrasens Vantage is designed, tested & certified in accordance with:

- EN IEC 61326-1:2021
- 47CFR15.247 & RSS-247
- Relevant components of EN 300 328 V2.2.2 (2019-07)

This equipment has been certified by Element Materials Technology to UL 61010-1, 3rd Edition, 2012-05-11 and CSA C22.2 No. 61010-1-12 (R2022).

Metrasens Vantage is CE and UKCA marked.

For copies of compliance certificates, please contact Metrasens directly.

5. Introduction

Metrasens Vantage represents the next generation in ferromagnetic detection (FMD) technology — a system engineered to deliver superior detection performance, intelligent adaptability, and seamless user experience. Built on years of innovation leadership, Vantage redefines safety and efficiency in MRI environments through its combination of advanced sensing, artificial intelligence, and human-centered design.

At its core, Vantage employs advanced algorithms for consistent and reliable ferromagnetic detection, even in the most challenging operational settings**.** Adaptive calibration and advanced signal processing work in harmony to minimize environmental interference, ensuring optimal sensitivity and accuracy. Its future-proof design is already compatible with the upcoming 9-gauss line transition, protecting your investment for years to come.

Harnessing AI-driven people tracking and intent sensing, Vantage can deliver context-aware alerts based on the precise position and behavior of individuals. Configurable alert regions provide early and final warning zones, while integrated floor lighting enhances situational awareness from Zones 3 and 4. The System also features smart door monitoring that generates context-sensitive alerts for open- or closed-door states, ensuring safety at every stage of access.

A large 7-inch touchscreen interface offers intuitive control and intelligent feedback, simplifying operation for all users**.** Authorized personnel recognition enables Vantage to adapt its behavior dynamically, including distinct alert patterns and permissions. In addition, the ferromagnetic object position display allows for precise threat localization, improving response times and overall situational management.

Vantage extends its capabilities beyond the immediate environment with a system manager accessible from any network-connected device with features such as remote monitoring, system customization, audit trail reporting and software updates. MRI safety insights, powered by Metrasens IQ, deliver actionable analytics from real-time system usage, helping teams continuously improve safety protocols. For facilities requiring additional data protection, an optional secure connectivity solution allows for fully independent operation without linking to hospital networks.

6. System overview

Metrasens Vantage is comprised of detection modules and a view module. The detection modules mount on either side of the door (or entranceway) and holds the magnetic sensors used for FMD.

The handle side of the System also has the touch screen System Display mounted to the top of the detection module on that side.

The view module contains the control centre of the System, along with the optical array and speaker.

No.	Item	Description
1	View Module	Houses control center for system.
2	System Display	Provides visual, system information.
3	Detection Modules	Houses FMD sensors.
4	Alert Status Lights	Color displays related to alert type.

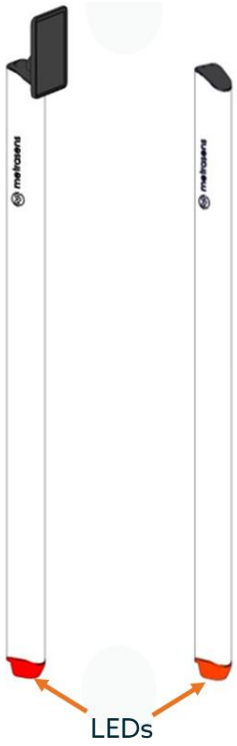
The detection modules have floor flooding LEDs, which are the Alert Status lights, located at the bottom of the unit.

These change colour due to an alert or user action and are visible from both Zones III and IV, enhancing your ability to prevent unsafe entries.

One module (typically on the side of the door handle) has the System Display mounted at the top.

This provides information on the System. The display changes to provide feedback on alerts, system behaviour, risk level indicator, zonal detection, people in the scene, and erroneous alarms.

This is how the user interacts with the System.



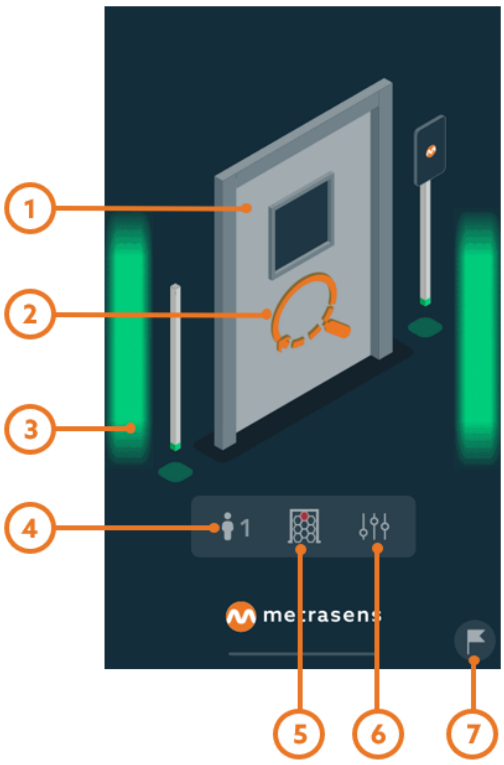
7. Operating the System

The System has two visual displays that provide information to the user, the System Display and the System manager

7.1. SYSTEM DISPLAY

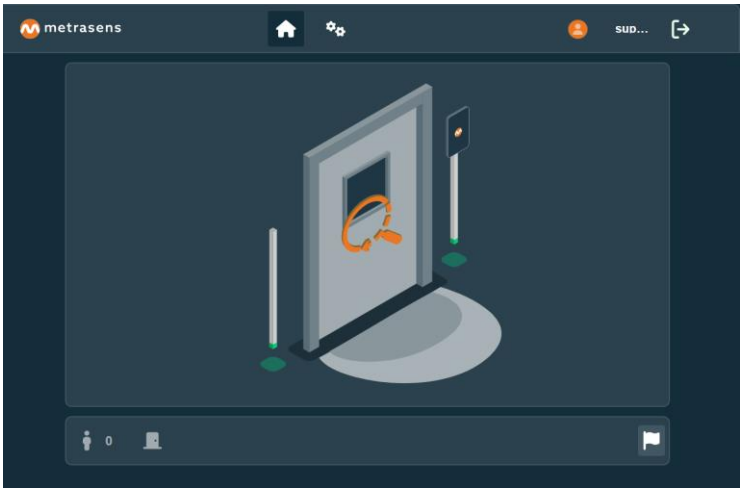
The System Display, which is located on top of one of the detection modules, typically on the side of the door handle, provides information on the detection system.

The display changes to provide feedback on alerts, system behaviour, risk level indicator, zonal detection, people in scene, and erroneous alarms.



No.	Feature Name	Feature Description
1	Door Status	Shows whether the door is Open or Closed.
2	Alert Status	Displays the current Alert status. See 8.1 Alert Types.
3	Risk Level Indicator	Indicates the magnetic risk level. A higher level suggests a higher-risk ferromagnetic item approaching the door.
4	People Count	Displays the number of people detected in front of the door.
5	Location Information	Displays the location of the most recently detected ferromagnetic item.
6	Settings	Provides access to screen brightness controls.
7	Event Flag	Used to flag events for diagnostics and troubleshooting.

7.2. SYSTEM MANAGER



The System Manager provides a web-based access to view a live feed (if enabled) or visual representation of the entryway. It also shows system information such as alert status; door status and people count and is intended to be viewed from the control desk.

The System Manager is where users can configure the volume and brightness of the connected system, and where Super Users can customize the System further.

7.3. PERMISSION LEVELS

The System Manager contains two permission levels – 'User' and 'Super User'. Metrasens recommends that a standard user profile be assigned to MR personnel who are interacting with the System on a day-to-day basis to monitor patient safety.

The Super User profile should be reserved for the MRSO, MRMD or manager/supervisor of the MR department.

Following a successful log-in to the System Manager, the view will automatically populate icons dependent on the permission level of the user.

User		Super User	
	Home/Live View		Home Live View
	View Account Information (Personal user profile only)		View account information (all users) Add/Delete Users
			Settings – provides access to the following options:
			View Software Version/Check for updates
			Alert Configuration
			Advanced Alert Configuration
			Account Settings – Manage All Users, Add New Users
			Event Log
			Network Settings

7.4. ACCESSING THE SYSTEM MANAGER

To log in to the System Manager, follow these steps:

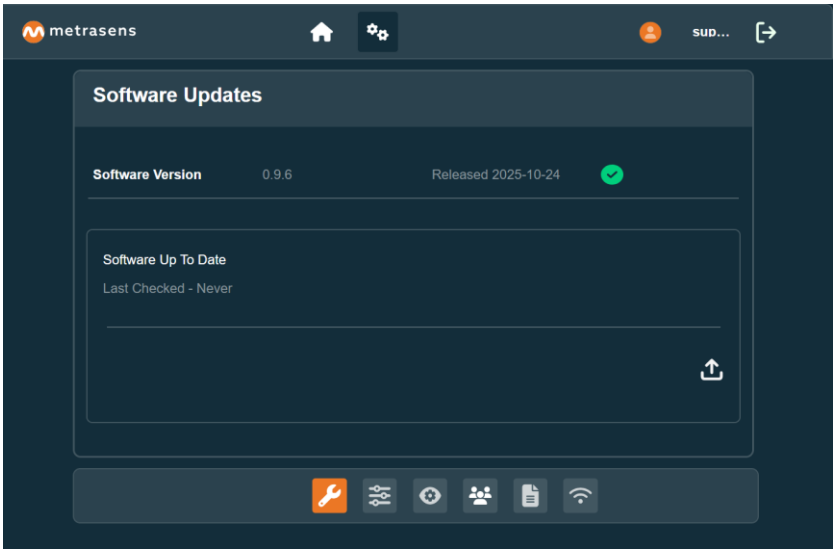
1. Open your web browser
2. Type the IP address that has been assigned to the Metrasens Vantage system, into the URL bar. If you don't know the IP address, please contact your IT department.
3. Once you access the System Manager, we recommend creating a shortcut or bookmarking the page for easier access in the future.
4. Log in to the portal using your credentials. If you don't have a username and password, please contact your department's manager, who will be able to add you as a user.

7.5. SOFTWARE STATUS PAGE

The software status page provides details of the current software version and notifies the user if there is an updated version of Metrasens Vantage software available to install.

It is important to check the software status page at regular intervals to ensure that your system is optimised with the latest firmware release.

This page will also provide release notes to accompany any software changes. The release notes will explain the contents of the release and provide links to any documentation or training changes that may occur due to the release.



If a new software version is available, the screen will display **'Software Update Available'** with the version number, the date that the software version was released and the release notes.

Clicking the upload icon will initiate the software update process which will take approximately 20minutes, during which time the System will not be actively screening. It is recommended that the software update is performed out of hours, or during a scheduled quiet period.

7.6. ALERT CONFIGURATION

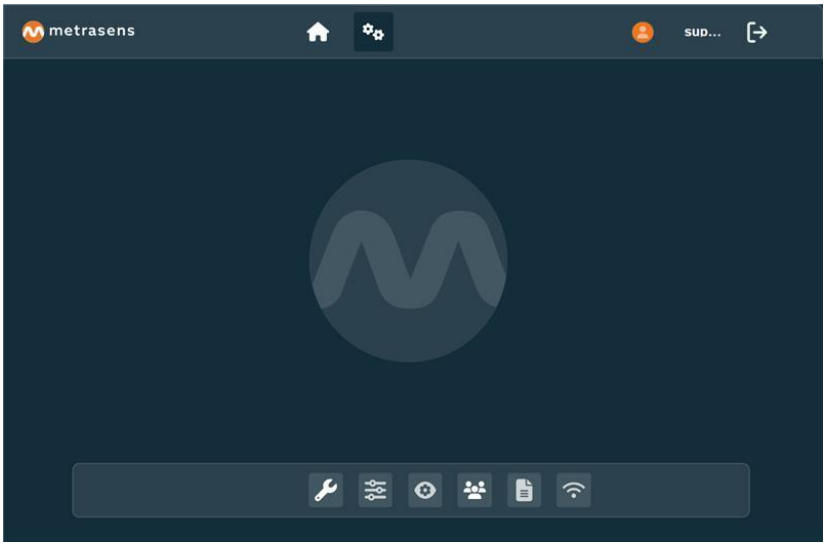
Metrasens Vantage allows for alerts to be adjusted to suit the needs of the facility.

Access to the configuration options is locked to Super User permission levels.

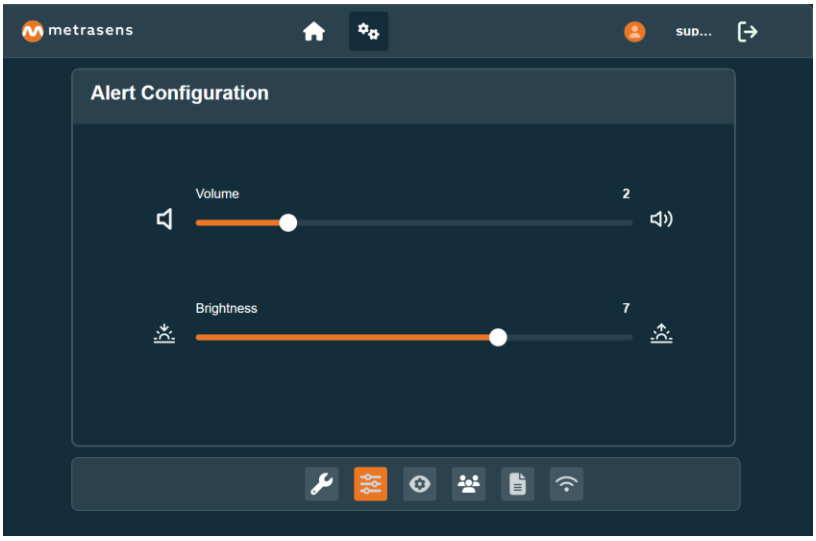
When logged in as a Super User navigate to the settings page by clicking on the icon at the top of the web portal page.

The two icons for alert configuration are located at the bottom of the screen:

- Alert Configuration
- Advanced Alert Configuration



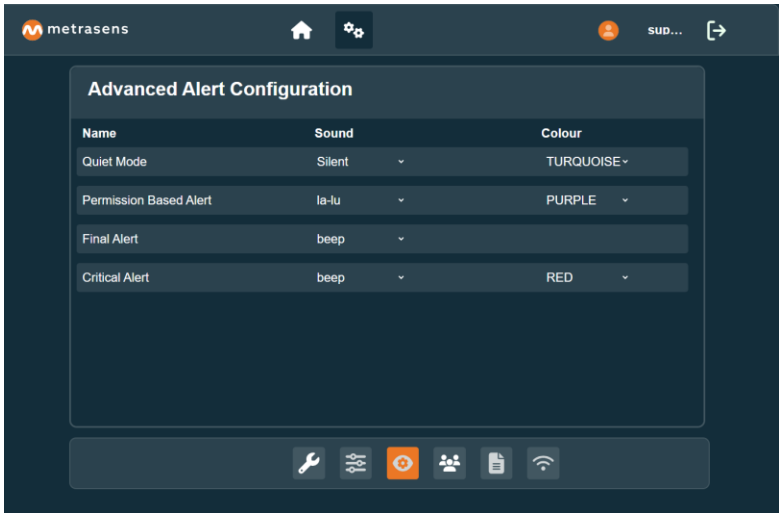
The Alert Configuration page allows the volume and brightness of the connected system to be changed.



If you are a user of the System without access to these settings and require changes to be made, please consult your registered Super User.

7.7. ADVANCED ALERT CONFIGURATION

The advanced Alert Configuration page allows the sound and LED color to be changed for each alert made by the Vantage system.

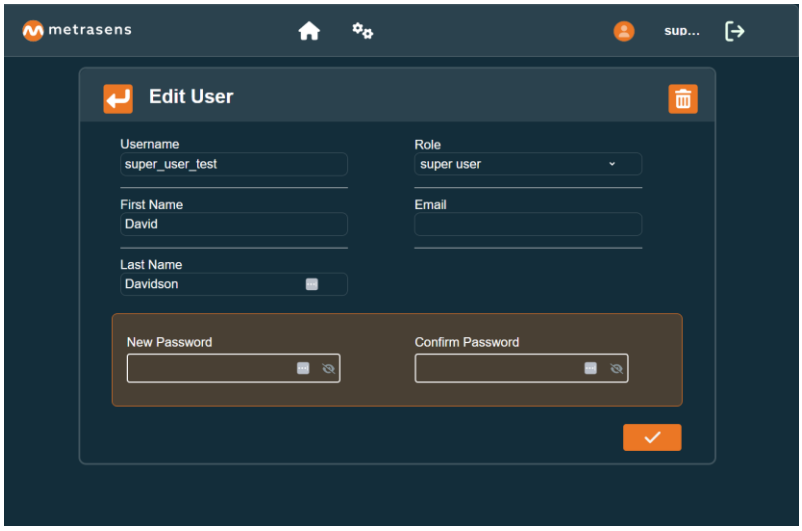


The table below explains the configurable items within the advanced alert configuration options:

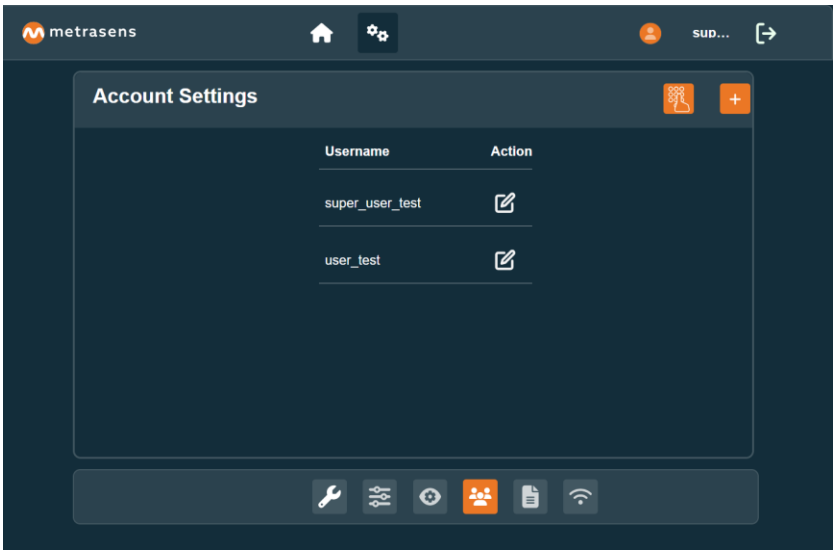
Parameter	Description	Default Setting	Options
Sound	The sound played when an alert is triggered	***La-Lu.wav*** – Permission Based Final alert ***Beep.wav*** – Non tech final alert, critical alert	No Sound Beep Gentle Chime
Color	Colors of the LEDs for different alert types	***Early***: Amber ***Non-tech final***: Red ***Permission Based -Final***: Purple ***Quiet Mode:*** Turquoise ***Critical***: Red	Each option can choose from: Red Blue Green Turquoise Amber Purple

7.8. ACCOUNT SETTINGS

Selecting the icon from the home page will navigate directly to the current user account information screen.

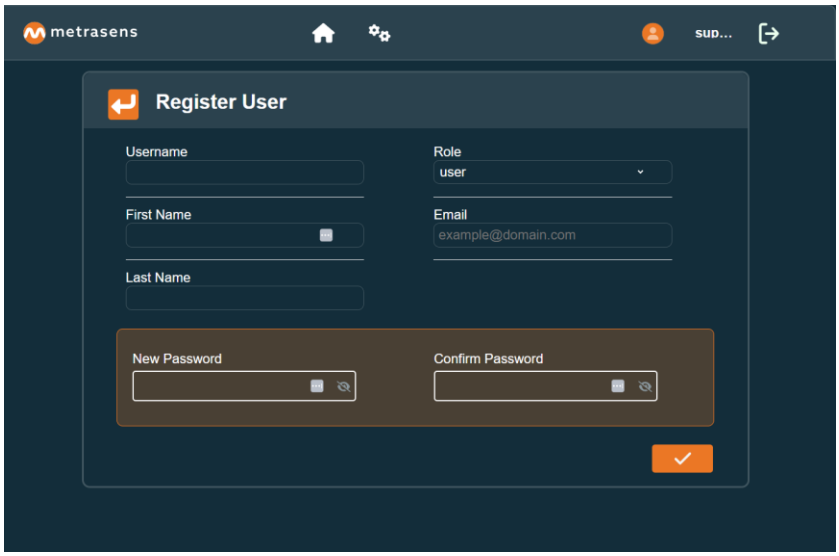


For a Super User, selecting the icon opens the account settings area where the profile information of all users can be viewed and edited, or where a Super User can add additional users.



Clicking the icon next to the username will open account information and allow changes to be made. *Only Super Users will see all accounts added within the facility.*

Metrasens installation engineers and Super Users have the necessary permission level to register additional users to the System Manager.



To register a new user, click the + icon on the account information page.

Once the information is entered, and the 'Role' level has been chosen, select the ✓ to save changes.

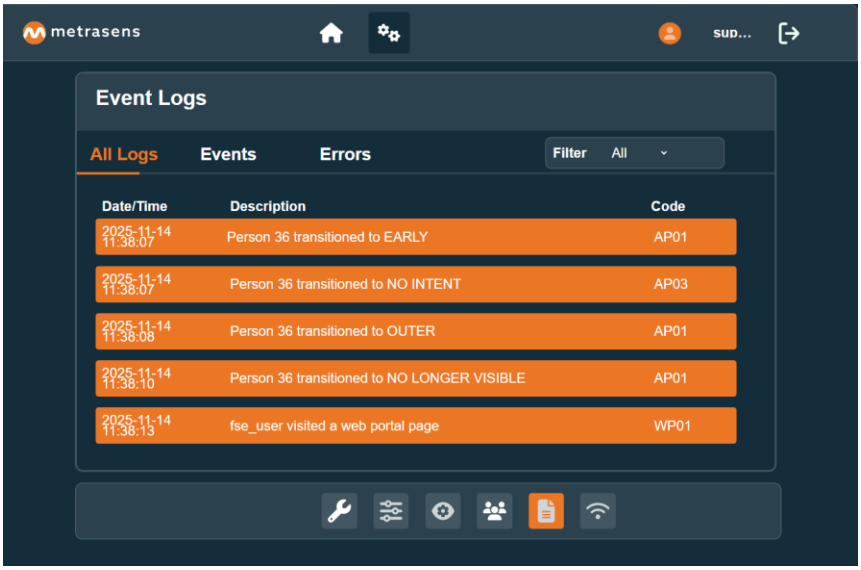
The new user will then appear in the account information page when viewed as a Super User.

7.9. EVENT LOGS

The event log page records and displays information captured by the Metrasens Vantage system from alerts and config changes to web portal activity.

These can be filtered by Events or Errors, and contain time/date stamps, a brief description and code that can be provided to Metrasens if support is required.

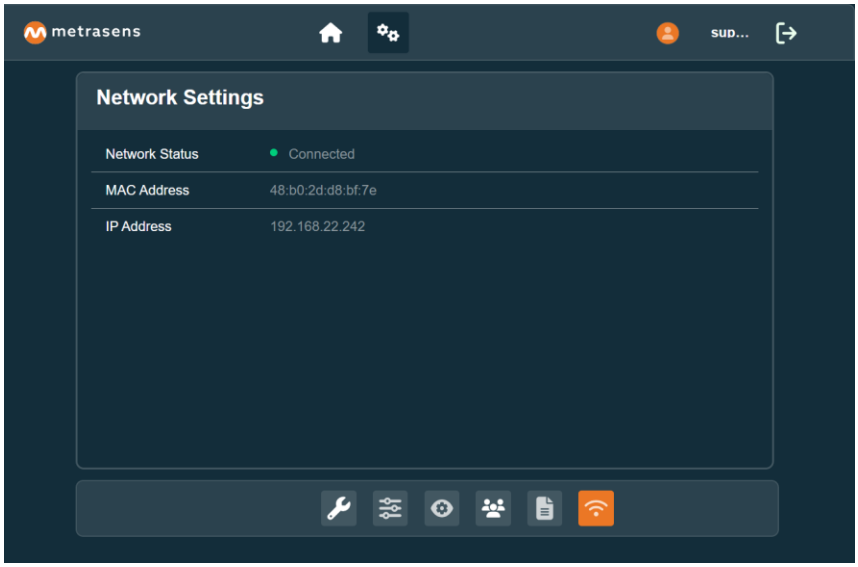
Detailed reports and analytics are provided through Metrasens IQ. Please see Section 10 for more information.



7.10. NETWORK SETTINGS

The connectivity page is where users can find out system information such as the IP/Mac address of the System, and where connection status can be checked.

In the event of a network or system level error, that would result in a system being offline, an error message would also be sent to the Event log as an Error entry.



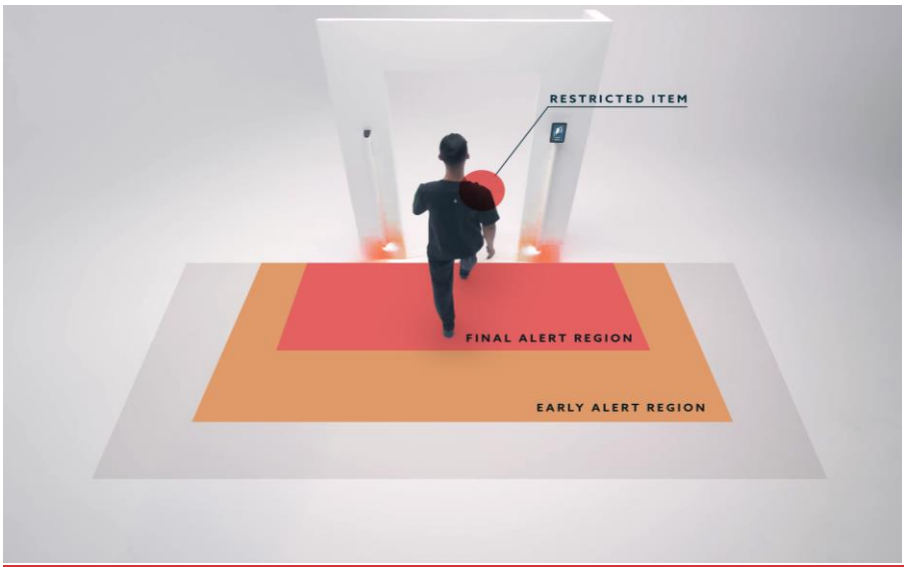
7.11. DETECTION REGIONS

Metrasens Vantage features different configurable detection regions:

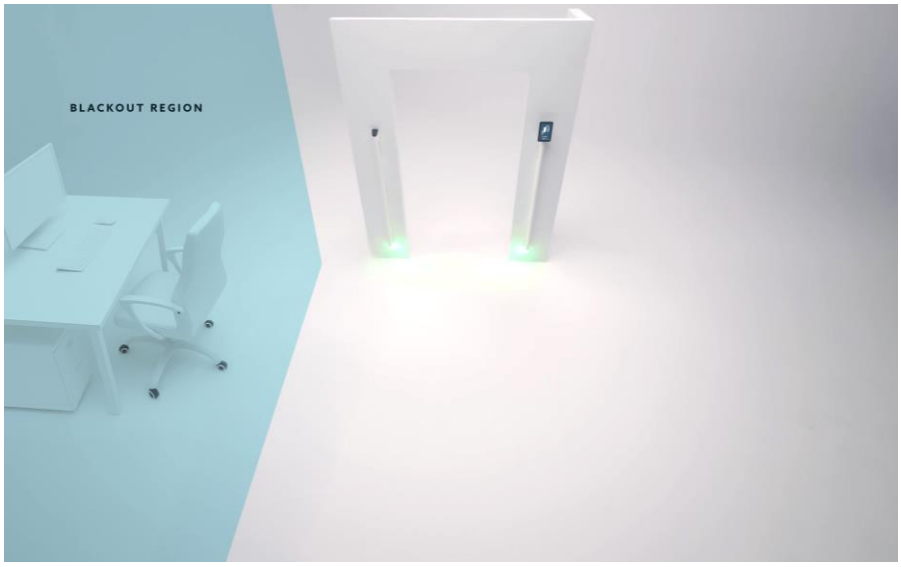
- **Early region:** This configurable area is set up as the early detection region, and alerts can be configured to behave in a specific way when a ferromagnetic object is detected.
- **Final region**: A configurable area, this is the final alert zone before the threshold to the MR room.

These regions are explicitly configured for each environment during installation to enhance safety and can be modified via the System Manager only when a customer is provided with assisted access to the FSE section of the platform.

To request a modification to the configured detection regions, please contact Metrasens Customer Success team: *support@metrasens.com*



7.12. BLACKOUT REGIONS



Visual representation of blackout region configuration

The optical array *(housed in the Metrasens View Module)* has a large field of view that can cover areas other than the entryway/detection regions.

Blackout regions can be configured to ignore specific areas in view, reducing nuisance alerts from people who are not interacting with the System e.g. the control desk.

***N**ote:*

> *Any person in a blackout region will be ignored; however, any magnetic signal they produced cannot be distinguished from that of another person who may be interacting with the Vantage system.*

Once blackout regions have been created, and are active, the person shown at the control desk is ignored.

Blackout regions, like Detection regions, are configured by a Metrasens specialist to enhance safety for your specific MR environment.

These regions can be modified by contracting Metrasens Customer Success team at: support@metrasens.com

7.13. PERMISSION BASED IDENTIFICATION

Permission based identification is a feature unique to Metrasens Vantage where authorized personnel are identified to the System using one of three methods: Lanyards, armbands or reflective stickers.

Once users wear one of the three Metrasens Permission ID methods, the System will automatically recognize an approved user and react according to the users' configured settings, producing a unique alarm sound and color for an alert in the final region caused by an authorized person.

If the System detects the presence of a user with a Permission Based ID tag visible, the Quiet Mode option will also become available on the System Display screen.

These settings can be changed by a Super User or Metrasens Installation engineer.

LANYARDS

Metrasens custom lanyards are provided and can be used to carry standard personnel identification.

Ensure the lanyard is worn around the neck on the outside of any clothing so that it can be seen by the View Module. If hair would naturally lie on top of the lanyard, consider tying it back for more consistent Vantage behavior.

ARMBANDS

Metrasens custom armbands are provided upon with the product but are available in a range of sizes

Ensure the armband is worn above the elbow on the outside of any clothing. For consistent Vantage behavior, make sure the armband can be seen by the View Module.

REFLECTIVE BADGE STICKERS

The sticker should be applied to a suitable item such as a badge holder or ID reel, ensuring that it does not cover any existing information

If a sticker is being applied to a badge, activate Quiet Mode by raising the badge into view of the View Module when standing close to the door. The GUI will then display the Quiet Mode button. For most consistent Vantage behaviour, raise the badge slightly above one shoulder. This will be required every time you wish to activate Quiet Mode.

Stickers on a badge are not recommended for permission-based alerts due to the badge only being visible to the View Module when explicitly moved to be.

8. Alert behaviour

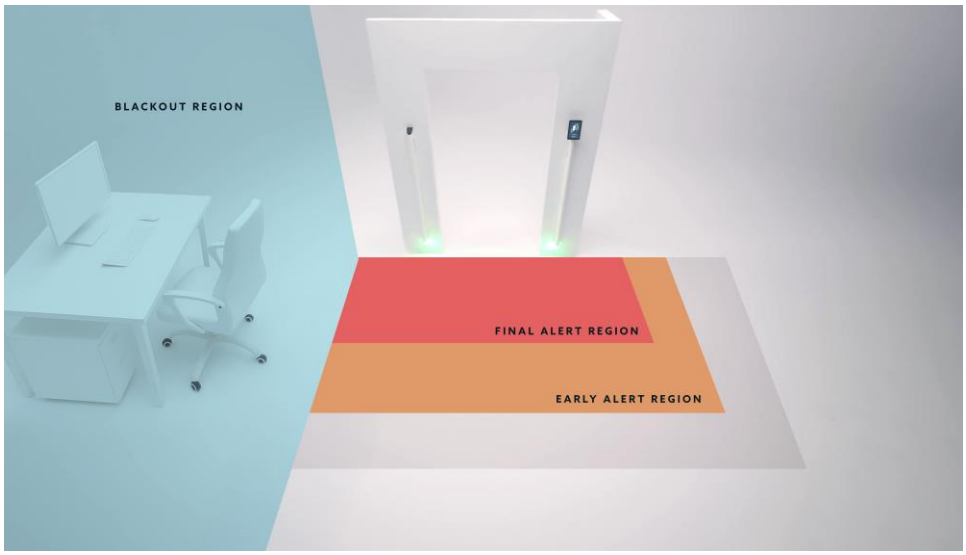
When a person approaches the door, the Metrasens Vantage system uses information from several factors to determine if there is a risk of a ferromagnetic object entering Zone IV.

The System will trigger an alert, either audible, visual, or both, when a series of conditions are met, not only dependent on the magnetic signal present, but also on the status of the door, the location of a person, and the System's configuration.

8.1. ALERT TYPES

The default settings on Metrasens Vantage produce the following alerts, all of which are configurable.

- No alert – Green lights, no sound
- Early alert – Amber lights, alert sound
- Final alert – Red lights, alert sound
- Critical alert – Red lights, alert sound



Early Alert: Triggered when a person is detected in the early region and the magnetic signal detected above the detection level.

This alert changes the System LEDs to orange, and the System Display shows the early alert icon.

System Display, Early Alert, Open and Closed Door Views

Final Alert: Triggered when a person is detected in the final region and the magnetic signal detected above the detection level. This alert changes the System LEDs to red, produces an alert sound, and the System Display shows the final alert icon.

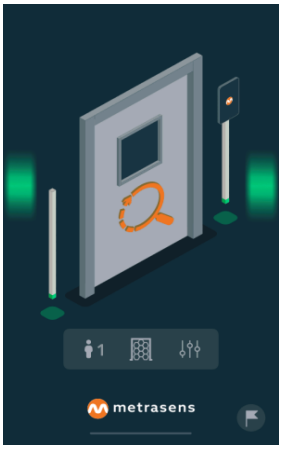
System Display, Final Alert, Open and Closed Door Views

8.2. ENTRY SCREENING

When a person approaches the door there are several conditions to be met for the System to enable *'Entry Screening'*

- A person has been detected in the scene
- The System has not detected a ferromagnetic object on the person in the Early or Final regions
- The door to Zone IV is stationary *(best practice is closed)*

If these are all met, the System Display will show the 'Ready to Screen' graphic:



'Ready to Screen' graphic with stationary magnifying glass

Screened → Safe to enter

When a person approaching the closed door has been screened and deemed safe to enter, the System Display changes from *'Screening'* to *'Safe to enter'*.

Scenario:

- A person is detected at door, and the System has sufficient time to screen the person without attempting to open the door *(the orange magnifying glass will be moving, signifying screening)*
- The System determines that the person is not carrying any ferromagnetic items and so the System Display shows *'Door closed, Safe to enter'* and then 'Door open, Safe to enter' graphics.

System Display showing System Screening (animated magnifying glass)

System Display showing 'Door Closed, safe to enter' (Person has been determined not to be ferrous)

System Display showing 'Door Open Safe to enter' (no change in ferrous signature)

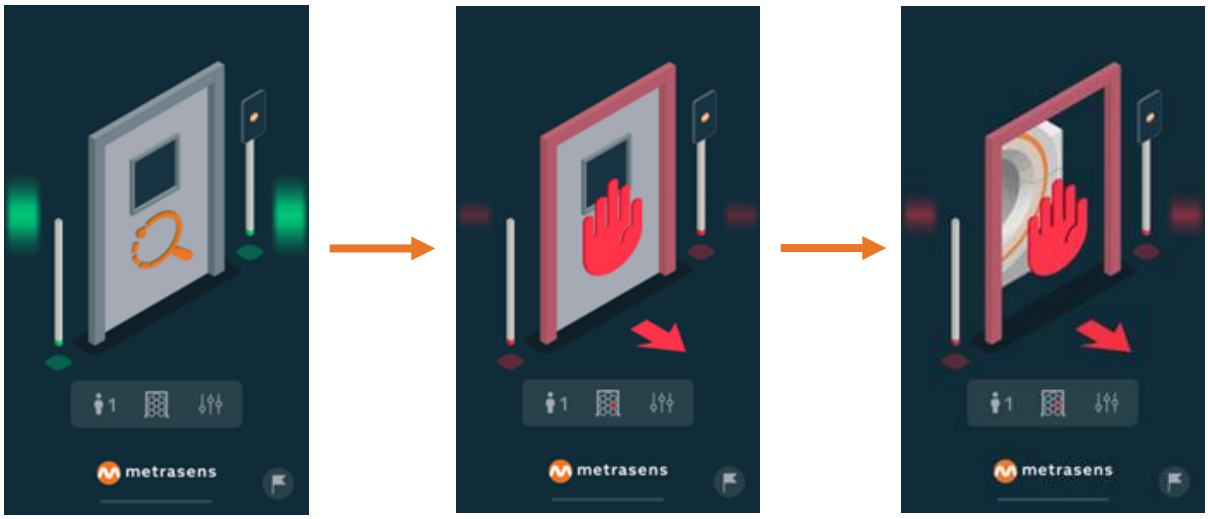
Screened → Not Safe to enter.

When a person approaching the door has been screened, and deemed unsafe to enter, the System Display changes from *'Screening'* to *'Do not enter'* and an alert occurs *(visual only, or audio+visual).*

To be cleared for entry after this notification, shut the door and wait for the System to reset to the System screening graphic *(green lights, orange magnifying glass).*

Scenario:

- A person is detected at door, and the System has sufficient time to screen the person without attempting to open the door.
- The System determines that the person is carrying a ferromagnetic object
- The System Display shows a *'Door closed, not safe to enter'* graphic, and a further *'Door open, not safe to enter'* graphic if the initial warning is ignored, accompanied by an audible alarm.



System Display showing System Screening (animated magnifying glass)

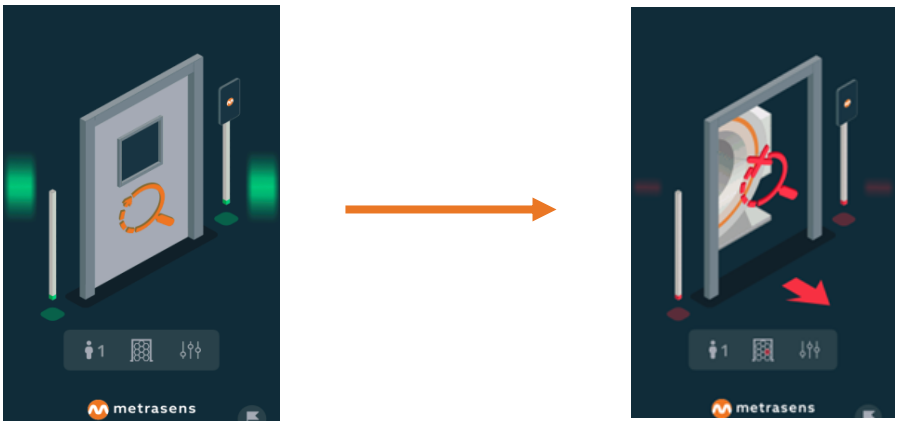
System Display showing 'Door Closed, not safe to enter' (Person has been determined to be

System Display showing 'Door Open not safe to enter' (if initial warning is ignored)

Unscreened → Not Safe to Enter

Scenario:

- A person is detected at door, and attempts to open the door before the System has had sufficient time to screen the person
- To ensure safety, the System presents an *'Unsafe to enter'* screen, and Alarms – this is because the FMD cannot identify that the source of the magnetic signature is from the person, or the Zone IV door itself.



System Display: System Screening (magnifying glass started to move)

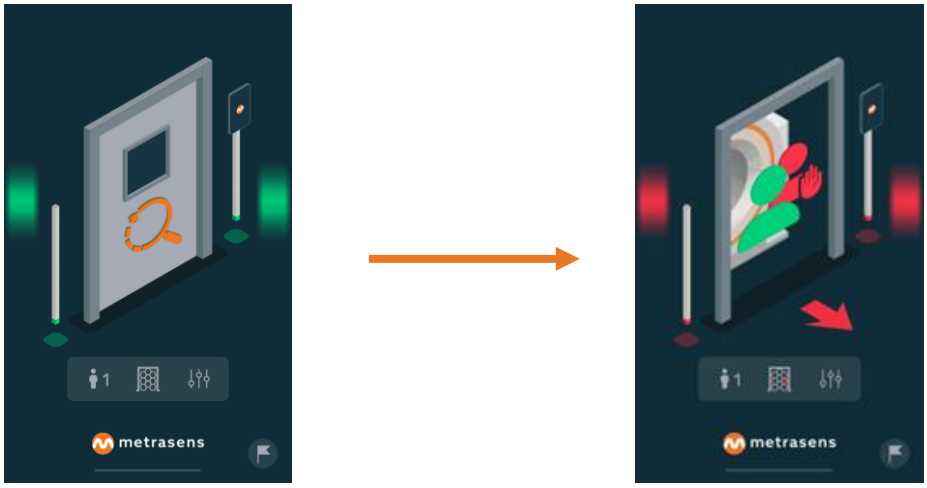
System Display: User Not Screened, Unsafe to enter

Tailgating Alert:

When a person tries to follow someone into the room when the door is moving, the System will alert, and a *'Tailgating alert'* will show on the System Display.

Scenario:

- The first person approaches the door, is screened safe to enter, then begins to open the door. As the door is moving, a second person approaches the door, tailgating into Zone IV.
- Tailgating is an unsafe practice because the FMD cannot distinguish the source of the magnetic signature. It only knows if ferromagnetic objects are present. Implementing a single-entry workflow ensures that any threats are removed from the appropriate person.



System Display: System Screening

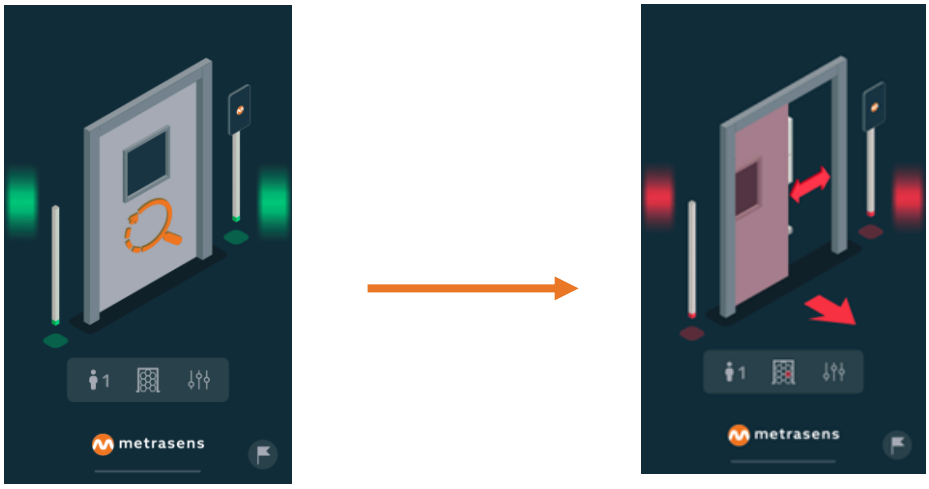
System Display: Tailgating Alert

Door Alert

A door alert occurs when a person who was not close enough to the System to be adequately screened before the door started moving attempts to enter Zone IV anyway.

Scenario:

- A person enters the scene and is a significant distance (only close enough to be partially screened) from the door when it starts to move.
- Partial screening means that the person won't cause an alarm unless they try to enter Zone IV – *(actions such as closing the door to will not cause an alarm)*
- If the System identifies this person as crossing the boundary between the final region and Zone IV, it will instantly alarm with the "door moving" alert, because the FMD System was unable to fully screen the person before the door started moving.



System Display: System Screening

System Display: Door Alert

8.3. LOCATION IDENTIFICATION

When a final alert occurs, an approximation of the item location is made. The most recent alert location is displayed on the System Display, with a larger image displayed if the 'Location Identification' icon is pressed.

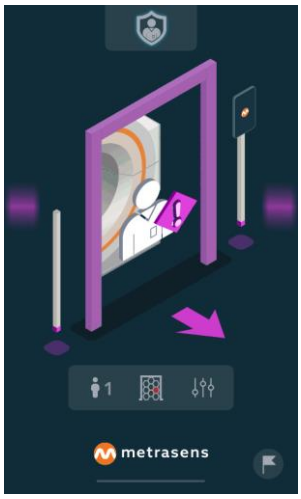
Once selected, the expanded view will disappear within a few seconds.

System Display, Location Information, Latest Alert Location, and Detailed Views

8.4. PERMISSION-BASED ALERTS

A feature with Metrasens Vantage is Permission-Based Alerts. This feature enables the System to identify pre-screened, authorized personnel, allowing Vantage to behave differently. This recognition is achieved by one of three methods: lanyards, armbands, or stickers.

The System's behaviour for people wearing any of these tags can be configured based on the customer's preference.



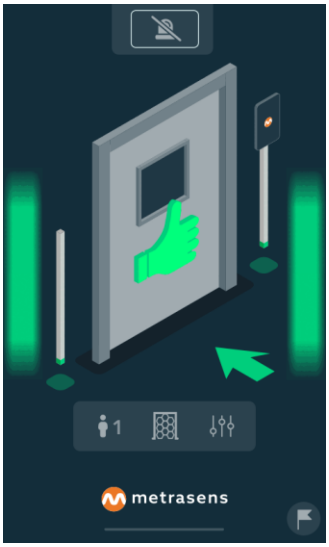
System Display, Permission based final alert view

8.5. QUIET MODE BUTTON

MR Conditional equipment may contain enough ferromagnetic components to produce an alert. To prevent extraneous alerts during entry to Zone IV with this equipment, use the Quiet Mode button. This option is only available for those who are utilizing the Permission-Based Alerts feature and will automatically become available on the System Display, when the System registers a user wearing a Permission-Based Alert tag.

Note:

> *Utilization should only occur after a full stop final check has been performed and all equipment and personnel have been deemed safe to enter Zone IV. Activating the Quiet Mode Button will silence all alarms during entry into Zone IV despite the presence of ferromagnetic objects.*



System Display, Main Screen with Quiet Mode Button View

When the System detects authorized personnel in the final region, the Quiet Mode Button appears on the System Display. Once activated, the System Display changes, and the System LEDs turn blue by default *(this is a configurable option)*.

The System will stay in this mode until either:

- The door is closed after being initially opened.
- Quiet mode timeout *(60 seconds)*
- No person is detected by the System.
- The user (Pressing the Quiet Mode button again) deactivates Quiet Mode

System Display, Quiet Mode Activated Views

9. Tips For Effective Use

In alignment with ACR recommendations, FMD systems should be placed prior to entry to Zone IV, and patient screeners, such as Metrasens Ultra, should be positioned before entry into Zone III.

1. Screen patients with your Metrasens Ultra in Zone II.
2. Mount the Metrasens Vantage system at the entrance to Zone IV.
3. As you approach the Zone IV door, pay attention to the System Display:

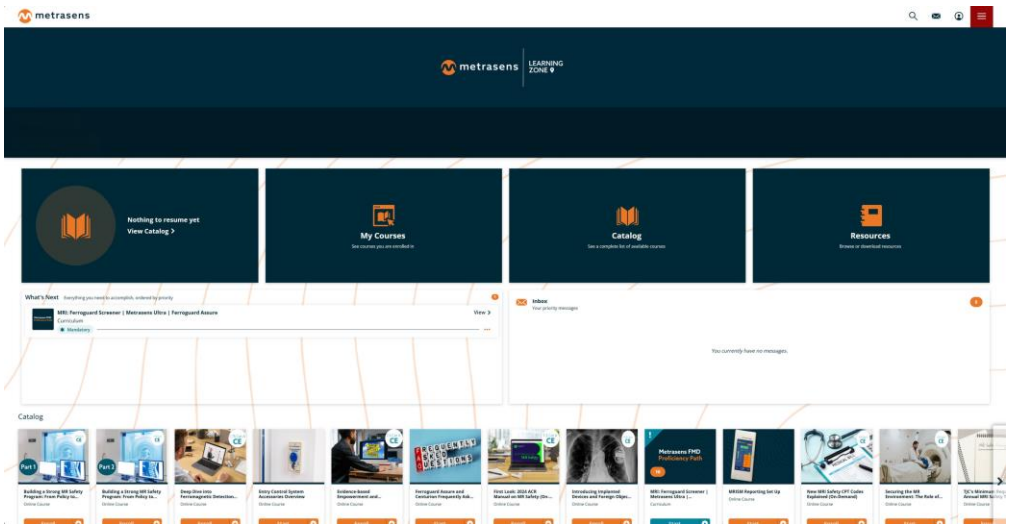
    (i) **Green Arrow**: Proceed with entry
    (ii) **Red Hand** (indicating stop): Retreat from the door and screen for MR unsafe objects.
    (iii) Attempt to enter again.
    (iv) Once you have safely entered, instruct patient to enter.

4. From inside Zone IV, pay close attention to the floor flooding LEDs for any alerts caused by the patient.

5. If you or anyone else in the scene has not been properly cleared to enter Zone IV and an entry occurs while the door is moving, the System will alert and display this alert status. If this happens:

    (i) Stop the door moving
    (ii) Move into the final detection region
    (iii) Repeat screening procedure outlined in step 2.

For in-depth training on Metrasens Vantage please contact Metrasens Customer Success team or your sales representative for instructions on how to access Metrasens Learning Zone, our dedicated on-line, interactive training and education service.



10. Metrasens IQ

Metrasens IQ provides managers with access to the data and analytics from your connected Metrasens Vantage system. Together these insights empower workflow optimization, data-driven training and confident compliance so you can continually elevate MRI safety.

ACTIONABLE SAFETY DATA

Track key metrics such as alert rates, open-door time, and response patterns to reveal trends and deviations.

EVENT TRACKING & REPLAY

Reconstruct real events with synchronized door status, alerts and staff actions to uncover root causes.

COMPREHENSIVE SAFETY REPORTING

Generate clear, data-rich reports on safety activity, performance and compliance.

AI-INSIGHTS

Harness AI-powered analytics to spot real-time trends, uncover causes behind alert spikes, and take proactive steps to strenghten MRI safety protocols.

For information about accessing Metrasens IQ please contact support@metrasens.com or speak to your sales representative.

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