

CoreIPC

EPIC67P

3.5-inch Industrial Motherboard Datasheet

Intel® Skylake-U / Kaby Lake-U Platform

Document	Datasheet
Model	EPIC67P
Issue	1.1
Product Type	3.5-inch Industrial Motherboard
Website	www.CoreIPC.com

This datasheet is prepared based on EPIC67P User Manual Issue 1.1.

1. Product Overview

The EPIC67P is a CoreIPC 3.5-inch industrial motherboard supporting Intel® Skylake-U and Kaby Lake-U low-power processors. It combines DDR4 memory, VGA/HDMI/LVDS or optional eDP display, dual 2.5GbE networking, SATA and mSATA storage, Mini PCIe expansion, multiple USB and serial interfaces, GPIO, audio amplification, and 12 V DC input for embedded and industrial applications.

2. Key Features

- Supports Intel® Skylake-U / Kaby Lake-U Celeron®, Pentium®, and Core™ i3/i5/i7 processors.
- 1 x DDR4 SO-DIMM slot supporting single-channel DDR4-2133 memory, up to 32 GB.
- VGA, HDMI, and LVDS or optional eDP display interfaces; LVDS is the default configuration.
- 2 x Intel® I226 2.5GbE ports with Wake-on-LAN and PXE; single-LAN configuration optional.
- Storage includes 1 x SATA 3.0 connector and 1 x mSATA interface.
- 1 x Mini PCIe slot supporting Wi-Fi or 4G modules.
- Supports up to 8 USB ports, including USB 3.0 and USB 2.0; exact population depends on LAN configuration.
- Provides 6 x COM ports. COM1/COM2 support RS232/RS485 by jumper; COM3 supports optional RS485/RS422; COM4 supports optional RS485.
- Onboard Realtek ALC897 7.1-channel HD audio with MIC/Line-out and 2-ohm, 5 W stereo amplifier output.
- 146 x 102 mm 3.5-inch form factor; 12 V DC input; AT/ATX power-mode selection; operating temperature -10°C to 60°C.

3. Technical Specifications

Category	Specification
Processor	Intel® Skylake-U / Kaby Lake-U Celeron®, Pentium®, and Core™ i3/i5/i7 low-power processors. Source examples include 3865U, i5-6300U, i5-7200U and i7-class configurations.
Memory	1 x SO-DIMM slot; single-channel DDR4-2133, 1.2 V; up to 32 GB.
Graphics / Display	Integrated Intel® HD Graphics 540/610/620/650 or processor-dependent graphics; 1 x VGA, 1 x HDMI supporting 4K @ 60 Hz, and 1 x LVDS or eDP interface (LVDS default).
Ethernet	2 x Intel® I226 2.5GbE controllers; single-LAN option; Wake-on-LAN and PXE support.
Storage	1 x 7-pin SATA 3.0 connector, up to 6 Gbps; 1 x mSATA interface.
Audio	Realtek ALC897 7.1-channel HD audio; MIC/Line-out; stereo amplifier output, 2 ohm / 5 W.
Expansion	1 x Mini PCIe slot supporting Wi-Fi and 4G modules.
USB	2 x USB 3.0 rear ports plus onboard USB 2.0 headers; up to 8 USB ports depending on LAN configuration.
Serial Ports	6 x COM ports. COM1/COM2 support RS232 or RS485 by jumper; COM3 can be hardware-configured for RS485/RS422; COM4 can be hardware-configured for RS485.
GPIO	4-channel GPIO input/output.
BIOS	64 Mb Flash ROM.
Watchdog	Hardware reset watchdog, 256 levels (0-255 seconds).
OS Support	Windows 10 / Linux.
Power	12 V DC input; optional 2-pin Phoenix terminal or ATX 4-pin power input.
Operating Temperature	-10°C to 60°C.
Storage Temperature	-20°C to 70°C.
Operating Humidity	5%-95% relative humidity, non-condensing.
Dimensions	146 mm x 102 mm.

4. I/O Interface Summary

4.1 Rear Panel I/O

Interface	Description
Display	1 x HDMI; 1 x VGA.
USB	2 x USB 3.0; 2 x USB 2.0 can be available depending on LAN configuration.
LAN	Up to 2 x RJ45 2.5GbE ports; single-LAN option available.
Audio	1 x Line-out jack (green).
Power	1 x 12 V DC input; power/HDD status indicator; Clear CMOS push button.

4.2 Internal I/O and Headers

Interface / Header	Description
LVDS / eDP	1 x 2 x 15-pin dual-channel 24-bit LVDS header; can be converted to eDP through hardware modification; LVDS default.
Backlight	1 x 1 x 6-pin panel backlight power connector; selectable 5 V / 12 V.
USB 2.0	3 x 2 x 5-pin USB 2.0 headers; up to 6 onboard USB 2.0 ports, with population depending on LAN configuration.
Serial	2 x 2 x 5-pin JCOM headers plus 1 x 2 x 20-pin header for COM3-COM6.
RS485 / RS422	COM1/COM2 support jumper-selectable RS485; COM3 optional RS485/RS422; COM4 optional RS485.
Audio	1 x front-audio header; 1 x 4-pin amplified speaker output header.
Drive Power	1 x 4-pin SATA drive power connector.
Optional SATA Header	1 x optional 2 x 5-pin SATA 3.0 header.
Front Panel / GPIO	1 x front-panel header; 1 x 2 x 5-pin GPIO header.
Fan	1 x 4-pin CPU smart-fan header.
Power Input	1 x optional 2-pin Phoenix power terminal; ATX 4-pin 12 V input supported.

5. Display Support

EPIC67P provides VGA and HDMI together with an onboard LVDS interface. The LVDS interface supports dual-channel 24-bit output and can be changed to eDP through hardware modification. The source manual lists selectable 3.3 V / 5 V / 12 V panel voltage and 5 V / 12 V backlight power.

Item	Description
Integrated Graphics	Intel® HD Graphics 540/610/620/650 or processor-dependent graphics.
VGA	1 x VGA output.
HDMI	1 x HDMI output supporting up to 4K @ 60 Hz.
LVDS	Dual-channel 24-bit LVDS, default configuration.
eDP	Optional via hardware modification of the LVDS interface.
Panel Power	Selectable 3.3 V / 5 V / 12 V panel voltage; 5 V / 12 V backlight power.

6. Serial Port Configuration

Port / Source	Default / Optional Function
COM1	RS232 default; RS485 supported by jumper configuration.
COM2	RS232 default; RS485 supported by jumper configuration.
COM3	RS232 default; optional RS485 or RS422 requires hardware modification.
COM4	RS232 default; optional RS485 requires hardware modification.
COM5-COM6	RS232.
JRS485	RS485/RS422 wiring header used for optional COM3/COM4 differential serial functions.

7. Power, Cooling and Reliability Functions

Item	Description
Main Power	12 V DC input.
Power Connector Options	ATX 4-pin 12 V input or optional 2-pin Phoenix terminal.
AT / ATX Mode	AT-ATX1 jumper selects automatic power-on behavior.
Cooling	1 x 4-pin CPU smart-fan header; source manual describes a dual-ball-bearing smart fan design.
Watchdog	Hardware reset watchdog, 256 levels (0-255 seconds).
Clear CMOS	1 x Clear CMOS push button plus JBAT1 1 x 3-pin Clear CMOS jumper.
Panel Power	Selectable LVDS/eDP panel and backlight power settings.

8. Mechanical and Environmental Information

Item	Description
Form Factor	3.5-inch industrial motherboard.
Dimensions	146 mm x 102 mm.
Operating Temperature	-10°C to 60°C.
Storage Temperature	-20°C to 70°C.
Operating Humidity	5%-95% relative humidity, non-condensing.
Power Input	12 V DC.
Display Panel Power	3.3 V / 5 V / 12 V panel options; 5 V / 12 V backlight options.

9. Ordering Information

Model	Description
EPIC67P-3865U VER1.1	Intel® Celeron® 3865U; 2 cores; 1.8 GHz; DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; 6 COM / 2 RS485; 12 V DC.
EPIC67P-6300U VER1.1	Intel® Core™ i5-6300U; 2 cores; 2.4 GHz; DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; 6 COM / 2 RS485; 12 V DC.
EPIC67P-7200U VER1.1	Intel® Core™ i5-7200U; 2 cores; 2.5 GHz; DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; 6 COM / 2 RS485; 12 V DC.
EPIC67P-6500U VER1.1	Intel® Core™ i7-6500U per Ordering Information; 2 cores; 2.5 GHz; DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; 6 COM / 2 RS485; 12 V DC.
Options	Single-LAN, eDP, additional RS485/RS422, optional Phoenix terminal and optional SATA header depend on production configuration.

10. Compliance and Documentation Notes

- Certification and compliance information is not specified in the source manual. Contact CoreIPC for project-specific certification or compliance documentation.
- The Ordering Information table lists EPIC67P-6500U with Intel® Core™ i7-6500U, while the detailed CPU specification table lists Intel® Core™ i7-6660U. This datasheet preserves the ordering model names from the source and recommends confirming the exact CPU before order placement.
- The source manual is Issue 1.1, while the board photo and mechanical illustration are labeled VER1.0. LAN/USB population and LVDS/eDP/serial options may vary by production configuration; confirm the selected BOM before ordering.

11. Contact Information

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Disclaimer: This datasheet was compiled from EPIC67P User Manual Issue 1.1. Product specifications, interface counts and optional functions may vary by production configuration. Please confirm the selected configuration before order placement. All product names, trademarks and registered trademarks are the property of their respective owners.