

ALFALITE

UHD FINEPIX MATIX AlfaCOB

User Guide



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CE Declaration of Conformity

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Product Details

Product Name: UHD FINEPIX MATIX AlfaCOB

Trademark: ALFALITE

Applicable Standards Details

EN 60950-1:2006/A11:2009/A1:2010/A2:2011/A2:2013
EN 55032
EN 61000-3-2:2014 + A2:2009
EN 61000-3-3:2013
ROHS – Directive 2011/65/EU

Declaration:

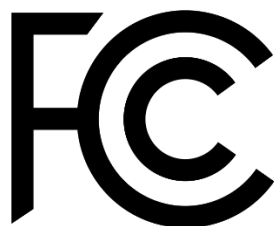
We hereby declare under our responsibility that the product referred to in this document has been designed in compliance with the standards and guidelines mentioned above.

Jesús Cabrera, CEO

Date: 05/04/2024


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FCC statements

[§15.19] This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

[§15.21] Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

[§15.105] Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The product covered in this document complies with the safety regulations applicable in Canada:

CAN ICES-003(A) / NMB-003(A)

Contents

1. SAFETY INFORMATION	6
1.1 AC Power Supply	8
1.2 Electrical Connection.....	8
1.3 Operation	9
1.4 Service and Maintenance	9
1.5 Cleaning	10
1.6 Troubleshooting.....	11
2. PANEL DESCRIPTION.....	12
2.1 Control Software's System requirements	12
3. UHD FINEPIX MATIX ALFACOB COMPONENTS	13
3.1 UHD FINEPIX MATIX AlfaCOB Panel.....	13
4. BASIC SETUP PROCEDURES.....	15
4.1 UHD FINEPIX MATIX AlfaCOB Panel fastening.....	15
5. UHD FINEPIX MATIX ALFACOB WIRING	16
6. PANEL CONNECTIVITY	16
6.1 AC wiring.....	17
6.2 Data Wiring.....	18
7. DIMENSIONS	20

1. SAFETY INFORMATION

This chapter contains critical safety instructions to prevent personal injury or damage to the UHD Finepix MATIX AlfaCOB panel.

Make sure you understand and follow all safety guidelines, instructions, and warnings mentioned in this chapter before installing your Finepix AlfaCOB UHD display.

Additional warnings and precautions are provided after this chapter, depending on the installation procedure. Please read and follow these warnings and precautions as well.

Key Topics

- Panel connection summary
- Storage guidelines
- Installation precautions
- AC power requirements
- Electrical grounding
- Operational safety
- Service and maintenance
- Cleaning
- Troubleshooting



WARNING!
Read the safety precautions in this section before installing, powering, operating or servicing this product.

The following symbols are used to identify important safety information on the product and in this manual:



Warning!
Safety hazard.
Risk of severe injury or death.



Warning!
Refer to manual before installing, powering or servicing.



Warning!
Hazardous voltage. Risk of lethal or severe electric shock.



Warning!
Fire hazard.



Warning!
Emission hazardous to eyesight.

This product has been designed and manufactured for professional use.

It should not be used in domestic environments without proper consideration and technical training.

This product presents a risk of serious injury or death from fire, electric shock, or falls.

Read this manual before installing, operating, or servicing this product.

Follow the safety precautions listed below and all warnings contained in this manual.

If you have questions about how to handle the product safely, contact ALFALITE.



Electric shock protection

- Turn off the power to the entire installation at the building's main power distribution panel and lock out the power (for example, by removing the fuse) before performing any installation or maintenance work.
- Disconnect the product from AC power before removing or installing any covers or parts, as well as when not in use.
- Always connect the product to an electrical ground.
- Use only an AC power source that complies with local building and electrical codes and has overload and ground-fault protection.
- The power outlet used to supply electrical power must be installed near the product and easily accessible so that the panel can be easily disconnected from the power supply.
- Connect this product to AC power using only listed power connectors with minimum of 20 A.
- Before using the product, verify that all power distribution equipment and cables are in good condition and rated for the current requirements of all connected devices.
- Do not use the product if the power cord or plugs are damaged, defective, or wet, or if they show signs of overheating.
- Do not expose the product to rain or moisture.
- Refer any servicing not described in this manual to a qualified technician.

Injury Protection



- Ensure that any support structure, as well as all fastening and connecting hardware, can support at least 10 times the weight of all supported devices and equipment.
- When stacking products on top of each other, securely fasten the panels to prevent them from falling.
- Use at least two approved secondary accessories (such as safety cables) to secure each product.
- Secondary accessories must be able to support at least 10 times the weight of all devices they secure and must be installed as described in this manual.
- Check that all external covers and mounting hardware are secure.
- Block access below the work area and work from a stable platform whenever installing, repairing, or moving the product.
- Do not view lit LEDs from a distance of less than 40 cm without proper safety eyewear.
- Do not view lit LEDs with optical instruments that can concentrate the light output.



Disposal

- Comply with EU WEEE Directive (2002/96/EC). Recycle through authorized channels.

1.1 AC Power Supply

WARNING: Read the “Safety Information” before connecting a FINEPIX AlfaCOB UHD panel to AC power. Disconnect power from the entire distribution system before performing installation work.

IMPORTANT: Do not supply power to the panel through an external dimming system, as this may damage the panel. Damage caused in this manner is not covered by the product warranty.

1.2 Electrical Connection

WARNING: For protection against electric shock, the panel must be grounded. Power distribution circuits must be equipped with a current overload circuit breaker and ground fault protection.

WARNING: The total current draw of all devices connected through a power input receptacle, including the first connected panel, must not exceed 16 amps.

WARNING: The power receptacle must be installed near the UHD FinePix MATIX AlfaCOB and must be easily accessible so that the UHD FinePix MATIX AlfaCOB can be easily disconnected from the power supply if necessary.

- Power is supplied to the panel via the input socket.
- There is no on/off switch on the UHD FINEPIX MATIX AlfaCOB panels.
- Turn the AC power on and off using an external switch on the power socket or main distribution board.
- Ensure the external switch is close to the panels and easily accessible so that AC power to the panels can be easily switched off if necessary.
- Do not turn the panels on or off by inserting or removing live PowerCon connectors, as this will cause arcing across the connector contacts, damaging the devices and connectors.

IMPORTANT

- Turn off all panels and devices before connecting or disconnecting anything in the video link, or you may damage your graphics card or other video components.
- Turn off the AC power to the panels before inserting or removing them.
- Turn on the FINEPIX AlfaCOB UHD panels (and the monitor, if used) before powering on the control system or sender box, or you may damage the display circuitry.

1.3 Operation

If the system is configured correctly, operation is simply a matter of displaying the video through the control system or sender box.

During operation, two LED indicators on the top surface of the receiver board provide information about the status of the panel and the video signal:

- The Power LED (red) lights up when power is applied to the panel.
- The Pulse LED (green) flashes when the control system is running.

The LED flashes slowly when there is no signal.

1.4 Service and Maintenance

WARNING: Read the “Safety Information” before performing service or maintenance on the UHD FINEPIX MATIX AlfaCOB. Disconnect power to the entire distribution system before repairing, cleaning, or removing any covers. Consult a qualified service technician for any operation not described in this manual.

IMPORTANT: Excessive dust, smoke fluid, and particle buildup will degrade performance, cause overheating, and damage the panel. The product warranty does not cover damage caused by improper cleaning or maintenance.

As with electronic components in general, UHD FINEPIX MATIX AlfaCOB PCBs are sensitive to ESD (electrostatic discharge). Take precautions to avoid ESD damage during operation.

ALFALITE's policy is to use the highest quality materials available to ensure optimal performance and extend the life of the components. However, the optical components in all lighting fixtures are subject to wear over the life of the fixture, resulting in gradual changes in color reproduction, for example.

The extent of wear depends largely on operating conditions, maintenance, and the environment, so it is impossible to specify precise lifespans for optical components. However, you will eventually need to replace the LEDs in UHD FINEPIX MATIX AlfaCOB if their characteristics are affected by wear after an extended period of use and if you require panels that operate within very precise optical and color parameters.

To maximize the lifespan of your UHD FINEPIX MATIX AlfaCOB panel and protect your investment, clean the panel periodically following the guidelines in this section.

1.5 Cleaning

Regular cleaning is essential for the product's longevity and performance. The accumulation of dust, dirt, smoke particles, fog fluid residue, etc. degrades the panel's light output and cooling capacity.

Cleaning schedules for lighting fixtures vary greatly depending on the operating environment. Therefore, it is impossible to specify precise cleaning intervals for the UHD FINEPIX MATIX AlfaCOB. The cooling slots suck in airborne dust and smoke particles, and in extreme cases, the panels may require cleaning just a few hours after use. There are environmental factors that may require frequent cleaning, such as those described below:

- Use of smoke or fog machines.
- High airflow rates (near air conditioning vents, for example).
- Presence of cigarette smoke.
- Airborne dust (for example, from stage effects, building structures and props, or the natural environment at outdoor events).

If one or more of these factors are present, inspect the panels within the first 25 hours of operation to see if cleaning is necessary. Recheck the condition of the panels at frequent intervals. This procedure will allow you to assess the cleaning requirements in your specific case. If in doubt, consult your ALFALITE dealer about an appropriate maintenance program.

Do not use abrasive, caustic, or solvent-based products for cleaning, as these may damage plastic or painted surfaces.

To clean the panel, follow these instructions:

- 1. Disconnect the panel from the power supply and allow it to cool for at least 10 minutes.**
- 2. Vacuum or gently clean dust and loose particles with compressed air.**
- 3. Clean the surface of the LED modules with a soft, lint-free cloth moistened with a detergent and water solution. Apply only light pressure. Dry thoroughly with compressed air before reassembly.**



1.6 Troubleshooting

Problem	Probable Cause(s)	Solution
The panel is completely off	The panel has no power	Check the power supply and connections. Disconnect the panel's power cable.
One or more panels display video incorrectly or do not display any content.	Video connection failure. Incorrect panel mapping. Defective panel. Defective video connection device.	Check the cables and interconnections; correct any poor connections. Repair or replace damaged cables. Check the mapping using Control System software. Defective panel verified by authorized ALFALITE service. Panel tested and serviced by ALFALITE authorized technical support.
All panels and/or the monitoring screen display video incorrectly or do not display any content.	Control system not configured properly. Video connection failure. Defective video connection device.	Properly configure the control system settings. Check the cables and interconnections, correct poor connections. Repair or replace damaged cables. Panel tested and serviced by ALFALITE authorized technical support.
Content cuts out intermittently.	The panel is overheating.	Ensure airflow exists around the cooling areas. Clean the panel's heat dissipation fins. Check that the ambient temperature does not exceed the maximum allowed.

2. PANEL DESCRIPTION

About this chapter

This chapter lists the main features of the FINEPIX AlfaCOB UHD display series.

Key Topics

- Panel Description
- ALFALITE UHD FINEPIX MATIX AlfaCOB is the perfect solution for high-resolution displays.
- High-quality image and low power consumption (maximum 300W per panel).
- High refresh rate. Provides flicker-free, high-quality video images.
- High-quality power supply, LEDs, and advanced mounting technology extend the display's lifespan.
- Optimized installation system.
- Strict testing and inspection procedures are followed throughout the design, manufacturing, and assembly process to ensure the quality and reliability of our products.
- Signal connectors.
- Lightweight and durable aluminum chassis. Optimized assembly and disassembly.

2.1 Control Software's System requirements

System Requirements

Minimum requirements for installing Control System software:

Hardware

PC Pentium VI or equivalent, 2.4

GHz 1 GB RAM

Hard disk 80GB

SXGA 1280 × 1024 with 512 Mb video memory

Please refer to the exact Control System User Guide for more information about the software



3. UHD FINEPIX MATIX AlfaCOB Components

About this chapter

This chapter describes (or refers to another manual for the description of) all the components, peripherals, and accessories used in the configuration of the UHD FINEPIX MATIX AlfaCOB display.

3.1 UHD FINEPIX MATIX AlfaCOB Panel

Introduction to the UHD FINEPIX MATIX AlfaCOB Panel

The UHD FINEPIX MATIX AlfaCOB display includes the necessary elements to be hung from a substructure for installation.

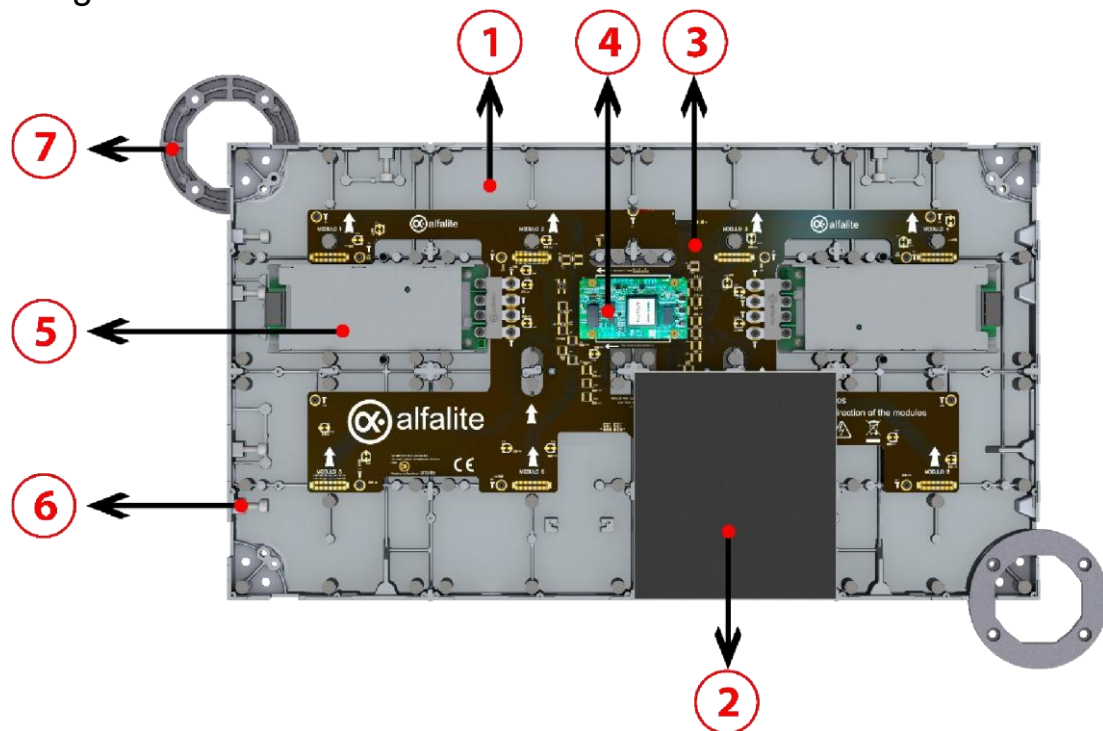


Figure 1: Overview of a UHD FINEPIX MATIX AlfaCOB Panel

- 1. Chassis**
- 2. Module (8)**
- 3. Hub**
- 4. Receiving card (1 or 2)**
- 5. Power supply (1 or 2)**
- 6. Panel-to-panel locking system**
- 7. Panel-to-panel alignment system**

Interconnection Cabling

The Ethernet cable with RJ45 connectors is used to connect data ports between two panels.

Longer CAT6 Ethernet cables are used to connect the first panel to the output control system.



Figure 2: Data interconnection cable

Power Extension Connector

Power can be extended from the end of one panel through the use of the internal power cables of each panel.



Figure 3: AC Interconnection Cable

4. BASIC SETUP PROCEDURES

About this chapter

This chapter contains all the installation procedures necessary to handle UHD FINEPIX MATIX AlfaCOB panels, to set up a UHD FINEPIX MATIX AlfaCOB display, and to remove panels from a UHD FINEPIX MATIX AlfaCOB display. Please refer to the chapter "UHD FINEPIX MATIX AlfaCOB Display Setup Process" to follow the correct order of procedures required to configure the display.

CAUTION: Never touch the LED side of the UHD FINEPIX MATIX AlfaCOB panel. Avoid accidental impacts on the corners of UHD FINEPIX MATIX AlfaCOB panels. The LEDs of UHD FINEPIX MATIX AlfaCOB panels are mounted near the edges of the chassis (which is unavoidable in the design of a high-resolution LED panel), so all edges and corners of UHD FINEPIX MATIX AlfaCOB panels are sensitive to mechanical damage.

Therefore, UHD FINEPIX MATIX AlfaCOB panels must be handled with great care and caution at all times to prevent any abrasion damage during installation.

Summary

- UHD FINEPIX MATIX AlfaCOB Panel fastening **Required**

Tools

- 6mm Allen Key

4.1 UHD FINEPIX MATIX AlfaCOB Panel fastening

The fastening system uses internal M6 screws and, together with the top positioning devices, allows users to perfectly join and align the panels with each other.

5. UHD FINEPIX MATIX AlfaCOB WIRING

About this chapter

This chapter describes how to power on and wire a UHD FINEPIX MATIX AlfaCOB display. It is recommended to perform power and data cabling simultaneously when installing the UHD FINEPIX MATIX AlfaCOB panels.

Summary

- Panel connectivity
- AC power cabling for the UHD FINEPIX MATIX AlfaCOB display
- Signal cabling for the UHD FINEPIX MATIX AlfaCOB display

6. PANEL CONNECTIVITY

Connectivity

UHD FINEPIX MATIX AlfaCOB panels will always have two bidirectional signal ports, which are RJ45, and a power cable with electrical input and output.



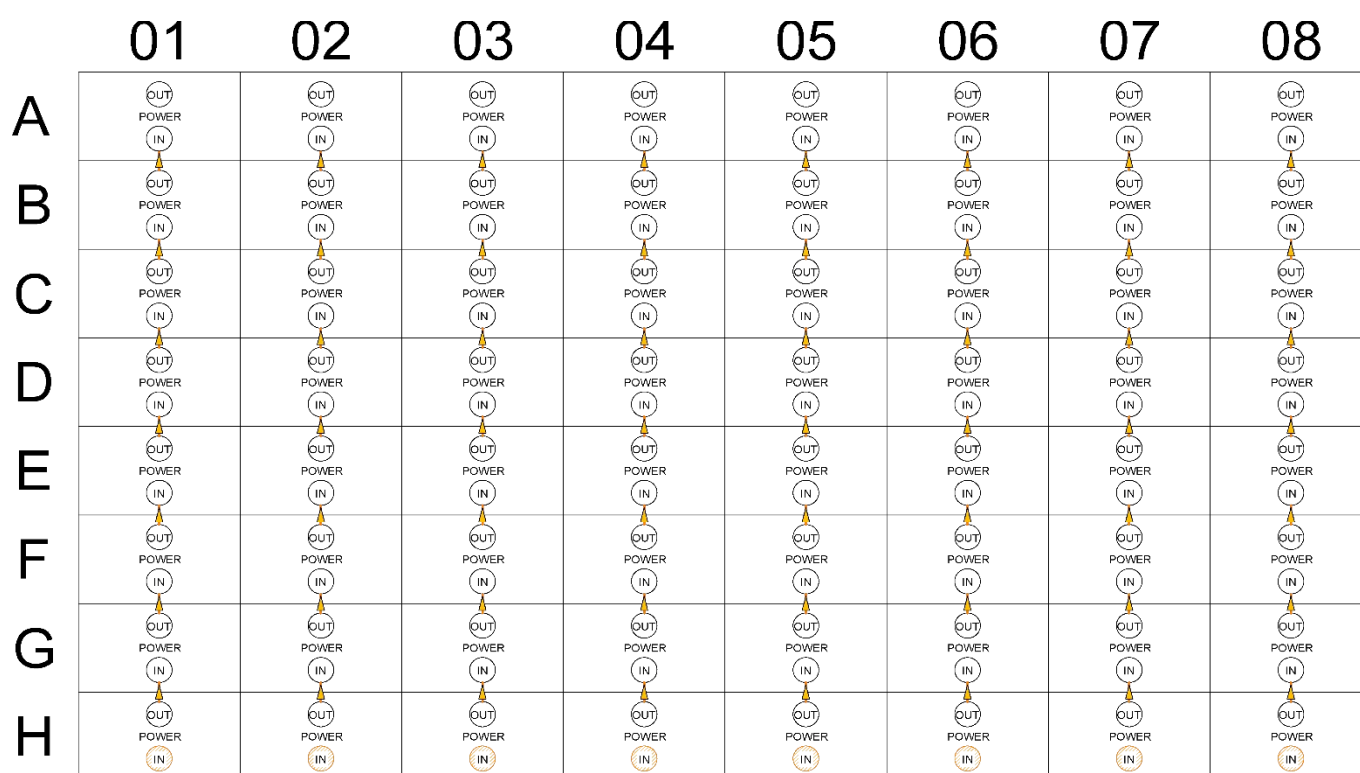
Figure 4: Detail of the Power and Signal Sockets

The panel automatically detects the incoming signal on one of these ports. The other port will automatically act as the output port. Therefore, it does not matter which data input port, left or right, the data is coming into. The UHD FINEPIX MATIX AlfaCOB panel instantly switches the functionality of the ports between input and output.

ALFALITE provides short data interconnection cables with RJ45 Ethernet connectors, which are used to chain the data path from one panel to another. The power input connector consists of a circular type of socket.

6.1 AC wiring

Example of wiring a UHD FINEPIX MATIX AlfaCOB display



Necessary parts

Install the power box with the corresponding cables.

How to organize the power cabling of the UHD FINEPIX MATIX AlfaCOB display?

1. Install the electrical panel near the UHD FINEPIX MATIX AlfaCOB display. Make sure the electrical panel provides the necessary number of power circuits to safely supply electricity to the display. If needed, install multiple main power circuits. Refer to the manual of the power box used for installation instructions.
2. Connect a power cable to a separate power line coming from the electrical panel.
3. Connect the output of the main power cable to one of the panels in the LED display. Start with a panel at the bottom.
4. Connect the output of one panel to the input of the next panel in the same column.

IMPORTANT: Risk of electric shock / Risk of fire:

To protect against the risk of fire caused by overloading the power cables.

5. Repeat from step 2 until all UHD FINEPIX MATIX AlfaCOB panels receive AC power.

6.2 Data Wiring

Necessary parts

- One short data link cable per panel.
- One long data interconnection cable per control system port used.

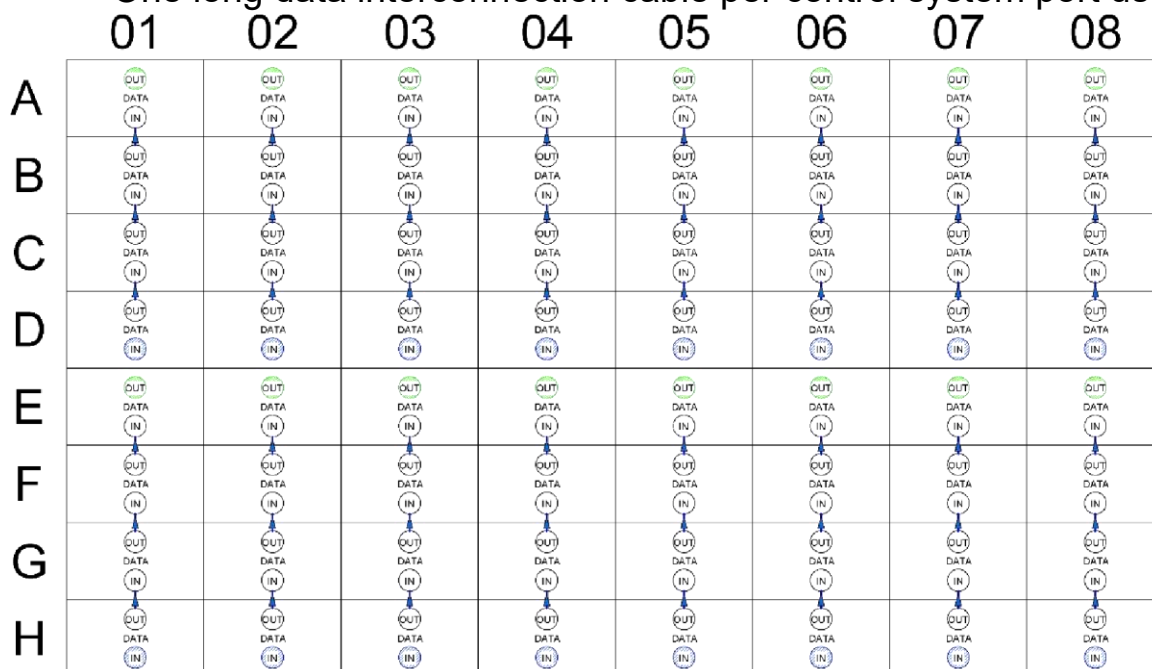


Figure 5: Example of signal wiring

IMPORTANT: It is possible to connect another signal cable as a redundant input to prevent video signal failures on the display in case one is turned off or defective. This configuration must be done in the software.

How to organize the data cabling of a UHD FINEPIX MATIX AlfaCOB display?

1. Connect the data interconnection cable from the control system to the data ports of one of the panels in the corner of the UHD FINEPIX MATIX AlfaCOB display. Use the RJ45 data port on the side of the panel's HUB as the input port. The other port can be easily connected to the data port of the adjacent panel.

IMPORTANT: The maximum cable length between the control system and the first panel must not exceed 100 meters when using Ethernet cables. For distances longer than 100 meters, connection via fiber optic cables and Ethernet converters is necessary.

2. Complete the data path of the display by connecting all the panels with interconnection cabling, following a snake-like pattern. This can be done either vertically (recommended) or horizontally.

IMPORTANT: Only one data port is used on the last panel in the data path.

3. Specify in the control configuration software how the data path will be routed and which tile is the first in the chain.

The above example shows the data wiring, viewed from the back, of a UHD FINEPIX MATIX AlfaCOB display eight panels wide and eight panels high. The data path runs vertically and starts at the lower left corner, viewed from the back. The control software settings refer to the display viewed from the front. Therefore, the first panel in the data path should be indicated as the lower right panel of the display.

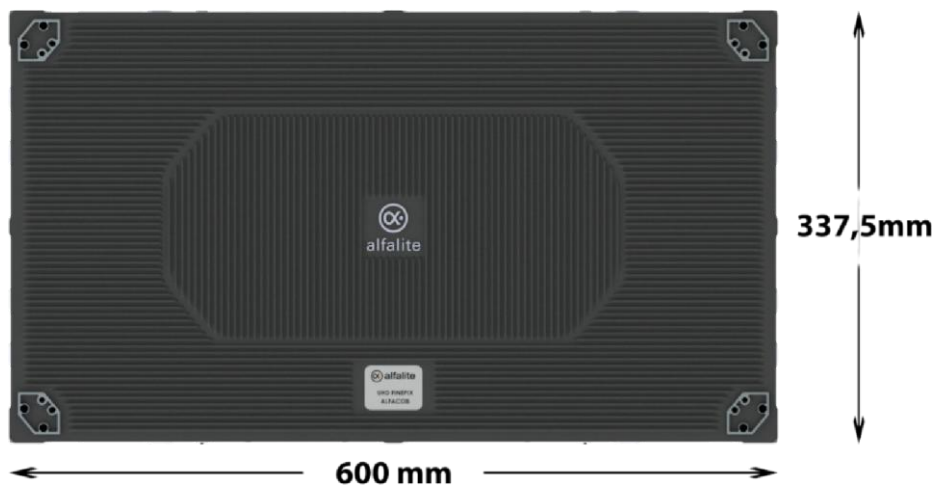
Refer to the Control system User Guide for specific information on software installation and usage guidelines.



7. DIMENSIONS

All dimensions are detailed in millimeters.

Rear view:



Lateral View:

