

MCTRL300

LED Display Controller



Specifications

Change History

Document Version	Release Date	Description
V2.4.3	2026-05-29	Updated the certification information.
V2.4.2	2025-10-31	Updated the certification information.
V2.4.1	2024-08-22	Updated the packing box dimensions.
V2.4.0	2020-09-02	• Added the hot backup verification function. • Optimized the device cascading solution. Up to 20 devices can be cascaded. • Fixed the problem that the displayed resolution becomes 0×0 occasionally. • Fixed the problem that the pre-stored image flashes when no input source is available. • The default screen configuration information becomes 128×128 after factory reset. • Changed the default resolution after initialization to 1080p. • Updated the product appearance diagram.
V2.3.0	2019-05-15	• Updated the document style. • Optimized the document content.

Introduction

The MCTRL300 is an LED display controller developed by Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar). It supports 1x DVI input, 1x audio input, and 2x Ethernet outputs. A single MCTRL300 supports input resolutions up to 1920×1200@60Hz.

The MCTRL300 communicates with PC via type-B USB port. Multiple MCTRL300 units can be cascaded via UART port.

As a highly cost-effective controller, the MCTRL300 can be mainly used in the rental and fixed installation applications, such as live events, security monitoring centers, and various sports centers.

Certifications

CE, RoHS, FCC, IC, CB, NTRA, PSE, EAC, RCM

If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact NovaStar to confirm or address the problem. Otherwise, the customer shall be responsible for the legal risks caused or NovaStar has the right to claim compensation.

Features

- 2 types of input connectors
 - 1x SL-DVI
 - 1x AUDIO
- 2x Gigabit Ethernet outputs
- 1x light sensor connector
- 1x type-B USB control port
- 2x UART control ports
- They are used for device cascading. Up to 20 devices can be cascaded.
- Pixel level brightness and chroma calibration
 - Working with NovaLCT and NovaCLB, the controller supports brightness and chroma calibration on each LED, which can effectively remove color discrepancies and greatly improve LED display brightness and chroma consistency, allowing for better image quality.

Appearance

Front Panel



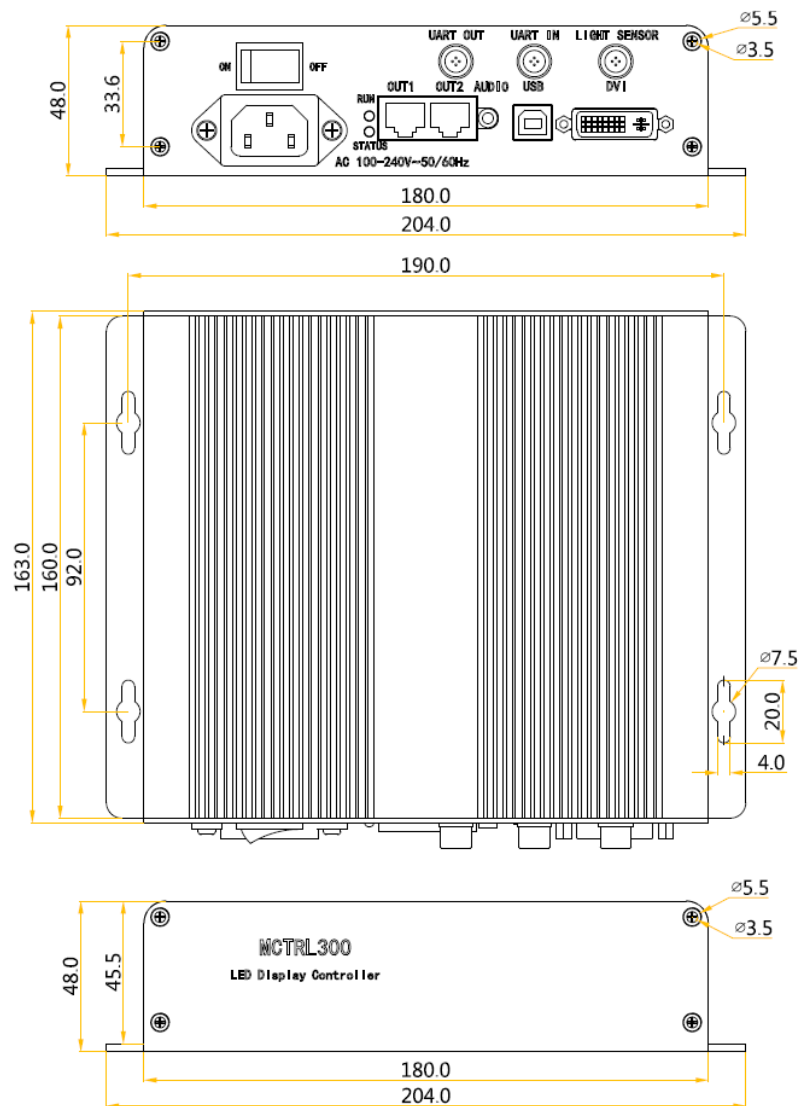
Rear Panel



Indicator	Status	Description
RUN (Green)	Slow flashing (flashing once in 2s)	No video input is available.
	Normal flashing (flashing 4 times in 1s)	The video input is available.
	Fast flashing (flashing 30 times in 1s)	The screen is displaying the startup image.
	Breathing	The Ethernet port redundancy has taken effect.
STA (Red)	Always on	The power supply is normal.
	Off	The power is not supplied, or the power supply is abnormal.
Connector Type	Connector Name	Description
Input	DVI	1x SL-DVI input connector - Resolutions up to 1920×1200@60Hz - Custom resolutions supported - Maximum width: 3840 (3840×600@60Hz) - Maximum height: 3840 (548×3840@60Hz) - DOES NOT support interlaced signal input.
	AUDIO	Audio input connector
Output	2x RJ45	2x RJ45 Gigabit Ethernet ports - Capacity per port up to 650,000 pixels - Redundancy between Ethernet ports supported
Functionality	LIGHT SENSOR	Connect to a light sensor to monitor ambient brightness to allow for automatic screen brightness adjustment.
Control	USB	Type-B USB 2.0 port to connect to PC
	UART IN/OUT	Input and output ports to cascade devices. Up to 20 devices can be cascaded.

Power	AC 100V-240V~50/60Hz
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Dimensions



Tolerance: ± 0.3 Unit: mm

Specifications

Electrical Specifications	Input voltage	AC 100V-240V~50/60Hz
	Rated power consumption	3.0 W
Operating Environment	Temperature	-20°C to +60°C
	Humidity	10% RH to 90% RH, non-condensing
Physical Specifications	Dimensions	204.0 mm × 160.0 mm × 48.0 mm
	Net weight	1.04 kg Note: It is the weight of a single device only.
Packing Information	Cardboard box	280 mm × 217 mm × 119 mm
	Accessories	1x Power cord, 1x Cascading cable (1 meter), 1x USB cable, 1x DVI cable

**Note:**

The value of rated power consumption is measured under the following conditions. The data may vary due to the onsite conditions and different measuring environments. The data is subject to actual usage.

- A single MCTRL300 is used without device cascading.
- A DVI video input and two Ethernet outputs are used.

Video Source Features

Input Connector	Features		
	Bit Depth	Sampling Format	Max. Input Resolution
Single-link DVI	8bit	RGB 4:4:4	1920×1200@60Hz

FCC Caution

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

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.

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.

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