MBOX600
Industrial Controller
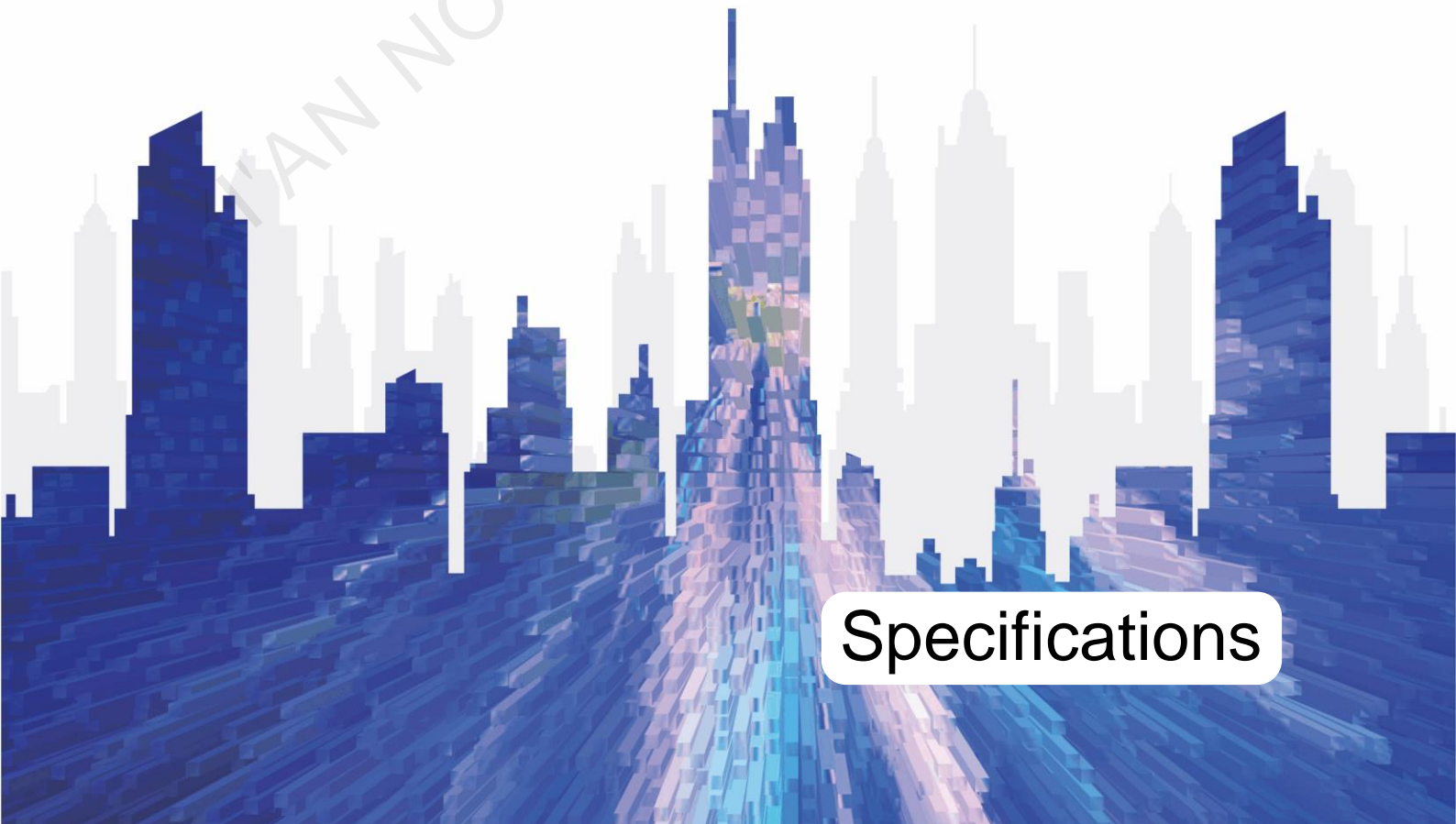
Specifications

Change History

Document Version	Release Date	Description
V1.3.5	2021-11-05	• Added certification information. • Added a description for the power consumption. • Added a statement for the specifications. • Updated the product introduction.

Introduction

The MBOX600 is an LED display controller from NovaStar that integrates an industrial PC and the sending capability. This controller is installed outdoors and applies to the scenarios where no PC is required for controlling LED displays, for example, fixed outdoor displays.

The MBOX600 can be connected to a mouse, keyboard and monitor, allowing for software installation, screen configuration, solution playback, etc. Working with software applications, the MBOX600 can enable remote publishing, local playback, playback preview, etc.

Certifications

CE, FCC SDoC, FCC ID, 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

- Loading capacity up to 2,300,000 pixels with a maximum width of 3840 pixels and a maximum height of 2560 pixels

- Resolutions supported: 1440×900, 1920×1080, 1920×1200, 2048×1152, 2560×960

- 4x Gigabit Ethernet outputs

- 1x Stereo audio output

- 1x HDMI 1.3 output (connecting to a monitor)

- 4x USB 2.0 and 2x USB 3.0 (connecting to peripherals such as a mouse, keyboard and USB drive)

- 1x Light sensor connector

- Automatic power-on

- Support for wired Gigabit networks

- Intel processors, allowing for powerful processing capacity

Appearance

Front Panel

| Name	Description
⏻	Power switch
HLED	Hard disk indicator Flashing: The MBOX600 is reading and writing data.
PLED	Power indicator Staying on: The power supply is working properly.
RUN	FPGA indicator • Flashing slowly: When the indicator flashes once every 2 seconds, it indicates no video source is available. • Flashing normally: When the indicator flashes once every 0.5 second, it indicates the video source is available. • Flashing quickly: The receiving card is displaying the startup screen. • Breathing: The main Ethernet port is malfunctioning and the backup Ethernet port is being used.
SYS	MCU indicator Flashing: The MCU is functioning normally.
Auto-Power	Turns on or off the automatic power-on function. • ON: After the power is supplied, the MBOX600 is powered on automatically without the need to press the power switch. • OFF: After the power is supplied, the MBOX600 is powered on by pressing the power switch.
CLR-CMOS	Factory reset button After powering off and unplugging the MBOX600, press and hold this button for 10 seconds to reset the MBOX600 to its factory settings.
RESET	Restart button Press this button to restart the MBOX600.
⟛	4x USB 2.0 Can be connected to USB compliant peripherals such as a mouse, keyboard and USB drive.

Rear Panel

Name	Description
LEDOUT	4x Gigabit Ethernet output ports ● Loading capacity up to 2,300,000 pixels ● Maximum width: 3840 pixels ● Maximum height: 2560 pixels
LIGHT	Connects to a light sensor. ● In Windows 10, NovaLCT can read back the data of the light sensor. ● In Linux, no operation can be performed on the light sensor.
TEMP	A reserved connector
🎧	Audio output connector
HDMI	1x HDMI 1.3 output connector
USB3.0	2x USB 3.0 Can be connected to USB compliant peripherals such as a mouse, keyboard and USB drive.
COM1	A reserved port
📶	Wi-Fi antenna connector
🖧	Network connector
DC-12V	Power input connector

Applications

The HDMI connector can be connected to a monitor for checking the content being played on the LED display, installing software applications, and configuring the product.

Dimensions
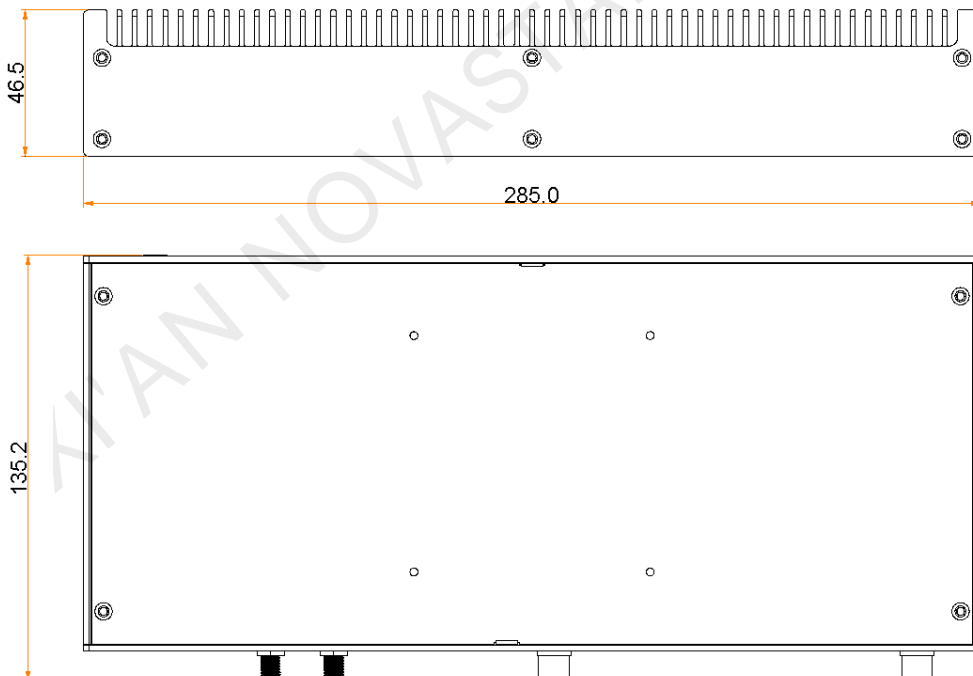
Tolerance: ±0.3   Unit: mm

Specifications

Performance Parameters	CPU	Celeron 3855U: Dual cores, 1.6 GHz, TDP 15 W, support for EIST power saving technology or i5-7200U: Dual cores, 2.5 GHz, TDP 15 W, support for Turbo and EIST power saving technologies
	RAM	4 GB
	GPU	Celeron 3855U: HD510 i5-7200U: HD620
	HDD	128 GB
Connectors	Front panel connectors	4x USB 2.0
	Rear panel connectors	4x Ethernet output connectors
		1x Light sensor connector
		2x Reserved connectors
		1x Audio output connector
		1x HDMI output connector
		2x USB 3.0
		1x Wi-Fi antenna connector
		1x Gigabit Ethernet port
		1x Power input connector (DC 12 V)
Maximum Loading Capacity	2,300,000 pixels	
Maximum power consumption	43 W	
Operating Environment	Temperature	–20°C to +60°C
	Humidity	0% RH to 80% RH, non-condensing
Storage Environment	Temperature	–40°C to +80°C
Physical Specifications	Dimensions (L×W×H)	285.0 mm × 135.2 mm × 46.5 mm
	Net weight	1465.7 g

The power consumption may vary according to the setup, environment and use of the product as well as many other factors.

Product Models

Operating System	Model	CPU	RAM	HDD
Linux (English version)	MBOX600 (3U4A3)	3855U	4 GB	128 GB
	MBOX600 (7U4A3)	i5-7200U	4 GB	128 GB
Windows 10 IOT Enterprise (English version)	MBOX600 (3U4A3) [WIN10 IOT Enterprise]	3855U	4 GB	128 GB
	MBOX600 (7U4A3) [WIN10 IOT Enterprise]	i5-7200U	4 GB	128 GB
	MBOX600 (7U8A4) [WIN10 IOT Enterprise]	i5-7200U	8 GB	256 GB

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.