

# PUZZLE-IN003B

Desktop Network Appliance with Intel® Atom® Processor C3000 Processor support up to 6 x 1 GbE, 2 x 10 GbE & 2 x M.2 slots, 1 x PCIe Mini, 1 x eMMC 32GB



## Features

- » Desktop network appliance with Intel® Atom® C3000 processor
- » Support 6 x 1 GbE and 2 x 10 GbE SFP+ via X553 integrated in C3558/C3758
- » DDR4 2133MHz ECC (by CPU) or non-ECC UDIMM/RDIMM Up to 128GB
- » 1 x M.2 A key (USB 2.0, PCIe x1), 1 x miniPCIe (USB 2.0, PCIe x1) with SIM card slot
- » 1 x M.2 M key for PCIe 3.0 x4 nVME, 1 x eMMC 32GB
- » Support open source software, such as [pfSense®](#) and [OPNsense®](#).
- » [Buy IoT Devices & IoT Hardware | Azure Certified Device Catalog](#)

[Learn more about PUZZLE series network appliances.](#)

## Specifications

|                             |   |
|-----------------------------|---|
| Form Factor                 |   |
| Form Factor                 | Desktop   |
| System                      |   |
| CPU                         | Intel Atom® processor C3758, 8-core 16M cache, up to 2.20 GHz<br>Intel Atom® processor C3558, 4-core 8M cache, up to 2.20 GHz |
| Chipset                     | Integrated in CPU   |
| Memory                      | 4 x DDR4 2133MHz ECC (By CPU) or non-ECC UDIMM, Support RDIMM   |
| Memory Max.                 | UDIMM up to 64GB<br>RDIMM up to 128GB   |
| Cooling method / System Fan | Two system fans (PUZZLE-IN003B-C0 sku)<br>Fanless (PUZZLE-IN003B-C1 sku)  |
| Physical Characteristics    |   |
| Dimensions (LxWxH) (mm)     | 206 x 225 x 44.2  |
| Net Weight                  | 2 kg  |
| Storage                     |   |
| Storage                     | 1 x SATA : SATA DOM + 1 x SATA power 5V<br>1 x M.2(NGFF) M key 2260/2280, Support PCIe 3.0 x4 nVME<br>1 x eMMC : 32GB         |
| I/O Interface               |   |
| Ethernet                    | 2 x SFP+ : 10 GbE (Integrated in CPU)<br>6 x LAN : GbE RJ-45 (NIC: Intel I211-AT, GbE PHY: Marvell 88E1512)                   |
| I/O Interface               | 1 x External USB 2.0<br>1 x External USB 3.2 Gen1x1<br>1 x Console port(s) : RJ45   |
| Expansion                   | 1 x PCIe mini Card Slot (PCIe 3.0, USB 2.0) with SIM slot<br>1 x M.2(NGFF) A key (PCIe 3.0& USB 2.0)                          |
| Wireless                    |   |
| Wi-Fi                       | 2 for Wi-Fi/2 for WWAN  |
| Other Features              |   |

|                       |  |
|-----------------------|--|
| TPM                   | 1 x TPM 2.0 pin header                     |
| Power                 |  |
| Input                 | 1 x DC jack, 12 V DC-in, 60W               |
| Environment           |  |
| Operating Temperature | 0°C ~ 40°C (32°F ~ 104°F)                  |
| Storage Temperature   | -20°C ~ 75°C (-4°F ~ 167°F)                |
| Humidity              | Relative humidity: 5% ~ 90% non-condensing |
| Certifications        |  |
| Safety & EMC          | CE / FCC / RoHS                            |
| OS Support            |  |
| OS Support            | Linux Ubuntu 18.04.04                      |
|                       | CentOS 7/ Red Hat/Fedora EPEL              |
|                       | Microsoft Windows 10                       |

## Ordering Information

|                         |   |
|-------------------------|---|
| PUZZLE-IN003B-C1/8G-R10 | Desktop Network Appliance with Intel® ATOM® C3558 Processor , 6 x 1GbE, 2 x 10 GbE, 8GB DDR4, eMMC 32GB & 2x M.2 slot |
| PUZZLE-IN003B-C0/8G-R10 | Desktop Network Appliance with Intel® ATOM® C3758 Processor , 6 x 1GbE, 2 x 10 GbE,8GB DDR4, eMMC 32GB & 2x M.2 slot  |

## Packing List

|                                 |                                     |
|---------------------------------|-------------------------------------|
| » 1 x Power cord                | » 1 x Power adapter                 |
| » 2 x Rack mounting ears        | » 6 x Screws for rack mounting ears |
| » USB to console cable (Option) | » RS-232 to console cable (Option)  |

## Desktop Network Solution with Low Power and High Transmission Speed

The PUZZLE-IN003B is a desktop network device that can be easily placed in space-limited locations to provide network solution. The PUZZLE-IN003B comes with Intel® Atom® Processor C3000 series SoC which supports up to 128GB dual-channel DDR4 2400 MHz ECC, two 10 GbE Ethernet, and 32GB Embedded Multi Media Card (eMMC).

The PUZZLE-IN003B also provides one M.2 M-key slot for NVME, one M.2 A-key slot, and one PCIe Mini with SIM slot for Wi-Fi, 4G and LTE solutions. It also offers bypass function to ensure uninterrupted data transmission and supports Intel® QuickAssist Technology (Intel® QAT up to 20Gbps) to accelerate and compress cryptographic workloads.

- \*High-Density,Low-Power Designs
- \*High-Speed I/O Configurability
- \*Multi-Core Scalability
- \*Integrated Hardware Acceleration
- \*Bypass Function Relay Modes



## Intel® Atom® Process C3000

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In terms of memory, the PUZZLE-IN003B incorporates double the Layer 2 cache, allowing edge analytics systems to quickly access data. Intel® Atom® Processor C3000 series also supports the Intelligent Storage Acceleration Library (ISA-L), a software library optimized for applications that require high data throughput and minimal latency. And the Intel® VT-c works with the Intel® Ethernet Controller integrated into the new Intel® Atom® processors to deliver I/O virtualization and quality of service (QoS) features.



## Integrated with High Speed 10GbE Interface

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The PUZZLE-IN003B equipped with Intel® Atom® C3000-series processor in a small form-factor chassis is designed with two 10GbE ports and six 1GbE ports to provide high-speed connections to the core network while maintaining reliability in a cost-effective manner.

**2 x 10 GbE**  
**6 x 1 GBE**

## Boost Encryption and Compression Performance with Intel® QuickAssist Technology

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In 5G network, security is an indispensable requirement. To support increasing security requirements, Intel® Atom® C3000 processor series integrates Intel® QuickAssist Technology that provides up to 20 Gbps of crypto performance, ensuring secure data transfer while reserving valuable processor cycles for other tasks.

## Firewall & SD-WAN Application

In the post-pandemic era, the demands of work from home (WFH) and distance learning are increasing dramatically. The desktop network appliance, the PUZZLE-IN003B, is ideal for entry-level UTM, WFH, firewall and VPN solutions. With its Linux tested platform, users can smoothly install any open-source software to meet a variety of network functions, such as firewall and VPN. Moreover, designed with six 1GbE and two 10GbE LAN ports with bypass function, the PUZZLE-IN003B can offer high-speed data transmission and uninterrupted service for you.

