



MTB200S-D

INTERACTIVE LED FLOOR DISPLAY SENDING CONTROLLER

Dual-port synchronous LED control with interactive floor-display communication support

1.3 MP

TOTAL CAPACITY

2 × 1 GbE

LED OUTPUTS

1920 × 1200

MAX. DVI INPUT

10 W

RATED POWER

INTERACTIVE FLOOR DISPLAY CONTROL

DVI video | Synchronized audio | Dual Ethernet output | EDID management



SECTION 01

BEFORE YOU BEGIN

Read and retain these instructions before installing, operating or servicing the MTB200S-D.

**READ FIRST**

Important operating and maintenance information appears throughout this manual.

**ELECTRICAL HAZARD**

Hazardous voltage may be present inside the enclosure. Disconnect AC power before service.

IMPORTANT SAFETY INSTRUCTIONS

- Read and understand all safety and operating instructions before using the product.
- Retain this manual for future operation, maintenance and troubleshooting reference.
- Observe all warnings on the product and in this manual.
- Use only accessories and auxiliary equipment recommended for the product.
- Operate the controller only from the AC supply range marked on the product and use a protective-earth connection.
- Route power and signal cables so they cannot be stepped on, pinched or crushed.
- Keep all ventilation openings unobstructed.

QUALIFIED SERVICE ONLY The enclosure contains no user-serviceable parts. Disconnect all AC power connections before service and refer internal repairs to qualified personnel.

POWER DISCONNECTION

To remove power safely, disconnect the unit's AC power cord and any other equipment power cords connected to the same mains-powered system.

SECTION 02

MANUAL AT A GLANCE

A fixed page guide to the product, interfaces, capacity limits, installation and safety information.

SECTION	TOPIC	PAGE
01	Before You Begin	2
02	Manual at a Glance	3
03	Product Overview	4
04	System Role & Signal Flow	5
05	Features & Operating Model	6
06	Front Panel	7
07	Indicators & Brightness Control	8
08	Rear Panel	9
09	Interface Reference	10
10	Loading Capacity & Screen Mapping	11
11	Installation & Connection	12
12	Mechanical Dimensions	13
13	Electrical, Environmental & Packaging	14
14	Quick Checks & Maintenance	15
15	Safety, Trademarks & Document Control	16

APPLICABLE PRODUCT

ITEM	REFERENCE
Product model	MTB200S-D
Product classification	Interactive LED Floor Display Sending Controller
Document version	V2.0
Hardware version	V30 Pro (V2.0.0)
Release date	2025-08-21

TERMINOLOGY In this edition, the Chinese term “main controller” is rendered as LED Sending Controller because the unit accepts a video source and sends LED display data to downstream receiving cards.

SECTION 03

PRODUCT OVERVIEW

A specialized synchronous sending controller for interactive LED floor display projects.

The MTB200S-D is a Mooncell-developed LED Sending Controller designed for interactive LED floor display systems. It accepts one DVI video source and one analog audio source, then distributes synchronized LED display data through two Gigabit Ethernet outputs.

The controller provides a stated total loading capacity of 1.3 million pixels. Based on the two independent per-port limits, the exact aggregate is 1,310,720 pixels. Its operating stability and application-focused interface set make it suitable for education, entertainment, gaming and other interactive display projects.

1.3 MP TOTAL LOAD 2 × 655,360 pixels	2 1 GbE OUTPUTS Up to 50 receiving cards per port	DVI VIDEO INPUT Up to 1920 × 1200 @ 60 Hz	30 / 50 / 60 / 120 INPUT FRAME RATES Resolution-dependent timing support
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SYSTEM ROLE

ROLE	MTB200S-D FUNCTION
Video intake	Receives one DVI video source, up to the stated maximum format of 1920 × 1200 @ 60 Hz.
Audio intake	Receives one 3.5 mm analog audio source for synchronized transmission.
LED data output	Provides two Gigabit Ethernet outputs to the downstream LED receiving-card network.
Interactive-floor support	Supports the stated interactive LED floor display communication protocol.
Configuration and monitoring	Supports USB or 100 Mbps Ethernet service communication with PC-based software.

PRODUCT BOUNDARY The controller sends video, audio and LED control data. The source manual does not define the downstream interaction sensors, receiving-card models or project-specific floor-display topology.

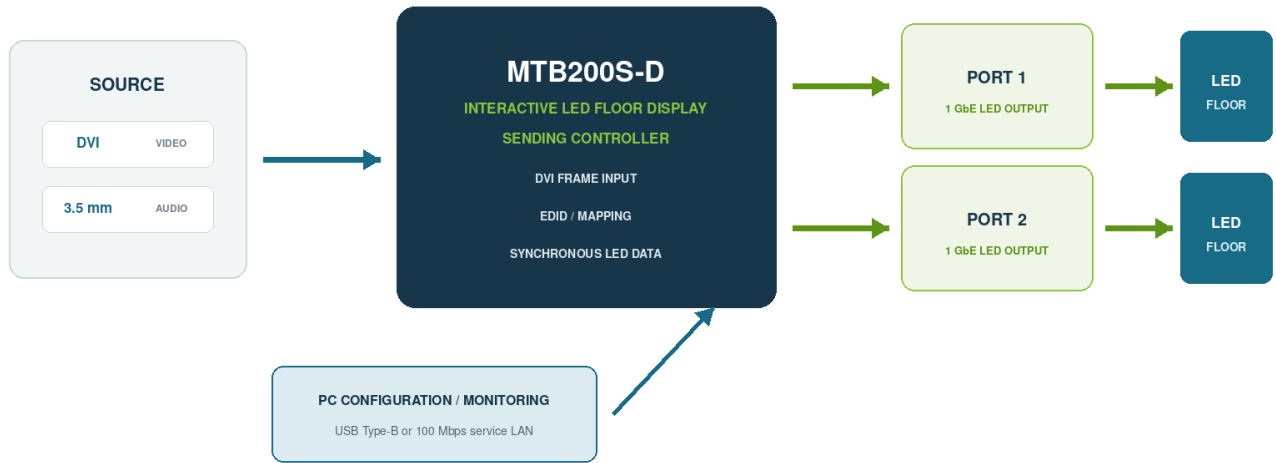
SECTION 04

SYSTEM ROLE & SIGNAL FLOW

Separate source, configuration and LED-output paths for predictable system integration.

VIDEO, CONTROL AND LED-DATA PATHS

The MTB200S-D converts the incoming DVI frame into LED display data and distributes it through two Gigabit Ethernet outputs.



PATH RESPONSIBILITIES

PATH	PURPOSE
DVI video	Carries the source image into the controller for synchronous LED display output.
Analog audio	Carries the associated audio source for synchronized distribution through the LED control system.
USB Type-B	Provides direct PC-to-controller configuration and monitoring communication.
100 Mbps service LAN	Provides Ethernet-based service/debug communication with the controller.
Port 1 / Port 2	Carry LED display data to the receiving-card network; each port has its own load limit.

TOPOLOGY BOUNDARY Use the receiving cards and interaction hardware specified for the project. The supplied manual does not state compatible model lists, sensor wiring or interaction-data connector requirements.

SECTION 05

FEATURES & OPERATING MODEL

Core synchronous-control, mapping, monitoring and diagnostic functions stated for the MTB200S-D.

CORE CONTROL FUNCTIONS

DVI + AUDIO

Synchronous video and audio distribution

DUAL OUTPUT

Vertical or horizontal two-port mapping

EDID

Input timing and source-format management

30 / 50 / 60 / 120 Hz

Multiple input frame-rate compatibility

LIVE MONITORING

Controller operating parameters and status

READBACK + BER

Configuration readback and Gigabit-link bit-error testing

FUNCTION REFERENCE

FUNCTION	CAPABILITY
Synchronous video	One DVI video input is converted into LED display data and distributed over Ethernet.
Synchronous audio	One analog audio input is carried with the synchronous display workflow.
Two-port mapping	The two Gigabit output regions can be arranged vertically or horizontally.
Multi-controller operation	PC-based software can control multiple sending controllers in one system.
EDID management	Supports management of the DVI source timing and display-identification information.
Input frame rates	Compatibility is stated for 30 Hz, 50 Hz, 60 Hz and 120 Hz input frame rates.
Status monitoring	PC-based software can monitor controller operating parameters and status.
Diagnostics	Supports configuration-parameter readback and Gigabit Ethernet bit-error-rate testing.

TIMING CLARIFICATION The stated maximum DVI input format is 1920 × 1200 @ 60 Hz. The manual does not list the supported resolution/EDID combinations for 120 Hz operation; validate the required timing before deployment.

SECTION 06

FRONT PANEL

Local power, brightness indication, status monitoring and service access.



Front-panel interface map. Product image is for reference; delivered appearance may vary.

NO.	ITEM	FUNCTION
1	Power switch	Switches AC power to the controller on or off.
2	Numeric display	Shows the current brightness value.
3	Status indicators	Shows Port 1, Port 2, DVI, USB, brightness-adjustment and inspection status.
4	100 Mbps service LAN	Ethernet service/debug interface.
5	Brightness -	Decreases the brightness value when brightness adjustment is active.
6	Brightness +	Increases the brightness value when brightness adjustment is active.

FRONT-PANEL USE Use the numeric display and the - / + buttons only for the local brightness function described on the next page. Other configuration is performed through the PC-based control software.

SECTION 07

INDICATORS & BRIGHTNESS CONTROL

Interpret the stated front-panel indicator behaviors before checking cabling or source status.

STATUS INDICATORS

INDICATOR	STATE	MEANING
P1 / P2	Flashing evenly	Gigabit Ethernet signal communication is normal.
P1 / P2	Steady on	No valid Gigabit Ethernet signal communication.
DVI	Steady on	DVI input signal is present and normal.
DVI	Off	No DVI input signal is detected.
USB	Steady on	The USB cable connection is present and normal.
USB	Off	No USB cable connection is detected.
Light	On after a long press	Brightness adjustment is active.
INC	Indicator	Inspection/status-polling indicator; detailed state behavior is not stated.

LOCAL BRIGHTNESS ADJUSTMENT

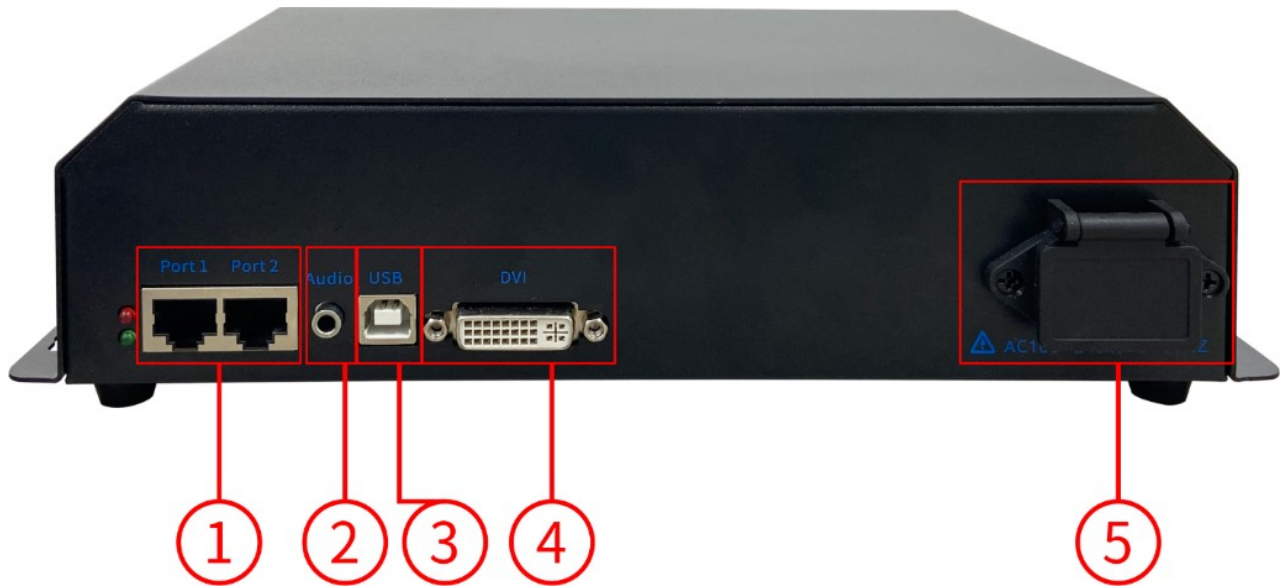
STEP	ACTION	RESULT
1	Activate	Long-press a brightness button until the Light indicator illuminates.
2	Adjust	Press – to reduce the value or + to increase the value.
3	Read	Confirm the current value on the front-panel numeric display.

UNSPECIFIED STATES The source manual does not define every blink rate, color condition or fault code. Use the PC-based monitoring software when an indicator state is not covered above.

SECTION 08

REAR PANEL

Dual Gigabit Ethernet LED outputs, DVI and audio inputs, PC control and universal AC power.



Rear-panel interface map. Product image is for reference; delivered appearance may vary.

NO.	INTERFACE	FUNCTION / LIMIT
1	Port 1 / Port 2	Two 1 GbE LED data outputs; 655,360 pixels and up to 50 receiving cards per port.
2	AUDIO	One 3.5 mm analog audio input.
3	USB Type-B	PC software communication and controller configuration.
4	DVI	One DVI video input; maximum stated format 1920 × 1200 @ 60 Hz.
5	AC input	AC 100–240 V, 50/60 Hz power input.

CONNECTION RULE Do not connect the Port 1 or Port 2 LED data outputs to an office network switch unless the complete project design explicitly requires and supports that topology.

SECTION 09

INTERFACE REFERENCE

Connector quantities, intended use and the operational limits stated in the source manual.

INTERFACE	QTY.	TYPE / SPECIFICATION	INTENDED USE
DVI input	1	Up to 1920 × 1200 @ 60 Hz	Synchronous video source
Audio input	1	3.5 mm analog	Synchronized audio source
LED data output	2	1 GbE RJ45	Receiving-card network; 655,360 pixels per port
USB control	1	USB Type-B	Direct PC software communication
Service LAN	1	100 Mbps RJ45	Ethernet service/debug communication
AC input	1	AC 100–240 V, 50/60 Hz	Controller power

INTERFACE NOTES

- DVI resolution and frame-rate compatibility depends on the selected EDID and source timing.
- The audio input is part of the synchronous transmission workflow; downstream audio reproduction depends on the complete LED control system.
- Each Gigabit Ethernet output is limited independently by pixel count and receiving-card count.
- USB Type-B is the primary direct PC control connection. The front 100 Mbps LAN port is designated for service/debug communication.
- Cable category, maximum Ethernet cable length and supported receiving-card models are not stated in the source manual.

PROJECT VALIDATION Confirm the PC software version, receiving-card model, interaction hardware and accepted DVI timing before commissioning the complete system.

SECTION 10

LOADING CAPACITY & SCREEN MAPPING

Apply both the per-port pixel limit and the overall width, height and offset ranges.

DUAL-PORT PIXEL CAPACITY

Each output carries up to 655,360 pixels; the two-port device total is 1,310,720 pixels (stated as 1.3 million pixels).

PORT 1	655,360 PIXELS	REFERENCE MAPPING 1280 × 512 pixels
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PORT 2	655,360 PIXELS	REFERENCE MAPPING 1280 × 512 pixels
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TOTAL: 1,310,720 PIXELS

CAPACITY LIMITS

CATEGORY	PARAMETER	RANGE / LIMIT
Per-port load	Maximum pixels	655,360 pixels
Per-port load	Reference width × height	1280 × 512 pixels
Whole controller	Aggregate capacity	1,310,720 pixels (stated as 1.3 million)
Loading range	Width	128 to 4096 pixels
Loading range	Height	64 to 2048 pixels
Offset range	Horizontal	0 to 4095 pixels
Offset range	Vertical	0 to 2047 pixels
Receiving cards	Maximum per output	50 receiving cards

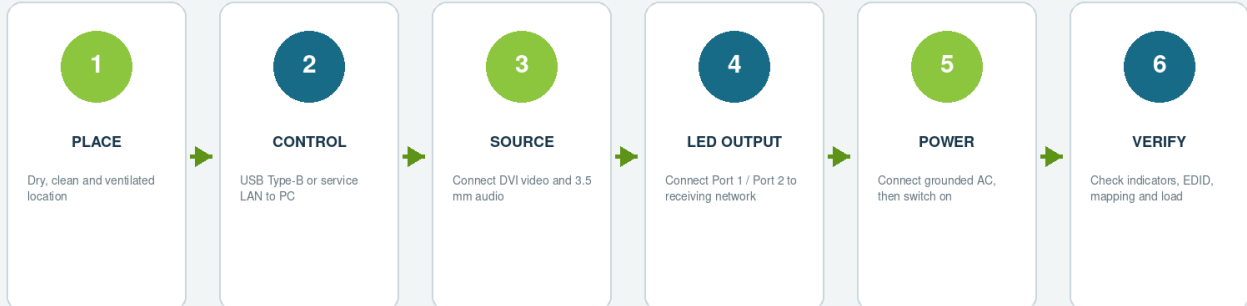
DESIGN RULE A valid screen map must remain within the per-port pixel capacity, receiving-card count and permitted width, height and offset ranges. The two output regions may be arranged vertically or horizontally.

SECTION 11

INSTALLATION & CONNECTION

Use a controlled sequence to protect the equipment and make signal verification easier.

RECOMMENDED CONNECTION SEQUENCE



CONNECTION CHECKLIST

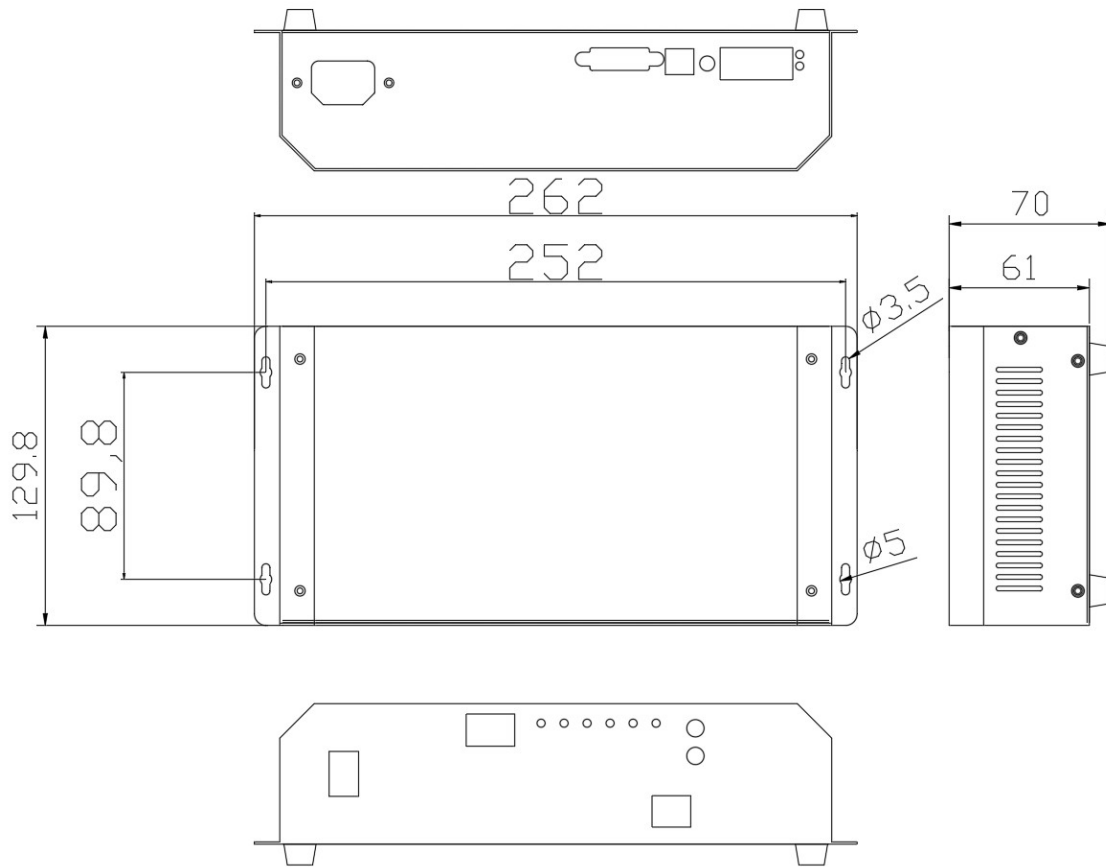
CHECK	ACCEPTANCE CONDITION
Placement	Controller is dry, clean, stable and adequately ventilated.
Grounding	AC outlet and rack/installation provide a protective-earth connection.
PC control	USB Type-B or service LAN is connected to the configuration computer as required.
Source	DVI and optional analog audio are connected before signal verification.
LED outputs	Port 1 and Port 2 are assigned to the correct receiving-card chains.
Capacity	Pixel count, receiving-card count, width/height and offsets are within the stated limits.
Verification	P1/P2, DVI and USB indicators match the expected connection state.

POWER SEQUENCE Make all low-voltage signal and data connections before applying AC power. Disconnect AC power before changing wiring or opening the enclosure.

SECTION 12

MECHANICAL DIMENSIONS

Compact metal enclosure with side mounting flanges for fixed installation.



Mechanical dimensions. Units: mm. Drawing tolerance: ± 0.3 mm.

PARAMETER	DIMENSION
Overall width	262 mm
Main enclosure width	252 mm
Overall depth	129.8 mm
Main enclosure depth	89.8 mm
Overall height	70 mm
Main enclosure height	61 mm
Net weight	1.12 kg
Drawing tolerance	± 0.3 mm

MOUNTING CLEARANCE Allow additional space for ventilation, the AC inlet, DVI and USB plugs, the 3.5 mm audio connector and the bend radius of both Ethernet cables.

SECTION 13

ELECTRICAL, ENVIRONMENTAL & PACKAGING

Rated power, environmental limits, physical data and standard package contents.

CATEGORY	PARAMETER	SPECIFICATION
Electrical	Input voltage / frequency	AC 100–240 V, 50/60 Hz
Electrical	Rated power	10 W
Operating environment	Temperature	–20°C to +60°C
Operating environment	Humidity	10% to 90% RH, non-condensing
Storage environment	Temperature	–20°C to +70°C
Mechanical	Dimensions	262 × 129.8 × 70 mm (W × D × H)
Mechanical	Net weight	1.12 kg per unit
Packaging	Outer carton	300 × 200 × 130 mm
Packaging	Gross weight	1.9 kg
Packaging	Packing method	One unit per carton; outer packing varies with quantity

STANDARD ACCESSORIES

ITEM	QTY.	PURPOSE
AC power cord	1	Controller power
USB cable	1	PC control connection
DVI cable	1	DVI source connection
HDMI-to-DVI cable	1	HDMI source to DVI input adaptation
Certificate of conformity	1	Product documentation

POWER NOTE Actual current draw and power consumption may vary with operating conditions, connected equipment, environment and configuration.

SECTION 14

QUICK CHECKS & MAINTENANCE

Use the stated indicator behavior and basic connection checks before escalating a service issue.

OBSERVATION	CHECK
P1/P2 steady on	Check the assigned Ethernet cable, receiving-card chain and port configuration; normal communication is indicated by even flashing.
DVI indicator is off	Check the source power, DVI cable, EDID selection and source output timing.
USB indicator is off	Check the USB Type-B cable, PC port and software communication connection.
No expected brightness change	Long-press the brightness control until the Light indicator illuminates, then use – or + and read the numeric display.
Unrecognized INC state	Use the PC-based monitoring software; the source manual does not define detailed INC state behavior.
Intermittent LED data	Use the Gigabit Ethernet bit-error-rate test and check the full output cable/receiving-card path.

ROUTINE CARE

- Keep the enclosure dry, clean and free from conductive dust or metal fragments.
- Maintain unobstructed ventilation and sufficient clearance around the controller.
- Inspect AC, DVI, USB, audio and Ethernet cables for damage, strain or loose connectors.
- Disconnect AC power before cleaning, rewiring or moving the unit.
- Do not open the enclosure; internal service must be performed by qualified personnel.
- Back up configuration parameters before firmware, software or hardware service when the PC software provides that function.

ESCALATION Record the controller model, document/hardware version, indicator states, source timing, port loads and software status before contacting technical support.

SECTION 15

SAFETY, TRADEMARKS & DOCUMENT CONTROL

Final installation warnings, legal notices and revision traceability for this manual.

INSTALLATION & SAFETY

- High voltage: the product operates from AC 100–240 V. Installation and service must be performed by qualified personnel.
- Disconnect AC power before opening the enclosure, changing wiring or performing service work.
- Prevent liquids, metal fragments and other conductive objects from entering the enclosure.
- Use the product only in a dry, clean and ventilated environment within the stated temperature and humidity limits.
- Do not defeat or bypass the protective-earth conductor.
- Do not obstruct the ventilation openings or place heavy objects on the controller or its cables.

ELECTRICAL HAZARD Hazardous AC voltage may be present inside the enclosure. Do not remove the cover while power is connected.

DOCUMENT CONTROL

DOCUMENT VERSION	HARDWARE VERSION	RELEASE DATE	CHANGE DESCRIPTION
V2.0	V30 Pro (V2.0.0)	2025-08-21	Initial release of the updated manual.

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SPECIFICATION BASIS This English edition is based on the supplied MTB200S-D Chinese User Manual V2.0 and preserves the stated interfaces, loading limits, mechanical data and environmental limits.

NOTICE Specifications, supported functions and product appearance may change with hardware, firmware or software revisions. Confirm critical project requirements before deployment.

Technical Support: +86 755 2397 5634

Website: www.mooncell.com.cn

Professional LED Display Control Systems

Specifications and product appearance are subject to change without notice.

