

# ML320: Fanless Haswell NUC



## ML320 Features

- Energy-efficient Haswell CPUs
- HD Capable Graphics
- Ultra small NUC form factor
- System consumes less than 30W
- Optional COM Port
- Smart Power Button with auto power on feature
- Expansion options for additional I/O
- Optional Uninterruptible Power Supply (UPS)
- Dustproof, fanless, ventless chassis
- Up to 3 Antenna for Wi-Fi/Bluetooth (Optional)

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## “PUT YOUR NUC WHERE IT DOESN'T BELONG”

Unlike other available NUC-based cases, the ML320 is completely fanless and ventless, protecting against dust, metal shavings, or other debris in industrial applications from sawmills to machine shops. Removing the fan removes a point of failure, creating a solid state solution with no moving parts that will outlast commercial desktops.



## EFFICIENT MULTIMEDIA PROCESSING

Why choose between performance and efficiency when you can have both? The CPU draws only 17 watts but is able to tackle processor-intensive multimedia applications. The Intel Core ULV processors in the Core-ML320 feature advanced Intel HD graphics and multiple independent displays for digital signage or advanced kiosk applications.



## COOL UNDER PRESSURE

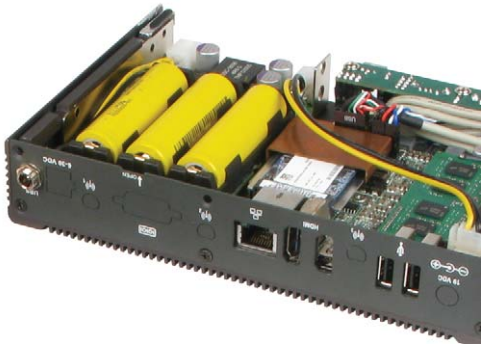
The single-interface heatsink provides optimal heat transfer, further improving cooling performance over other similar cases. Additional heatsinks are also provided for the storage and Wi-Fi, ensuring optimal reliability for the individual components, even during write-intensive or network-intensive operations.



## FORM FACTOR: THE NEXT SMALL THING

Measuring 196 x 37 x 131 mm ( 7.7" x 1.45" x 5.17"), the ML320 is small enough for discreet placement in space-constrained environments, including kiosks or beneath a workstation. Based on Intel's Next Unit of Computing form factor, the ML320 allows for unprecedented performance in a compact footprint.

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## EXPANSION: ITS ALL ABOUT OPTIONS

Featuring a unique expansion bay, the ML320 can do what other NUC systems cannot: offer expansion in the form of uniquely industrial I/O. The swappable backplates support all current NUC motherboards, and offer space for up to three wireless antennas as well as an extra RS-232 COM port. To learn about additional configurations including 2.5" HDDs or UPS, contact our Technical Sales Team.



## CUSTOMIZABLE / BRANDABLE

**"Designed to be redesigned"** by our in-house engineering group, the enclosure can be physically reconfigured and branded to your specific requirements without from-scratch development fees and timeframes. Our control over the design and manufacturing also allow us to manage the lifecycle and revision history, ensuring a reliable, consistent solution.



## EXCEPTIONAL ENGINEERING

The one-piece extruded aluminum lid creates an optimal surface for efficient heat dissipation. Three screws allow easy access to the internal components and an EMI gasket reduces the risk of electromagnetic and radio frequency interference.



## MOUNTING: SET IT AND FORGET IT

The high-quality nickel-plated steel chassis with aluminum extrusion is ideal for environments requiring durability. The built-in VESA MIS-D 75 mm mounting holes allow for display mounting, and the system is available with optional wall and DIN rail brackets for use in a variety of environments.

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## SPECIFICATIONS

	ML320 i3 Haswell NUC	ML320 i5 Haswell NUC
<b>PROCESSOR</b>	Intel i3-4010U (Haswell)	Intel Core i5-4250U (Haswell)
<b>CHIPSET</b>	Intel QS77 Express	
<b>SYSTEM MEMORY</b>	DDR3L SO-DIMM (non-ECC), Up to 16GB	
<b>GRAPHICS</b>	Intel HD 4400	Intel HD 5000
<b>EXPANSION SLOTS</b>	PCIe Mini Card (full height), PCIe Mini Card (half-height)	
<b>ONBOARD SERIAL ATA</b>	Internal mSATA port, 6.0Gb/sec	
<b>ONBOARD USB</b>	2 USB 3.0 via 2 pin headers	
<b>ONBOARD LAN</b>	Intel I218V GbE	
<b>ONBOARD AUDIO</b>	Intel HD Audio codec	
<b>STORAGE</b>	mSATA: Up to (2x) 2.5" HDD/SSD	
<b>FRONT ACCESS</b>	2 USB 3.0 ports, 1 Audio jack (line-out), 1 IR sensor	
<b>BACK PANEL I/O</b>	1 LAN port, 1 Mini-HDMI port, 1 DisplayPort 2 USB 3.0 ports, 19V DC input jack	
<b>POWER CONNECTORS</b>	1 Internal P2 DC power connector, Backpanel 19V DC jack	
<b>BIOS</b>	Intel BIOS, Support for Advanced Configuration and Power Interface (ACPI), Plug and Play and SMBIOS	
<b>SYSTEM MONITORING</b>	Voltage range monitoring, thermal range monitoring	
<b>OPERATING TEMP.</b>	0°C~50°C (when used with Emphase wide temperature drives)	
<b>DIMENSIONS (WxHxD)</b>	196 x 36.75 x 131.2 mm (7.72" x 1.45" x 5.17")	
<b>OPERATING SYSTEM</b>	Windows 7, Windows 8, Ubuntu	
<b>POWER</b>	DC 19 V (5.5 x 2.5 mm jack), Optional UPS Lithium Batteries	
<b>MOUNTING</b>	Rubber feet, Wall mount (WDMK-1040), DIN rail mounting (DINKit-1040), VESA MISD-75 (VESASK)	
<b>INCLUDES</b>	AC Adapter, Adhesive rubber feet	

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## DIMENSIONS

Shown with optional Wall Mounting Brackets (WDMK-1040)

All dimensions in mm

