

MCTRL600

LED Display Controller



Specifications

Change History

| Document Version | Release Date | Description |
|------------------|--------------|---|
| V2.3.5 | 2026-04-17 | Updated the accessory information. |
| V2.3.4 | 2025-06-11 | Updated resolution and certification information. |
| V2.3.3 | 2024-08-22 | Updated the packing box dimensions. |
| V2.3.2 | 2023-11-16 | Updated the video source specifications |
| V2.3.1 | 2021-08-02 | <ul style="list-style-type: none"> • Changed the number of receiving cards loaded by the Ethernet port from 256 to 512. • Updated the packing information. |
| V2.3.0 | 2020-10-12 | <ul style="list-style-type: none"> • Added the hot backup verification function. • Added the 10bit Gamma adjustment function. • Optimized the device cascading solution. Up to 20 devices can be cascaded. • The default screen configuration information becomes 128×128 after factory reset. • Updated the product appearance diagram. |

Introduction

The MCTRL600 is an LED display controller developed by Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar). It supports 1x DVI input, 1x HDMI input, 1x audio input, and 4x Ethernet outputs. A single MCTRL600 supports input resolutions up to 1920×1200@60Hz.

The MCTRL600 communicates with PC via type-B USB port. Multiple MCTRL600 units can be cascaded via UART port.

As a highly cost-effective controller, the MCTRL600 can be mainly used in the rental and fixed installation applications, such as concerts, live events, security monitoring centers, Olympic Games and various sports centers.

Certifications

CE, RoHS, FCC, IC, CB, PSE

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

- 3 types of input connectors
 - 1x SL-DVI
 - 1x HDMI 1.3
 - 1x AUDIO
- 4x 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 calibration platform, 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



| 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. |

Rear Panel



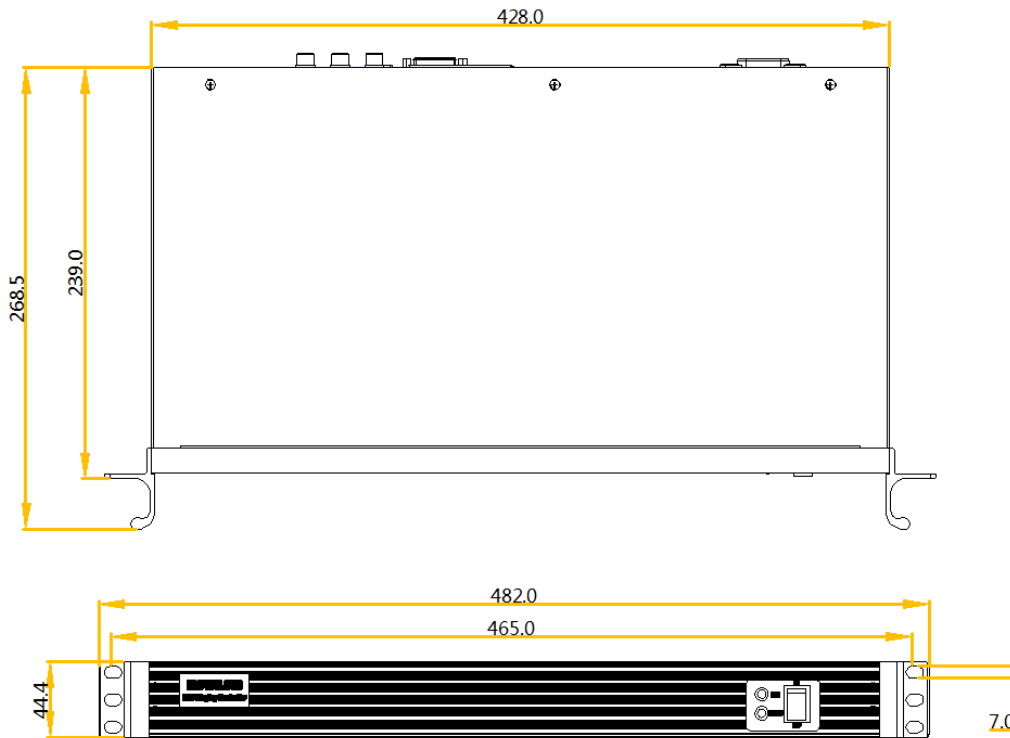
| Connector Type | Connector Name | Description |
|----------------|----------------|--|
| Input | DVI IN | 1x SL-DVI input connector <ul style="list-style-type: none"> Resolutions up to 1920×1200@60Hz Custom resolutions supported <ul style="list-style-type: none"> Maximum width: 3840 (3840×600@60Hz) Maximum height: 3840 (500×3840@60Hz) Does NOT support interlaced signal input. |
| | HDMI IN | 1x HDMI 1.3 input connector <ul style="list-style-type: none"> Resolutions up to 1920×1200@60Hz Custom resolutions supported <ul style="list-style-type: none"> Maximum width: 3840 (3840×600@60Hz) Maximum height: 3840 (500×3840@60Hz) HDCP 1.4 compliant Does NOT support interlaced signal input. |
| | AUDIO | Audio input connector |
| Output | 4x RJ45 | 4x RJ45 Gigabit Ethernet ports <ul style="list-style-type: none"> 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 100-240V~50/60Hz | |

Note:

This product can only be placed horizontally. Do not mount vertically or upside-down.

Dimensions



Tolerance: ± 0.3 Unit: mm

Specifications

| | | |
|---------------------------|-------------------------|---|
| Electrical Specifications | Input voltage | AC 100-240V~50/60Hz |
| | Rated power consumption | 6.6 W |
| Operating Environment | Temperature | -20°C to +60°C |
| | Humidity | 10% RH to 90% RH, non-condensing |
| Physical Specifications | Dimensions | 482.0 mm × 268.5 mm × 44.4 mm |
| | Net weight | 2.5 kg Note: It is the weight of a single device only. |
| Packing Information | Packing box | 586 mm × 465 mm × 353 mm Note: Each packing box can hold up to 5 devices. |
| | Carrying case | 565 mm × 88 mm × 328 mm |
| | Accessory | <ul style="list-style-type: none"> • 1x Power cord • 1x Cascading cable (1 meter) |

| | |
|--|---|
| | <ul style="list-style-type: none"> • 1x USB cable • 1x HDMI 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 MCTRL600 is used without device cascading.
- An HDMI video input and four Ethernet outputs are used.

Video Source Specifications

| Input Connector | Features | | |
|-----------------|-------------|-----------------|----------------------|
| | Bit Depth | Sampling Format | Max Input Resolution |
| Single-link DVI | 8bit | RGB 4:4:4 | 1920×1200@60Hz |
| | | YCrCb 4:4:4 | |
| | | YCrCb 4:2:2 | |
| | 10bit/12bit | RGB 4:4:4 | 1440×900@60Hz |
| | | YCrCb 4:4:4 | |
| | | YCrCb 4:2:2 | |
| HDMI 1.3 | 8bit | RGB 4:4:4 | 1920×1200@60Hz |
| | | YCrCb 4:4:4 | |
| | | YCrCb 4:2:2 | |
| | 10bit/12bit | RGB 4:4:4 | 1440×900@60Hz |
| | | YCrCb 4:4:4 | |
| | | YCrCb 4:2:2 | |

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.

Copyright © 2026 Xi'an NovaStar Tech Co., Ltd. All Rights Reserved.

No part of this document may be copied, reproduced, extracted or transmitted in any form or by any means without the prior written consent of Xi'an NovaStar Tech Co., Ltd.

Trademark

 is a trademark of Xi'an NovaStar Tech Co., Ltd.

Statement

Thank you for choosing NovaStar's product. This document is intended to help you understand and use the product. For accuracy and reliability, NovaStar may make improvements and/or changes to this document at any time and without notice. If you experience any problems in use or have any suggestions, please contact us via the contact information given in this document. We will do our best to solve any issues, as well as evaluate and implement any suggestions.

| [Official website](http://www.novastar.tech)
| www.novastar.tech

| [Technical support](mailto:support@novastar.tech)
| support@novastar.tech