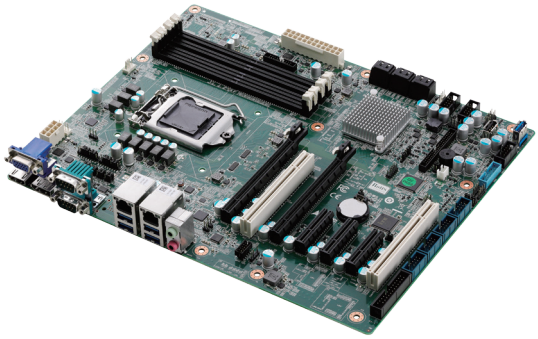
IMB-M45

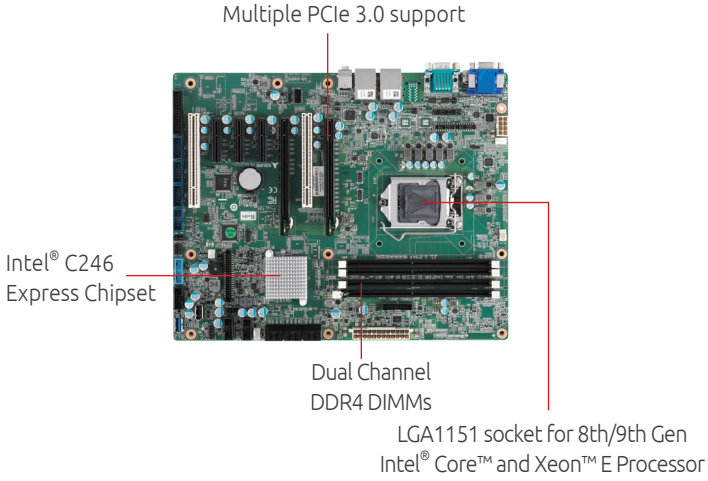
Industrial ATX Motherboard with 8th/9th Gen Intel® Core™ i7/i5/i3 or Xeon™ E Processors

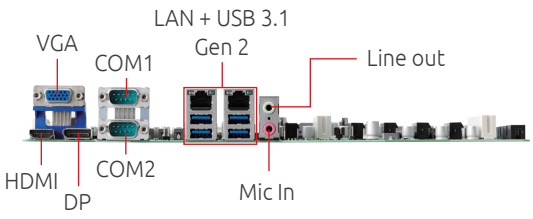
Features

- 8th/9th Gen Intel® Core™ i7/i5/i3 or Xeon™ E processors and C246 chipset
- ECC or NON ECC UDIMM support(based on CPU)
- Dual-channel DDR4 2400/2666 MHz memory up to 128 GB (based on CPU)
- Intel® PCIe 3.0 slot bifurcation supports up to 5x PCIe 3.0 expansion slots
- Rugged I/O design to enhance I/O port compatibility and reliability
- Unique power design to ensure stable USB power of 5V ±5%
- IEC 61000-4-2~6 (Performance Criterion A), CE/FCC class B certified



Product Illustration





Ordering Information

- **IMB-M45**
  ATX 8th/9th Intel® Core™ i7/i5/i3 or Xeon™E industrial motherboard
  Note: CPU, Memory module and Cooler kit are not included

Packing Lists

- IMB-M45
- IMB-M45 I/O shield

Optional Accessories

- **2-port USB 2.0 port cable with bracket (Part Number: 30-25010-3010)**
- **4-port USB 2.0 port cable with bracket (Part Number: 30-25009-3000)**
- **2-port USB 3.0 port cable with bracket (Part Number: 30-25046-0100)**
- **1-port LPT port cable with bracket (Part Number: 30-25019-2000)**
- **2-port COM port cable with bracket (Part Number: 30-25003-3000)**
- **PS/2 KB/MS Cable with Bracket from 6P pin-header (Part Number: 30-01019-2010)**
- **1-port SATA cable (Part Number: 30-10057-7000)**
- **CPU cooler for <=65W and 35W CPU (CPU cooler Part Number: 32-20113-2000, including CPU cooler backplane)**
- **CPU cooler for >65W CPU (CPU cooler Part Number: 32-20831-0000-A0, CPU cooler backplane Part Number: 32-50031-0000-A0)**

IMB-M45

Specifications

Processor System	
CPU	Intel® Xeon™ E-2278GE, 3.3GHz, 16M Cache, 80W TDP, LGA1151, DDR4 2666MHz support, (8C/16T)
	Intel® Xeon™ E-2226GE, 3.4GHz, 12M Cache, 80W TDP, LGA1151, DDR4 2666MHz support, (6C/6T)
	Intel® Xeon™ E-2176G, 3.7GHz, 12M Cache, 80W TDP, LGA1151, DDR4 2666MHz support, (6C/12T)
	Intel® Xeon™ E-2124G, 3.4GHz, 8M Cache, 71W TDP, LGA1151, DDR4 2666MHz support, (4C/4T)
	Intel® Core™ i7-9700E, 2.6GHz, 12M Cache, 65W TDP, LGA1151, DDR4 2666MHz support (8C/8T)
	Intel® Core™ i7-9700TE, 1.8GHz, 12M Cache, 35W TDP, LGA1151, DDR4 2666MHz support (8C/8T)
	Intel® Core™ i5-9500E, 3.0GHz, 9M Cache, 65W TDP, LGA1151, DDR4 2666MHz support (6C/6T)
	Intel® Core™ i5-9500TE, 2.2GHz, 9M Cache, 35W TDP, LGA1151, DDR4 2666MHz support (6C/6T)
	Intel® Core™ i3-9100E, 3.1GHz, 6M Cache, 65W TDP, LGA1151, DDR4 2400MHz support (4C/4T)
	Intel® Core™ i3-9100TE, 2.2GHz, 6M Cache, 35W TDP, LGA1151, DDR4 2400MHz support (4C/4T)
	Intel® Core™ i7-8700, 3.2GHz, 12M Cache, 65W TDP, LGA1151, DDR4 2666MHz support (6C/12T)
	Intel® Core™ i7-8700T, 2.4GHz 12M Cache, 35W TDP, LGA1151, DDR4 2666MHz support (6C/12T)
	Intel® Core™ i5-8500, 3.0GHz, 9M Cache, 65W TDP, LGA1151, DDR4 2666MHz support (6C/6T)
	Intel® Core™ i5-8500T, 2.1GHz, 9M Cache, 35W TDP, LGA1151, DDR4 2666MHz support (6C/6T)
	Intel® Core™ i3-8100, 3.6GHz, 6M Cache, 65W TDP, LGA1151, DDR4 2400MHz support (4C/4T)
	Intel® Core™ i3-8100T, 3.1GHz, 6M Cache, 35W TDP, LGA1151, DDR4 2400MHz support (4C/4T)
	Intel® Pentium® G5400, 3.7GHz, 4M Cache, 58W TDP, LGA1151, DDR4 2400MHz support (2C/4T)
	Intel® Pentium® G5400T, 3.1GHz, 4M Cache, 35W TDP, LGA1151, DDR4 2400MHz support (2C/4T)
	Intel® Celeron® G4900, 3.1GHz, 2M Cache, 54W TDP, LGA1151, DDR4 2400MHz support (2C/2T)
	Intel® Celeron® G4900T, 2.9GHz, 2M Cache, 35W TDP, LGA1151, DDR4 2400MHz support (2C/2T)
Chipset	Intel® C246 Express Chipset
Memory	Four 288 PIN DDR4 ECC or NON ECC Sockets Dual channel DDR4 2400/2666 MHz, up to 128 GB (based on CPU)

BIOS	AMI® UEFI BIOS, 256 Mb SPI Flash Memory
Watchdog Timer	software programmable and can be generate system reset
Hardware Monitor	CPU voltage
	+3.3 V voltage
	+5 V voltage
	+12 V voltage
	CPU temperature
	System temperature
	CPU fan speed
	System fan speed
Operating Systems	Microsoft® Windows® 10 64-bit
	Microsoft® Windows® 2016 64-bit
	OpenSUSE Leap 15.1 64-bit
	Fedora 30 64-bit
	Ubuntu 18.10 64 bit
I/O Interfaces	
Serial ATA	6x SATA 6.0 Gb/s connectors
	Intel® Software RAID support 0/1/5/10
USB	4x USB 3.1 Gen2 connectors (rear)
	2x USB 3.1 Gen1 pin headers
	6x USB 2.0 pin headers
	1x USB 3.1 Gen1 (vertical type A connector)
	1x USB 2.0 (vertical type A connector)
Serial Ports	2x RS-232/422/485 with auto flow control connector (rear)
	4x RS-232 pin headers
Expansion slots	<Signal> If PEG2 is occupied, PEG1 is PCIex8 Gen3, PEG2 is PCIex8 Gen3 If PEG2 is not occupied, PEG1 is PCIex16 Gen3,PEG2 is no signal PCIe1: PCIe x4 Gen3, PCIe2: PCIe x4 Gen3,PCIe3: PCIe x4 Gen3, PCI1: PCI 2.2, PCI2: PCI 2.2
	<Physical Slot> PEG1: PCIex16 slot, PCI1: PCI slot, PEG2: PCIex16 slot,PCIe1: PCIex4 slot,PCIe2: PCIex4 slot,PCIe3: PCIex4 slot,PCI2: PCI slot
Parallel Port	1x LPT pin header
PS2 Combo Port	1x PS/2 keyboard & Mouse pin header
DIO	2x 20-pin/2.0mm GPIO pin header: 16 in and 16 out, one ground pin and one power pin (5V/12V/no power, jumper selected)

*Other Linux Distribution support by request

IMB-M45

Specifications

Audio	
Audio Codec	Realtek® ALC892
Interface	1x Line-out and 1x Mic-in connector (rear)
Graphics	
Graphics Engine	Integrated Intel® HD Graphics series (based on CPU)
VGA	1x VGA connector (rear), resolution up to 1920 x 1200 @ 60 Hz
DisplayPort 1.2	1x DP connector (rear), resolution up to 3840 x 2160 @ 60 Hz
HDMI 1.4	1x HDMI connector (rear) resolution up to 3840 x 2160 @ 30 Hz
Ethernet	
Controller	LAN1: Intel® I219-LM via RJ45 connector (rear)
	LAN2: Intel® I210-AT via RJ45 connector (rear)
Intel® AMT	LAN1 Support
Wake On LAN	LAN1 and LAN2 support
Mechanical and Environmental	
Form Factor	ATX
Dimension	305 mm x 244 mm (W x L)
Operating Temperature	0 °C to 60 °C
Storage Temperature	-40 °C to 85 °C
Relative Humidity	60° C @ 95% RH Non-condensing
Certification	CE & FCC Class B

*Other Linux Distribution support by request

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