metrasens

Metrasens Ultra® Connectivity

V.2.0 | 2023

Contents

1. Connecting Via An Ethernet Connection

The Metrasens Ultra system provides a cyber-secure network interface, allowing remote management, data collection and event analysis, plus real-time integration to a facility's security or video management system.

One solution for managing the Metrasens Ultra system is to use the dedicated Metrasens SMS laptop application which provides several features, including the ability to:

- Collect, view, and export any connected event log.
- Remotely view any connected Metrasens Ultra system's status in real time for alerts.
- Check for any available Metrasens Ultra software upgrades and update the system with any new functionality (subject to a current support contract).

For full details on the SMS laptop application please see the 'SMS User Guide' located in the Metrasens Ultra documents section at www.metrasens.com/documentation.

Alternatively, the Metrasens Ultra system can be integrated into third-party security management system or Video management systems, using the Metrasens Ultra secure WebAPI / RESTAPI interface. Once authenticated, the Metrasens Ultra web server supports a wide range of function calls, enabling the third-party application to query or control many aspects of the Metrasens Ultra system's operation.

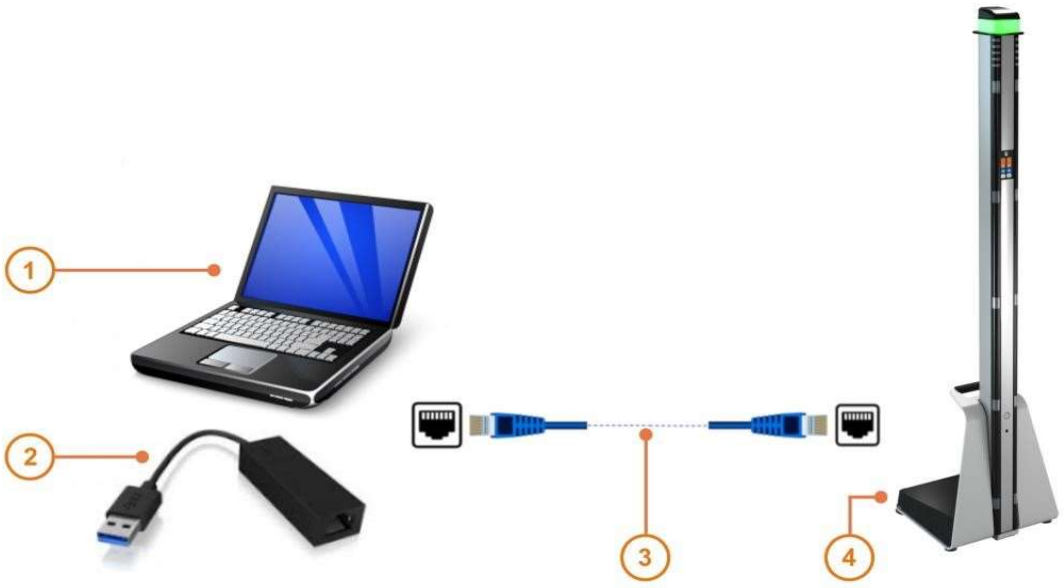
1.1 ETHERNET CONNECTIONS

Before using either the SMS application or the WebAPI client interface, the Metrasens Ultra system needs to be connected to the laptop, or the facility's network infrastructure using a direct-wired Ethernet connection.

1.2 DIRECT ETHERNET CONNECTION

For a peer-to-peer direct connection, use a Cat 5+ cable to connect the laptop's Ethernet port directly to the Metrasens Ultra system's Ethernet port, as illustrated below.

This type of connection would typically be used in a portable system where the screening location changes, or where there is no Ethernet network infrastructure.



Number	Item Description
1	Laptop running the SMS application.
2	Ethernet adapter (optional requirement). Laptops with no built in Ethernet port can use a USB to Gigabit Ethernet adapter.
3	Cat 5+ RJ45 Ethernet Cable.
4	Metrasens Ultra System.

1.3 ETHERNET CONNECTION CONSIDERATIONS

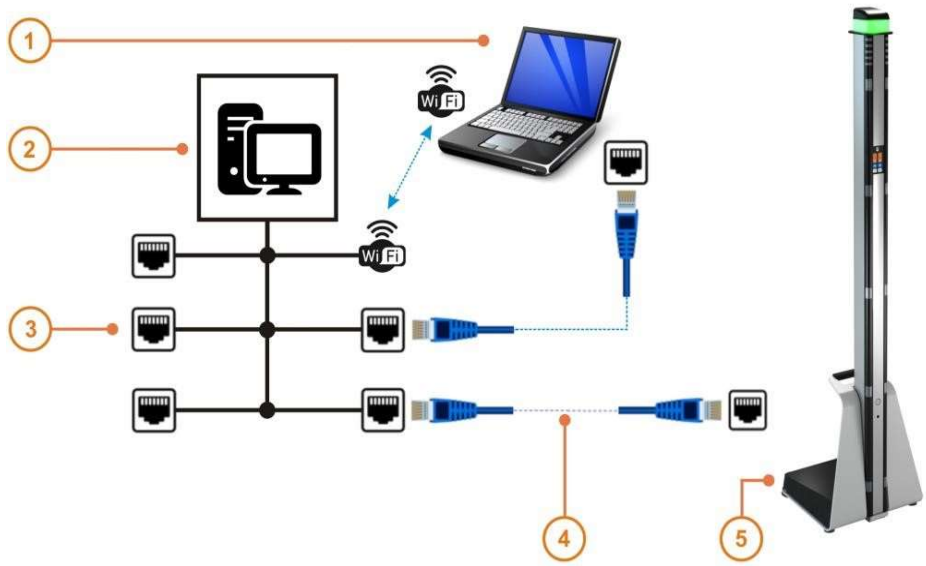
When the Metrasens Ultra system is connected directly to a laptop via a Cat 5+ cable or USB to Gigabit Ethernet adapter, the Metrasens Ultra system waits for twenty seconds and then assigns itself a default IP address. Once this IP assignment action has occurred, an Ethernet icon is displayed on the Metrasens Ultra system's touch screen top bar, illustrated in the image below.

Important: When the SMS application is running on the laptop, you will need to enter the IP address shown on the System Information screen to connect. The format of all self-assigned default Metrasens Ultra system IP addresses is: 169.254.xxx.xxx.

1.4 CONNECTION VIA A FACILITY'S ETHERNET NETWORK

The Metrasens Ultra system's Ethernet interface is fully compatible with standard network infrastructures. Simply connect the Ethernet port of the Metrasens Ultra system into the facility's network and connect to it from your laptop or PC, via either a wired or a Wi-Fi connection, as illustrated below.

This type of connection would typically be used in a permanent system where the screening location doesn't change, and an Ethernet network infrastructure exists. Please note that more than one Metrasens Ultra system can be connected to the facility's Ethernet network infrastructure.



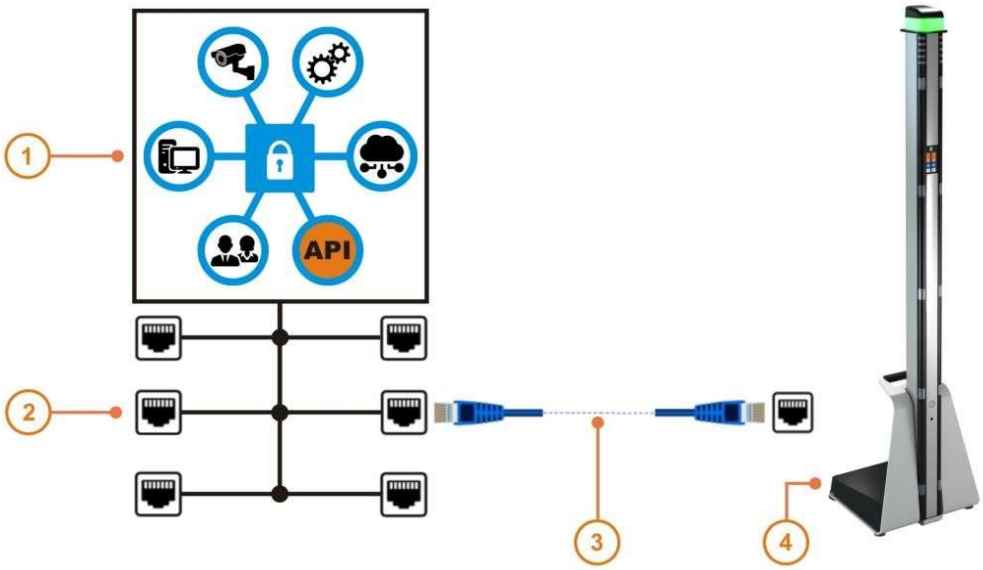
Number	Item Description
1	Laptop or PC running the SMS application. Connection can be made via a direct-wired Cat 5_ RJ45 to RJ45 Ethernet cable, depending on the laptop/PC and facility IT system specification. Laptops with no onboard Ethernet port can use a USB to Gigabit Ethernet adapter.
2	Facility IT system.
3	Facility Ethernet network infrastructure with direct-wired and WI-FI connection types available.
4	Cat 5+ RJ45 to RJ45 Ethernet cable.
5	Metrasens Ultra system.

2. Ethernet Connection Considerations

When a Metrasens Ultra system is connected directly to the facility network infrastructure, the network will automatically provide an IP address to that system through a DHCP server, typically within a few seconds of plugging the Metrasens Ultra into the network. Once this system-level IP assignment action has occurred, an Ethernet icon is displayed on the system's touch screen top bar, illustrated in the image below.

Important: When the SMS application is run on the laptop, you will need to enter the IP address shown on the respective Metrasens Ultra system's information screen to connect to that specific system.

2.1 CONNECTING WITH A WEBAPI CLIENT



Number	Item Description
1	Facility security management system running WebAPI Client.
2	Facility Ethernet network infrastructure.
3	Cat 5+ RJ45 to RJ45 Ethernet cable.
4	Metrasens Ultra system

2.2 FINDING THE IP AND MAC ADDRESSES OF A METRASENS ULTRA SYSTEM

When connecting to an Ethernet network, as a minimum you will need to know the IP Address for the Metrasens Ultra system.

To find this information, do the following:

1) Touch the Settings button on the dashboard to display the settings screen.
2) Touch System Information.

The first line shows the IP Address, the second line shows the MAC Address.

2.3 CONNECTIVITY CONSIDERATIONS

- IP address - For a specific Metrasens Ultra system this may change over time, depending on the network/computer it is connected to.
- MAC address - This is the unique identifier for that specific Metrasens Ultra.
- Hostname - This is the permanent IP name for that specific Metrasens Ultra system, and it is set during production. The hostname always has the prefix “ultra”, followed by the last four digits of the MAC Address. For example: ultra1234.

In certain circumstances, the hostname can be used as an alternative to the IP Address. However, the hostname may not be usable when the system is directly connected to a laptop via a Cat5 Ethernet cable - in this case, use the IP address.

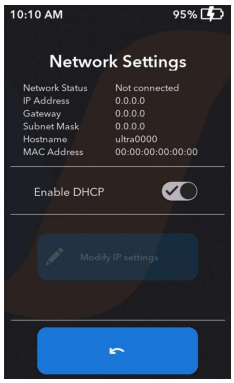
3. Static IP Selection

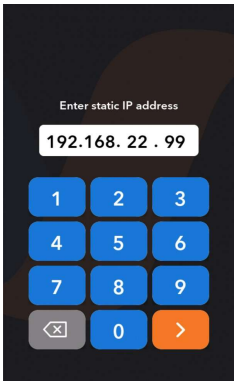
The Metrasens Ultra uses DHCP as the default setting when connected to a network, laptop or PC, however, the system also has the ability for a user to assign a static IP address.

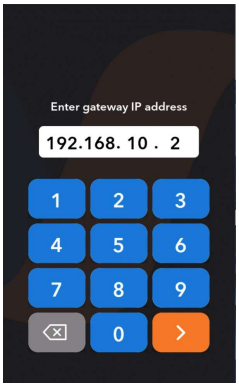
To assign a static IP address, do the following:

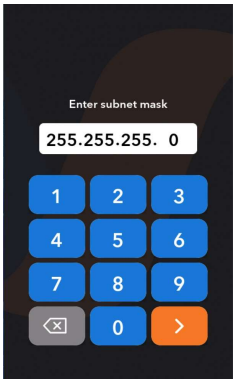
1) Click the Settings button on the touchscreen home page. 
2) Click the Advanced Settings button. 

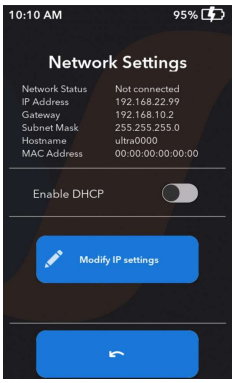
3) Click the Network Settings button. 

1) 

2) 

3) 

4) 

5) 

DHCP is enabled as standard on the Metrasens Ultra system and is shown as enabled by the tick. Clicking this button unchecks the Enable DHCP button *(fig.1)* and will open a series of screens where the user can enter their chosen static IP *(fig.2)*, gateway IP *(fig.3)* and the subnet *(fig.4).*

Once the orange arrow is clicked on the subnet mask page, the Network Settings screen will open and show the information that has been entered *(fig.5)*.

Once a connection to a network has been established, the *Network Status* will show *Connected* and the Ethernet icon will appear in the top right corner of the touch screen.

- Clicking the Modify IP settings button will allow you to edit the information entered in the static IP fields e.g. set a new static IP address.
- Clicking Enable DHCP will set the Metrasens Ultra back to the default DHCP settings and after a short wait, the IP address, gateway and subnet mask will be populated if still connected to a network, laptop or PC.

metrasens.com | info@metrasens.com