

# NC10U Series

NANO PC



<b>PROCESSOR</b>	Intel® Whiskeylake-U Celeron 4205U 15W CPU i3-8145U/i5-8265U/i7-8565U (optional)	
<b>MEMORY</b>	2 x 260 pin DDR4 SODIMM slots, 16GB per DIMM (Max 32GB) Supports DDR4 2133/2400* MHz SODIMM at 1.2V	
<b>VIDEO GRAPHICS</b>	Intel Ultra HD 610 Graphics (620 with Core i3/i5/i7 options)	
<b>VIDEO OUTPUT</b>	HDMI 2.0a + DisplayPort 1.2, Supports two displays	
<b>AUDIO</b>	Realtek ALC662 HD Audio	
<b>ETHERNET</b>	Intel i211 Gigabit LAN	10/100/1000 MB/s operation
<b>WI-FI</b>	Realtek RTL8188EE 802.11 b/g/n	
<b>STORAGE INTERFACE</b>	SATA 6 GB/s	
<b>FRONT PANEL</b>	(1) Power Button (1) Power LED (1) HDD LED	(1) USB 3.1 Gen 1 Type A (1) USB 3.1 Gen 1 Type C** (1) SD Card Reader
<b>BACK PANEL</b>	(1) HDMI 2.0a (1) DisplayPort 1.2 (2) USB 2.0 (1) RJ45	(1) DC-in jack (1) Headphone + MIC in combo jack (1) Kensington Lock (1) RS232
<b>DRIVE BAYS</b>	(1) 2.5" 15mm SATA HDD/SSD	
<b>DIMENSIONS</b>	5.6(L) x 5.6(W) x 1.7(H) inches	
<b>POWER</b>	Input: 100 - 240V AC (50/60Hz), 1.6A Output: 19V 3.42A, 2 pin	65W power supply
<b>ACCESSORIES</b>	Quick Guide Vertical stand Power adapter Power cord	VESA mount VESA mount screws Driver DVD
<b>EXPANSION SLOT</b>	M.2 2230 AE key (for WLAN card) M.2 2280 BM key	
<b>OS SUPPORT</b>	Windows 10, Linux	

\*NC10U with Celeron processor supports DDR4 2133 and USB 3.1 Gen 1 only, DDR4 2400 is supported at 2133 MHz

\*\*NC10U3/NC10U5/NC10U7 with Intel Core processor supports USB 3.1 Gen 2 (Type A and Type C)

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<b>CHASSIS</b>	Black plastic chassis, Kensington lock hole Includes vertical stand and 75/100 mm VESA mount Dimensions: 5.6 (L) x 5.6 (W) x 1.7 (H) inches Weight: 0.88 LBS (net) / 2.65 LBS (gross)
<b>POWER SUPPLY</b>	External 65W power adapter (fanless) AC input voltage: 100 - 240V, 50 - 60 Hz, max 1.6A Output: 19V DC 3.42A, max. 65W, DC-input supports 19V ± 5%
<b>OPERATING SYSTEM</b>	The system comes without an operating system installed. Compatibility: Windows 10, Linux 64 bit
<b>PROCESSOR</b>	Intel® Celeron® 4205U (ULV), Intel® Core™ i3-8145U/i5-8265U/i7-8565U (optional) 14 nm++ structure, Whiskeylake-U platform CPU cores/threads: 2/2, L1/L2/L3 cache: 128 kb/512 kb/2048 kb CPU clock frequency: 1.8 GHz Max supported processor power consumption (TDP): 15W Supports 64 bit, VT-x (EPT), VT-d, Enhanced Speedstep, NX bit, AES-NI, SSE 4.1/4.2 System on chip processor (SoC) with integrated graphics processor, no chipset required
<b>COOLING</b>	Built-in CPU cooling fan with 4 pin connector Supports temperature controlled RPM fan speed
<b>MEMORY SUPPORT</b>	2 x 260 pin SODIMM slots, Supports Dual Channel mode Supports DDR4 2133 MHz SDRAM at 1.2V Supports DDR4 2400 at 2133 MHz Supports a max. of 16GB per DIMM, up to 32GB max Supports two unbuffered DIMM module (no ECC or registered) Supports dual channel mode
<b>M.2 SLOT</b>	M.2 2280 BM slot provides the following interfaces: PCI-Express Gen 2.0 X4 (up to 2 GB/s), SATA v3.0 (6 GB/s) interface  Supports M.2 cards with a width of 22 mm and a length of 42, 60, or 80 mm (type 2242/2260/2280). Supports M.2 SATA SSDs (with BM key) and M.2 PCI-E SSDs (with M key).
<b>AUDIO</b>	Realtek® ALC 662 audio codec Audio connector (3.5 mm) for headphones and microphone [2]* Digital multi-channel audio output: via HDMI and DisplayPort
<b>WIRED NETWORK</b>	Intel i211 ethernet controller Gigabit LAN at 10/100/1000 MB/s, Supports Wake on LAN IEEE 802.3az Energy Efficient Ethernet (EEE), PCIe v2.1 interface Supports network boot by Preboot eXecution Environment (PXE)
<b>WIRELESS NETWORK</b>	M.2 2230 AE WLAN card and internal antenna Supports IEEE 802.11 b/g/n, Max 150 MB/s up-/downstream Single chip 1T1R WLAN Controller Realtek RTL8188EE Security: WPA/WPA2 (-PSK), WEP 64/128bit, IEEE 802.11 x/i
<b>LOW POWER</b>	Power consumption in idle mode with 2.5" SSD under Windows 10: 6W only
<b>INTEGRATED GRAPHICS</b>	Intel Ultra HD 610 graphics (620 with Core i3/i5/i7 options), GPU clock rate: 300 - 900 MHz Supports DirectX 12, full H264, H265 8/10 bit, VP8/9, VC-1, AVC hardware decoding Supports Quick Sync Video and Clear Video HD technology  Supports up to two independent displays: -HDMI 2.0a supports Ultra HD at 60 Hz -DisplayPort 1.2 supports Ultra HD at 60 Hz
<b>CARD READER</b>	Integrated card reader supports SD, SDHC, SDXC memory flash cards Supports booting from SD card
<b>STORAGE</b>	Supports one 2.5" SATA hard disk or SSD drive, max height 15 mm Supports SATA III, 6 GB/s bandwidth

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<b>FRONT PANEL CONNECTORS</b>	SD Card Reader USB 3.1 Gen 1 type A USB 3.1 Gen 1 type C*	Power button Power indicator (Blue LED) Hard disk drive indicator (Orange LED)
<b>BACK PANEL CONNECTORS</b>	HDMI 2.0a DisplayPort 1.2 [1]* USB 2.0 type A x 2 Gigabit LAN (RJ45)	RS232 (9-pin) Audio combo port (MIC/headphone) [2]* DC-input connector for external power adapter External WLAN antenna x 2 (optional)
<b>INCLUDED ACCESSORIES</b>	XPC installation guide Driver DVD Vertical stand with screws Mounting screws for M.2 cards x 2	External 65W power adapter VESA mount (75/100mm standard w/ screws) 2.5" drive bracket with screws Screw set
<b>ENVIRONMENTAL CRITERIA</b>	Operating temperature: 0 - 40°C [3]*	Humidity: 10 - 90% (non-condensing)
<b>CERTIFICATIONS</b>	EMI: FCC, CE, BSMI, RCM, RED, VCCI Safety: ETL, CB, BSMI	Other: RoHS, Energy Star, ErP
<p>This model is classed as a technical information equipment (ITE) in class B and is intended for use in living rooms and offices. The CE mark approves conformity by the EU directives:</p> <p>(1) 2014/30/EU relating to electromagnetic compatibility (EMC)  (2) 2014/35/EU relating to Electrical Equipment designed for use within certain voltage limits (LVD)  (3) 2009/125/EC relating to eco-design requirements for energy related products (ErP)  (4) 2014/53/EU related to Radio Equipment Directive (RED)</p>		

\*NC10U3/NC10U5/NC10U7 with Intel Core processor supports USB 3.1 Gen 2 (Type A and Type C)

### [1] HOW TO CONVERT DISPLAYPORT INTO HDMI/DVI

The DisplayPort output can be converted into a HDMI or DVI output using an additional passive adapter cable. The integrated graphics automatically detects the connected display and outputs the appropriate electric signal - either DisplayPort (without an adapter) or HDMI/DVI (with an adapter). However, a monitor with a DisplayPort connector cannot be connected to the HDMI port with a simple passive adapter.

### [2] AUDIO CONNECTOR

The 3.5 mm audio jack at the back panel of this device supports both a 4 pole connector for headphones and MIC/headphones with a 3 pole connector. Headsets with separate connectors for headphones and microphone require an appropriate adapter if the microphone is also used.

### [3] HIGH AMBIENT TEMPERATURES

For high ambient temperatures over 35°C, it's recommended to use SSDs (supporting at least 70°C) instead of hard disks

### [4] POWER ON AFTER POWER FAIL

The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration". This function may fail after short power failures, but the NC10U comes with a hardware based solution in these cases. By removing the Jumper JP1 on the mainboard (refer to the quick guide), the system will start unconditionally once power is supplied.

**BIOS DOWNLOADS:** <http://global.shuttle.com/products/productsDownload?productId=2425>

**SUPPORT LIST:** <http://global.shuttle.com/products/productsSupportList?productId=2425>

**FAQ LIST:** <http://global.shuttle.com/support/faq>

**PRODUCT WARRANTY:** <https://us.shuttle.com/barebone-support/policy-xpc-barebone/>

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## Front View



- |                         |                 |
|-------------------------|-----------------|
| 1 USB 3.1 Gen 1 Type A  | 4 Hard Disk LED |
| 2 USB 3.1 Gen 1 Type C* | 5 Power Button  |
| 3 SD Card Reader        | 6 Power LED     |

\*NC10U3/U5/U7 with Intel Core processor supports USB 3.1 Gen 2 (Type A and C)

## Back View



- |                      |                    |
|----------------------|--------------------|
| A DC power input     | E USB 2.0 x 2      |
| B HDMI 2.0           | F Audio combo port |
| C DisplayPort        | G RS232 COM port   |
| D Gigabit LAN (RJ45) |                    |



WLAN antenna perforations and Kensington Lock hole

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## INTEL<sup>®</sup> 8TH GENERATION PROCESSORS

The NC10U supports Intel<sup>®</sup> 8th Generation Whiskey Lake-U platform technology with a Celeron<sup>®</sup> 4205U processor\*. It supports DDR4 2133/2400 MHz memory\*\* (up to 32GB) with Intel<sup>®</sup> Ultra HD graphics for 4K video playback.

\*Core i3-8145U/i5-8265U/i7-8565U processor options available

\*\*DDR4 2400 MHz memory supported at 2133 MHz



## SPACE SAVING SIZE

The small size of the NC10U makes it suitable to mount or fit in limited spaces with a thickness of only 1.7 inches.



## EASY INSTALLATION

Simply remove two screws to open both upper and lower covers to easily install a memory module, SSD/HDD, or other hardware components.



## SMART FAN DESIGN

A heatpipe cooling system with smart fan design can be set for faster fan speed automatically when CPU temperature increases for high stability and low noise during long term operation.



## EXPANDABLE STORAGE SPACE

Despite its small size, the NC10U series allows installation of up to 1 x 15 mm 2.5" HDD/SSD and 1 x M.2 SSD (2242/2260/2280).\*

\*M.2 supports both SATA and PCI-E storage interfaces, other SSD/HDD heights that will fit: 7/9.5/12mm

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