

Network Appliances

Intelligent Network
Solutions





About AAEON

As one of the leading manufacturers of advanced hardware platforms for network computing and security solutions, AAEON offers an extensive range of network appliances that support SD-WAN, SDN, NFV, Wireless Gateway, NGFW, Intrusion Detection/Prevention, WAN Optimization, Network Access Control, Load Balancing, Web Content Filtering, Unified Threat Management, and Wireless Network Security. Together, they make up the most versatile and cost-effective networking solutions on the market.

Offering x86-based platforms from Intel® Atom™ all the way to Intel® Xeon processors, and in desktop, 1U and 2U form factors, AAEON's team of experienced network engineers have helped companies around the world deploy reliable network appliances with faster times to market and lower development costs based on state-of-the-art hardware platforms, unmatched service quality, and long-term support.

Established in 1992, AAEON successfully established itself as a leading designer and manufacturer of advanced industrial and embedded computing platforms. AAEON maintains a strong market position providing integrated solutions, hardware, and bespoke services for premier OEM, ODM, and system integrators worldwide. After joining the ASUS group in 2011, AAEON has further strengthened its leadership and continuously pursues innovation and excellence in this industry.

Why AAEON

Enterprises face an increased need for new and innovative solutions to maintain peak productivity while dealing with unprecedented data growth, ever-present cyber-security risks, and increasing regulatory requirements. The move toward on-premises, managed, and hybrid cloud solutions creates a great opportunity for all enterprises by offering the security and control of on-premises IT infrastructure – mixed with the scalability and advantageous economics of cloud deployments.

Intel® Network Builders Winner's Circle

AAEON is honored to be recognized as a Solution Partner in the Intel® Network Builders Winner's Circle for 2019-2020. This honor recognizes AAEON's efforts and dedication to helping grow the Intel® Network Builders ecosystem with innovative network platforms and solutions utilizing SDN and NFV. Intel® Network Builders is an ecosystem of service providers and hardware manufacturers who partner with Intel® to help accelerate the adoption of next generation solutions in networks of various sizes and levels, including network functions virtualization (NFV) and software defined networking (SDN). AAEON is recognized as a Solution Partner in the Winner's Circle for developing innovative network solutions such as the powerful FWS-8600 based on the 2nd Generation Intel® Xeon® Scalable Processors.



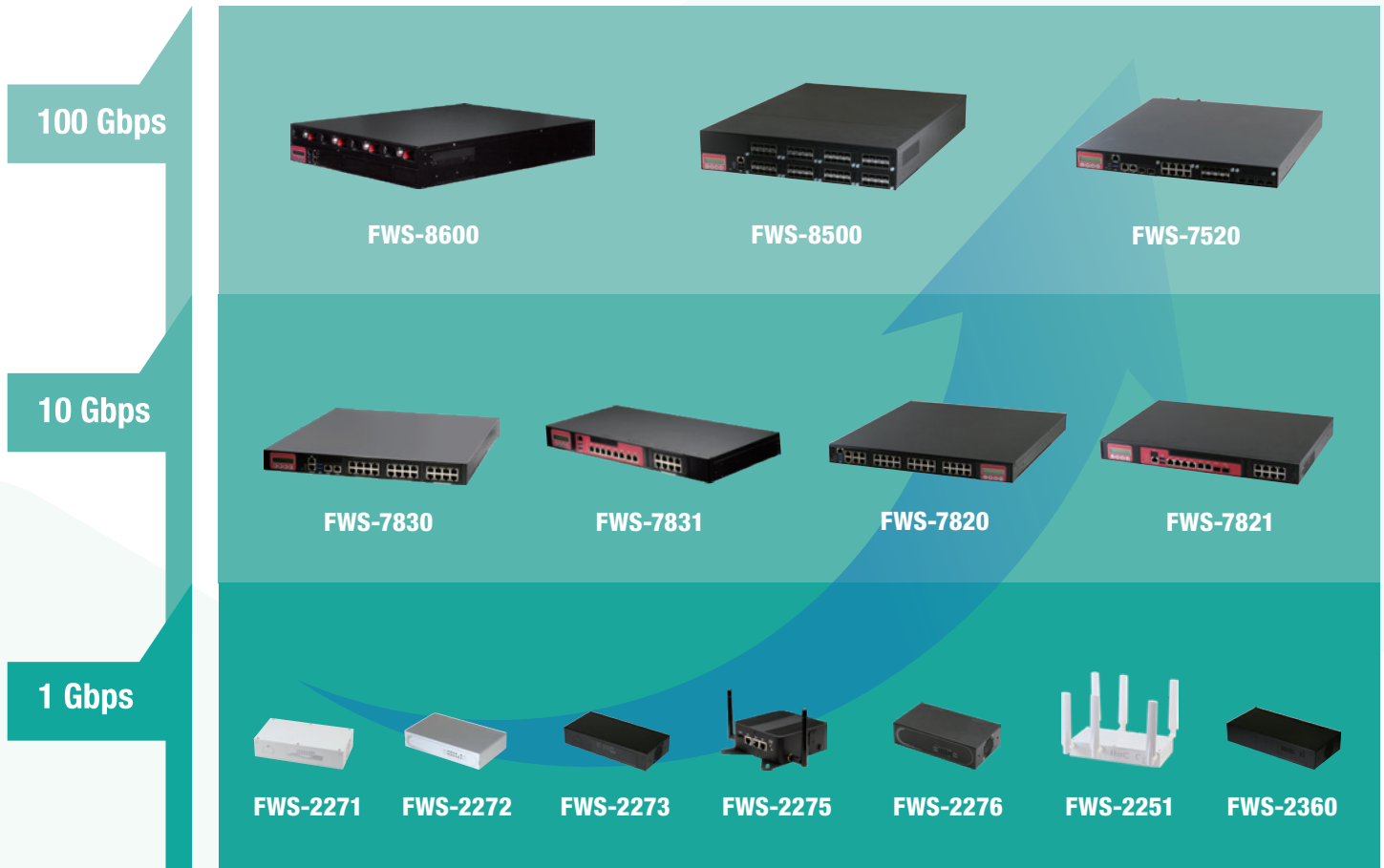
<http://networkbuilders.intel.com>



Introduction to AAEON Network Security Appliance

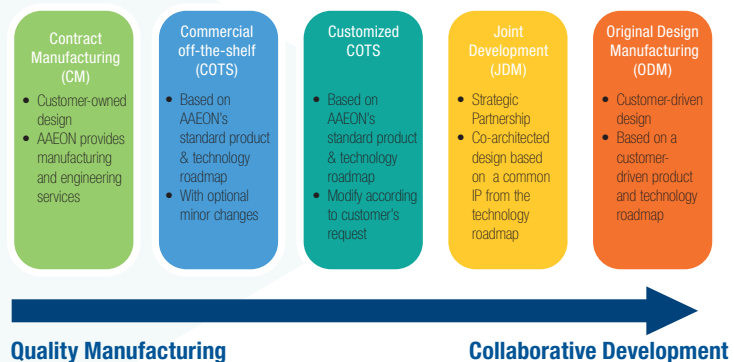
AAEON has built on the pedigree of the FWS series to develop the next generation of easy-to-manage, rapidly deployable, intelligent security appliances, further demonstrating its ability to offer a complete product portfolio that encompasses SMB, and enterprise-scale solutions.

The FWS series offers enterprise-grade 2U rackmount, 1U rackmount, and desktop network appliances with a broad array of processors from the powerful Intel® Xeon® and Core™ i7/ i5/ i3 to the cost-efficient Atom™ processors. Designed for scalability and flexible configurations, FWS series appliances are reliable systems for demanding network applications. They come with various combinations of Ethernet modules, including GbE and SFP Fiber LAN, PCI-E Bus expansion slots, and LCM with keypad control.



DMS & Collaboration Models

AAEON solutions are backed by world-class service and support designed to reduce time to production and enable you to operate at peak efficiency. With over 25 years of experience designing and automating IT processes, AAEON end-to-end solutions enable your organization to maximize your investment in our network security solutions with professional service that exceeds client expectations. AAEON provides products built for your organization's needs, from customizing existing AAEON products to developing bespoke products. AAEON provides professional level service and collaboration to deploy the best equipment with the highest confidence and quality.





The SDN/NFV Trends

AAEON is helping to accelerate the adoption of next generation solutions with network platforms designed to power advanced network functions such as Software Defined Networking (SDN) and Network Functions Virtualization (NFV). AAEON network solutions are designed to leverage the built-in features of Intel® processors to provide faster and more efficient data transfer and encryption while reducing the complexity and cost of industrial networks. AAEON network appliances are built for every piece of the SDN/NFV network solution.



FWS-8600

2U Rackmount 2nd Gen Intel® Xeon® Scalable Processor

Industrial Cyber Security

With the deployment and expansion of Industry 4.0 technologies like Industrial IoT (IIoT) and Edge Computing, greater numbers of industrial systems are connecting to cloud and SD-WAN networks. This creates a gap in information security, which has been increasingly exploited by cyberattacks and malware. Where Information Technology (IT) systems have traditionally been heavily guarded against such cyber threats, operational technology (OT) systems like PLCs, Industrial Control Systems (ICS) and SCADA, have lagged behind as these systems were previously isolated from broader networks and internet connections. Furthermore, due to the costs already put into deploying OT systems, security budgets for industrial infrastructure are generally tight.

AAEON has developed solutions to help counter the threat of cyberattacks against industrial infrastructure, the compact FWS-2275 and ICS-6270 DIN rail mount network appliance. Both provide a flexible and inexpensive way to add vital network security tools to industrial networks and OT systems. Using AAEON's experience in designing embedded industrial systems, the FWS-2275 and ICS-6270 feature fanless design, rugged metal chassis, and wide operating temperature ranges to ensure long lasting and reliable operation anywhere they're deployed.



ICS-6270

DIN Rail 6 LAN Ports Industrial-Grade Network Appliance with Intel® Celeron® Processor N3350 SoC



FWS-2275

Desktop 3 LAN Ports Network Appliance with Intel® Celeron® Processor N3350

Universal/Virtual CPE platforms for SD-WAN

SD-WAN simplifies the management and operation of a WAN. It allow companies to build higher-performance WANs using lower-cost and commercially available Internet access, enabling businesses to partially or wholly replace more expensive private WAN connection technologies such as MPLS. AAEON network appliance solutions are designed for managed service providers, and to build and deploy the latest Software Defined WAN (SD-WAN) technologies. SD-WAN helps reduce network complexity, improve maintenance response times, and provide a more secure network environment.

Universal CPE and Virtual CPE (uCPE/vCPE) are vital technologies in helping to reduce network complexity and costs as more companies turn towards virtual functions such as NFV and SD-WAN. AAEON uCPE/vCPE platforms have been adopted by world-leading SD-WAN solution vendors, from traditional WAN optimization companies, communication service providers, to software start-ups and cloud-based service providers.



FWS-2272

Desktop 4 LAN Ports Network Appliance with Intel® Celeron® N3350 Processor SoC



FWS-2360

Desktop Network Appliance with Intel® Atom™ Processor C3000 Series



FWS-7360

1U Rackmount 7 LAN Network Appliance with Intel® Atom™ C3758 SoC Processor



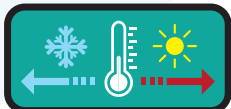
FWS-7520

1U Rackmount Network Appliance, Intel® Xeon® D Processor SoC with 3 NIM Slots



FWS-7830

1U Rackmount Intel® 8th Generation Platform Network Appliance





Product Lines



Desktop Network Appliances

AAEON's Desktop Network Appliances support functions such as SD-WAN, vCPE, wired/wireless gateway, network access control, and load balancing in a single, convenient device for simple network security deployment. Its compact size and capability make it an ideal network appliance for small offices and branch offices.

Rackmount Network Appliances

AAEON's Rackmount Network Appliances are designed in both 2U rackmount and 1U rackmount enterprise-grade configurations with a broad selection of processors. Designed for scalability and flexible configurations, the appliances are reliable systems for demanding network applications and come with various combinations of Ethernet modules including GbE and SFP Fiber LAN, PCI-E Bus expansion slots and LCM with keypad control.



Network Interface Module (NIM)

The dense, feature-rich 1U design network interface modules (NIM) include impressive I/O interfaces. NIMs including GbE, SFP+, and QSFP fiber options allow you to adopt an exceptional array of easily composable configurations and customizations for seamless integration into new and existing infrastructure deployments. This compossibility ensures the highest degree of flexibility and performance for your environment, dramatically improving server utilization, resource allocation, and ease of management.

Network Motherboards

AAEON provides a wide range of network motherboards based on Intel® x86 platforms and built with the latest generation Intel® CPUs from Intel® Atom™ to Intel® Xeon® Processors. All AAEON network motherboards feature GbE, advanced LAN bypass functions, wireless connectivity via Mini-PCIe slot or M.2 interface, RJ-45 consoles, and high-speed USB functions.



Industrial Network Appliances

Combining our expertise in Network Solutions and rugged embedded platforms, AAEON's Industrial Network Appliances are designed to power embedded network computing applications, from Industrial Cyber Security to Mobile NVR. With support for a range of expansion option thanks to mPCIe card slots, these devices can provide wireless connectivity, mobile operation, and power AI and Edge Computing.

Feature Highlights



Intel® Technologies

AAEON FWS models feature Intel® built-in technologies such as Intel® QuickAssist Technology, Intel® Advanced Encryption Standard Instructions (AES-NI), and Intel® Virtualization Technology (Intel® VT) which can enhance entire network performance, efficiency, and security.



Wireless Connectivity

AAEON FWS models feature mini-card slots for wireless connectivity expansion. In desktop models, this expansion supports functions such as WiFi, 3G, and 4G/LTE via modules.



Intel® QuickAssist

Intel® QuickAssist Technology speeds up the process of encrypting and compressing secure information, meaning end users can send private information with complete confidence. With the high-powered CPUs used in the AAEON FWS series, this work is isolated from the rest of the system's functions, allowing the devices to continue their other functions without losing speed.



IPMI Remote Management

IPMI is essential in meeting mission-critical business requirements and ensuring that enterprises are able to enjoy uninterrupted, highly available, and highly stable services. IPMI enables administrators to remotely monitor, manage, and maintain systems to provide uninterrupted services and near-zero downtimes.



Data Plane Development Kit (DPDK)

The AAEON FWS series supports Intel® DPDK which can greatly boost packet processing performance and throughput, allowing more time for data plane applications.



Trusted Platform Module (TPM)

The AAEON FWS series supports TPM, which is designed to secure hardware by integrating cryptographic keys into appliances. Pushing security down to the hardware level provides more protection than a software-only solution. Part of latest platform support ANSSI certified TPM.



LAN Bypass Function

Advanced LAN bypass ports protect networks against unexpected in-line system hang. With the aims of AAEON SDK, developers can easily implement the LAN bypass function.



Bluetooth Control Solution

AAEON's network appliances are built for maximum scalability and integration, and they incorporate 3E (3- Easy) core tenets: Connectivity, Maintenance and Control. Our systems feature a Bluetooth interface, eliminating the need for external console cables and/or USB drives, and they are easily operated from tablets, mobile phones, or other Bluetooth devices.

*Note: Only supports Android OS



Swappable Design for Varied Configurations



Redundant Power Supplies



Software Programmable Button



Hot Swappable Fans



LCM & Keypad



Desktop Network Appliance



LEARN MORE



| Model | FWS-2360 | FWS-2280 |
|---|--|--|
| System | | |
| Form Factor | Desktop Intel® Atom® Processor | Desktop Network Appliance |
| Processor | Intel® Atom™ C3000 Processor Supports Dual and Quad core | Intel® Elkhart lake SoC processor |
| Chipset | SoC | SoC |
| System Memory | DDR4 SODIMM ECC DIMM (Dual core 1 slot Quad core 2 Slot) Up to 32GB | 1 x 204-pin DDR4 2133/2400MHz, SODIMM Up to 16GB with IBECC support |
| Network | | |
| Ethernet | Intel® X553 (Marvell 88E1543) RJ45 x 4, Default Intel® i211 GbE x 2 (Intel® i210 SFP x 2 Optional) | Intel® i211 GbE RJ-45 x 4, Intel® i210 GbE SFP x 1 (Subject to MP SKU) |
| Bypass | Supports up to 2 pairs bypass function | — |
| Display | | |
| Graphic Controller | — | Intel® Integrated |
| Connector | — | HDMI x 1 |
| Storage | | |
| HDD | 2.5" HDD Bay x 1 | — |
| CF/CFast/MSATA | SATA 6.0 Gb/s port x 1 (Onboard eMMC up to 16GB optional) | mSATA Socket x 1, Full-size |
| Internal/ Expansion Interface | | |
| PCIe Slot | — | — |
| Mini-PCIe Slot | Mini-Card socket (full-size) x 2 (1 with SIM socket) | Mini-card socket x 1 (Full-size, co-lay M.2 E Key 2230) Mini-card socket x 1 (Half-size, co-lay M.2 E Key 2230) Mini-card socket x 1 (Full-size, co-lay M.2 B Key 3052) with SIM slot |
| KB Mouse | Reserve pin-header | — |
| USB | USB 3.2 Gen 1 x 1 + USB2.0 x 1 | USB 2.0 x 2 |
| Miscellaneous | | |
| RTC | Internal RTC | Internal RTC |
| Watchdog Timer | 1~255 steps by software programmable | 1~255 steps by software programmable |
| Software Button | GPIO Programmable push button x 1 | GPIO Programmable push button x 1 |
| TPM | (TPM v1.2 9660/TPM2.0 9665 Optional) | — |
| GPIO | (4 bits input, 4bits output optional) | — |
| Fan | System fan x 1 | Fanless |
| MTBF (Hours) | 149683 Hours | TBD |
| Color | Black | Black |
| Environmental Parameters and Dimension | | |
| Power Requirement | 12V DC Power in connector | 12V DC Dual Power In (fail over) |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) |
| Operating Humidity | 10%~80% relative humidity, non-condensing | 10%~80% relative humidity, non-condensing |
| Storage Humidity | 10%~80% @40°C; non-condensing | 10%~80% @40°C, non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation | 0.5 Grms/ 5 ~ 500Hz / operation (mSATA) 1.5 Grms/ 5 ~ 500Hz / non operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation |
| Dimension | 8.66" x 4.13" x 1.73" (220mm x 105mm x 44mm) | 8.28" x 4.13" x 1.73" (210mm x 105mm x 44mm) |
| I/O | | |
| Front Panel | Power LED x 1 Status LED x 1 Storage Active LED x 1 Bypass LED x 2 LAN LED x 12 | Power LED x 1 Storage LED x 1 Link/Active LED x 5 Accessible SIM cover x 1 3 Antenna holes (covered) for WiFi x 2 LTE x 1 |
| Rear Panel | USB 3.2 Gen 1 Port x 2, RJ-45 Port x 6 (Optional RJ-45 x 4 + SFP x 2), RJ-45 Console x 1, 12V DC Power Input x 1, Software Reset Button x 1, Power Button x 1, (Antenna Hole x 4 Optional) | USB 2.0 TypeA Ports x 2, RJ45 LAN console (Optional) x 1, RJ-45 LAN ports with LEDs x 4, SFP port x 1, HDMI Port x 1, Power Button x 1, Software Programmable button x 1, 12V DC Power Input x 2, lockable, 2 Antenna holes (covered) for WiFi x 2 |

Desktop Network Appliance



LEARN MORE



| Model | FWS-2275 new | FWS-2276 | FWS-2273 |
|---|--|--|---|
| System | | | |
| Form Factor | Desktop Network Appliance | Desktop Network Appliance | Desktop Network Appliance |
| Processor | Intel® Celeron® Processor N3350 SoC | Intel® Celeron® Processor N3350 SoC | Intel® Celeron® N3350 Processor SoC |
| Chipset | SoC | SoC | Intel® Celeron® N3350 Processor SoC |
| System Memory | Onboard LPDDR4, 2GB | Onboard LPDDR4 2GB memory | 204-pin DDR3L SODIMM x 1, up to 8GB |
| Network | | | |
| Ethernet | Intel® i211 GbE x 3 | Intel® i211 GbE x 4 | Intel® i211, Gigabit Ethernet x 4, Intel® i210 SFP x 2 |
| Bypass | — | 1 pair bypass function | Supports up to 2 pairs bypass function |
| Display | | | |
| Graphic Controller | Intel® HD graphics integrated | Intel® Integrated | Intel® HD Graphics 505 Intergrated |
| Connector | HDMI Connector (Optional) | — | HDMI x 1 |
| Storage | | | |
| HDD | — | 2.5" HDD Bay x 1 | 2.5" HDD Bay x 1 |
| CF/CFast/MSATA | Onboard eMMC 16GB (Optional up to 32GB) | Onboard 8GB eMMC, SATA 6.0 Gb/s port x 1 | CompactFlash™ socket x 1 (Co-lay for BOM Optional CFast™ socket x 1) SATA 6.0 Gb/s port x 1 |
| Internal/ Expansion Interface | | | |
| PCIe Slot | — | — | — |
| Mini-PCIe Slot | Mini-Card Full Size Slot with SIM Socket x 1 | — | Mini-Card socket (full-size) with SIM socket x 2 |
| KB Mouse | — | — | Reserve pin-header |
| USB | USB 3.2 Gen 1 x 2 | USB 3.2 Gen 1 x 2 | USB 3.2 Gen 1 x 2 |
| Miscellaneous | | | |
| RTC | Internal RTC | Internal RTC | Internal RTC |
| Watchdog Timer | 1~255 steps by software programmable | 1~255 steps by software programmable | 1~255 steps by software programmable |
| Software Button | GPIO Programmable push button x 1 | GPIO Programmable push button x 1 | GPIO Programmable push button x 1 |
| TPM | (TPM v1.2 9660/TPM2.0 9665 Optional) | (TPM v1.2 9660/TPM2.0 9665 Optional) | (TPM v1.2 9660/TPM2.0 9665 Optional) |
| GPIO | 4 bits input, 4bits output | 4 bits input, 4bits output optional | Reserve internal pin header 8-bit Digital I/O interface (4-in /4-out) |
| Fan | — | 1 | Fanless, reserved pin header for system fan |
| MTBF (Hours) | 550,521 | 166,000 | 109,725 |
| Color | Black | Black | Black |
| Environmental Parameters and Dimension | | | |
| Power Requirement | 9~24 V DC Power | 12V DC Power | 12V DC Power in connector |
| Operating Temperature | 32°F ~ 122°F (0°C ~ 50°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) |
| Operating Humidity | 10%~80% relative humidity, non-condensing | 10%~80% relative humidity, non-condensing | 10%~80% relative humidity, non-condensing |
| Storage Humidity | 10%~80% @40°C; non-condensing | 10%~80% @40°C; non-condensing | 10%~80% @40°C; non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz / operation 1.5 Grms/ 5 ~ 500Hz / non operation | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation |
| Dimension | 45.3" x 45.3" x 17.3" (115mm x 115mm x 44mm) | 6.5" x 3.62" x 1.57" (165mm x 92mm x 40mm) | 8.66" x 4.13" x 1.73" (220mm x 105mm x 44mm) |
| I/O | | | |
| Front Panel | USB 3.2 Gen 1 Ports x 2, LED's (3 x TOP Row, 2 x Bottom Row) x 6, Power Button with LED integrated x 1, Micro-USB Console Port x 1, RS-232/422/485 x 1, GPIO 8 bits, 4-bits input, 4-bits output, Reset button x 1 | Power LED x 1, Status LED x 1, HDD Active LED x 1, Bypass LED x 1, LAN LEDs x 8 | Power LED x 1, Status LED x 1, Storage Active LED x 1, Bypass LED x 2, LAN LED x 12 |
| Rear Panel | 1GbE RJ45 Ports x 3 Power Input connector, lockable x 1 | USB 3.2 Gen 1 Port x 2, RJ-45 Port x 4, RJ-45 Console x 1, 12V DC Power Input x 1, Software Programmable Button x 1, Antenna Hole x 2 Optional | USB 3.2 Gen 1 Port x 2, RJ-45 Port x 4, SFP x 2, RJ-45 Console x 1, 12V DC Power Input x 1, Software Reset Button x 1, Power Button x 1, HDMI x 1, Antenna Hole x 2 |
| Left I/O | SIM Slot x 1 + Micro-SD Slot with Cover x 1, WiFi Antenna Connector x 1, LTE Antenna Connector | — | — |
| Right I/O | WiFi Antenna Connector x 1, LTE Antenna Connector | — | — |



Desktop Network Appliance



LEARN MORE



| Model | FWS-2272 | FWS-2271 | FWS-2251 |
|---|--|--|---|
| System | | | |
| Form Factor | Desktop Network Appliance | Desktop 6-port Network Appliance | Desktop 4-Port Network Appliance |
| Processor | Intel® Celeron® N3350 Processor SoC | Onboard Intel® N3350 processor SoC | Intel® Celeron® J1900 2.0 GHz (Quad Core) |
| Chipset | Intel® Celeron® N3350 Processor SoC | Integrated | — |
| System Memory | Onboard LPDDR4 1GB memory. Optional BOM SKU supports 204-pin DDR3L SODIMM x 1, up to 8GB | 204-pin DDR3L 1867MHz SODIMM Up to 1, 8 GB | 204-pin Dual channel DDR3L 1333/1600MHz SODIMM x 2, up to 8GB |
| Network | | | |
| Ethernet | Intel® i211, Gigabit Ethernet x 4 | Intel® i211 (Co-lay with Intel® i210), Gigabit Ethernet x 6 (BOM Optional 4 Ports) | Intel® i211, Gigabit Ethernet x 4 |
| Bypass | — | Supports up to 2 pairs bypass function | — |
| Display | | | |
| Graphic Controller | Intel® HD Graphics 505 Intergrated | Intel® HD Graphics 505 Intergrated | Intel® HD Graphics |
| Connector | — | HDMI x 1 | Reserve internal VGA pin header x 1 |
| Storage | | | |
| HDD | — | 2.5" HDD Bay x 1 | Optional SATA II connector x 1 (SATA DOM Horizontal and no housing type only) |
| CF/CFast/MSATA | Onboard 8GB eMMC, SATA 6.0 Gb/s port x 1, for SATA DOM | CFast™ socket x 1 (Co-lay for BOM Optional CompactFlash™ socket x 1) | CF socket x 1 |
| Internal/ Expansion Interface | | | |
| PCIe Slot | — | — | — |
| Mini-PCIe Slot | Mini-Card socket (full-size) with SIM socket x 1 | Mini-Card socket (full-size) with SIM socket x 2 | Mini-Card Slot x 3 (Half Size x 1, Full Size with SIM Socket x 1, USB 2.0 Signal only Full size with dual SIM socket x 1) |
| KB Mouse | — | Reserve pin-header | Pin-header |
| USB | USB 3.2 Gen 1 x 2 | USB 3.2 Gen 1 Type A on I/O side x 2 | USB 3.2 Gen 1 x 1 |
| Miscellaneous | | | |
| RTC | Internal RTC | Internal RTC | Internal RTC |
| Watchdog Timer | 1~255 steps by software programmable | 1~255 steps by software programmable | 1~255 steps by software programmable |
| Software Button | GPIO Programmable push button x 1 | GPIO Programmable push button x 1 | GPIO Programmable push button x 1 |
| TPM | (TPM v1.2 9660/TPM2.0 9665 Optional) | Optional TPM v1.2 9660/TPM2.0 9665 | Default N/A, optional TPM V1.2 or 2.0 |
| GPIO | Reserve internal pin header 8-bit Digital I/O interface (4-in /4-out) | Reserve internal pin header 8-bit Digital I/O interface (4-in /4-out) | — |
| Fan | Fanless | System Fan x 1 | Fanless |
| MTBF (Hours) | 162,469 | 118,725 | 85,551 |
| Color | Silver | White | White |
| Environmental Parameters and Dimension | | | |
| Power Requirement | 12V DC Power in connector | 12V DC In/ 40W power adapter x 1 | 12V DC power in connector/ 40W Power adapter x 1, 4-pin DC power out connector for HDD x 1 |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) |
| Operating Humidity | 10%~80% relative humidity, non-condensing | 10%~80% relative humidity, non-condensing | 10%~80% relative humidity, non-condensing |
| Storage Humidity | 10%~80% @40°C; non-condensing | 10%~80% @40°C, non-condensing | 10%~80% @40°C, non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz / operation (SATA DOM) 1.5 Grms/ 5 ~ 500Hz / non operation | 0.5 Grms/ 5 ~ 500Hz/ operation (2.5" Hard Disk Drive) 1.5 Grms/ 5 ~ 500Hz/ non-operation | 0.5 Grms/ 5 ~ 500Hz/ operation (SATA DOM) 1.5 Grms/ 5 ~ 500Hz/ non-operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation |
| Dimension | 6.1" x 3.62" x 1.26" (155mm x 92mm x 32mm) | 7.87" x 4.13" x 1.73"(200mm x 105mm x 44 mm) | 8.27" x 4.09" x 1.38" (210mm x 104mm x 35mm) |
| I/O | | | |
| Front Panel | Power LED x 1, Status LED x 1, Storage Active LED x 1, LAN LED x 8 | Bypass LED x 2, Power LED x 1, Status LED x 1, HDD Active LED x 1, LAN LED x 12 | Power LED x 1, HDD Active LED x 1, LAN LED x 8, RSSI LED x 2 (optional), Accessible SIM cover x 1 |
| Rear Panel | USB 3.2 Gen 1 Port x 2, RJ-45 Port x 4, RJ-45 Console x 1, 12V DC Power Input x 1, Software Reset Button x 1, Power Button x 1, Antenna Hole x 2 | USB 3.2 Gen 1 Port x 2, RJ-45 Port x 6 (BOM Optional RJ-45 Port x 4), RJ-45 Console x 1, 12V DC Power Input x 1, Software Programmable button x1, HDMI x 1, Power Button x 1 | 12V DC Power Input x 1, Power Button x 1, USB 3.2 Gen 1 x 1, RJ-45 LAN x 4, RJ-45 Console x 1, Software Programmable Button x 1 |

Rackmount Network Appliance



LEARN MORE



| Model | FWS-8600 new | FWS-7540 | FWS-7840 |
|---|--|--|--|
| System | | | |
| Form Factor | 2U Rackmount Network Platform | 1U Rackmount Network Platform | 1U Rackmount Network Platform |
| Processor | Dual Intel® Xeon® Processor Skylake-SP & Cascade Lake-SP processor | Intel® Xeon® Processor Ice Lake-D HCC processor | 10th Generation Intel® Processor |
| Chipset | Intel®C621 | SoC | Intel®W480 |
| System Memory | DDR4 2133/2400/2666 R-DIMM, Up to 512 GB | DDR4 2133/2400/2666 UDIMM Up to 64GB 288-pin DIMM x 4 | DDR4 SODIMM x 2 /ECC Up to 32GB DDR4 1600/1866/2133 SODIMM/ECC Up to 32GB 260-pin DIMM x 2 |
| Network | | | |
| Ethernet | Intel® i211 Gigabit Ethernet x 2 | SFP+ x 4 From CPU | XL710 SFP+ x 2 + Intel® i211 Gigabit Ethernet x 6 or Intel® i211 Gigabit Ethernet x 4 + Intel® i210 Gigabit Ethernet SFP x 2 |
| Bypass | Depend on NIM module | Depend on NIM module | 2 Pairs |
| NIM Slot | NIM x 8 | NIM Slot x 3 | Need to configure riser card |
| Display | | | |
| Graphic Controller | — | — | Intel® UHD Graphics 630 |
| Connector | VGA Option | VGA Option | (HDMI x1 Optional) |
| Storage | | | |
| HDD | Internal 2.5" HDD x 2 or 3.5" HDD x 1 Option, M.2 x 1 | Internal 2.5" SATA HDD | Internal 2.5" HDD bay x 2 or (3.5" HDD bay x 1 can't use with NIM Optional) |
| CF/CFast/MSATA | (mSATAx1 Optional ,can't use with minicard) | Default mSATA Slot (Optional CFast Socket) | mSATA |
| Internal/ Expansion Interface | | | |
| PCIe Slot | (PCIe [x16] slots x 2 Optional) M.2 Slot (2260 M Key) x 1 | NIM x 3 Mini PCIe Slot x 1 or mSATA x 1 | NIM Slot x 1 (Maxima x 2) |
| Mini-PCIe Slot | Mini Card x 1 | Mini Card x 1 | Mini-Card x 1 (PCIe[x1]+mSATA) |
| IPMI | IPMI Support optional module | IPMI Support by AAEON module | — |
| KB Mouse | — | — | NA |
| USB | USB 3.2 Gen 1 x 2/ (USB 3.2 Gen 1 x 2 ,Box Header 2.0mm optional) | USB 3.2 Gen 1 x 2, Box Header (2.0mm) | USB 3.2 Gen 1 x 2 |
| Miscellaneous | | | |
| RTC | Internal RTC | Internal RTC | Internal RTC |
| Watchdog Timer | 1~255 steps by software programmable | 1~255 steps by software programmable, 1 sec per step | 1~255 steps by software programmable |
| Software Button | GPIO Programmable push button x 1 | GPIO Programmable push button x 1 | GPIO Programmable push button x 1 |
| TPM | TPM2.0 9665 (TPM v1.2 9660 optional) | Optional TPM v2.0 | (TPM2.0 9665/TPM v1.2 9660 optional) |
| GPIO | (4 bits input, 4bits output optional) | 8bits, BIOS default 4 bits input, 4bits output. | 4 bits input, 4 bits output |
| Fan | 5 | 2 | 2 |
| MTBF (Hours) | 192,691 | TBD | TBD |
| Color | Black | Black | Black |
| Environmental Parameters and Dimension | | | |
| Power Requirement | — | 220W ATX PSU | 220W ATX PSU |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) |
| Operating Humidity | 10%~80% relative humidity, non-condensing | 10% ~ 80% | 10%~80% relative humidity, non-condensing |
| Storage Humidity | 10%~80% @40°C; non-condensing | 10% ~ 80% @ 40°C, non-condensing | 10%~80% @40°C; non-condensing |
| Vibration | 0.5 g rms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation | 0.5 Grms/ 5 ~ 500Hz/ operation (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 Grms/ 5 ~ 500Hz / non operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | 10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation | TBD |
| Dimension | 17.48" x 22.83" x3.46"(444mm x 580mm x 88mm) | TBD | 16.93" x 7.87" x1.73"(430mm x 200mm x 44mm) |
| I/O | | | |
| Front Panel | Power LED x 1, Status LED x 1, HDD Active LED x 1, USB 3.2 Gen 1 Ports x 2, RJ-45 Console x 1, Parallel LCM display and 4 keypad x 1, Software Programmable Button x1, RJ-45 LAN x 2 | Power LED x 1, Status LED x 1, HDD Active LED x 1, USB 3.0 Ports x 2, RJ-45 Console x 1, Parallel LCM display and 4 keypad x 1, Software Programmable Switch x 1 | Power LED x 1, Status LED x 1, HDD Active LED x 1, USB 3.0 Ports x 2, RJ-45 Console x 1 |
| Rear Panel | AC Power Input x 2, Power Switch x 1, VGA port (Optional), Rear Expansion Slot x 2(PCIe x [16] Option) | AC Power Input x 1 Power Switch x 1 VGA port (Optional) | AC Power Input x 1, Power Switch x 1, (Rear Expansion Slot x 1 Optional) |



Rackmount Network Appliance



LEARN MORE



| Model | FWS-7830 | FWS-7831 |
|---|--|---|
| System | | |
| Form Factor | 1U Rackmount Network Platform | 1U Rackmount Network Platform |
| Processor | 8th Generation Intel® Core™/ Xeon® processors | Intel® Xeon® processor E-2100 family for Intel® C246 Chipset Intel® Core™/ Celeron® processor for Intel® H310 Chipset |
| Chipset | Intel® C246 | Intel®C246/H310 |
| System Memory | DDR4 2133/2400/2666 UDIMM Up to 64GB 288-pin DIMM x 4 | DDR4 SODIMM x 2/ECC up to 32GB DDR4 1600/1866/2133 SODIMM/ECC up to 32GB 260-pin DIMM x 2 |
| Network | | |
| Ethernet | Intel® I350 AM2 Gigabit Ethernet x 2 | Intel® i211 Gigabit Ethernet x 8 or Intel® i211 Gigabit Ethernet x 6 + SFP Ethernet ports x 2 (C246) Intel® i211 Gigabit Ethernet x 6 (H310) |
| Bypass | Depend on NIM module | 2 Pairs |
| NIM Slot | NIM Slot x 3 | Need to configure riser card |
| Display | | |
| Graphic Controller | Intel® HD graphics intergrated | Intel® UHD Graphics 630 |
| Connector | VGA cable (Optional) | (HDMI x1 Optional) |
| Storage | | |
| HDD | Internal 2.5" SATA HDD x 2 or 3.5" SATA HDD x 1 (Optional) | Internal 2.5" HDD bay x 2 or (3.5" HDD bay x 1 can't use with NIM Optional) |
| CF/CFast/MSATA | Default mSATA Slot (Optional CFast™ Socket) | mSATA |
| Internal/ Expansion Interface | | |
| PCIe Slot | NIM x 3 Mini PCIe Slot x 1 or mSATA x 1 | NIM Slot x 1 |
| Mini-PCIe Slot | Mini Card x 1 | Mini-Card x 1 (PCIe[x1]+mSATA) |
| IPMI | — | — |
| KB Mouse | Pin-header | — |
| USB | USB 3.2 Gen 1 x 2 Box Header (2.0mm) | USB 3.2 Gen 1 x 2 |
| Miscellaneous | | |
| RTC | Internal RTC | Internal RTC |
| Watchdog Timer | 1~255 steps by software programmable, 1 sec per step | 1~255 steps by software programmable |
| Software Button | GPIO Programmable push button x 1 | GPIO Programmable push button x 1 |
| TPM | Optional TPM v2.0 | (TPM2.0 9665 /TPM v1.2 9660 optional) |
| GPIO | 8bits, BIOS default 4 bits input, 4 bits output | 4 bits input, 4 bits output |
| Fan | 2 | 2 |
| MTBF (Hours) | TBD | 362,825 |
| Color | Black | Black |
| Environmental Parameters and Dimension | | |
| Power Requirement | 220W ATX PSU | 220W ATX PSU+D33:D40 |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) |
| Operating Humidity | 10% ~ 80% | 10%~80% relative humidity, non-condensing |
| Storage Humidity | 10% ~ 80% @ 40°C, non-condensing | 10%~80% @40°C; non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz/ operation (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 Grms/ 5 ~ 500Hz / non operation |
| Shock | 10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation | TBD |
| Dimension | 16.93" x 18.7" x1.73"(430mm x 475mm x 44mm) | 16.93" x 7.87" x1.73"(430mm x 200mm x 44mm) |
| I/O | | |
| Front Panel | Power LED x 1, Status LED x 1, HDD Active LED x 1, USB 3.2 Gen 1 Ports x 2, RJ-45 Console x 1, Parallel LCM display and 4 keypad x 1, Software Programmable Switch x 1 | Power LED x 1, Status LED x 1, HDD Active LED x 1 ,USB 3.2 Gen 1 Ports x 2 - RJ-45 Console x 1 |
| Rear Panel | AC Power Input x 1 Power Switch x 1 VGA port (Optional) | AC Power Input x 1 Power Switch x 1 (Rear Expansion Slot x 1 Optional) |

Rackmount Network Appliance



LEARN MORE



| Model | FWS-7821 | FWS-7820 | FWS-7360 |
|---|---|---|--|
| System | | | |
| Form Factor | 1U Rackmount Network Platform | 1U Rackmount Network Platform | 1U Rackmount Network Platform |
| Processor | 6th/7th Generation Intel®Core™/ Xeon® processors | Intel® 6th Generation Core™/ Xeon Processors | Intel® C3758 SoC Processor, optional support up to 16 core |
| Chipset | Intel® C236 | Intel® C236 | SoC |
| System Memory | DDR4 1600/1866/2133/2400 UDIMM/ECC, Up to 64GB, 288-pin DIMM x 4 | DDR4 1600/1866/2133 UDIMM/ECC, Up to 64GB, 288-pin DIMM x 4 | DDR4 1866/2133/2400 ECC, Up to 64GB, 218-pin DIMM/ RDIMM X4 |
| Network | | | |
| Ethernet | Intel® i211 GbE x 6 + Intel® i210 GbE x 2 (SFP) + NIM x 1(Or i211 GbE x8 +NIMx1)UDIMM/ECC | Intel® i210 GbE x 2, Intel® 82580 x4 | Intel®X553 RJ45 x 2, Intel® i211 GbE x 3, SFP+ x 2 from CPU |
| Bypass | Onboard 2 pairs bypass, others depend on NIM module | Onboard 2 pairs bypass, others depend on NIM module | Onboard 2 pairs bypass, others depend on NIM module |
| NIM Slot | 1 | 4 (Max. 5 slots by project base) | 1 |
| Display | | | |
| Graphic Controller | Intel® HD graphics intergrated | Intel® Integrated | — |
| Connector | VGA cable (Optional) | VGA cable (Optional) | — |
| Storage | | | |
| HDD | Internal 2.5" SATA HDD x 2 or 3.5" SATA HDD x 1 (optional) | Internal 3.5" SATA HDD x 1 or 2.5" SATA HDD x 2 (Optional)* *(mSATA/ CF/ CFast will be disabled if 2nd SATA HDD is used) | 2.5" HDD Bay x 2 |
| CF/CFast/MSATA | Optional BOM CFast™ socket or mSATA slot or CF™ socket (optional) | CF socket x 1 (Optional BOM CFast™ socket or mSATA slot) | Default SATA III port x 2 (MSATA Slot X 2 Optional) |
| Internal/ Expansion Interface | | | |
| PCIe Slot | Up to PCIe[x8] slot x 2 | PCIe [x4] signal use [x8] slot (3rd NIM slot will be disabled if PCIe Riser supported) | PCIe [x8] slot x 1, cannot use w/ NIM |
| Mini-PCIe Slot | Mini Card x 1 | — | Default Mini-Card socket (full-size) x1 (Mini-Card socket, full-size) with SIM socket x 1 Optional) |
| IPMI | — | — | — |
| KB Mouse | Pin-header | Pin-header | — |
| USB | USB 3.2 Gen 1 x 2, Box Header (2.0mm) | USB 3.2 Gen 1 x 2, Box Header (2.0mm) | USB 3.2 Gen 1 x 2 |
| Miscellaneous | | | |
| RTC | Internal RTC | Internal RTC | Internal RTC |
| Watchdog Timer | 1~255 steps by software programmable, 1 sec per step | 1~255 steps by software programmable, 1 sec per step | 1~255 steps by software programmable |
| Software Button | GPIO Programmable push button x 1 | GPIO Programmable push button x 1 | GPIO Programmable Button x 1 |
| TPM | TPM v1.2 9660 (TPM2.0 9665 optional) | TPM2.0 9665 (TPM v1.2 9660 optional) | Optional TPM v1.2 / TPM v2.0 |
| GPIO | 4 bits input, 4 bits output | 8bits, BIOS default 4 bits input, 4bits output. | 4 bits input, 4bits output |
| Fan | 2 | 2 | System Fan x 1 |
| MTBF (Hours) | 94,241 | 71,852 | 142412 Hours |
| Color | Black | Black | Black |
| Environmental Parameters and Dimension | | | |
| Power Requirement | 250W ATX PSU | 250W ATX PSU | 100W Flex ATX PSU |
| Operating Temperature | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Storage Temperature | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) | -4°F ~ 140°F (-20°C ~ 60°C) |
| Operating Humidity | 10% ~ 80% relative humidity, non-condensing | 10% ~ 80% relative humidity, non-condensing | 10%~80% relative humidity, non-condensing |
| Storage Humidity | 10% ~ 80% @ 40°C, non-condensing | 10% ~ 80% @ 40°C, non-condensing | 10%~80% @40°C; non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz/ operation (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation | 0.5 Grms/ 5 ~ 500Hz/ operation (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation | 0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation |
| Shock | 10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation | 10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation |
| Dimension | 16.93" x 12.01" x 1.73" (430mm x 305mm x 44mm) | 16.93" x 18.7" x 1.73" (430mm x 475mm x 44mm) | 16.93" x 12.01" x 1.73" (430mm x 305mm x 44mm) |
| I/O | | | |
| Front Panel | Power LED x 1, Status LED x 1, HDD Active LED x 1, USB 3.2 Gen 1 Ports x 2, RJ-45 Console x 1, Parallel LCM display and 4 keypad x 1 (Optional w/ NIM slot), Software Programmable Switch x 1, Bypass LED x 2, RJ45 x 8 or RJ45 x 6+SFP x 2 | Power LED x 1, Status LED x 1, HDD Active LED x 1, USB 3.2 Gen 1 Ports x 2, RJ-45 Console x 1, Parallel LCM display and 4 keypad x 1 (Optional w/ NIM slot), Software Programmable Switch x 1, Bypass LED x 2 | SFP+ with LED x 2, RJ45 Ethernet Port with LED x 5, USB 3.2 Gen 1 x 2, RJ45 Console x 1, Software Programmable Button x 1, Parallel LCM Display and 4 Keypad x 1, LED for Power/HDD/ Status/ Bypass x 5, NIM Slot x 1, Bypass LED x 2, Power LED x1, HDD LED x1, Status LED x1 |
| Rear Panel | AC Power Input x 1, Power Switch x 1, VGA port (Optional), Rear Expansion Slot x 2 (2 x PCIe [x8] slots, NIM slot will be disabled if PCIe Riser supported) | AC Power Input x 1, Power Switch x 1, VGA port (Optional), Rear Expansion Slot x 1 (Optional PCIe [x4] signal use [x8] slot, 3rd NIM slot will be disabled if PCIe Riser supported) | Power Switch x 1, AC Power Input x 1, Rear Expansion Slot x 1 |



Network Interface Module (NIM)



LEARN MORE



| Model | NIM-S13A | NIM-S13B | NIM-S13C | NIM-S13D | NIM-S13E |
|-----------------|---|--|--|--|--|
| Form Factor | 1G Fiber Module | 1G Fiber Module | 1G Fiber Module | 1G Fiber Module | 1G Fiber Module |
| Main Chipset | Intel® 825080EB Ethernet Controller x 2 | Intel® 82580EB Ethernet Controller x 2 | Intel® 82580DB Ethernet Controller x 2 | Intel® 82580EB Ethernet Controller x 1 | Intel® 82580EB Ethernet Controller x 1 |
| Bypass | — | — | — | — | 2 |
| Host Interface | PCI-Express [x8] (x4 + x4) | PCI-Express [x4] | PCI-Express [x8] (x4 + x4) | PCI-Express [x4] | PCI-Express [x4] |
| LAN Port | SFP 1 GbE Connector x 8 | SFP 1GbE Connector x 8 | SFP 1GbE Connector x 4 | SFP 1GbE Connector x 4 | SFP 1GbE Connector x 4 |
| Indicator | — | LED x 8 for Active/Link | LED x 4 for Active/Link | LED x 4 for Active/Link | LED x 4 for Active/Link |
| Qualification | CE/FCC Class A | CE/FCC Class A | CE/FCC Class A | CE/FCC Class A | CE/FCC Class A |
| Operation Temp. | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Dimension | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) |



| Model | NIM-C13A | NIM-C13B | NIM-C13D | NIM-S26A |
|-----------------|--|--|--|--------------------------------------|
| Form Factor | 1G Copper Module | 1G Copper Module | 1G Copper Module | 10G Fiber Module |
| Main Chipset | Intel® 82580EB Ethernet Controller x 2 | Intel® 82580EB Ethernet Controller x 2 | Intel® 82580EB Ethernet Controller x 1 | Intel® XL710 Ethernet Controller x 1 |
| Bypass | 2 | 2 | 2 | — |
| Host Interface | PCI-Express [x8] (x4 + x4) | PCI-Express [x8] (x4 + x4) | PCI-Express [x4] | PCI-Express [x8] |
| LAN Port | 1GbE Connector x 8 | 1GbE Connector x 8 | 1GbE Connector x 4 | SFP+ 10 GbE Connector x 4 |
| Indicator | LED x 8 for Active/Link | LED x 8 for Active/Link | LED x 4 for Active/Link | LED x 4 for Active/Link |
| Qualification | CE/FCC Class A | CE/FCC Class A | CE/FCC Class A | CE/FCC Class A |
| Operation Temp. | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Dimension | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) |



| Model | NIM-S26B | NIM-S26C | NIM-S26D | NIM-S27A |
|-----------------|--|--------------------------------------|--------------------------------------|---|
| Form Factor | 40G Fiber Module | 10G Fiber Module | 10G Fiber Module | 25G Fiber Module |
| Main Chipset | Intel® Fortville XL710 Ethernet Controller x 1 | Intel® XL710 Ethernet Controller x 1 | Intel® XL710 Ethernet Controller x 1 | Intel® XXV710-AM2 Ethernet Controller x 1 |
| Bypass | — | — | 2 | — |
| Host Interface | PCI-Express [x8] | PCI-Express [x8] | PCI-Express [x8] | PCI-Express [x8] |
| LAN Port | QSFP 40GbE Connector x 2 | SFP+ 10 GbE Connector x 4 | SFP+ 10 GbE Connector x 4 | SFP28 25 GbE Connector x 2 |
| Indicator | LED x 2 for Active/Link | LED x 4 for Active/Link | LED x 4 for Active/Link | LED x 2 for Active/Link |
| Qualification | CE/FCC Class A | CE/FCC Class A | CE/FCC Class A | CE/FCC Class A |
| Operation Temp. | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) | 32°F ~ 104°F (0°C ~ 40°C) |
| Dimension | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) | 5.71" x 3.03" (145mm x 77mm) |

Industrial Network Appliance



LEARN MORE



| Model | ICS-6270 | ICS-6280 |
|-----------------------|---|---|
| System | | |
| Form Factor | DIN Rail/ Desktop | DIN Rail/ Desktop |
| Processor | Intel® Celeron® Processor N3350 SoC | Intel® Elkhart lake SoC processor |
| System Memory | 204-pin DDR3L 1866MHz x 1, SODIMM Up to 8GB | 204-pin DDR4 2133MHz x 1, SODIMM Up to 16GB, Suggest Wide Temp. Module |
| Chipset | — | SoC |
| Ethernet | Intel® i211, Gigabit Ethernet x 6 | Intel® i211, Gigabit Ethernet x 6 |
| Bypass | Supports up to 2 pairs | Supports up to 2 pairs |
| BIOS | AMI SPI Flash BIOS | AMI SPI Flash BIOS |
| Serial ATA | SATA 6.0 Gb/s port x 1, for 2.5" SSD | SATA 6.0 Gb/s port x 1, for 2.5" HDD/SSD, Suggest SSD |
| CFast/mSATA | CFast™ socket x 1 (co-lay mSATA) | mSATA x 1 (Half size) |
| Expansion Interface | Supports Mini-Card slot x 1 with SIM socket | Mini-Card slot x 1 (full size) with SIM socket |
| USB | USB 3.2 Gen 1 x 2 | USB 3.2 Gen1 x 2 |
| Serial Port | Supports up to RS-232/422/485 COM Port x 2 (1 port with isolation) | Supports up to RS-232/422/485 COM Port x 2 |
| Watchdog Timer | 1~255 steps by software programmable | 1~255 steps by software programmable |
| RTC | Internal RTC | Internal RTC |
| System Fan | Fanless | Fanless |
| Color | Dark Grey | Dark Grey |
| Power Supply | 2 Pin Terminal Block +9~36V DC Power Input | 6 Pin Terminal Block |
| Dimension | 126 x 74.5 x 146mm | TBD |
| Power Requirement | +9 ~ 36V, 2-pin terminal block | +9 ~ 48V, 6-pin terminal block, dual power input |
| MTBF (Hours) | 101,292 | TBC |
| Display | | |
| Chipset | Intel® HD Graphics 500 | Intel® Integrated |
| Interface | VGA port x 1 (Optional DP port) | HDMI port x 1 |
| I/O | | |
| Front I/O Panel | RJ-45 GbE x 6, RS-232/422/485 COM Port x 2 VGA port x 1, USB 3.2 Gen 1 x 2 Software programmable button x 1, Power LED x 1 HDD LED x 1, Status LED x 1, Bypass LED x 2 | RJ-45 GbE x 6 RS-232/422/485 COM Port x 2 HDMI port x 1 USB 3.2 Gen1 x 2 Software programmable button x 1 Power LED x 1 Storage LED x 1 Status LED x 1 Bypass LED x 2 |
| Rear I/O Panel | DIN Rail/ Wallmount Lock | DIN Rail/ Wallmount Lock |
| Top Panel | 2-Pin Terminal Block +9~36VDC x 1 | 6-Pin Terminal Block +9~48VDC x 1 |
| Environmental | | |
| Operating Temperature | -40°F ~ 156°F (-40°C ~ 75°C) | -40°F ~ 156°F (-40°C ~ 75°C) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | 10%~80% relative humidity, non-condensing | 10%~80% relative humidity, non-condensing |
| Storage Humidity | 10%~80% @40°C; non-condensing | 10%~80% @40°C; non-condensing |
| Vibration | 0.5 Grms/ 5 ~ 500Hz / operation (SSD) 1.5 Grms/ 5 ~ 500Hz / non operation | 0.5 Grms/ 5 ~ 500Hz / operation (SSD) 1.5 Grms/ 5 ~ 500Hz / non operation |
| Shock | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation | 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation |

Feature Highlights



Wide Temperature

Optimized fanless design & sustainable resilience against harsh environments -20°C ~ 70°C (Up to -40°C ~ 85°C by project base)



E-Mark

All of our vehicular products, accessories and components comply to E-Mark regulations for the European Common Market.



Modularized Extension Kits

Flexible expansion options and bandwidth with GbE, COM, USB 3.2 Gen 1, dual VGA & SATA ports.



Industrial Network Appliance



LEARN MORE



| Model | VPC-3350S new | VPC-5600S | VPC-N400AI |
|--------------------------|---|--|---|
| System | | | |
| Form Factor | Mobile NVR | In-Vehicle NVR | In-Vehicle NVR |
| Processor | Intel® Pentium®/ Celeron®/ Atom™ Processor (Default: E3940; Project base: N4200/N3350, or E3950 w/ customized chassis) | Intel® 7th Gen. Core™ i3/i5/i7 Processor (Default: i3-7100U; Project base: i5-7300U, i7-7600U) | Quad-core ARM® Cortex®-A57 MPCore processor |
| Chipset | — | — | — |
| Main Memory | Up to 8GB, DDR3L 204-pin SODIMM | Up to 32GB, DDR4 260-pin SODIMM | Onboard 4 GB 64-bit LPDDR4 |
| Display | HDMI x 1, DP x 1 | HDMI x 1, DP x 1 | HDMI 2.0 x 1 a/b maximum 3840 x 2160 |
| Ethernet | Intel® i211 (colay i210) | LAN x 2 + 4 PoE Ports (Up to 8 PoE ports), RTL8111E 10/100/1000 Base | Intel® i211 |
| PoE Ethernet Port | 4 ports, sharing 60W of power budget for every four PoE ports | 4 ports (Max. 8 ports), sharing 60W of power budget for every four PoE ports. | ports x 8, total power consumption max. 75W |
| RAID support | — | 0/1 | — |
| Expansion Slot | Mini-Card slot x 2 (USB2.0 + PCIe) SATA x 1 Built-in CANBus (In-vehicle config. by project base) | Mini-Card slot x 3 (USB2.0 x 2 + PCIe & USB 2.0 x 1) Built-in CAN 2.0B x 1 | Mini Card slot x 2 (USB2.0) SATA x 1 |
| GPS, G-Sensor | Built-in GPS & G-Sensor (In-vehicle config. by project base) | On board (GPS/GLONASS), G Sensor | Onboard G-Sensor, GPS (optional) |
| Front I/O Panel | Power Button x 1 Reset Button x 1 Power/HDD, LED x 2 USB 3.2 Gen 1 x 2 GbE port (RJ-45) x 1 PoE LAN x 4 (IEEE 802.3 at/af) HDMI x 1 CanBus connector x 1 (In-vehicle config. by project base) RS-232 x 3 (In-vehicle config. by project base) | Power Button x 1 3G/4G/WIFI LED x 3 USB 3.2 Gen 1 x 4 GbE port (RJ-45) x 2 PoE LAN x 4 (IEEE 802.3 at/af), Max. 8 ports DP x 1 Reset Button x 1 | Power button x 1 IR receiver x 1 USB 2.0 x 1 GbE port x 1; PoE port x 8 |
| Rear I/O Panel | DC-In power x 1, 8-bit DIO x 1, 4-ch digital input, 4-ch digital output RS-232/422/485 x 2, DP x 1, Audio Line-out x 1, Mic-In x 1 Micro SIM slot x 2 | DC-In power x 1, Remote Power x 1, 8-bit DIO x 1, 4-ch digital input (Wet/dry contact with Isolation Protection 3,000 VDC), 4-ch digital output (Compatible 5 V/TTL, 31 mA max. per channel), DC 12V/1A Output x 1, RS-232/422/485 x 2, HDMI x 1, CanBus connector x 1, Audio Line-out x 1, Mic-In x 1, SIM slot x 2 | Audio input x 1, Audio output x 1 USB 3.0 x 1, RS-232 x 1, RS485 x 1 HDMI x 1 |
| Storage | | | |
| HDD Tray | 2.5" HDD/SSD Bay x 1 | 2.5" SSD x 2 | 2.5" HDD/SSD Bay x 1 |
| CF/CFast/mSATA Slot | — | mSATA Slot x 1 (If mSATA x 1 used, then only one SATA available) | — |
| Environmental | | | |
| Operating Temperature | -4°F ~ 158°F (-20°C ~ 70°C) | -4°F ~ 158°F (-20°C ~ 70°C); Project base, -40°C ~ 85°C | 14°F ~158°F (-10°C ~+70°C) (built-in heater) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) | -40°F ~ 185°F (-40°C ~ 85°C) | -4°F ~185°F (-20°C ~+85°C) |
| Storage Humidity | 10%~80% @40°C, non-condensing | 10%~80% @40°C, non-condensing | 95% @ 40 °C (non-condensing) |
| Vibration/Shock | MIL-STD-810G | MIL-STD-810G | MIL-STD-810G |
| Certification | CE & FCC Class A, E-Mark (In-vehicle config. by project base) | CE & FCC Class A, EMARK | CE & FCC Class A, E-Mark |
| Power Requirement | | | |
| Power Supply | DC 12-24V; DC9-36V with power ignition (In-vehicle config. by project base) | DC 10-36V, with ignition pin | DC 9 – 36V (with ignition pin) |
| Mechanical | | | |
| Removable HDD Tray | — | Hot swappable 2.5" SSD x 2 (Project base) via extension module | 2.5" SATA x 1 |
| Internal System HDD Bay | — | 2.5" HDD x 2 | — |
| Dimension | 6.3" x 5.28" x 2.44" (160mm x 134mm x 62mm) | 6.85" x 7.87" x 2.52" (174mm x 200mm x 64mm) | 175.6 x 183.3 x 50.5mm |
| Gross Weight | 3.96 lb (1.8 kg) | 5.7 lb (2.6 kg) | 3.9 lb (1.8 kg) |



Smart On-Board PoEs
Up to 8 PoE ports with IEEE 802.3at foundation.
Unique SDK to facilitate remote power & monitoring.



Power Ignition Control
Intelligent Power Control prevents damage to the vehicle's battery and operating matrix system by circumventing excessive vehicle battery discharge.



CANBUS
Stabilizes the transmission rate under harsh or unstable electrical conditions. Also reduces the amount of cables required.



AAEON Technology Inc.

5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien Dist, New Taipei City, 231, Taiwan, R.O.C.
Tel: +886-2-8919-1234 Fax: +886-2-8919-1056 E-mail: sales@aaeon.com.tw URL: <http://www.aaeon.com>

LITERATURE ORDERING

Contact your local office for literature requests.



AMERICAS

USA
California Office
324 W. Blueridge Ave, Orange, CA 92865
Toll Free: +1-877-TO-AAEON (1-877-862-2366)
TEL: +1-714-996-1800
FAX: +1-714-996-1811
E-mail: sales@aaeon.com
Tech Support: tech@aaeon.com

New Jersey Office
11 Crown Plaza, Hazlet, NJ 07730-2441
TEL: +1-732-203-9300
FAX: +1-732-203-9311
E-mail: sales@aaeon.com
Tech Support: tech@aaeon.com

EUROPE

Netherlands
AAEON EUROPE
Ekkersrijt 4090, 5692 DA Son, Science Park, Eindhoven
TEL: +31(0)499-745200
FAX: +31(0)499-462010
E-mail: sales@aaeon.eu

Germany
AAEON Technology GmbH
Monzastrasse 4e, 63225 Langen
TEL: +49(0)61033 74 79 00
FAX: +49(0)61033 74 79 49
E-mail: sales@aaeon.eu

France
AAEON France Office
Gare de Lyon, 37/39 Avenue Ledru-Rollin, CS 11237,
75012 Paris Cedex 12
TEL: +33 (0) 156 95 16 40
E-mail: sales@aaeon.eu

Italy
AAEON Italy Office
Viale Masini 12/14, 40126 Bologna
TEL: + 39 051 0923582
E-mail: sales@aaeon.eu

ASIA

China
AAEON Technology (Su Zhou) Inc.
Room 12, 2F, Building B, No.5 Xing Han Street, Suzhou
Industrial Park, Jiang Su Province
TEL: +86-512-6762-5700
FAX: +86-512-6761-7337
E-mail: sales@aaeon.com.cn

Shanghai Branch Office
20F, Unit D, GEM Building, No.487 Tianlin Road, Xuhui
District, Shanghai
TEL: +86-21-3367-5511
FAX: +86-21-3367-4238
E-mail: sales@aaeon.com.cn

Beijing Branch Office
Room 606-608 Block D, Jiahua Building, No.9, Shanghai 3rd
Street, Haidian District, Beijing
TEL: +86-10-8278-0904
FAX: +86-10-8278-0214
E-mail: sales@aaeon.com.cn

Wuhan Branch Office
B1501, 111 Guanggu Time Square Guanshan st. Wuhan
Hubei Province
TEL: +86-27-87606090
E-mail: sales@aaeon.com.cn

China
Chengdu Branch Office
Room 2204, 22F, Building6, No.666 JinCheng Avenue,
GaoXin District, Chengdu City
TEL: +86-28-85120523
E-mail: sales@aaeon.com.cn

Guangzhou Branch Office
Room 1505,B2,No.122-124 kexue Road, High-Tech
Development Zone, Guangzhou
TEL: +86-13534236621
E-mail: sales@aaeon.com.cn

Shenzhen Branch Office
Room 602,6th Floor,Building J, Zhongli Entrepreneurial
Community, Liuxian 2 Road, Xinan Street, Baoan District,
Shenzhen
TEL: +86-755-8304-7277
FAX: +86-755-8304-7272
E-mail: sales@aaeon.com.cn

Singapore
AAEON Technology Singapore PTE LTD.
57 Genting Lane, #07-00, Singapore 349564
TEL: +65-6749-8749
FAX: +65-6746-1595
E-mail: sales@aaeon.com.sg

MKT-1202000