

CoreIPC

ITX310D-L26

Mini-ITX Industrial Motherboard Datasheet

Intel® LGA1151 Platform | H310C / B365 / B250 Chipset

Document	Datasheet
Model	ITX310D-L26
Issue	1.2
Product Type	Mini-ITX Industrial Motherboard
Website	www.CoreIPC.com

This datasheet is prepared based on ITX310D User Manual Issue 1.2.

1. Product Overview

The ITX310D-L26 is a 170 x 170 mm Mini-ITX industrial motherboard supporting 6th, 7th, 8th and 9th generation Intel® LGA1151 Pentium®, Celeron® and Core™ i3/i5/i7 processors. It is intended for commercial displays, machine vision, medical equipment, industrial control, financial equipment, cloud terminals and other embedded applications.

2. Key Features

- Supports 6th, 7th, 8th and 9th generation Intel® LGA1151 Pentium®, Celeron® and Core™ i3/i5/i7 processors.
- Two DDR4 SO-DIMM slots with dual-channel memory support, up to 64 GB. The detailed specification lists DDR4-1866/2133/2400.
- Supports VGA, HDMI and LVDS display outputs. One HDMI path is mutually exclusive with VGA; dual-HDMI configuration is optional.
- Up to two Realtek RTL8111H Gigabit Ethernet ports with Wake-on-LAN and PXE boot support.
- One SATA 3.0 interface plus one M.2 Key-M slot. M.2 SATA is supported by default; NVMe requires a hardware configuration change.
- One Mini PCIe slot supporting Wi-Fi/4G and one PCIe 3.0 x4 expansion slot.
- Supports up to 10 USB ports on single-LAN configurations and up to 8 USB ports on dual-LAN configurations.
- Six serial ports. COM1 and COM2 can optionally switch between RS232 and RS485 through BIOS settings.
- Onboard Realtek ALC897 6-channel HD audio with MIC input, Line-out and 2 ohm / 5 W amplifier output.
- Mini-ITX 170 x 170 mm form factor; 12-19 V DC input; operating temperature -10°C to 60°C.

3. Technical Specifications

Category	Specification
CPU	Supports 6th, 7th, 8th and 9th generation Intel® LGA1151 Celeron®, Pentium® and Core™ i3/i5/i7 processors.
Chipset	Intel® H310C, B250 or B365 chipset. Ordering Information for ITX310D-L26 VER1.2 lists B365/B250.
Memory	2 x DDR4 SO-DIMM slots; dual-channel DDR4-1866/2133/2400; maximum capacity 64 GB according to the detailed specification.
Graphics / Display	Integrated Intel® HD Graphics; DirectX 12 and OpenGL 4.5; 4K output support. 1 x VGA up to 1920 x 1200 @ 60 Hz; 2 x HDMI 1.4 paths with one mutually exclusive with VGA; 1 x LVDS.
Ethernet	Up to 2 x Realtek RTL8111H Gigabit Ethernet controllers; supports Wake-on-LAN and PXE boot.
Storage	1 x SATA 3.0 interface; 1 x M.2 Key-M slot. M.2 SATA supported by default; NVMe requires hardware configuration change.
Audio	Onboard Realtek ALC897 6-channel HD audio; MIC input, Line-out and 2 ohm / 5 W amplifier output.
Expansion	1 x Mini PCIe slot for Wi-Fi/4G; 1 x PCIe 3.0 x4 slot.
USB	Single-LAN configuration supports up to 10 USB ports; dual-LAN configuration supports up to 8 USB ports. Rear I/O provides 2 x USB 3.0 and optional 2 x USB 2.0 depending on LAN2 configuration; 6 x USB 2.0 are available through onboard headers.
Serial Ports	6 x COM ports. COM1-COM6 default to RS232; COM1/COM2 can optionally support RS485. The pin-definition section specifies BIOS switching between RS232 and RS485 for COM1/COM2.
GPIO	4 GPIO inputs and 4 GPIO outputs.
BIOS	64 Mb Flash ROM.
Watchdog	Hardware reset with 256 programmable levels, 0-255 seconds.
Operating System	Windows 7 / Windows 10 / Linux.
Power Input	12-19 V DC.
Fan	1 x 4-pin CPU fan connector and 1 x 3-pin system fan connector.
Dimensions	170 mm x 170 mm.
Environment	Operating: -10°C to 60°C; storage: -20°C to 70°C; 5%-95% RH, non-condensing.

4. I/O Interface Summary

4.1 Rear Panel I/O

Interface	Description
Display	1 x HDMI 1.4 and 1 x VGA by default. One additional HDMI path is optional and is mutually exclusive with VGA.
USB	2 x USB 3.0; 2 x USB 2.0 are available when LAN2 is not used.
LAN	Up to 2 x RJ-45 Gigabit Ethernet ports; LAN2 is mutually exclusive with 2 x USB 2.0 ports.
Audio	1 x Line-out jack (green), 1 x MIC jack (red).
Power	1 x 12-19 V DC power input.

4.2 Internal I/O and Headers

Interface / Header	Description
JVGA	1 x 1 x 12-pin JVGA header carrying the same signals as the DB15 VGA port.
LVDS	1 x 2 x 15-pin LVDS header supporting dual-channel 24-bit output.
Backlight Power	1 x 1 x 6-pin LCD backlight power connector.
USB 2.0	3 x 2 x 5-pin headers supporting 6 x USB 2.0 ports.
Front Audio	1 x 2 x 5-pin front audio header.
Amplifier	1 x 1 x 4-pin amplifier connector supporting 2 ohm / 5 W stereo output.
Serial	COM1 and COM2 via two standard 2 x 5-pin headers; COM3-COM6 via one 2 x 20-pin header.
RS485 Header	1 x 2 x 3-pin JRS485 wiring header for COM1/COM2 RS485 signals.
ATX Power	1 x 4-pin ATX power connector.
SATA Power	1 x 4-pin drive power connector.
Front Panel	1 x 2 x 5-pin front-panel switch and LED header.
GPIO	1 x 2 x 5-pin GPIO header supporting 4 inputs and 4 outputs.
Fans	1 x 4-pin CPU fan header and 1 x 3-pin system fan header.

5. Display and LVDS Support

The ITX310D-L26 provides VGA, HDMI and LVDS display support. The detailed specification lists one VGA port up to 1920 x 1200 @ 60 Hz, two HDMI 1.4 paths with one HDMI mutually exclusive with VGA, and one LVDS interface. LVDS panel voltage, backlight voltage and resolution are configurable through onboard jumpers and DIP switch.

Item	Description
Integrated Graphics	Intel® HD Graphics with DirectX 12, OpenGL 4.5 and 4K display support.
VGA	1 x VGA port, maximum resolution 1920 x 1200 @ 60 Hz.
HDMI	2 x HDMI 1.4 display paths; one HDMI path is mutually exclusive with VGA and VGA is fitted by default. Maximum listed resolution: 4096 x 2304 @ 24 Hz.
LVDS	1 x 2 x 15-pin dual-channel 24-bit LVDS interface.
Panel Voltage	LVDS panel operating voltage options: 3.3 V, 5 V and 12 V; default 3.3 V.
Backlight Power	Backlight power options: 12 V or 5 V; default 12 V.
LVDS Resolution	Resolution is configurable by SW1 DIP switch. The source manual lists options up to 1920 x 1080.

6. Serial Port Configuration

Port	Default / Optional Function
COM1	RS232 by default; optional RS485 selected through BIOS.
COM2	RS232 by default; optional RS485 selected through BIOS.
COM3-COM6	RS232 through one 2 x 20-pin header.
RS485 Wiring	JRS485 2 x 3-pin header provides the RS485 A/B signal pairs for COM1 and COM2.
Configuration Note	For RS485 operation, configure the serial-port mode in BIOS under IT8786 Super IO Configuration as described in the source manual.

7. Power, Cooling and Reliability Functions

Item	Description
Power Input	12-19 V DC input.
AT / ATX Mode	Supports AT/ATX power mode selection through the AT-ATX1 jumper.
CPU Fan	1 x 4-pin CPU fan connector with GND, +12 V, DET and PWM.
System Fan	1 x 3-pin system fan connector with GND, +12 V and DET.
Watchdog	Hardware reset with 256 programmable levels, 0-255 seconds.
CMOS Clear	JBAT1 1 x 3-pin Clear CMOS jumper.

8. Mechanical and Environmental Information

Item	Description
Form Factor	Mini-ITX industrial motherboard.
Dimensions	170 mm x 170 mm.
Operating Temperature	-10°C to 60°C.
Storage Temperature	-20°C to 70°C.
Operating Humidity	5%-95% relative humidity, non-condensing.
Installation Notes	Use ESD protection and power off the system before installation, removal or hardware reconfiguration.

9. Ordering Information

Model	Description
ITX310D-L26 VER1.2	B365/B250 listed in Ordering Information; DDR4; 1 x HDMI; 1 x VGA; 1 x LVDS; 2 x LAN; 8 x USB; 6 COM / 2 RS485; 12-19 V DC.
Chipset Options	The detailed specification also identifies Intel® H310C as a supported chipset option. Confirm chipset before ordering.
Processor Support	6th/7th/8th/9th Gen Intel® LGA1151 Celeron®, Pentium® and Core™ i3/i5/i7. Actual CPU support depends on chipset and BIOS configuration.
Options	Single/dual LAN, VGA/optional HDMI path, M.2 SATA/NVMe hardware configuration, wireless module and serial-port mode depend on project configuration.

10. Compliance and Documentation Notes

- Certification and compliance information is not specified in the source manual. Contact CoreIPC for CE, RoHS, EMC or project-specific documentation.
- The product description lists DDR4-1600/2133, while the detailed motherboard specification lists DDR4-1866/2133/2400. This datasheet follows the detailed specification table and recommends confirming memory compatibility for the selected CPU/chipset configuration.
- The source manual identifies H310C, B365 and B250 chipset support, while the Ordering Information row for ITX310D-L26 VER1.2 specifically lists B365/B250. Confirm the production chipset and required processor generation before order placement.

11. Contact Information

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Disclaimer: This datasheet was compiled from ITX310D User Manual Issue 1.2. Product specifications, interface counts and optional functions may vary by chipset, model and project configuration. Please confirm the selected configuration before order placement. All product names, trademarks and registered trademarks are the property of their respective owners.