Industrial PC

CS86-BOX-5005U

PN: CS86-BOX-5005U

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CS86-BOX-5005U

Front View

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Product Overview

The CS86-BOX-5005U is a rugged, high-quality mountable multifunctional industrial PC without a display. Thanks to the integrated brackets and its light-weight construction, it can be firmly attached to any flat surface, such as industrial cabinets or walls.

CS86-BOX-5005U is powered by the high-performance Intel$^®$ Core™ i3 5005U CPU. The CS86-BOX-5005U Industrial Box PC also features a broad range of connectivity options, allowing it to meet even the most demanding requirements in harsh industrial or outdoor environments.

Key Applications

- Industrial Automation
- Process Control
- Smart Grid Management
- CNC Manufacturing
- Environmental Monitoring
- Machine Vision Inspection
- Predictive Maintenance

Despite the performances, the offered CPU consume very little power. From the ground-up, the CPU is built for low power consumption.

A specially designed aluminum alloy housing with fins for increased heat dissipation serves as a passive cooler, eliminating the need for built-in fans. The fan-less design reduces noise, as well as the maintenance costs and efforts, increasing reliability at the same time.

> ⚠️ **Caution**
>
> Be careful when handling the product while it is operating: it might become hot under heavy CPU load.

Ordering Options

Most of the Chipsee products can be customized during the ordering process. The product will be shipped with the pre-installed factory defaults if no extra requirements are specified. The table in the Hardware Features section provides information about the default options bundled with the product.

> ✏ **Note**
>
> You can order CS86-BOX-5005U from the official Chipsee Store or from your nearest distributor.

Operating System

By default, CS86-BOX-5005U comes with the Ubuntu Linux operating system (OS) pre-installed. A different OS can be selected during the ordering process. For operating system, CS86-BOX-5005U supports Ubuntu, CentOS Linux, Windows 7/8/10.

Optional Features

The CS86-BOX-5005U Industrial Box PC offers the highest levels of scalability in the entire products portfolio.

Feel free to contact Chipsee Technical Support at **support@chipsee.com** for all your customization needs.

CS86-BOX-5005U does not include WiFi/BT module by default. This module is optional and can be selected at the Chipsee store during the ordering process.

> ⚠️ **Warning**
>
> Installation, repair, and maintenance tasks should be performed by trained personnel only.
> Chipsee does not bear any responsibility for damage caused by inadequate handling of the product.

Hardware Features

The CS86-BOX-5005U Industrial Box PC offers a broad range of performance and connectivity options for scalable integration, providing expandability according to future needs. Some of the key features are listed in the table below.

CS86-BOX-5005U	
CPU	Intel Core i3 5005U, Dual(2) Core 4 Threads, 2.0GHz Base Frequency
Mother Board	H81U Series, AMI BIOS
GPU	Intel® HD Graphics 5500 iGPU
RAM	4GB(1 x 4GB) DDR3L 1600MHz (default), Up to 16GB (dual channel, optional)
Storage	Default mSATA 128GB SSD (supports up to 2TB), supports 2.5" SATA HDD (SATA2.0)
USB	4 x USB3.0, 2 x USB2.0 HOST ports (Type A)
PCIe	1 x Full Size Mini PCIe
Audio	1 x Audio interface, Realtek ALC662 chip, supports dual channel, stereo, Lineout
LAN	2 x RJ45, GbE (Intel® i211), Wake on LAN (WoL) support
UART	Default 6 x RS232 (COM1 ~ COM4 can be configured to RS485 by using one internal RS232 to RS485 board)
3G/4G	N/A
WiFi/BT	Optional
HDMI	1 x HDMI Out port, up to 2560x1600 60Hz, independent/identical display with VGA
VGA	1 x VGA Out port, up to 1920x1080 60Hz, independent/identical display with HDMI
SATA	1 x Full size mSATA, 1 x SATA
Power IN	12V 5A DC
Current	2.75A (100% CPU, 12V)
OS	Ubuntu, CentOS Linux, Windows 7/8/10
Operating Temp.	From -15°C to +80°C
Dimensions	235 * 137 * 51mm
Shell Material	Aluminum Alloy
Mounting	VESA, Desktop
Weight	1500g

Table 314 Table 1: Key Features

Power Input

The CS86-BOX-5005U Industrial Box PC should be powered by 12V DC, the connector is 5.5 x 2.5mm DC input.

12V DC Power Input

The POWER button is located to the opposite side of the power input connector and can be used to switch the power ON or OFF.

Power Button

Connectivity

There are many connectivity options available on the CS86-BOX-5005U industrial PC. It has 6 x USB Type A connectors configured as HOSTS, 1 x HDMI port, 1 x VGA, 2 x RJ45 connectors supporting Gigabit Ethernet (GbE), and 6 x RS232 connectors that can be configured in RS485 mode (2 x RS232 + 4 x RS485) as per request.

RS232/485 Connectors

Product has 6 x 9-pin D-Sub connectors which are configured as RS232 interfaces by default. The 4 ports: COM1~COM4, can be configured as either RS232 or RS485 communication interfaces through an internal convert board. If different configuration is required, please get in touch with Chipsee technical support at **support@chipsee.com**

COM Ports

USB HOST Connectors

CS86-BOX-5005U is equipped with 4 x USB 3.0 HOST and 2 x USB 2.0 HOST ports.

USB 3.0

USB 3.0(Left 2) and USB 2.0(Right 2)

LAN Connectors

2 x **LAN (RJ45) connectors** provide Ethernet connectivity over standardized Ethernet cables. The integrated two-port Ethernet interface supports 10/100/1000BASE-T/TX specifications with automatic speed negotiation and Wake on LAN (WoL) functionality. Power over Ethernet (PoE) is not supported.

2 x RJ45 GbE LAN Connectors

> ✏️ **Note**
>
> Use CAT5 or better cables to achieve full data throughput over maximum distance defined by the 1000BASE-T standard (100m).

HDMI Connector

Although not equipped with the screen on its own, the The CS86-BOX-5005U Industrial Box PC features 1 x **HDMI** port and 1 x **VGA** port.

The HDMI out port, supports video output up to 2560x1600 60Hz; the VGA out port, supports up to 1920x1080 60Hz. These two video output ports support independent/ identical display, which means you can display same video or different video on two external screens.

HDMI(Left) and VGA(Right) Ports

Audio In/Out Connector

The CS86-BOX-5005U has one 3.5mm audio port, the Realtek ALC662 chip, supports dual channel, stereo and lineout.
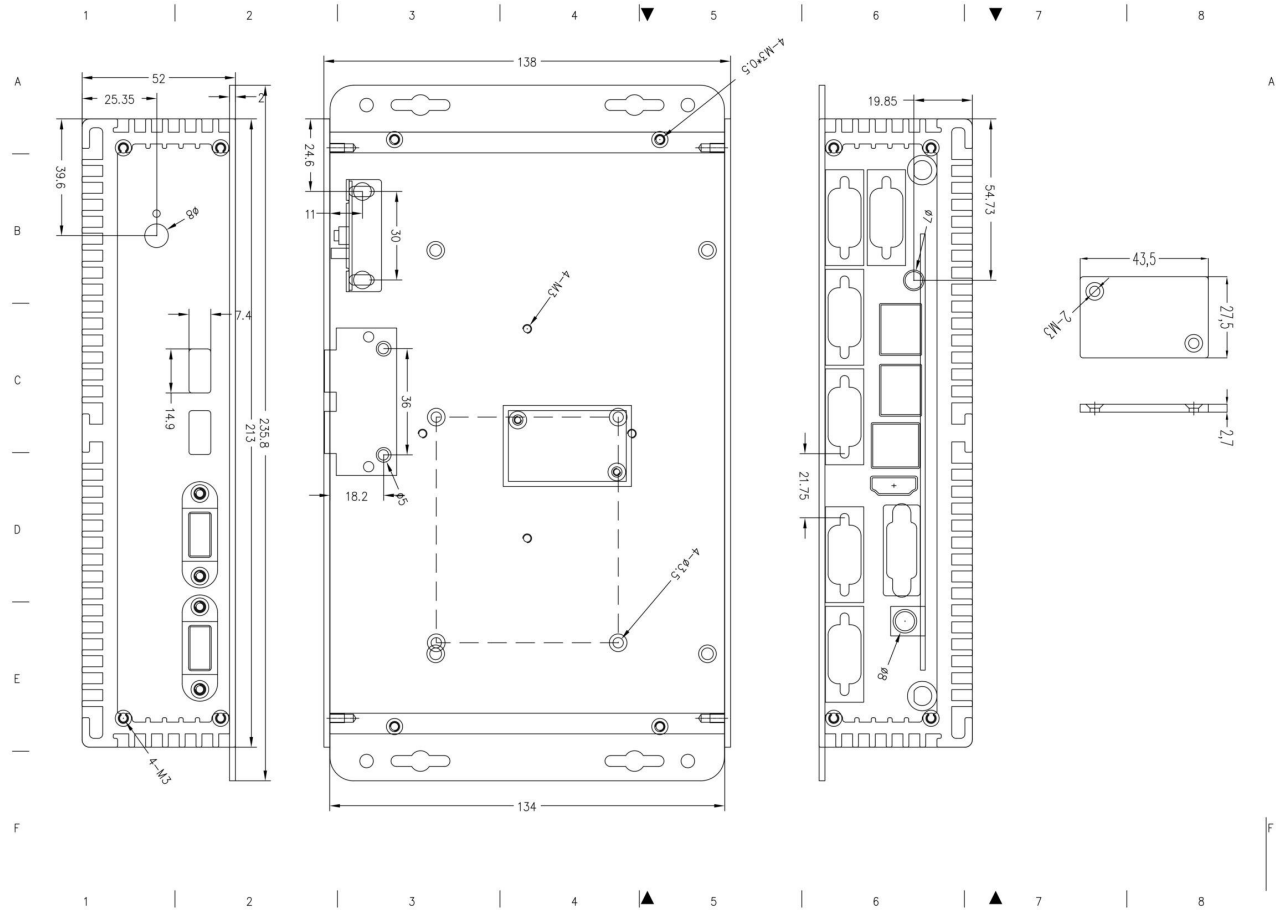

Audio Port

Mounting Procedure

The CS86-BOX-5005U Industrial Box PC supports VESA mounting pattern with M3 screws, enabling simplified installation onto any standard VESA mounting rack.

The CS86-BOX-5005U Industrial Box PC also supports desktop mount.

You can find detailed information about mounting in the Mount IPC Guide.

Mechanical Specifications

The outer mechanical dimensions of The CS86-BOX-5005U Industrial Box PC are 235 * 137 * 51mm (W x L x H). Please refer to the technical drawing in the figure below for details related to the specific product measurements.

CS86-BOX-5005U Technical Drawing

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