



Q5100 User Manual

Issue 1.0

www.CoreIPC.com

Security Guidance

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- No part of this user manual may be reproduced, modified, reprinted, distributed, or published in any form without prior written permission from CoreIPC.
- To ensure proper and safe use of the CoreIPC Q5100, please read this user manual carefully before installation and operation.
- Please read all safety instructions and product specifications carefully before using the product.
- When contacting CoreIPC for technical support, please provide the product model, processor platform, I/O configuration, and other relevant product information for identification.

Basic Safety Tips

1. Before using this product, please read this manual carefully and keep it for future reference.
2. Make sure the power outlet is easily accessible when using the device.
3. Before connecting the device to a power outlet, verify that the power supply voltage meets the product requirements.
4. Route the power cord properly to avoid tripping hazards, and do not place any heavy objects on the power cord.
5. Before cleaning the device, disconnect the power cord from the power outlet. Do not use liquid cleaners or spray cleaners directly on the device. Use a dry or slightly damp cloth instead.
6. Before installation, make sure the device is placed on a stable and reliable surface to prevent accidental drops or damage.
7. If the device will not be used for an extended period, disconnect it from the power outlet to avoid possible damage caused by excessive voltage fluctuations.
8. The system configuration table specifies a storage temperature of -20°C to 70°C. The source safety section separately advises not to store the device below -10°C or above 60°C. Please confirm the applicable storage limit for the selected configuration

before deployment.

9. Do not allow any liquid to enter the device, as this may cause a short circuit, electric shock, or fire.
10. Do not open or disassemble the device by yourself. For safety reasons, servicing should only be performed by qualified technical personnel or authorized engineers.
11. Before connecting or disconnecting external devices, cables, or optional modules, it is recommended to power off the system first.

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Ordering Information

System Model	Processor	Memory	Storage	Optional Features
EPC19D-L22-J1900	Intel® Celeron® J1900	4GB / 8GB	64GB / 128GB / 256GB / 512GB / 1TB SSD	Wi-Fi / BT / 4G / GPS / GPIO / Wide Voltage
EPC37U-L22-3217U	Intel® Core™ i3-3217U	4GB / 8GB	64GB / 128GB / 256GB / 512GB / 1TB SSD	Wi-Fi / BT / 4G / GPS / GPIO / Wide Voltage
EPC37U-L22-3317U	Intel® Core™ i5-3317U	4GB / 8GB	64GB / 128GB / 256GB / 512GB / 1TB SSD	Wi-Fi / BT / 4G / GPS / GPIO / Wide Voltage
EPC54U-L22-4300U	Intel® Core™ i5-4300U	4GB / 8GB	64GB / 128GB / 256GB / 512GB / 1TB SSD	Wi-Fi / BT / 4G / GPS / GPIO / Wide Voltage
EPC54U-L22-5005U	Intel® Core™ i3-5005U	4GB / 8GB	64GB / 128GB / 256GB / 512GB / 1TB SSD	Wi-Fi / BT / 4G / GPS / GPIO / Wide Voltage
EPC54U-L26-5300U	Intel® Core™ i5-5300U	4GB / 8GB	64GB / 128GB / 256GB / 512GB / 1TB SSD	Wi-Fi / BT / 4G / GPS / GPIO / Wide Voltage

Note: Q5100 supports multiple EPC-series motherboard configurations. USB count, serial-port count, RS485 support, GPIO and wide-voltage input vary by selected system model. Confirm the required motherboard and I/O configuration before ordering.

1. Product Description

The Q5100 is a fanless industrial Box PC based on EPC-series motherboards. It supports Intel® Celeron® J1900 and selected Intel® Core™ processors including i3-3217U, i5-3317U, i5-4300U, i3-5005U and i5-5300U. The fanless aluminum die-cast enclosure is designed for embedded and industrial applications.

The standard configuration provides dual Gigabit Ethernet, 2 COM ports, 4 USB ports expandable to 8 USB ports, 1 × HDMI, 1 × VGA and a combined audio interface. Serial ports default to 2 × RS232 and can be configured as 1 × RS232 + 1 × RS485. Selected variants support additional COM/RS485 ports.

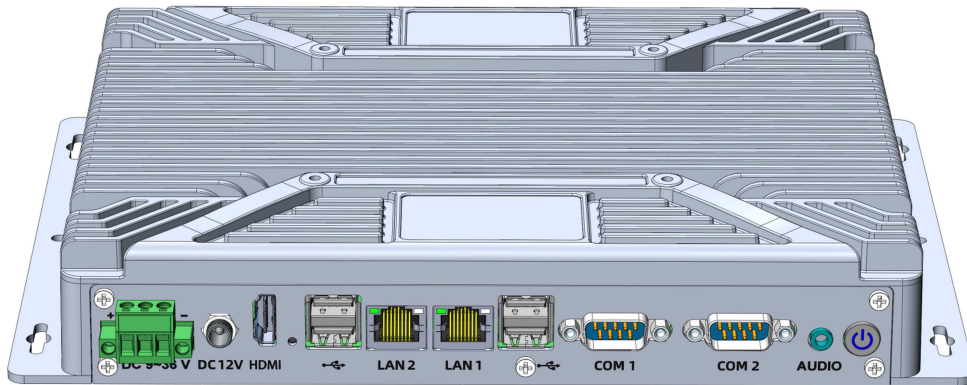
The Ethernet interface uses the Realtek RTL8111F Gigabit controller and supports Wake-on-LAN and PXE. Optional Mini-PCIe modules support Wi-Fi / Bluetooth and 4G / GPS. Optional GPIO and DC 9-36 V wide-voltage input are also available.

Standard power input is DC 12 V through a 5.5 mm outer / 2.5 mm inner DC jack. The source specifies a standard AC-DC 12 V / 4 A, 48 W adapter. A 3-pin Phoenix terminal with DC 9-36 V wide-voltage module is optional. The system supports switch startup and power-on after AC recovery.

The main features of the Q5100 are as follows:

- Intel® Celeron® J1900 and selected Intel® Core™ processor options
- Fanless aluminum die-cast industrial Box PC
- 2 × Gigabit LAN using Realtek RTL8111F; Wake-on-LAN / PXE supported
- 4 × USB, expandable/configurable to 8 × USB
- 2 × RS232 by default; configurable as 1 × RS232 + 1 × RS485
- Selected EPC54U-L26-5300U configuration: 6 × COM / 2 × RS485
- 1 × HDMI + 1 × VGA + combined audio interface
- Optional Wi-Fi / Bluetooth, 4G / GPS and GPIO
- Standard DC 12 V; optional DC 9-36 V wide-voltage input
- Switch startup; supports power-on after AC recovery
- Hardware watchdog reset: 256 levels, 0-255 seconds
- Chassis: 270 × 188 × 43.5 mm; Desktop / Embedded Mount

2. Product Images



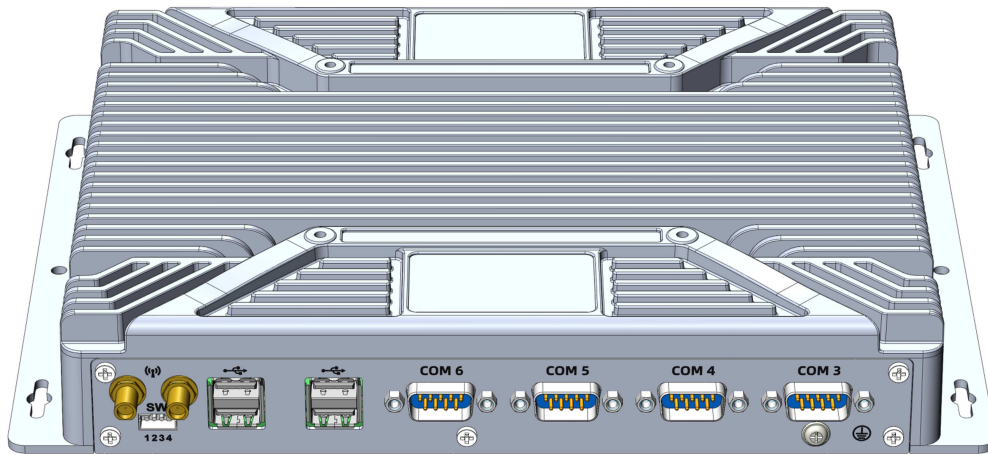
Q5100 Standard Front I/O

Standard 2-COM configuration with optional wide-voltage terminal, DC 12 V, HDMI, USB, dual LAN, COM1/COM2, audio and power button



Q5100 Standard Chassis View

Angled view of the standard Q5100 front I/O configuration



Q5100 6-COM Rear I/O Variant

3. Chassis Specifications

Model	Q5100 (EPC-series motherboard)
Dimensions	270 × 188 × 43.5 mm
Chassis	Fanless aluminum die-cast enclosure
Appearance / Material	Silver anodized aluminum plate, or aluminum die-cast chassis + SECC
Mounting	Desktop / Embedded Mount
Package / Chassis Items	Chassis, Wi-Fi antenna-hole plugs, screws, packaging materials

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4. System Configuration

Configuration	Available Options
Processor / Motherboard	See Ordering Information for EPC-series platform options
Memory	4 GB / 8 GB
Storage	64 GB / 128 GB / 256 GB / 512 GB / 1 TB SSD
Network	2 × Gigabit LAN; Realtek RTL8111F; Wake-on-LAN / PXE supported
Operating System	Windows 7 / Windows 10 / Linux
USB	4 × USB; configurable/expandable to 8 × USB
Display	1 × HDMI + 1 × VGA
Audio	1 × combined audio interface
Serial Ports	2 × RS232 by default
RS485	Configurable as 1 × RS232 + 1 × RS485; selected variant supports 2 × RS485
Wi-Fi / Bluetooth	Optional via Mini-PCle
4G / GPS	Optional via Mini-PCle module
GPIO	Optional
Expansion	Mini-PCle
Power Input	DC 12 V, 5.5 mm outer / 2.5 mm inner DC jack
Power Adapter	Standard AC-DC 12 V / 4 A, 48 W
Wide Voltage	Optional 3-pin Phoenix terminal with DC 9-36 V wide-voltage module
Power-on Mode	Switch startup; supports power-on after AC recovery
Watchdog	Hardware reset function, 256 levels, 0-255 seconds
Cooling	Fanless passive cooling
Operating Environment	-10°C to 65°C; 5%-95% RH, non-condensing
Storage Temperature	-20°C to 70°C in the system specification table
Dimensions / Mounting	270 × 188 × 43.5 mm; Desktop / Embedded Mount
Package Contents	1 × chassis/system, 1 × power adapter, 1 × power cord, 1 × screw pack

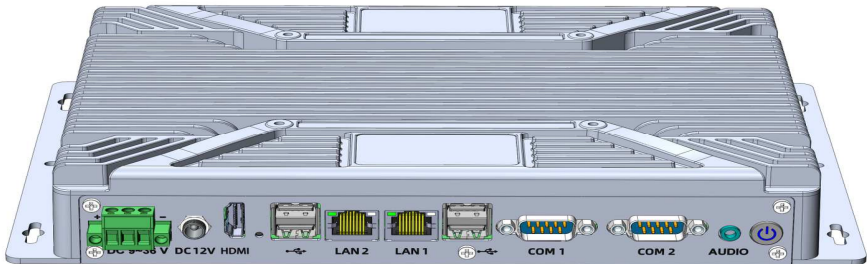
Configuration Note:

The source ordering table shows 2 COM / 1 RS485 option for EPC19D-L22-J1900, EPC37U-L22-3217U, EPC37U-L22-3317U, EPC54U-L22-4300U and EPC54U-L22-5005U. EPC54U-L26-5300U is listed with 6 COM / 2 RS485.

USB is configurable as 4 or 8 ports.

5. Interface Details

Standard Front I/O



Configuration-Dependent I/O

Function	Specification	Function	Specification
LAN	2 × Gigabit LAN	USB	4 × USB; up to 8 × USB
Display	1 × HDMI + 1 × VGA	Audio	1 × combined audio interface
Serial	2 × RS232 default	RS485	1 × RS232 + 1 × RS485 configurable
Power	DC 12 V	Wide Voltage	Optional 3-pin 9-36 V input

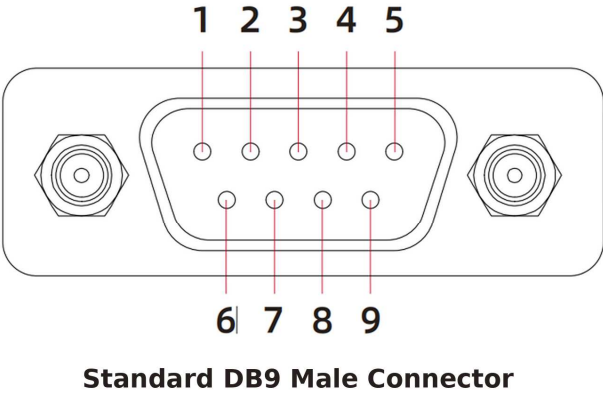
Power / Control Features / Expansion / Network Features

Option / Variant	Description	Option / Variant	Description
EPC54U-L26-5300U	6 × COM / 2 × RS485	USB	4 / 8 ports depending on configuration
Power-on	Switch startup + AC recovery	Watchdog	256 levels, 0-255 s
Wireless	Wi-Fi / Bluetooth	Cellular / GPS	4G / GPS
Expansion	Mini-PCIe	GPIO	Optional

6. Serial Port Pin Definitions

The DB9 serial connector uses RS232 by default. The source also provides an RS485 pin definition. For RS232: Pin 1 DCD, 2 RXD, 3 TXD, 4 DTR, 5 GND, 6 DSR, 7 RTS, 8 CTS, 9 RI. For RS485: Pin 1 TXD+(A)/RXD+, Pin 2 TXD-(B)/RXD-, Pin 5 GND; the remaining listed pins are NC.

DB9 Serial Port Definition



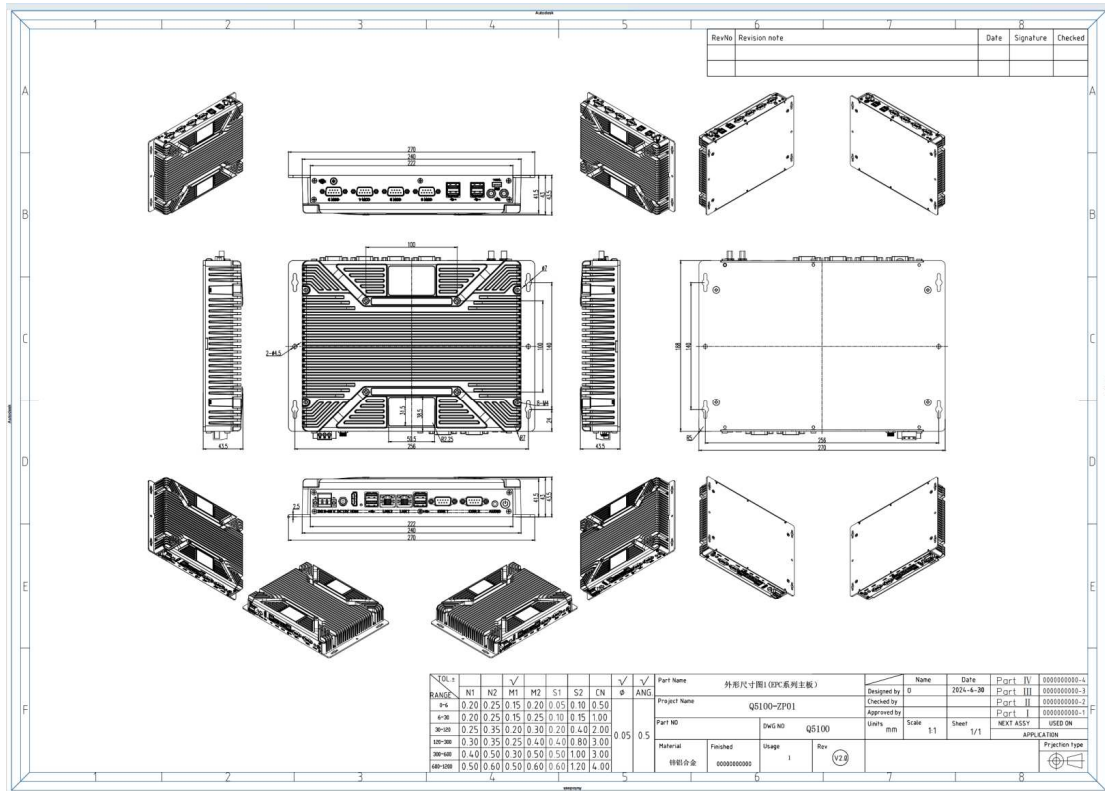
Default RS-232 pin assignments:

Pin No.	Definition	Pin No.	Definition
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

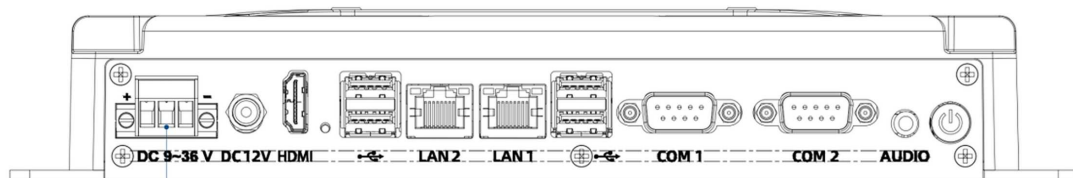
RS-485 option: pin assignments:

Pin No.	Definition	Pin No.	Definition
1	TXD+(A)/RXD+	2	TXD-(B)/RXD-
3	NC	4	NC
5	GND	6	NC
7	NC	8	NC
9	NC	10	NC

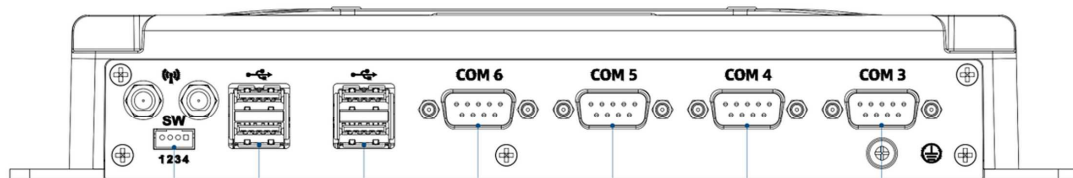
7. Mechanical Dimension



Q5100 (EPC Series Motherboard) I/O Port Layout



Front I/O Ports



Optional

8. Warranty

CoreIPC provides the original purchaser with a one-year limited warranty from the date of purchase.

During the warranty period, if the product is found to be defective under normal use, CoreIPC will provide repair or replacement service free of charge. The warranty does not cover products that have been repaired or modified by unauthorized personnel, or damage caused by improper use, accidents, disasters, or incorrect installation.

For products outside the warranty period, repair service may still be available, and material and labor charges may apply. Please contact your CoreIPC sales representative for detailed service information.

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