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Award Winning Network Security Platforms



GSA Contract Holder
GS-35F-0470Y

www.aaeon.com

Focus • Agility • Competitiveness



About AAEON

As one of the leading manufacturer of advanced hardware platform for network computing and security solutions, AAEON's full range of network appliances empowers 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 for the most versatile and cost-effective networking solution 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 dozens of companies deploy reliable network appliances around the globe with faster time-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. With the partnership with ASUS in 2011, AAEON has further strengthened its leadership and will continuously pursue innovation and excellence in this industry.



**Redefine Networking
through Innovation**



Why AAEON

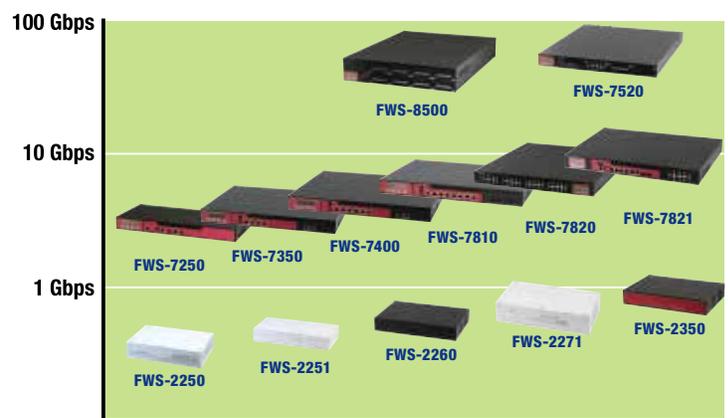


Enterprises face the increased need for new and innovative solutions to maintain peak productivity, while dealing with unprecedented data growth, ever-present cyber-security risks, and increasing regulatory requirements. The move toward on-premises, managed, and hybrid cloud solutions creates a great 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.

Introduction to AAEON Network Security Appliance

AAEON builds on the renowned pedigree of the FWS series as 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®, Core™ i7/ i5/ i3 to the cost efficient Atom™ processors. Designed for scalability and flexible configurations, the FWS Series are reliable systems for demanding network applications. The FWS Series come with various combinations of Ethernet modules, including GbE and SFP Fiber LAN, PCI-E Bus expansion slots and LCM with keypad control.



AAEON Joined “Intel® Network Builder” Program

AAEON®, a leading manufacturer of advanced hardware platforms for network computing and security solutions, announces participation in the Intel® Network Builders Program. The program connects service providers and end users with the infrastructure, software, and technology vendors that are driving SDN/NFV solutions to the market.

With the aim of promoting closer collaboration between manufacturers experienced in providing networking solutions, the program enables the pooling of expertise and technical know-how in driving the development and deployment of software defined networking (SDN) and network functions virtualization (NFV) solutions. AAEON’s membership in the program has thus demonstrated its high standard and in-depth knowledge in the networking arena.





Core Competence

Leading Network Technology

- 10/100/1000/10000/40000 Mbps Ethernet
- Copper and fiber Ethernet at 10GbE, 40GbE
- Support for up to 64 network ports
- Advanced bypass solutions
- Higher throughput

Module NIC & High Port Density

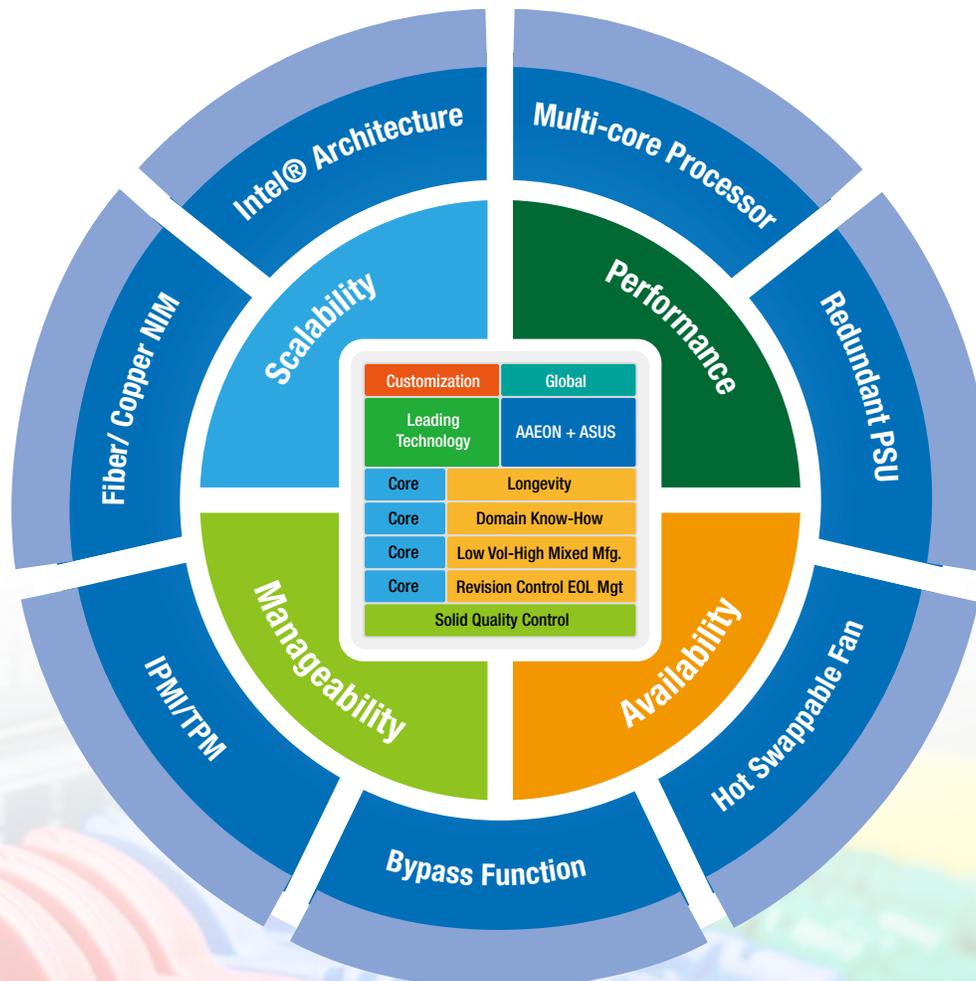
Featuring up to 64 ports, the FWS series are purpose-built, easy to manage, rapidly deployable, intelligent security appliances featuring IPMI, TPM, Unified Threat Management, Intrusion Detection & Prevention, and pay-as-you-go scalability ideal for integrating with web-scale technologies, hosting the modern virtualized datacenter, high performance computing, and hybrid-cloud environments while reducing risk and enhancing agility.

Reliable Networking Solution

AAEON will help you ensure business continuity and access to your critical applications, to mitigate risk and meet regulatory compliance requirements. We have built a world-class pre-sales team and strive to quickly deliver IT services and respond to fast changing market conditions. To help our customers in quick provisioning and deployment and eventually drive compelling ROI, we also publish other related materials such as installation guides and technical white papers.

Cutting Edge Processor

All AAEON network solutions have been re-engineered to support up to the latest 7th Generation Intel® Xeon® delivering unrivalled processing, massive throughput, ultra-low latency, and composability ideal for top-of-rack deployments. AAEON offers a complete product portfolio that encompasses SMB, SME, and Enterprise scale solutions, in addition to low-power models for deployment in power-sensitive environments.



Network Applications



Public and private cloud clustered databases, parallel processing, transactional services, and high-performance embedded I/O applications will achieve significant performance improvements resulting in reduced completion time and lower cost per operation.

- NGFW (Next Generation Firewall)
- SD-WAN (Software DefinedWAN)
- SDN (Software Defined Networking)
- NFV (Network Function Virtualization)
- vCPE (Virtual customer premises equipment)
- IDS (Intrusion Detection System)
- IPS (Intrusion Prevention System)
- VPN (Virtual Private Networks)
- NAC (Network Access Control)
- Load Balancing
- Web Content Filtering
- UTM (Unified Threat Management)
- VoIP Gateway
- Wireless Network Security
- Wired/Wireless Gateway





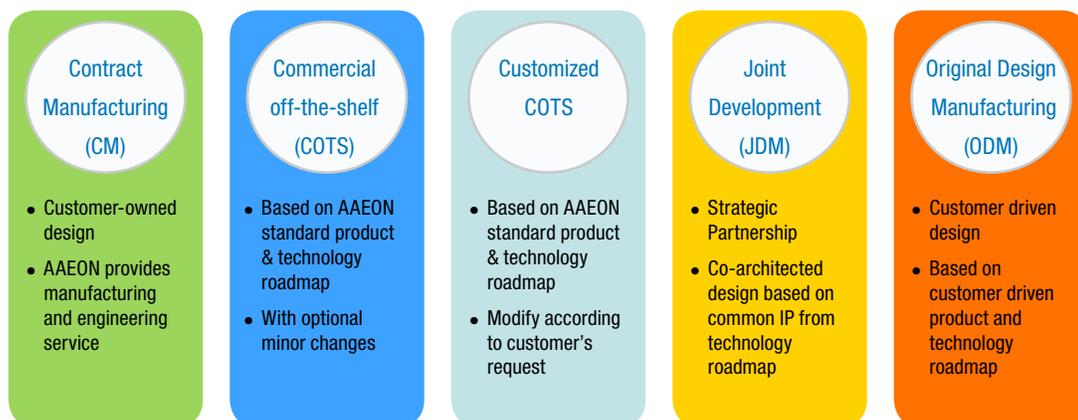
DMS & Collaboration Models

All AAEON solutions are backed by world-class services, education, and proactive support to reduce time-to-production and enable you to operate at peak efficiency. Our 25 years of world-class technical expertise with practical experience in designing and automating IT processes to deliver end-to-end solutions enable your organization to maximize your investment in AAEON's network security infrastructure. At every step, AAEON ensures that services are bound tightly together to provide a thoroughly comprehensive and professionally monitored process that will exceed client expectations in quality, reliability, and durability.



AAEON is able to manufacture existing products, customize existing COTS products, or jointly collaborate in the development of new products from inception to delivery. AAEON DMS capably handles large volume, or small-volume high-mix projects.

Whether your organization intends to deploy bespoke devices with a high-thermal tolerance and a low-power draw, or many enterprise-class Network Security Appliances with exascale/hyperscale persistent availability, collaborating with AAEON enables you to deploy the best of breed with complete confidence.

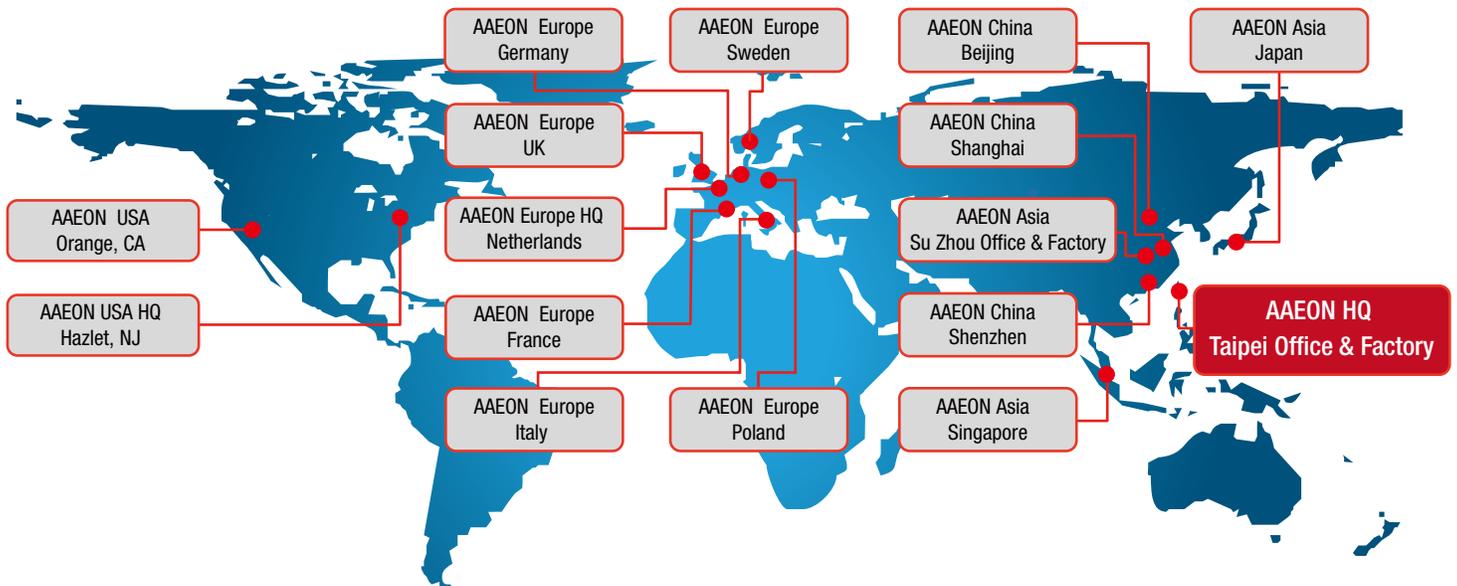


Global Office and RMA Service



Worldwide Offices

Headquartered in Taipei, Taiwan, AAEON is now serving its global partners in over 16 locations worldwide.



A Complete Service

After we have designed and manufactured the hardware, we install the required software and ship directly to your customer in your branded box. Drop shipments can be arranged from our logistics centers worldwide.

Our service allows you to focus on your core-competency of software development for the information security industry. We take care of the hardware design, manufacturing, logistics and service. That's our core competency.



Product Lines

(1) Desktop Network Appliance

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



(2) Rackmount Network Appliance

AAEON's Rackmount Network Appliance offers enterprise grade 2U rackmount, 1U rackmount 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 key pad control.



(3) Network Interface Module (NIM)

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



Swappable Design for Varied Configurations

Feature Highlights



Intel® Technologies

AAEON FWS models have 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 the whole network performance, efficiency and security.

LAN Bypass Function

The advanced LAN bypass ports can make the network more reliable when facing unexpected in-line system hang. With the aims of AAEON SDK, developer can easily implement the LAN bypass into the features with flexibility.

Wireless Connectivity

AAEON FWS are feature mini-card slot for wireless connectivity expansion. The expansion especially in desktop models can easily support functions such as WiFi, 3G, 4G/LTE via modules.

Software Programmable Button

AAEON FWS range includes models with full support for programmable keys enabling administrators to pre-program customized shortcuts for greater efficiency and streamlined on-site monitoring, management, and maintenance.

LCM & Keypad

The AAEON FWS range are equipped with an integrated digital LCD panel and control panel enabling administrators to perform monitoring, management, and maintenance via the intuitive onscreen menu system.

Hot Swappable Fans & Redundant Power Supplies

The increased demand for instant data access at any time requires uninterrupted operation and high data availability. In addition, regulatory compliance and service level agreements increasingly require disaster recovery strategies and guaranteed access to critical applications. To achieve this, AAEON equips the FWS series with field-swappable fans and redundant power supplies to ensure business continuity.

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.

Trusted Platform Module (TPM)

AAEON FWS support TPM which is designed to secure hardware by integrating cryptographic keys into the appliances. Pushing the security down to the hardware level in conjunction with software provides more protection than a software-only solution.

Data Plane Development Kit (DPDK)

AAEON FWS support Intel® DPDK which can greatly boosts packet processing performance and throughput, allowing more time for data plane applications.





Desktop Network Appliance



Model	FWS-2350	FWS-2272	FWS-2271	FWS-2260
Platform				
Form Factor	Desktop 6-Port Network Appliance	Desktop 4-Port Network Appliance	Desktop 4/6-port Network Appliance	Desktop 6-Port Network Appliance
Processor	Intel® Atom™ C2358 1.7 GHz (Dual Core) Intel® Atom™ C2558 2.4 GHz (Quad Core)	Intel® Apollo Lake Processor SoC	Onboard Intel® N4200/N3350 processor SoC	Intel® Celeron® N3060/N3160 Processor SoC
Chipset	—	—	Integrated	—
System Memory	240-pin DDR3 1333MHz ECC or non-ECC SDDIMM up to 16GB, C2358 single channel, C2558 dual-channel	onboard 1GB LPDDR3, supports up to 8GB	204-pin DDR3L 1867MHz SODIMM x 1, Up to 8 GB	204-pin DDR3L 1600MHz SODIMM x 2, up to 8GB
Network				
Ethernet	Intel® i211, Gigabit Ethernet x 2 (Optional additional Intel® i211, Gigabit Ethernet x 2), Intel® SoC Integrated i354 with Marvell 88E1543 PHY x 1	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 6 (Optional Intel® i211, Gigabit Ethernet x 4)
Bypass	Supports up to 2 pairs bypass function	—	Supports up to 2 pairs bypass function	Supports up to 2 pairs bypass function
Display				
Graphic Controller	—	Intel® HD Graphics 505 Intergrated	Intel® HD Graphics 505 Intergrated	Intel® HD Graphics 400
Connector	—	—	HDMI x 1	HDMI x 1
Storage				
HDDs	Internal 2.5" SATA HDD Bay x 1	SATA II port x 1	2.5" HDD Bay x 1	Internal 2.5" SATA HDD Bay x 1, SATA II Port x 1
CF/CFast/mSATA	CF socket x 1 (Optional CFast™ socket x 1)	Onboard 8GB eMMC, supports up to 128GB	CFast™ socket x 1 (Co-lay for BOM Optional CompactFlash™ socket x 1)	CF socket x 1 (Optional CFast™ socket or mSATA socket x 1)
Expansion/Internal Interface				
PCIe slot	—	—	—	—
Mini-PCIe slot	Mini-Card slot with SIM socket x 1 (Full size) (Optional Mini-Card slot up to 2)	Mini-Card socket with SIM socket x 1 (USB signal only full-size)	Mini-Card socket (full-size) with SIM socket x 2	Mini-Card slot with SIM socket x 1 (USB Signal only, full size) (Optional Mini-Card slot with SIM socket x 2)
Keyboard & Mouse	Reserve pin-header	Reserve pin-header	Reserve pin-header	Reserve pin-header
Universal Serial Bus	USB 2.0 x 2	USB3.0 x 2	USB 3.0 Type A on I/O side x 2	USB 3.0 x 2 USB 3.0 internal pin-header x 1 (optional)
Miscellaneous				
RTC	Internal RTC	Internal RTC	Internal RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable	1~255 steps by software programmable	1~255 step by software programmable	1~255 steps by software programmable
TPM	Optional TPM v1.2/v2.0	Optional TPM v1.2/v2.0	Optional TPM v1.2 9660/TPM2.0 9665	Optional TPM v1.2 /v2.0
GPIO	Reserve internal GPIO Pin header x 1	GPIO Programmable push button x 1	Reserve internal pin header 8-bit Digital I/O interface (4-in /4-out)	Reserve internal GPIO Pin header x 1
Fan	System Fan x 1	Fanless	System Fan x 1	Fanless
MTBF (hours)	86,286	—	—	85,321
Color	Black	TBD	White	Black
Environmental Parameters and Dimension				
Power Requirement	12V DC power in connector/ 60W Power adapter x 1 4-pin DC power out connector for HDD x 1	12V DC power in connector	—	12V DC power in connector/ 60W Power adapter x 1 4-pin DC power out connector for HDD x 1
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)
Storage Temp.	-4°F ~ 140°F (-20°C ~ 60°C)	-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	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	10%~80% @40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation (2.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation	0.5 Grms/ 5 ~ 500Hz/ operation (2.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation	0.5 Grms/ 5 ~ 500Hz/ operation (2.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ non-operation	0.5 Grms/ 5 ~ 500Hz/ operation (2.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no 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	10 G peak acceleration (11 m sec. duration), operation, 20 G peak acceleration (11 m sec. duration), non-operation
Dimension (W x D x H)	10.24" x 7.01" x 1.73" (260mm x 178mm x 44mm)	7.67" x 3.58" x 1.18"(195 x 91 x 30 mm)	7.87" x 4.13" x 1.73"(200mm x 105mm x 44 mm)	10.23" x 7.01" x 1.73" (260mm x 178mm x 44mm)
I/O Interfaces				
Front Panel	Power LED x 1 Status LED x 1 HDD Active LED x 1 Bypass LED x 2 (Optional) LAN LED x 12 (Supports up to LAN LED x 16)	Power LED x 1 Status LED x 1 HDD LED x 1 LAN LED x 8	Power LED x 1 Status LED x 1 HDD Active LED x 1 Bypass LED x 2 LAN LEDs x 12	Power LED x 1 Status LED x 1 HDD Active LED x 1 Bypass LED x 2 LAN LED x 12
Rear Panel	12V DC Power Input x 1 Power Button x 1 USB 2.0 x 2 RJ-45 LAN x 6 (Supports up to RJ-45 LAN x 8) RJ-45 Console x 1 Software Programmable Button x 1	Software Programmable Button x 1 Power Button x 1 RJ-45 LAN x 4 USB3.0 x 2 RJ-45 Console x 1 12V DC Power Input x 1	USB 3.0 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 x 1 HDMI x 1, Power Button x 1	12V DC Power Input x 1 Power Button x 1 USB 3.0 x 2 RJ-45 LAN x 6, RJ-45 Console x 1 Software Programmable Button x 1 HDMI x 1

Desktop Network Appliance



Model	FWS-2253	FWS-2252	FWS-2251	FWS-2250
Platform				
Form Factor	Desktop 4-Port Network Appliance	Desktop 4-Port Network Appliance	Desktop 4-Port Network Appliance	Desktop 4-Port Network Appliance
Processor	Intel® Celeron® N2807 1.58 GHz (Dual Core) Intel® Celeron® J1900 2.0 GHz (Quad Core)	Intel® Celeron® J1900 2.0 GHz (Quad Core)	Intel® Celeron® J1900 2.0 GHz (Quad Core)	Intel® Atom™ E3815 1.46 GHz (Single Core) Intel® Atom™ E3827 1.75 GHz (Dual Core) Intel® Celeron® J1900 2.0 GHz (Quad Core)
Chipset	—	—	—	—
System Memory	204-pin SODIMM: Intel® N2807 Single-channel DDR3L 1333MHz x 1/ Intel® J1900 Dual-channel DDR3L 1333MHz x 2	204-pin Dual channel DDR3L 1333MHz SODIMM x 2, up to 8GB	204-pin Dual channel DDR3L 1333/1600MHz SODIMM x 2, up to 8GB	204-pin Dual channel DDR3L 1333/1600MHz SODIMM x 2, up to 8GB (E3815 Single Channel)
Network				
Ethernet	Intel® i211, Gigabit Ethernet x 4	Intel® i211, Gigabit Ethernet x 4	Intel® i211, Gigabit Ethernet x 4	Intel® i211, Gigabit Ethernet x 4
Bypass	Supports 1 pair bypass function for J1900 only	Supports 1 pair bypass function	—	Supports 1 pair bypass function
Display				
Graphic Controller	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics
Connector	Reserve internal VGA pin header x 1	Reserve internal VGA pin header x 1	Reserve internal VGA pin header x 1	Reserve internal VGA pin header x 1
Storage				
HDDs	—	2.5" HDD Bay x 1	Optional SATA II connector x 1 (SATA DOM Horizontal and no housing type only)	Optional SATA II connector x 1
CF/CFast/mSATA	CF socket x 1	CF socket x 1	CF socket x 1	CF socket x 1
Expansion/Internal Interface				
PCIe slot	—	—	—	—
Mini-PCIe slot	Mini-Card Slot x 1 (Half size)	Mini-Card Slot x 1 (Half size)	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)	Mini-Card slot x 1 (Half size)
Keyboard & Mouse	Reserve pin-header	Reserve pin-header	Reserve pin-header	Reserve pin-header
Universal Serial Bus	USB 2.0 x 2, USB 3.0 x 1	USB 2.0 x 2, USB 3.0 x 1	USB 3.0 x 1	USB 2.0 x 2, USB 3.0 x 1
Miscellaneous				
RTC	Internal 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	1~255 steps by software programmable
TPM	—	—	Default N/A, optional TPM V1.2 or 2.0	—
GPIO	—	—	—	—
Fan	Fanless	System Fan x 1	Fanless	Fan/Fanless refers to order information
MTBF (hours)	—	116,331	85,551	90,630
Color	Black	Black	White	White
Environmental Parameters and Dimension				
Power Requirement	12V DC power in connector/ 40W Power adapter x 1, 4-pin DC power out connector for HDD x 1	12V DC power in connector/ 40W Power adapter x 1, 4-pin DC power out connector for HDD x 1	12V DC power in connector/ 40W Power adapter x 1, 4-pin DC power out connector for HDD x 1	12V DC power in connector/ 40W Power adapter x 1, 4-pin DC power out connector for HDD x 1
Operation Temp.	-4°F ~ 158°F (-20°C ~ 70°C), N2807/ 32°F ~ 122°F (0°C ~ 50°C), J1900	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 Temp.	-4°F ~ 158°F (-20°C ~ 70°C)	-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	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	10%~80% @40°C, non-condensing
Vibration	1 Grms/ 5 ~ 500Hz/ operation 2 Grms/ 5 ~ 500Hz/ no operation	0.5 Grms/ 5 ~ 500Hz/ operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz/ non-operation	0.5 Grms/ 5 ~ 500Hz/ operation (SATA DOM) 1.5 Grms/ 5 ~ 500Hz/ non-operation	0.5 Grms/ 5 ~ 500Hz/ operation 1.5 Grms/ 5 ~ 500Hz/ non-operation
Shock	15 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	10 G peak acceleration (11 m sec. duration), operation, 20 G peak acceleration (11 m sec. duration), non-operation
Chassis Dimension (W x D x H)	6.89" x 4.09" x 1.5" (175mm x 104mm x 38mm)	7.87" x 4.09" x 1.73" (200mm x 104mm x 44mm)	8.27" x 4.09" x 1.38" (210mm x 104mm x 35mm)	6.3" x 4.09" x 1.38" (160mm x 104mm x 35mm)
I/O Interfaces				
Front Panel	Power LED x 1 Status LED x 1 HDD Active LED x 1 LAN LED x 8	Power LED x 1 Status LED x 1 HDD Active LED x 1 LAN LED x 8 Bypass LED x 1	Power LED x 1 HDD Active LED x 1 LAN LED x 8 RSSI LED x2 (Optional) Accessible SIM cover x 1	Power LED x 1 Status LED x 1 HDD Active LED x 1 Bypass LED x 1 (Optional) LAN LED x 8
Rear Panel	12V DC Power Input x 1 Power Button x 1 USB 3.0 x 1, USB 2.0 x 2 RJ-45 LAN x 4, RJ-45 Console x 1 Software Programmable Button x 1	12V DC Power Input x 1 Power Button x 1 USB 3.0 x 1, USB 2.0 x 2 RJ-45 LAN x 4, RJ-45 Console x 1 Software Programmable Button x 1 VGA Port x 1 (Optional)	12V DC Power Input x 1 Power Button x 1 USB 3.0 x 1 RJ-45 LAN x 4, RJ-45 Console x 1 Software Programmable Button x 1	12V DC Power Input x 1 Power Button x 1 USB 3.0 x 1, USB 2.0 x 2 RJ-45 LAN x 4, RJ-45 Console x 1 Software Programmable Button x 1



Rackmount Network Appliance



Model	FWS-7821	FWS-7820	FWS-7811
Platform			
Form Factor	1U Rackmount Network Platform	1U Rackmount Network Platform	1U Rackmount Network Platform
Processor	Intel® 6th/7th Generation Core™/ Xeon Processors	Intel® 6th Generation Core™/ Xeon Processors	Intel® LGA1150 4th Gen Core™/ Xeon Processor
Chipset	Intel® C236	Intel® C236	Intel® C226
System Memory	DDR4 1600/1866/2133 UDIMM/ECC, Up to 64GB, 288-pin DIMM x 4	DDR4 1600/1866/2133 UDIMM/ECC, Up to 64GB, 288-pin DIMM x 4	DDR3 1333/1600 UDIMM/ECC, up to 32GB, 240-pin DIMM x 4
Network			
Ethernet	Intel® i211 Gigabit Ethernet x 8 + NIM x 1	Intel® i210-AT 1GbE x 6 + NIM	Intel® i211, GbE x 8 + NIM
Bypass	On board 2 pairs bypass, others depend on NIM module	On board 2 pairs bypass, others depend on NIM module	2 ~ 4 (Depends on NIM)
NIM Slot	1	4 (Max. 5 slots by project base)	1
Display			
Graphic Controller	Intel® Integrated	Intel® Integrated	Intel® Integrated
Connector	VGA cable (Optional)	VGA cable (Optional)	VGA cable (Optional)
Storage			
HDDs	Internal 3.5" SATA HDD x 1	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)	Internal 2.5" SATA HDD x 2 or 3.5" SATA HDD x 1 (Optional)
CF/CFast/mSATA	CF socket x 1 (Optional BOM CFast™ socket or mSATA slot)	CF socket x 1 (Optional BOM CFast™ socket or mSATA slot)	CF socket x 1
Expansion/Internal Interface			
PCIe Slot	Up to PCIe x 2 [x8] slots	PCIe [x4] signal use [x8] slot (3rd NIM slot will be disabled if PCIe Riser Supported)	PCIe [x8] slot x 1 (Optional)
Mini-Card	—	—	—
IPMI	—	—	—
KB Mouse	—	—	Pin-header
USB	Pin-header	Pin-header USB 3.0 x 2, Box Header (2.0mm)	USB 2.0 x 2 Box Header (2.0mm) (optional)
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 push button x 1
TPM	Yes	Yes	—
GPIO	8bits, BIOS default 4 bits input, 4bits output.	8bits, BIOS default 4 bits input, 4bits output.	—
FAN	2	3	2
MTBF (Hours)	—	—	97,000
Color	Black	Black	Black
Environmental Parameters and Dimension			
Power Requirement	250W ATX PSU	250W ATX PSU	275W Redundant PSU
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)
Storage Temp.	-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%	10 ~ 80%	10 ~ 80%
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 (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation
Shock	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	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation
Chassis Dimension (W x D x H)	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 18.7" x 1.73" (430mm x 475mm x 44mm)
I/O Interfaces			
Front Panel	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 (Optional w/ NIM slot) 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 Parallel LCM display and 4 keypad x 1 (Optional w/ NIM slot) Software Programmable Switch x 1	Power LED x 1 Status LED x 1 HDD Active LED x 1 LAN ports Link/Active LED x 8 Bypass LED (Default 2 LEDs) USB 3.0 Ports x 2 RJ-45 Console x 1 Parallel LCM display and 4 keypad x 1 Software Programmable Switch x 1
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)	AC Power Input x 2 Power Switch x 1 VGA port (Optional) Rear Expansion Slot x 2 (Optional)

Rackmount Network Appliance



Model	FWS-7810	FWS-7520	FWS-7400
Platform			
Form Factor	1U Rackmount Network Platform	1U Rackmount Network Platform	1U Rackmount Network Platform
Processor	Intel® LGA1150 4th Gen Core™/ Xeon Processor	Intel® FCBGA Xeon D-1548/D-1518 (Optional) SOC	Intel® LGA1150 4th Gen Core™ Processor
Chipset	Intel® C226	Integrated	Intel® H81
System Memory	DDR3 1333/1600 UDIMM/ECC, up to 32GB, 240-pin DIMM x 4	DDR4 1600/1866/2133 RDIMM/UDIMM/ECC, up to 128GB, 288 Pin DIMM x 4	DDR3L 1333/1600 UDIMM, up to 16GB, 240-pin DIMM x 2
Network			
Ethernet	Intel® i211, GbE x 8 + NIM	Intel® i210, GbE x 1, Intel® CS4227 phy 10G GbE x 2 + NIM	Intel® i211, GbE x 6 + NIM
Bypass	2 ~ 4 (Depends on NIM)	Depends on NIM	2 ~ 4 (Depends on NIM)
NIM Slot	1	3	1
Display			
Graphic Controller	Intel® Integrated	IPMI integrated (Optional)	Intel® Integrated
Connector	VGA cable (Optional)	VGA cable (Optional)	VGA cable (Optional)
Storage			
HDDs	Internal 3.5" SATA HDD x 1 or 2.5" SATA HDD x 2 (Optional)	Support 2.5" SATA HDD x 2	Internal 3.5" SATA HDD x 1 or 2.5" SATA HDD x 2 (Optional)
CF/CFast/mSATA	CF socket x 1	CF socket x 1 (Optional CFast™ socket or mSATA slot)	CF socket x 1
Expansion/Internal Interface			
PCIe slot	PCIe [x8] slot x 1 (Optional) or PCIe [x8] slot x 2, cannot use w/ NIM (Optional)	PCIe [x4] signal use [x8] slot (optional)	PCIe [x8] slot x 1 (Optional SKU and need to order NIM riser separately)
Mini-card slot	—	—	—
IPMI	—	Optional Module	—
Keyboard & Mouse	Pin-header	Pin-header	Pin-header
Universal Serial Bus	USB 2.0 x 2 Box Header (2.0mm) (optional)	USB 3.0 x 2 Box Header (2.0mm) (optional)	USB 2.0 x 2 Box Header (2.0mm) (optional)
Miscellaneous			
RTC	Internal RTC	Internal RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable	1~255 step 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	—	Yes	—
GPIO	—	8bits, BIOS default 4 bits input, 4bits output.	—
FAN	2	3	2
MTBF (Hours)	115,000	—	106,000
Color	Black	Black	Black
Environmental Parameters and Dimension			
Power Requirement	250W ATX PSU	250W ATX PSU or 220W Redundant PSU (Optional)	250W ATX PSU
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)
Storage Temp.	-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%	10 ~ 80%	10 ~ 80%
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 (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no 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	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation
Chassis Dimension (W x D x H)	16.93" x 12.01" x 1.73" (430mm x 305mm x 44mm)	16.93" x 18.7" x 1.73"	16.93" x 12.01" x 1.73" (430mm x 305mm x 44mm)
I/O Interfaces			
Front Panel	Power LED x 1 Status LED x 1 HDD Active LED x 1 LAN ports Link/Active LED x 8 Bypass LED (Default 2 LEDs) 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 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 LAN ports Link/Active LED x 6 Bypass LED (Default 2 LEDs) USB 3.0 Ports x 2 RJ-45 Console x 1 Parallel LCM display and 4 keypad x 1 Software Programmable Switch x 1
Rear Panel	AC Power Input x 1 Power Switch x 1 VGA port (Optional) Rear Expansion Slot x 2 (Optional)	AC Power Input x 1 Power Switch x 1 VGA port (Optional) Rear Expansion Slot x 1 (Optional PCIe [x4] signal use x8 slot)	AC Power Input x 1 Power Switch x 1 VGA port (Optional) Rear Expansion Slot x 2 (Optional)



Rackmount Network Appliance



Model	FWS-7350	FWS-7250	FWS-8500
Platform			
Form Factor	1U Rackmount Network Platform	1U Rackmount Network Platform	2U Rackmount Network Platform
Processor	Onboard Intel® C2758/C2558 4-Core/ 8-Core 2.4 GHz Processor SoC	Intel® Atom™ E3845, up to 1.91 GHz/ Celeron® J1900 up to 2.42 GHz	Intel® Xeon® Processor E5-2600 v3 Series, LGA 2011
Chipset	Integrated	Integrated	Intel® Communications Chipset 8925 PCH
System Memory	DDR3L 1600 UDIMM/ECC, up to 64GB, 240-pin DIMM x 4	DDR3(L) 1333 SODIMM, up to 8GB, 204 Pin DIMM x 2	DDR4 1600/1866/2133 RDIMM/UDIMM/ECC, Up to 512GB 288-Pin DIMM x 16 (8 DIMM Per CPU)
Network			
Ethernet	Marvell 88E1543 phy Gigabit Ethernet x 4 + NIM	Intel® i210AT, Gigabit Ethernet x 4 + NIM	Depends on NIM, onboard 1 GbE LAN x 1 (optional 1 GbE x 2)
Bypass	2 ~ 4 (Depends on NIM)	2	Depends on NIM
NIM Slot	1	—	8
Display			
Graphic Controller	Mini-card VGA (Optional)	Intel® Integrated	Mini-card VGA (Optional)
Connector	VGA cable (Optional)	VGA cable (Optional)	VGA cable (Optional)
Storage			
HDDs	Internal 3.5" SATA HDD x 1 or 2.5" SATA HDD x 2 (Optional)	2.5" SATA HDD x 1 (Optional)	Internal 3.5" SATA HDD x 1 or 2.5" SATA HDD x 2 (Optional)
CF/CFast/mSATA	CF socket x 1	CF socket x 1	CF socket x 1
Expansion/Internal Interface			
PCIe slot	PCIe [x4] signal use [x8] slot	—	PCIe [x8] slot x 2 (Optional)
Mini-card slot	—	1	1
IPMI	—	—	—
Keyboard & Mouse	Pin-header	Pin-header	Pin-header
Universal Serial Bus	USB 2.0 x 1 Box Header (2.0mm) (optional)	USB 2.0 x 1 Box Header (2.0mm) (optional)	USB x 2 for internal pin-header (optional)
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
GPIO	—	—	8-bit, BIOS default 4-bit input, 4-bit output
FAN	1	2	5
MTBF (Hours)	109,000	110,000	—
Color	Black	Black	Black
Environmental Parameters and Dimension			
Power Requirement	100W ATX PSU	100W ATX PSU	650W Redundant PSU
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)
Storage Temp.	-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%	10 ~ 80%	10 ~ 80%
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 (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no 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
Chassis Dimension (W x D x H)	16.93" x 12.01" x 1.73" (430mm x 305mm x 44mm)	16.93" x 11.02" x 1.73" (430mm x 280mm x 44mm)	18.9" x 23.62" x 3.46" (480mm x 600mm x 88mm)
I/O Interfaces			
Front Panel	Power LED x 1 Status LED x 1 HDD Active LED x 1 LAN ports Link/Active LED x 4 Bypass LED (Default 2 LEDs) USB 2.0 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 LAN ports Link/Active LED x 4 Bypass LED (Default 2 LEDs) USB 2.0 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 2.0 Ports x 2 RJ-45 Console x 1, Parallel LCM display and 4 keypad x 1 Software Programmable Button x 1 RJ-45 LAN x 1 (optional up to RJ-45 LAN x 2)
Rear Panel	AC Power Input x 1 Power Switch x 1 VGA port (Optional) Rear Expansion Slot x 2 (Optional PCIe [x4] signal use x8 slot)	AC Power Input x 1 Power Switch x 1 VGA port (Optional)	AC Power Input x 2, Power Switch x 1, Rear Expansion Slot x 2 (Optional PCIe [x8])



Network Interface Module (NIM)

new



Model	NIM-S13A	NIM-S13B	NIM-S13C	NIM-S13D	NIM-S13E
Form Factor	1G LAN Module	1G Fiber Module	1G Fiber Module	1G Fiber Module	1G Fiber Module
Main Chipset	Intel® 82580EB 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				
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)				
Dimension	5.71" x 3.03" (145mm x 77mm)				



Model	NIM-C13A	NIM-C13B	NIM-C13D	NIM-S26A	NIM-S26B	NIM-S26C
Form Factor	1G LAN Module	1G LAN Module	1G Copper Module	10G Fiber Module	40G Fiber 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	Intel® Fortville XL710 Ethernet Controller x 1	Intel® XL710 Ethernet Controller x 1
Bypass	2	—	—	—	—	—
Host Interface	PCI-Express [x8] (x4 + x4)	PCI-Express [x8] (x4 + x4)	PCI-Express [x4]	PCI-Express [x8]	PCI-Express [x8]	PCI-Express [x8]
LAN Port	1GbE Connector x 8	1GbE Connector x 8	1GbE Connector x 4	SFP+ 10 GbE Connector x 4	QSFP 40GbE Connector x 2	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	LED x 2 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	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)	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)	5.71" x 3.03" (145mm x 77mm)



Model	PER-C35L	PER-C36L	PER-C38L	PER-C39L	PER-C40L	PER-C41L
Form Factor	10G Fiber Module	1G Fiber Module	1G LAN Module	1G Fiber Module	1G Fiber Module	1G LAN Module
Main Chipset	Intel® 82599 Ethernet Controller x 1	Intel® i210 Ethernet Controller x 4	Intel® 82580EB colay w/ intel® i350 Ethernet Controller x 2	Intel® 82580EB Ethernet Controller x 2	Intel® 82580EB Ethernet Controller x 1	Intel® 82580EB Ethernet Controller x 1
Bypass	—	—	4	—	—	2
Host Interface	PCI-Express [x8]	PCI-Express [x4]	PCI-Express [x8] (x4 + x4)	PCI-Express [x8] (x4 + x4)	PCI-Express [x4]	PCI-Express [x4]
LAN Port	SFP 10GbE Connector x 2	SFP 1GbE Connector x 4	1GbE Connector x 8	SFP 1GbE Connector x 8	SFP 1GbE Connector x 4	1GbE Connector x 4
Indicator	LED x 2 for Active/Link	LED x 4 for Active/Link	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	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)	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.43" x 3.46" (137.8mm x 88mm)	5.43" x 3.46" (137.8mm x 88mm)	5.43" x 3.46" (137.8mm x 88mm)	5.43" x 3.46" (137.8mm x 88mm)	5.43" x 3.46" (137.8mm x 88mm)	5.43" x 3.46" (137.8mm x 88mm)

Note: All specifications are subject to change without notice.



Industrial Network Appliance



Model	ICS-6270
Platform	
Form Factor	DIN Rail Industrial Network Appliance
Processor	Intel® Apollo Lake Processor SoC
Chipset	—
System Memory	204-pin DDR3L 1867MHz SODIMM x 2, up to 16GB
Network	
Ethernet	Intel® i211, Gigabit Ethernet x 6
Bypass	Supports up to 2 pair bypass function
Display	1 x VGA port via main board or 1 x VGA/DP port via daughter board
Graphic Controller	Intel® HD Graphics 505 Intergrated
Connector	HDMI x 1
Storage	
HDDs	Internal 2.5" SATA HDD Bay x 1 for SATA 6.0Gb/s x 1
CF/CFast/MSata	CFast socket x 1
Expansion/Internal Interface	
PCIe slot	—
Mini-PCIe slot	1xMini-Card socket (full-size) with SIM socket
Keyboard & Mouse	Reserve pin-header
Universal Serial Bus	USB3.0 x 2, USB2.0 internal 2x 5 pin-header x 1 (Optional)
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	Optional TPM v1.2/v2.0
GPIO	Reserve internal GPIO Pin header x 1
FAN	Fanless
MTBF (Hours)	—
Color	Grey
Environmental Parameters and Dimension	
Power Requirement	+9~36VDC 2-pin terminal block
Operation Temp.	-40°F ~ 156°F (-40°C ~ 75°C)
Storage Temp.	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	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
Shock	10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation
Mechanical	
Chassis Dimension (W x D x H)	75 x 120 x 140 mm
Mounting	Wallmount, DIN Rail
I/O Interfaces	
Front Panel	USB 3.0 Port x 2 RJ-45 Port with LED x 4 (Optional up to 6 x RJ-45 Ports with LEDs via daughter board) RS-232/422/485 COM Port x 1 Isolated RS-232/422/485 COM Port x 1 (Optional via daughter board) Software Programmable button x 1 Display Port x 1 (Co-lay VGA port) Power LED x 1, HDD LED x 1, Bypass LED x 1 (Optional), Status LED x 1 (Optional)
Top Panel	2-pin terminal block x 1

Networking Motherboard



Model	FWB-2250	FWB-7250
System		
Form Factor	Networking Motherboard	Mini-ITX / Networking Motherboard
Processor	Intel® Atom™ E3815 processor SoC	Intel® Celeron® J1900 2.0 GHz
System Memory	204-pin DDR3L 1066/1333 MHz SODIMM x 2, up to 8 GB	204-pin DDR3L 1333MHz SODIMM x 2, up to 8GB
Chipset	—	—
Ethernet	Intel® Ethernet Controller I211-AT, Gigabit Ethernet x 4	Intel® I210-AT (Co-lay with Intel® I211-AT), Gigabit Ethernet x 4
Bypass Function	1 Pair (Optional)	Supports up to 2 Pair (optional)
BIOS	AMI BIOS	AMI BIOS
Serial ATA	SATA 3.0 Gb/s Connector x 1 (CompactFlash™ Socket x 1)	CompactFlash Socket x 1, SATA II connector x 1 (Optional SATA II connector x 2)
Expansion Interface	Mini-Card Socket x 1(Optional)	Mini-Card socket w/ SIM card socket x 1 (optional)
Power Requirement	40W, 12V DC-in power connector	ATX 100W PSU
Power Consumption	Intel® Celeron® J1900 2.0 GHz, DDR3L 1333 2GB 0.39A@ 100VAC, 1.21A@12V	Intel® Celeron® J1900 2.4 GH, DDR3L 1600 4GB, 0.26A@ 100VAC
Board Size	5.67" x 3.94" (114 mm x 100 mm)	6.7" x 6.7" (170mm x 170mm)
Watchdog Timer	1~255 steps by software programming	1~255 steps by software programming
MTBF (Hours)	90,630	110,571
OS Support	Windows® 7 or above, Linux	Windows® 7 or above, Linux
Display		
Chipset	Intel® Atom™ E3815	Intel® Celeron® J1900, Intel® Atom™ E3845 (optional)
Graphic Engine	Intel® HD	Intel® HD Graphic
Resolution	2560 x 1600	2560 x 1600
Outer Interface	Reserved VGA Internal box header	Reserved Pin Header for Graphic Integrated Processor
I/O		
LAN Port	RJ-45 Port x 4	RJ-45 Port x 4
Serial Port	RJ-45 Console x 1	RJ-45 Console x 1
USB	USB 2.0 x 2, USB 3.0 x 1	USB 2.0 x 2
LED	Power LED x 1, HDD Active x 1, LAN LED x 8 (Optional Status LED x 1, Bypass LED x 1)	Power LED x 1, Status LED x 1, HDD Active x 1, Bypass LED x 2
Others	Power Button x 1, Software Programmable Reset Button x 1	Software Programmable Reset Button x 1
Environment		
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0%~90% @RH, non-condensing	0%~90% relative humidity, non-condensing



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