



Fanless Systems and Compact Boxes

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Fanless Product Family



SYS-E100-13AD
Core i3/5/7
Celeron



SYS-E100-12T
Core i3/5/7
Celeron



- 12-24V wide range
- 3 x M.2 (B/E/M key)
- 4 video out

SYS-E100-9W
Core i3/i5/i7
Celeron



- 12-24V wide range
- 3 x M.2 (B/E/M key)
- Wide operating Temp.

SYS-E100-9AP-IA



- 12-24V wide range
- 3 x M.2 (B/E/M key) for NVMe/SATA/Wifi/BT/LTE

SYS-E50-9AP-N5



- 9-36V DC
- DIN Rail Mount
- I/O Expansion

SYS-E50-9AP
SYS-E50-9AP-Wifi



Atom E3940
Built-in Antenna

- Atom E3940
- 5 LANs

SYS-E302-12E

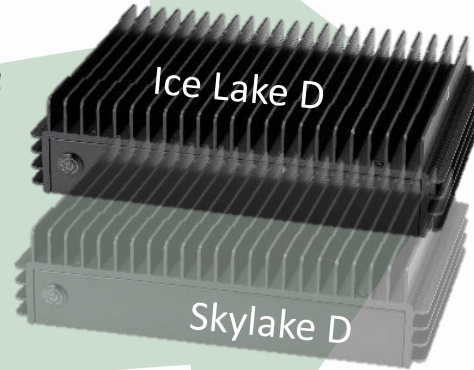
Atom x6425E, 4C/8T
6x USB3, 2x USB2
4x COM, , 4x 1GBE
1 HDMI, 1 DP, 1 VGA



SYS-E302-12A

ATOM 5315, 4C
ATOM 5325, 8C
4x 1GBE
2x USB2

SYS-E302-12D Confidential
Xeon-D 4C or 8C
4x1GBE, 2x10GBE



SYS-E302-9D
Xeon-D, 4C

- ✓ Industrial grade components
- ✓ Support Windows10 Enterprise 64bit
- ✓ Passed Operational shock test IEC 60068-2-27 for 30G, half sine, 11ms
- ✓ Passed operational vibration test IEC 60068-2-64 for 5Grms, random, 5-500Hz, 1hr/axis

Fanless System Feature Highlights

- ✓ Palm size
- ✓ IP51
- ✓ WIFI built in
- ✓ Wide temp.
- ✓ DIN Rail Support



W : 148mm
H : 44mm
D : 118mm

E50



W : 195mm
H : 44mm
D : 151mm

E100

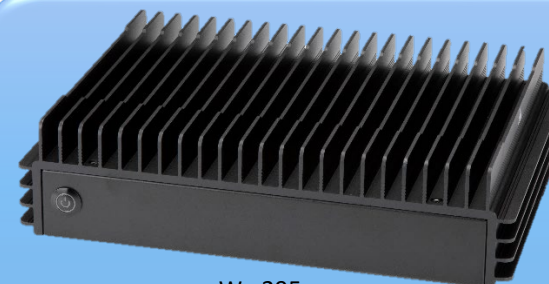
- ✓ Rich I/O
- ✓ Wide CPU range
- ✓ Wide temp
- ✓ DIN Rail support

- ✓ Rich I/O
- ✓ Wide CPU range
- ✓ Wide temp.
- ✓ Wide DC input
- ✓ DIN Rail support



W : 194mm
H : 115mm
D : 126mm

E100-IA



W : 295mm
H : 76mm
D : 206mm

E302

- ✓ XEON inside
- ✓ PCIe slot
- ✓ IPMI

- ✓ Passed operational shock test IEC 60068-2-27 for 30G, half sine, 11ms
- ✓ Passed operational vibration test IEC 60068-2-64 for 5Grms, random, 5-500Hz, 1hr/axis

Market Opportunities



Applications	They're looking for...	Our Solutions support	
Retail	Reliable system, wireless communication, data security, energy saving, edge computing	Fanless, Wi-Fi, TPM onboard, low power consumption	SYS-E50 series SYS-E100 series SYS-E302 series
Industry 4.0	Wide-range power inputs, robust design, wide-temperature	Shock and vibration resistance, DIN rail mount, wide operating temperature	SYS-E100-9AP-IA SYS-E100-9W-IA
Healthcare	Reliable system, high computing performance, low noise	Fanless, compact size, computing performance, zero noise	SYS-E100 series
Network / Video Surveillance	Cost effective network device	Multiple connectivity, compact control box with fan or fanless.	SYS-E50 series



SYS-E50 series



**Built-in Antenna
Multiple LAN ports**



SYS-E100 series



**Fanless Solution
Atom to Mobil Core i7**



SYS-E302 series



**Fanless Solution
Xeon D 4C / Deverton C3000 /
Elkhart Lake**

How Fanless Products Fit Into Retail and Restaurant Markets

Kiosk

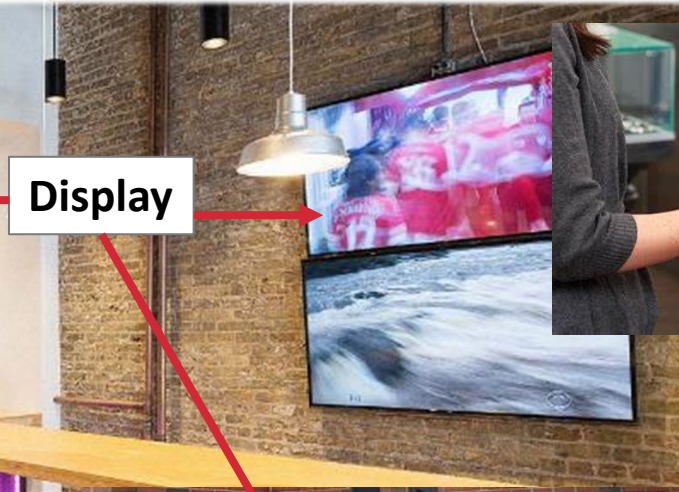


Network Service



POS system

Display



Inventory Management System



Optimized for dusty and greasy environment

Order Management System



Surveillance System



Display



Vending Machine



IP Camera/Networking



Keypad/Scanner/Reader

Audio MIC

Fanless System Feature Highlights

- ✓ Palm size
- ✓ IP51
- ✓ WIFI built in
- ✓ Wide temp.



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E50



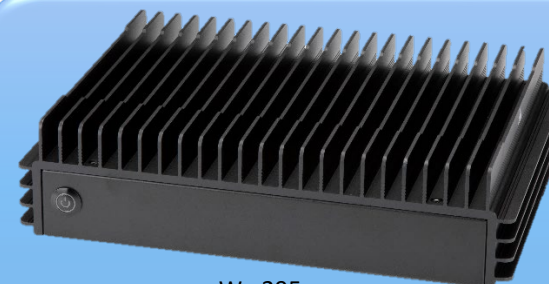
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E100



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E100-IA



W : 295mm
H : 76mm
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E302

- ✓ Passed Operational shock test IEC 60068-2-27 for 30G, half sine, 11ms
- ✓ Passed operational vibration test IEC 60068-2-64 for 5Grms, random, 5-500Hz, 1hr/axis

SYS-E50 SKUs Selection



-20 to 50°C



-20 to 50°C



-20 to 50°C



SYS-E50-9AP

Support 1x 2.5" SATA SSD
1x M.2 B-Key
1x M.2 E-Key
1x Full size Mini-PCle
1x Half size Mini-PCle
2x HDMI
2x 1GbE LAN
2x USB 3.0 & 2 USB 2.0
2x COM
AUDIO

SYS-E50-9AP-N5

Support 1x 2.5" SATA SSD
1x M.2 B-Key
1x M.2 E-Key
1x Half size Mini-PCle
2x HDMI
5x 1GbE LAN
2x USB 3.0 & 2 USB 2.0
1x COM

SYS-E50-9AP-L

1x M.2 B-Key
1x Half size Mini-PCle
1x HDMI
2x 1GbE LAN
2x USB 3.0
Cost effective

5



Dust Protected.
Limited ingress of dust
permitted. Will not
interfere with operation
of the equipment.
Two to eight hours.

1



Protected against
vertically falling
drops of water.
Limited ingress permitted.

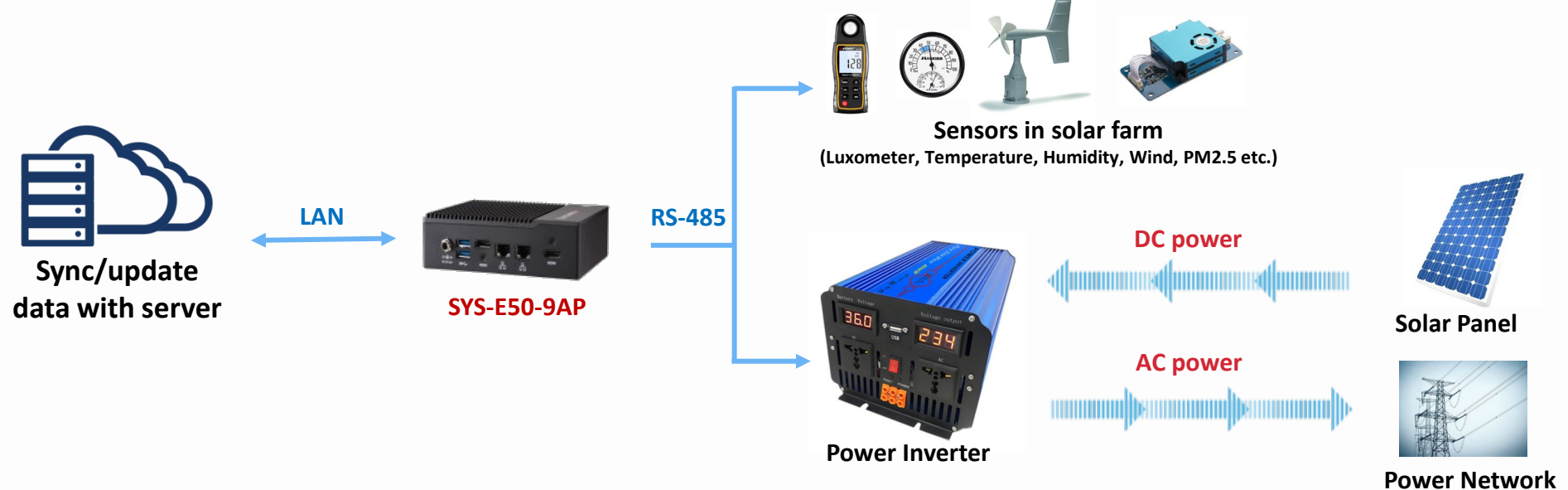
Energy Industry



- **Application:** On-site Gateway for solar farm
- **Requirements:**
 - Fanless design
 - RS-485 for sensor communication
 - Wide operation temperature support
 - Compact size
- **System Solutions: SYS-E50-9AP**
 - Intel Atom x5-E3940
 - Compact size with 2 COM ports supported RS-485
 - Fanless design and support 50 degC operation temperature



SYS-E50-9AP



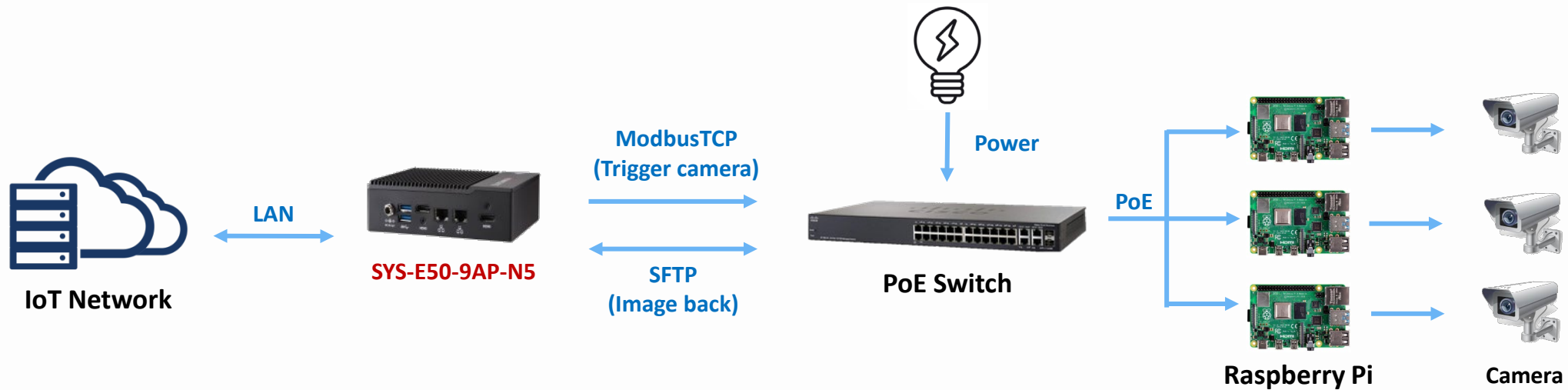
Factory Automation



- **Application:** Gateway for machine vision system
- **Requirements:**
 - Fanless design
 - Multiple LAN for ModbusTCP and SFTP network
 - Compact size design
 - Product longevity support
- **System Solutions: SYS-E50-9AP-N5**
 - Intel Atom x5-E3940
 - Compact size with 5 LAN ports
 - Fanless design



SYS-E50-9AP-N5



Fanless System Feature Highlights



W : 148mm
H : 44mm
D : 118mm

E50



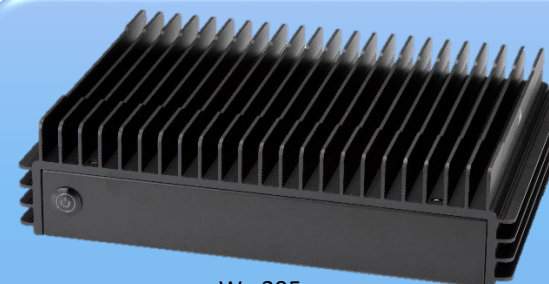
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H : 44mm
D : 151mm

E100



W : 194mm
H : 115mm
D : 126mm

E100-IA



W : 295mm
H : 76mm
D : 206mm

E302

- ✓ Rich I/O
- ✓ Wide CPU range
- ✓ Wide temp.
- ✓ DIN Rail support

- ✓ Passed Operational shock test IEC 60068-2-27 for 30G, half sine, 11ms
- ✓ Passed operational vibration test IEC 60068-2-64 for 5Grms, random, 5-500Hz, 1hr/axis



SYS-E100 SKUs Selection



Confidential

KabyLake / Whiskey Lake-U

Operating temp : 0~50C

SYS-E100-9S

- Intel KabyLake Core i7-7600U, 2C, 15W
- Rich I/O



SYS-E100-9S-E

- Intel KabyLake Core i5-7300U, 2C, 15W
- Rich I/O



SYS-E100-9S-L

- Intel KabyLake Core i3-7100U, 2C, 15W
- Rich I/O



SYS-E100-9W-H

- Intel WhiskeyLake Core i7-8665UE, 4C, 15W
- Rich I/O
- 3x M.2 Slot



SYS-E100-9W-E

- Intel WhiskeyLake Core i5-8365UE, 4C, 15W
- Rich I/O
- 3x M.2 Slot



SYS-E100-9W-L

- Intel WhiskeyLake Core i3-8145UE, 2C, 15W
- Rich I/O
- 3x M.2 Slot



SYS-E100-9W-C

- Intel WhiskeyLake Celeron 4305UE, 2C, 15W
- Rich I/O
- 3x M.2 Slot



SYS-E100-12T-H

- Intel TigerLake, Core i7-1185G7E, 4C8T
- Rich I/O
- 2.5GbE, TSN
- **-30~50C**



SYS-E100-12T-E

- Intel TigerLake, Core i5-1145GRE, 4C8T
- Rich I/O
- 2.5GbE, TSN
- **-30~50C**



SYS-E100-12T-L

- Intel TigerLake i3-1115GRE, 2C4T
- Rich I/O
- 2.5GE, TSN
- **-30~50C**



SYS-E100-12T-C

- Intel TigerLake Celeron 6305E, 2C2T
- Rich I/O
- 2.5GbE, TSN
- **0~50C**



SYS-E100-9AP

- Intel Atom x5-E3940, 4C
- Rich I/O
- Wide temp: -20~60C



SYS-E100-9APP

- Intel Pentium N4200, 4C
- Rich I/O
- 0~40C



ApolloLake

SYS-E100-12T-H/-E/-L/-C



Confidential

Motherboard: X12STN-H/E/L/C-WOHS (Tiger Lake i7/i5/i3/Celeron)

Dimensions: 4" x 5.7" SBC

Fanless Chassis: CSE-E101-03

Dimensions: W: 7.68"(mm) x H: 1.73"(mm) x D: 6.25"(mm)



Intel Tiger Lake-
UP3
Up to 4C/8T &
15W

3 USB 3.1 Gen2
4 USB 2.0
4 COM
DIO via DB9

2 HDMI
2x 2.5Gb Ethernet

1 M.2 M-Key
1 M.2 E-Key
1 M.2 B-Key with
nano SIM holder

12~24V DC in
vPro Support (i5/i7)
TPM 2.0

Key Features

- Intel 11th Gen core i7/i5/i3/Celeron CPU with DDR4 3200MHz SODIMM up to 64GB
- Dual Independent Displays: 1x HDMI 2.0b (4K60Hz), 1x HDMI 1.4b
- 4x USB3.1 Gen 2 support up to 10Gbits transmit speed
- 2x 2.5GbE LAN, 4x USB 2.0, 4x COM, 1x DIO, and 3x M.2 slots (M-Key, E-Key, B-Key)
- 12-24V Wide range DC power input
- Supports Intel vPro (Available on i5/i7 Models)
- -30°C to 50°C Operating Temperature

Applications

- Industrial Automation
- Medical Appliances
- Digital Signage/Surveillance
- Retail, Banking, & Hospitality, Smart City

Processor

Intel 11th Core i7-1185GRE/i5-1145GRE/i3-1115GRE/Celeron 6305E

Memory Capacity

2x SODIMM Slots
DDR4 up to 64GB, 3200MHz In-Band ECC

Expansion Slots

1x B-key 2242/3342/2280 (SATA or PCIe/USB3/USB2 with nanoSIM)
1x E-key 2230 (PCIe/USB2/CNVio)
1x M-key 2242/2280 (PCIe x4)

I/O ports

1x HDMI 2.0b
1x HDMI 1.4b
4x USB 3.1 Gen 2, 4x USB 2.0,
4x COM (2 x RS-232/422/485, 2 x RS-232), 1x DIO via DB9
2x RJ45 2.5GbE LAN

Storage

1x M.2 M-Key w/ NVMe Support
1x M.2 B-Key SATA

Mounting Options

Wall Mount / VESA

Power Supply

12V DC 84W Power Adapter

Operating Temperature

-30°C to 50°C

Redefining IoT computing capability

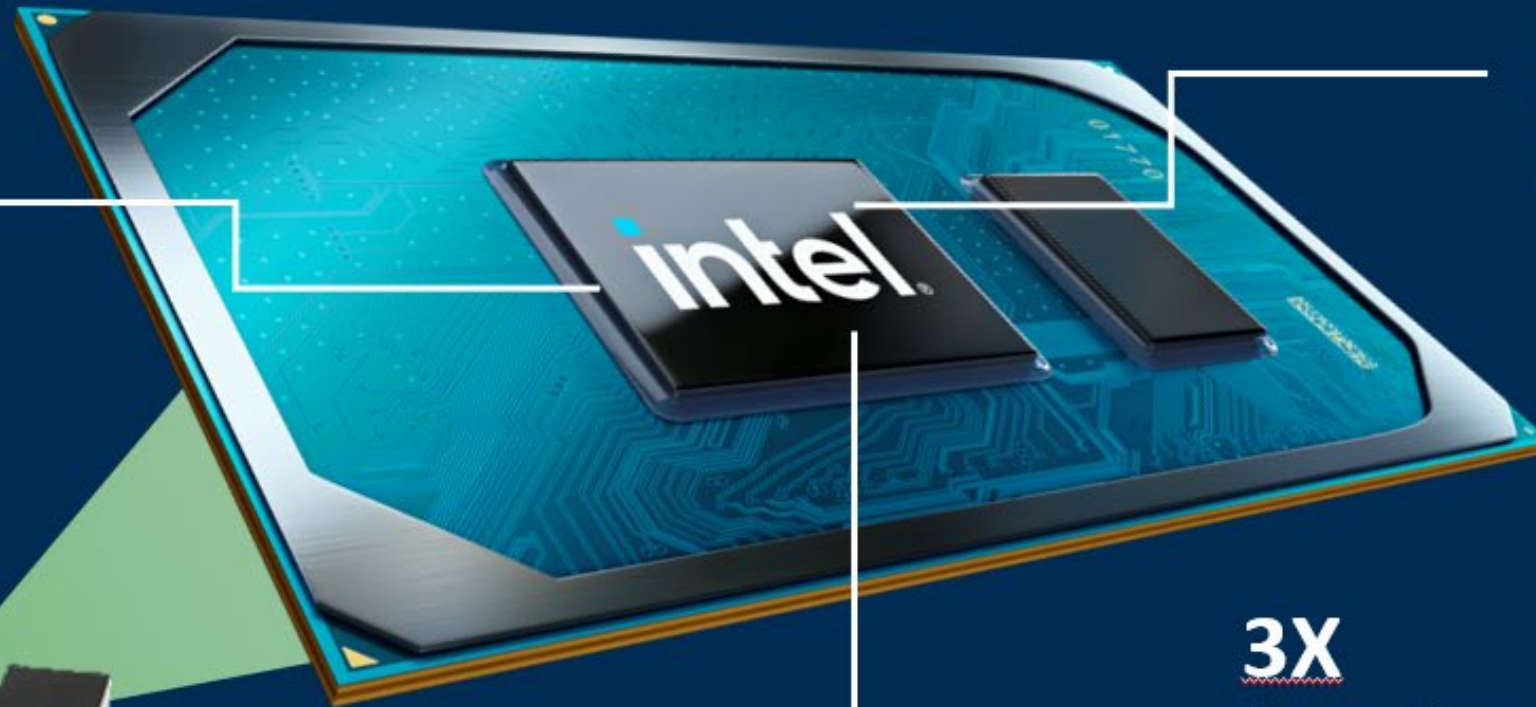
Intel® 11th Gen Intel® Tiger Lake Core™ Processors, 10 nm microarchitecture

5X
better AI
performance

172%
CPU performance
improvement

3X
the graphics
performance with new
Xe graphics architecture

(Tiger Lake vs Whiskey Lake)





SYS-E100-13AD-H/-E/-L/-C

Intel® Alder Lake Fanless Embedded System



Motherboard: X13SAN-H/-E/-L/-C-WOHS (Alder Lake-P U-series i7/i5/i3/Celeron)
Chassis: CSE-E101-03
Dimension: W7.68" x D5.94" x H1.73" (195mm x 151mm x 44mm)



Intel Alder Lake-P
U Series
Up to 10C/12T &
15W

4x USB 3.2 Gen2
4x USB 2.0
4x COM
DIO via DB9

2x HDMI/2xDP
(type-C)
2x 2.5Gb Ethernet

1x M.2 M-Key
1x M.2 E-Key
1x M.2 B-Key with
nano SIM holder

12~24V DC in
vPro Support (i5/i7)
TPM 2.0

Key Features

Intel® Alder Lake-P U core i7/i5/i3/Celeron CPU with DDR5 4800MHz SODIMM up to 64GB
Triple Independent Displays: 1x HDMI 2.0b (4K60Hz), 1x HDMI 1.4b, 2 DP 1.4 (from Type-C)
4x USB 3.1 Gen 2 support up to 10Gbits transmit speed
2x 2.5GbE LAN, 4x USB 2.0, 4x COM, 1x 8-bit GPIO, and 3x M.2 slots (M-Key, E-Key, B-Key)
12-24V Wide range DC power input
Supports Intel vPro (Available on i5/i7 Models)
0°C – 50°C Operating Temperature

Applications

Industrial Automation, Medical Appliances
Digital Signage/Surveillance
Retail, Banking, & Hospitality, Smart City

1	Processor Intel® Alder Lake-P U-series 12th Core i7-1265UE/i5-1245UE/i3-1215UE/Celeron 7305E, 15W
2	Memory Capacity 2x SODIMM Slots DDR5 up to 64GB, 4800MHz In-Band ECC
3	Expansion Slots 1x B-key 2242/3342/2280 (SATA or PCIe/USB3/USB2 with nanoSIM) 1x E-key 2230 (PCIe/USB2/CNVio) 1x M-key 2242/2280 (PCIe x4)
4	I/O ports 1x HDMI 2.0b, 1x HDMI 1.4b, 2x DP 1.4 (from Type-C) 4x USB 3.1 Gen 2, 4x USB 2.0, 4x COM (2 x RS-232/422/485, 2 x RS-232), 1x 8-bit GPIO via DB9 2x RJ45 2.5GbE LAN
5	Storage 1x M.2 M-Key w/ NVMe Support, 1x M.2 B-Key SATA
6	Mounting Options Wall Mount / VESA
7	Power Supply Lockable DC Power Adapter
8	Operating Temperature 0°C - 50°C

Automated Retail



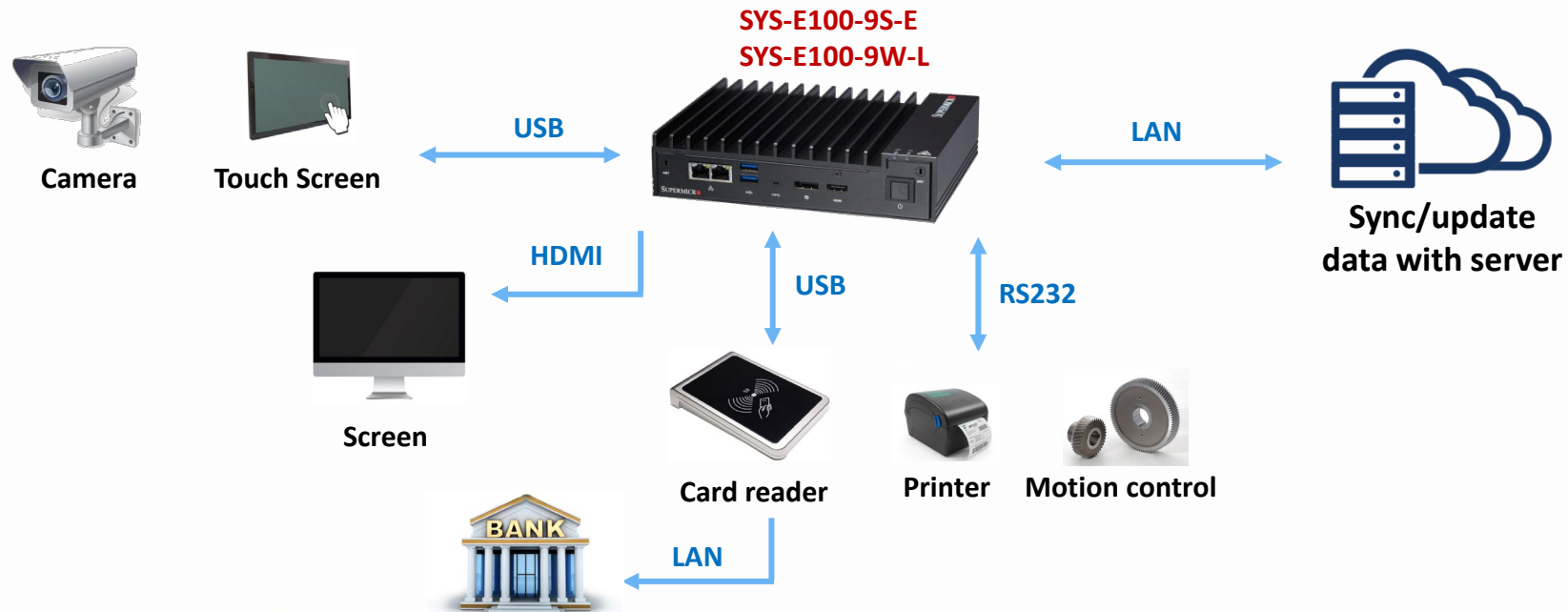
- **Application:** Vending machine and KIOSK
- **Requirements:**
 - Cost effective CPU platform with fanless system
 - Multiple IO to easy deployment
 - Wide-operation temperature support
 - Small size with mounting bracket
- **System Solutions: SYS-E100-9S/SYS-E100-9W-L**
 - Intel Core i5 CPU
 - Compact size design
 - Support table and VESA mounting



SYS-E100-9S-E

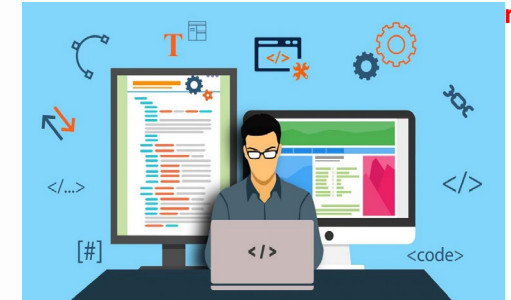


SYS-E100-9W-L



EV charging station solution

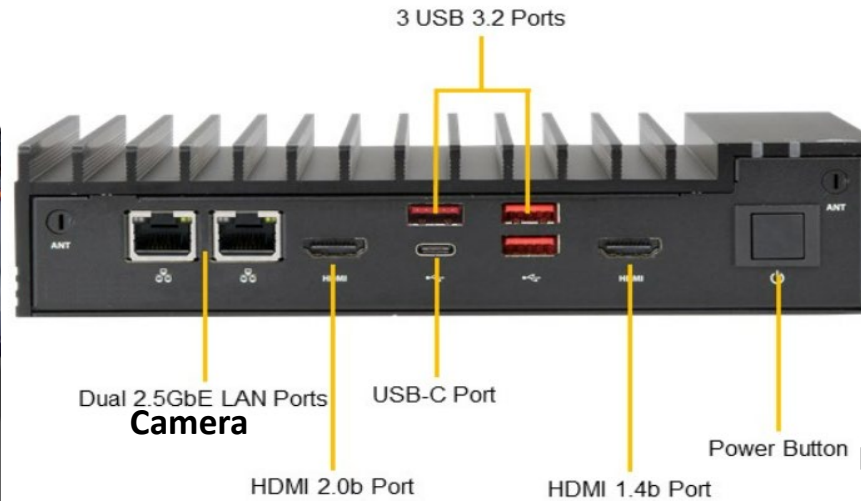
- Charging session authorization
- Collecting billing information
- Discovery and reservation of charging station
- Real time charging session data transfer to management center
- Real time status of charging stations
- Remote charging session control
- Firmware management
- Fault diagnostics



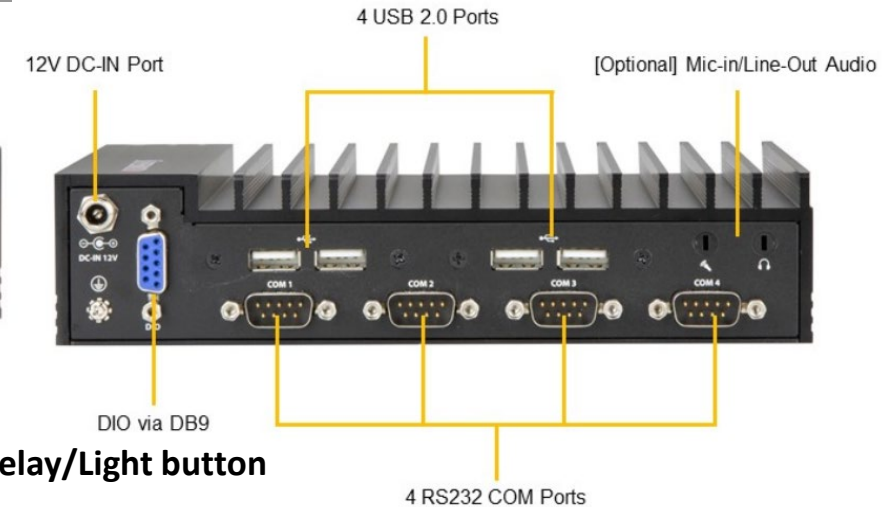
SYS-E100-12T inside



Support wifi/4G/LTE



NFC/RFID reader



Display

RS:232 Charging gun/Charging plug/ /printer/scanner
RS-485: Smart Meter

Fanless System Feature Highlights



W : 148mm
H : 44mm
D : 118mm

E50



W : 195mm
H : 44mm
D : 151mm

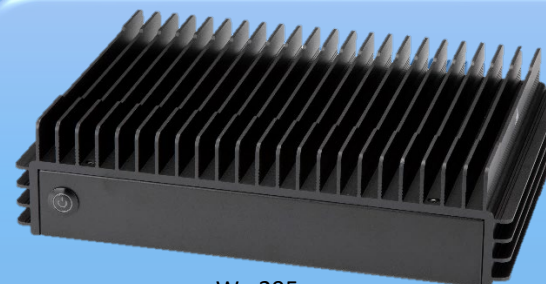
E100

- ✓ Rich I/O
- ✓ Wide CPU range
- ✓ Wide temp.
- ✓ Wide DC input
- ✓ DIN Rail support



W : 194mm
H : 115mm
D : 126mm

✓ E100-IA



W : 295mm
H : 76mm
D : 206mm

E302

- ✓ Passed Operational shock test IEC 60068-2-27 for 30G, half sine, 11ms
- ✓ Passed operational vibration test IEC 60068-2-64 for 5Grms, random, 5-500Hz, 1hr/axis

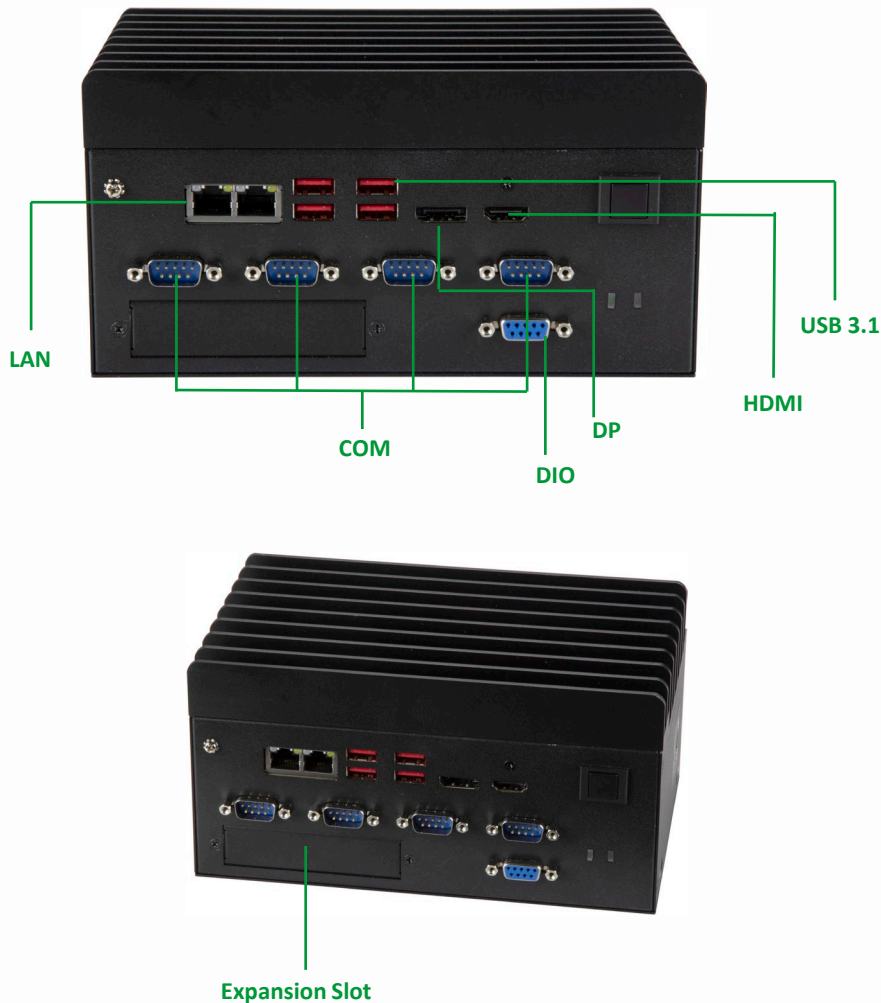


SYS-E100-9W-IA Series

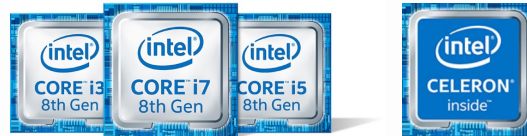


Confidential

Energy efficiency with 4K graphic display capability



- High-end computing power with 8th gen. Core i & Celeron (**Whiskylake**) Processor
- Dual Display by DP++(4K2K@60Hz) & HDMI2.0(4K2K@60Hz)
- 4 USB 3.1 Gen2 ports & 4 USB 2.0
- TPM 2.0 onboard
- M.2 M-Key for NVMe or SATA Storage
- M.2 B-Key with nanoSIM holder
- M.2 E-Key
- 1 2.5" SATA SSD ←
- Wall Mount/VESA Mount/DIN rail mount ←
- 12-24V DC power input ←
- Operating Temp 0°C~50°C

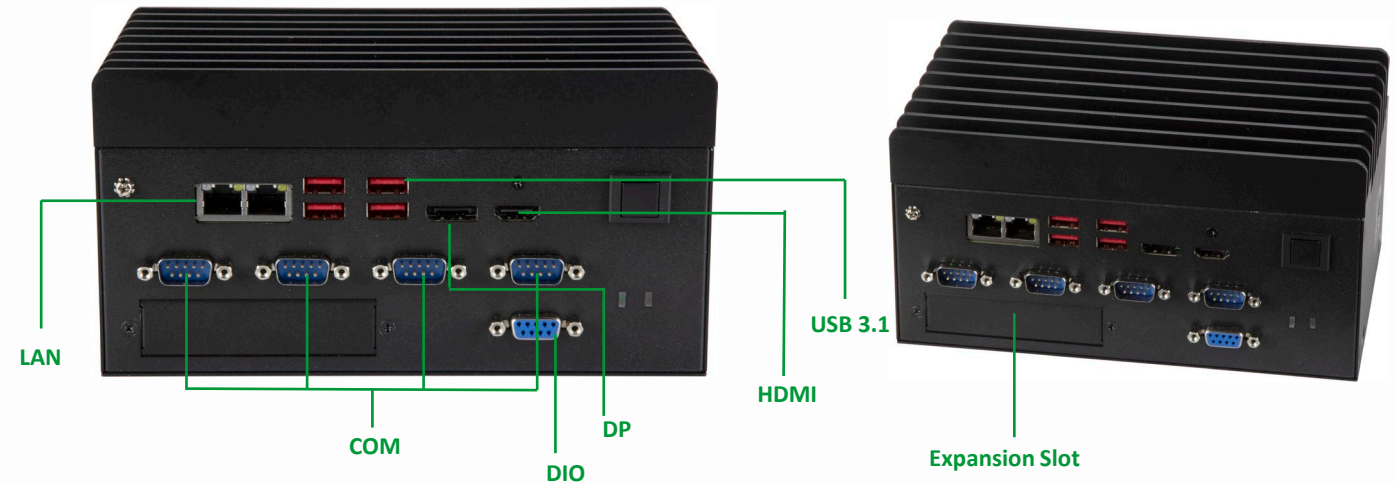


SYS-E100-9AP-IA on DIN Rail

Success story - Automation Industry



SYS-E100-9W-IA-L



Application Requirements

Industrial automation is in use of control systems, such as computers or robots, and information technologies to handle different processes and machineries to replace human being. It is the second step beyond mechanization in the scope of industrialization. Customer use E100-9W-IA to build various intelligent automation machines to be used in automated factory : Laser Cutting Machine, Press Brakes Machine, Shears Machine, Powder Metal Presses Machine, and Additive Manufacturing Machine.

Winning Factors

- Intel® 8th Gen Core™ i3 performance featuring DIN rail support.
- Expansion Slot / Support wide range voltage 12~24V with Phoenix Connector
- Partner relationship with fast fulfillment
- Best Lead time support
- Best Quality and Warranty

Fanless System Feature Highlights



W : 148mm
H : 44mm
D : 118mm

E50



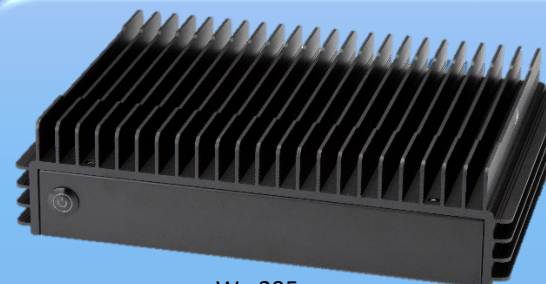
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E100



W : 194mm
H : 115mm
D : 126mm

E100-IA



W : 295mm
H : 76mm
D : 200mm

E302

- ✓ XEON inside
- ✓ PCIe slot
- ✓ IPMI

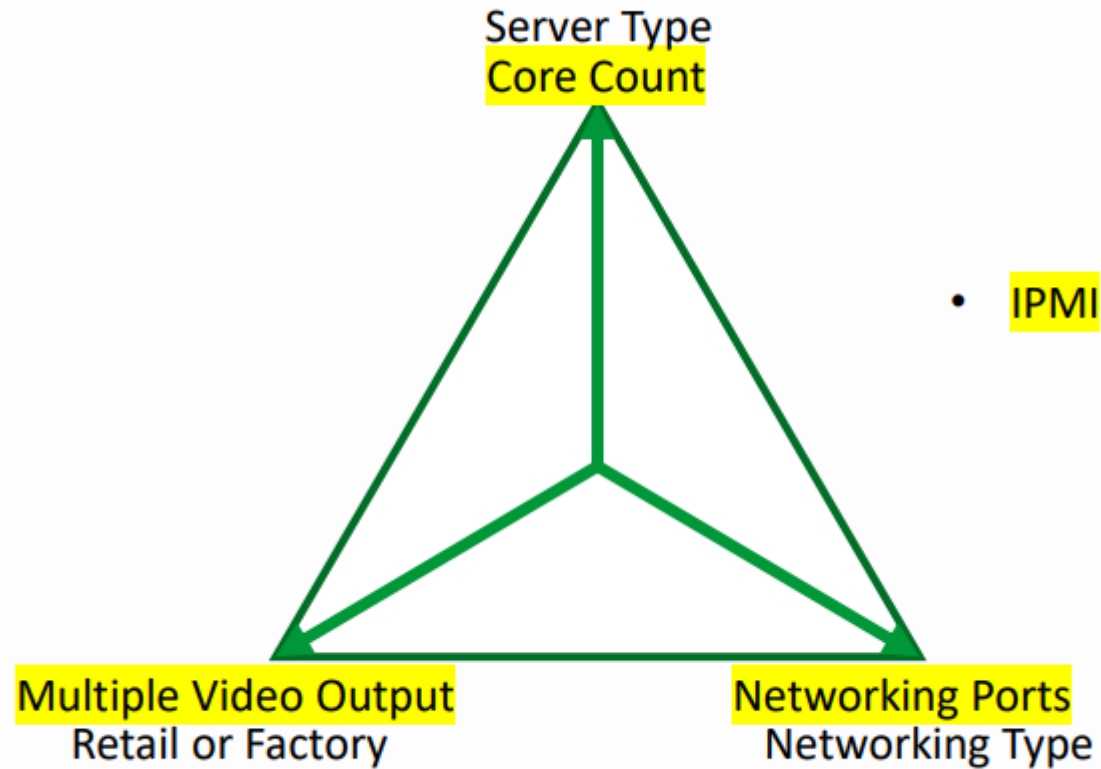
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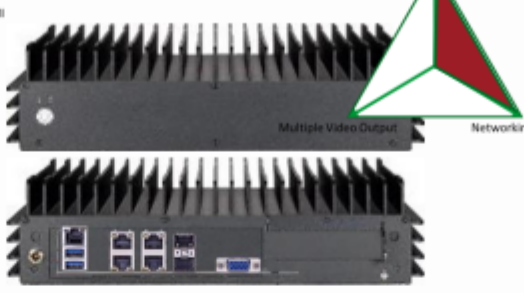
E302 & Compact Systems



Features in Fanless and Box PC



SYS-E302 Fanless Products

	SYS-E302-12D-4C/8C Core Count 	SYS-E302-12A-4C/8CN6P Core Count 	SYS-E302-12E Core Count 
CPU	D-1718T, 4C/8T 2.6/3.5 GHz D-1736NT, 8C/16T 2.7/3.5 GHz	4C: C5315 (4 cores, 2.4GHz, 38W) 8C : C5325 (8 cores, 2.4GHz, 41W)	x6425E 4C/4T 2.0/3.0 GHz, 12W
Memory	DDR4-2933 MHz ECC RDIMM; Up to 256GB	DDR4-2400 (4C) or 2933MHz (8C) ECC RDIMM; Up to 128GB	DDR4-3200MHz ECC/non-ECC SODIMM; Up to 32GB
Storage	1 SATA 2.5" SSD 1 M.2 M-Key (2280) 1 M.2 B-Key (3042/3052/2280, Nano SIM)	1 SATA 2.5" SSD 1 M.2 M-Key (2280)	1 SATA 2.5" SSD 1 M.2 B-Key (3042/2280, Nano SIM)
Networking	4 GbE LAN, 2 SFP28	4 GbE LAN, 2 SFP	4 GbE LAN
USB	2 USB 3.0	2 USB 3.0	2 USB 3.1, 6 USB 2.0
Display	1 VGA	1 VGA	1 VGA, 1 DP (DisplayPort), 1 HDMI
Temp	0°C to 35 /40°C (32°F to 95/104°F)	0°C ~ 40°C (32°F ~ 104°F)	-20°C to 60°C (-4°F to 140°F)
Other	Dedicate IPMI LAN, Onboard TPM 1 M.2 E-Key (2230)	Dedicate IPMI LAN, Onboard TPM, 1x M.2 B-Key (3052)	Onboard TPM, 4 COM ports, 1 M.2 E-Key (2230)

Energy Sector

SYS-E302-9D, SYS-E302-12D



SYS-E50-9AP



- Fanless Design
- Dedicated IPMI Port for remote support
- Multiple Gigabit LAN ports
- Compact Design
- Measure air speed, intensity of light, humidity, Power efficiency,



Energy Storage System (ESS)



Solar Farm



Compact Box systems

**Space-saving systems
for a variety of industrial,
medical, security, SD-WAN,
uCPE, and network Edge
computing needs**

- Ranging from compact systems to configurable high-performance, wall-mountable box PC servers
- Supernova's Embedded SuperServers are application optimized, cost-effective and ideal for space-constrained applications
- Designs supporting a wide range of processors from Intel® Atom® to Intel Xeon® D
- Multiple Form Factors optimized for your IoT or Embedded Application
- Competitive Price/Performance while providing high-reliability, low-power operation



SYS-E102

Entry CPU
Compact w/3.5
Cost effective
KIOSK



SYS-E200

High performance
Compact
w/miniITX
Network device



SYS-E300

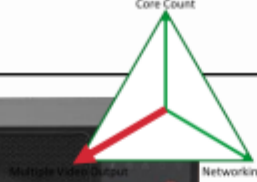
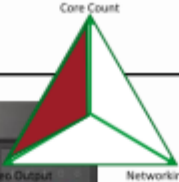
With 1 x LP PCIe
Multi LAN ports
uCPE



SYS-E301

With 1 x LP PCIe
4 x 7mm SSD
Multi LAN ports
Retail/edge comp

SYS-E300 Solution

	SYS-E300-12C 	SYS-E300-13AD 	SYS-E300-12D-4C/8C/10C/16P 
			
CPU	10th Gen. Intel® Core™ i9/i7/i5/i3 Xeon® W-1200	12/13th Gen Intel® Core™ i9/i7/i5/i3 / Pentium® / Celeron®	10C: Intel® Xeon D-1747NTE 10C/20T, QAT 8C: Intel® Xeon D-1736NT 8C/16T, QAT 4C: Intel® Xeon D-1718T 4C/8T
Memory	DDR4-2933MHz ECC/non-ECC SO-DIMM; Up to 64GB	DDR4-3200MHz non-ECC SO-DIMM; Up to 64GB	DDR4 2933MHz 4 slots ECC/non-ECC RDIMM, up to 256GB
Storage	1 M.2 M-Key (2242/2280) 2 SSD	1 M.2 M-Key (2280) 2 SSD	1 M.2 M-Key (2280), 1 M.2 B-Key (2242/2252/2280) 1 SSD or PCIe 4.0x16 slot
Networking	2x GbaseT	1x GbE, 1x 2.5 GbE LANs	4x GbaseT, 2x SFP28
USB	4 USB 3.2	4 USB 3.2	2 USB 3.0
Display	2 HDMI, 1 DP	2 HDMI, 2 DP	1 VGA
Temp	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)
Other	1x PCI-E 3.0 x16, Onboard TPM, M.2 E-Key (2230), MIC, Audio	1x PCI-E 5.0 x16 slot, Onboard TPM, M.2 E-Key (2230), MIC, Audio	M.2 E-Key (2230)

SYS-E300-13AD

Intel® Alder Lake-S Mini-1U Super Server

Motherboard: X13SAV-LVDS (mini-ITX 6.7" x 6.7")
 Embedded Server Box Chassis: CSE-E300
 System WxDxH : 10" x8.9" x1.7" or 254x226x43 mm



Alder Lake-S
Intel Q670E

Up to 64GB
Non-ECC
DDR4 3200
MHz SODIMM

2x HDMI
2x DP
4x USB 3.2

PCIe 5.0 x16
M.2 M and E-
Key
SATA SSD

AMT vPro
Supported

Key features

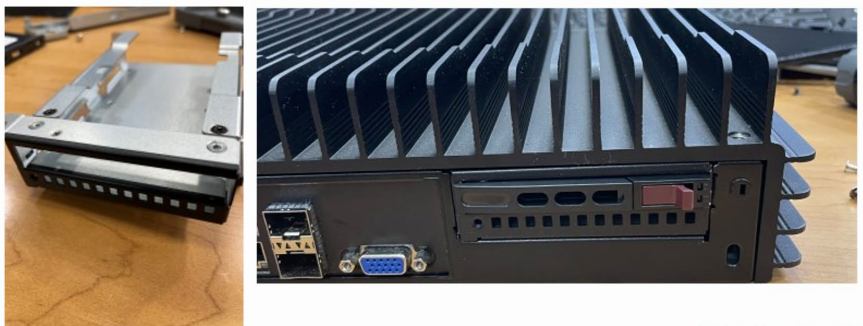
- Intel® 12th Gen Core i9/i7/i5/i3 Processor (LGA 1700) up to 65W
- Up to 64GB Non-ECC DDR4 3200MHz SO-DIMM
- 2x GbE (Intel i225LM, Intel i210-AT)
- 4x USB3.2 Gen2 (Rear),
- 1x M-Key PCIE 4.0 x4 (2280), 1x E-Key PCIE 3.0 x1
- 1x SATA3.0 SSD 2.5" drive, Realtek ALC888S HD Audio

Applications

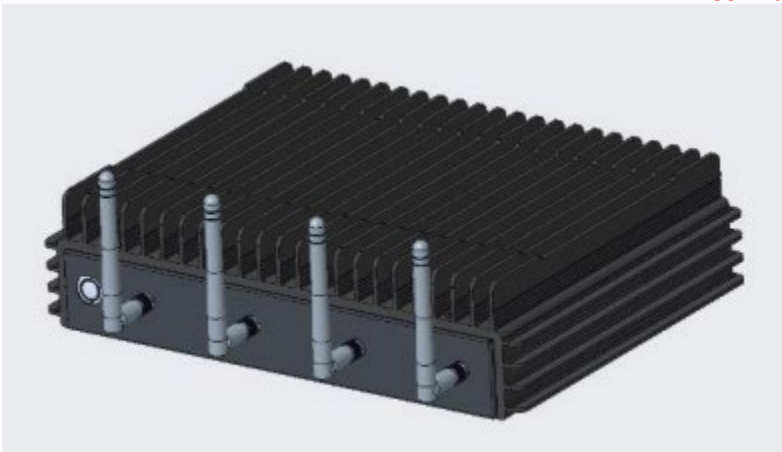
Kiosk, Video Signage, Healthcare, Robotics, Industrial Automation, Retailer

1	Processor Intel® Alder Lake-S with Intel Q670E Intel Core i9, i7, i5, i3, Celeron, Pentium Processor up to 65W
2	Memory Capacity 2 Slots DDR4 3200MHz, up to 64GB Non-ECC DDR4 3200MHz SO-DIMM
3	Expansion Slots 1x M.2 M-Key 2280 (PCIe 3.0 / SATA3.0) 1x M.2 E-Key 2230 1x PCIe 5.0 x16 (Optional kit: PN: RSC-S-68G5 & MCP-240-30002-0N)
4	I/O Ports 2x HDMI2.0 + 2x DP1.4 (Quadruple Independent Display) 2x GbE 4x USB 3.2 ports
5	Drive Bays 1x SATA3.0 SSD 2.5" drive bay
6	Power Supply Power Adapter 180W
7	System Cooling Dual 40x28mm FAN, One Active Heatsink
8	Operating Temperature 0°C - 40°C (32°F - 104°F)

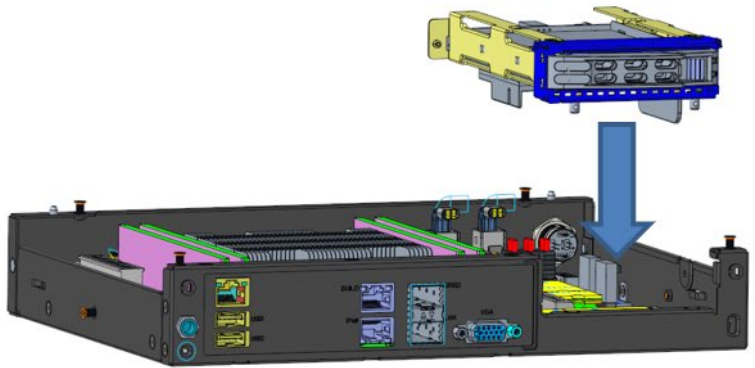
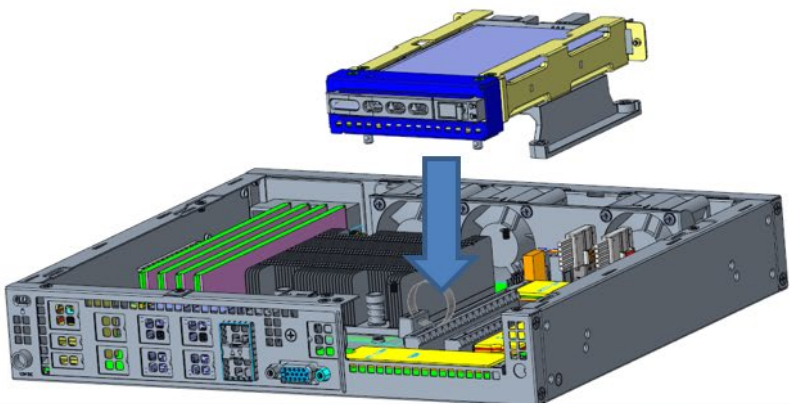
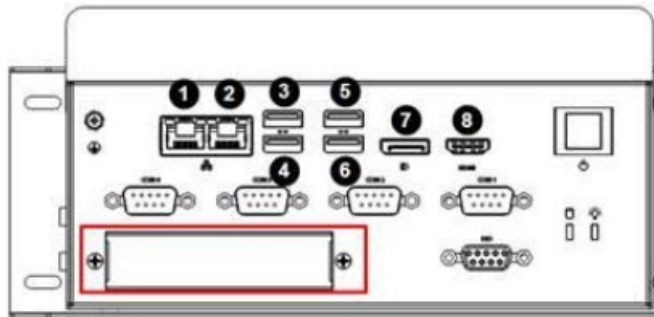
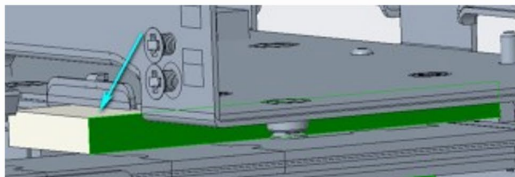
Adopted OEM Solutions



- What to Buy:**
- 1) MCP-220-81504-0N
 - 2) MCP-290-30203-0N



- Benefit:**
- Creating external accessible drive tray
 - Customer can continue use M.2 storage below the tray, with enhance heat dispenser



SYS-E200 Intel® Atom Parker Ridge

	SYS-E200-12A-4/8C
	 The image shows the front of the SYS-E200-12A-4/8C mini PC, which has a black chassis with various ports including USB, Ethernet, and VGA. To the right is a diagram of a triangle representing core count options. The top vertex is labeled 'Core Count'. The bottom-left vertex is labeled '4x Video Output'. The bottom-right vertex is labeled 'Networking Ports'. A red arrow points from the 'Core Count' vertex to the 'Networking Ports' vertex. A small dot labeled '• IPMI' is located to the right of the triangle.
CPU	4C: Intel® Atom C5315 8C: Intel® Atom C5325
Memory	DDR4 2400MHz 2 slots ECC RDIMM, up to 128GB
Storage	1 M.2 M-Key (2280), 1 M.2 B-Key (3052)
Networking	4x GbaseT
USB	2 USB 3.0
Display	1 VGA
Temp	0°C to 40°C (32°F to 104°F)
Other	Dedicate IPMI LAN

NEW SYS-E200-12A-4C/8C



Confidential

Intel® Atom Parker Ridge Mini-1U Box Embedded System

Motherboard: MBD-A3SPI-4C/8C-HLN4F (6.7" x 7.1")

Chassis: CSE-101F

Dimension: W7.6" x D8.9" x H1.7" (193mm x 226mm x 43mm)



Intel® Atom
Parker Ridge
4C/8C up to 41W

4x GbE
1x IPMI

2x USB 3.0
1x VGA

1x M.2 B-Key &
Nano SIM Slot
1x M.2 M-Key

DDR4
2400/2933MHz
ECC RDIMM
Up to 128GB

Key Features

- Intel Atom Parker Ridge SoC 4C/8C up to 41W TDP
- DDR4 2933/2400MHz ECC RDIMM up to 128GB
- 4x GbE, 1x IPMI
- 2x USB 3.0, 1x VGA, TPM 2.0 onboard
- 1x M.2 B-Key with SIM Card Holder, 1x M.2 M-Key

Applications

- Network Appliance, Firewall
- IoT Edge Computing, Retail
- uCPE, SD-WAN

1	Processor Intel® Atom Parker Ridge C5315/C5325 SoC Processor, 4/8 Cores, 38W/41W
2	Memory Capacity 2x SODIMM Slots DDR4 2400/2933MHz ECC RDIMM up to 128GB (4/8 Cores)
3	Expansion Slots 1x M.2 M-Key 2280 (PCIe 3.0) 1x M.2 B-Key 3052 (PCIe 3.0, SATA3, USB 3.0) with SIM Card Holder
4	I/O ports 1x VGA, 2x USB 3.0 4x GbE 1x IPMI
5	Power Supply Lockable 150W AC-DC Power Adapter
6	System Cooling 2x 4028mm 4-PIN PWM FAN

SYS-E102 Box PC

	SYS-E102-9AP-LN4-E/C 	SYS-E102-9W 	SYS-E102-13AD 
CPU	Atom E3930, 2C/2T Atom E3940, 4C/4T	Core™ i7-8665UE, 4C/8T Core™ i5-8365UE, 4C/8T Core™ i3-8145UE, 2C/4T Celeron® 4305UE, 2C/2T	Core™ i7-1265UE, 10C/12T (2P/8E) Core™ i5-1245UE, 10C/12T (2P/8E) Core™ i3-1215UE, 6C/8T (2P/4E) Celeron® 7305E, 5C/5T (1P/4E)
Memory	DDR3L-1866MHz, unbuffered non-ECC SO-DIMM, Up to 8GB	DDR4-2400MHz Unbuffered non-ECC SO-DIMM; Up to 64GB	DDR5 4800MHz 2 slots Non-ECC, SO-DIMM, up to 64GB
Storage	3 M.2 B-Key (2242/3042, Nano SIM) 1 SSD	1 M.2 B-Key (2242/3042/2280, Nano SIM) 1 M.2 M-Key (2242/2280)	1 M.2 B-Key (2242/3042/2280, Nano SIM) 1 M.2 M-Key (2242/2280)
Networking	4x GbaseT	2x GbaseT	2x 2.5GbaseT
USB	4 USB 3.1, 4 USB 2.0	4 USB 3.1	2x USB3.2, 2x USB3.2-C
Display	1 HDMI	1 HDMI and 1 Display Port	2 HDMI, 2 DP (USB-C)
Temp	0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F ~ 122°F)	0°C to 50°C (32°F to 122°F)
Other	M.2 E-Key (2230), 1 COM ports	Onboard TPM, 1 M.2 E-Key (2230), 4 COM ports (option)	Onboard TPM, 1 M.2 B-Key (3052), 1 M.2 E-Key (2230), 4 COM ports, DIO

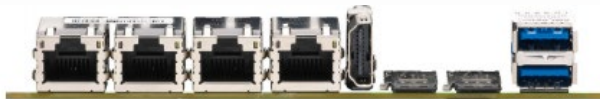
SYS-E102-9AP-LN4-E/-C

Intel® Apollo Lake Embedded System

Motherboard: A2SAN-LN4-E / A2SAN-LN4-C

Chassis: CSE-E102TF

Dimension: W7.48" x D4.72" x H1.72" (190mm x 120mm x 44mm)



Intel Apollo Lake
E3940 9.5W TDP
J3455 10W TDP
4C / 4T / 2MB

Up to 8GB DDR3L
1866MHz
SODIMM

4x GbE LAN Ports
2x USB 3.2 Gen1
1x HDMI
1x COM Port

x3 M.2 B-Key
(USB) with Nano
SIM Slot
1x M.2 E-Key

One 2.5 7mm
SSD

Key Features

- Intel Apollo Lake E3940/J3455 4C/4T Processor with up to 8GB DDR3L 1866MHz SODIMM
- 4x Gigabit LAN Ports (-E: Intel I210-IT, -C: Intel I211-AT)
- 2x USB 3.2 Ports Gen1, 1x HDMI Port, 1x COM Port
- 3x M.2 B-Key (USB) 2242/3042 with 3x Nano SIM Slot, 1x M.2 E-Key 2230
- 1x 2.5" 7mm Storage Drive, Intel HD Graphics
- 0°C-40°C Operating Temperature

Applications

- Network Security Appliance
- SD-WAN, IoT Gateway
- Embedded Networking Applications

1	Processor Intel® Apollo Lake Atom® Processor E3940, Celeron® Processor J3455
2	Memory Capacity 1x SODIMM Slots Up to 8GB DDR3L 1866MHz non-ECC SODIMM
3	Expansion Slots 3x M.2 B-Key 2242/3042 with 3x Nano SIM Slot 1x M.2 E-Key 2230
4	I/O ports 1x HDMI, 2x USB 3.2 Gen1 4x GbE LAN (-E: Intel I210-IT, -C: Intel I211-AT) 1x COM Port
5	Storage 1x M.2 B-Key 2242 SATA 1x 2.5 7mm SSD/HDD
6	Mounting Options Wall Mount
7	Power Supply Lockable 60W 12V DC Power Adapter
8	Operating Temperature 0°C - 40°C



Spiderweb Program





brīghter AI



avassa



Hailo-8™ Highlights

The World's Most Powerful and Efficient Edge AI Processor



High Performance

26 TOPS

Efficient AI architecture



Comprehensive SW Tools

Mature dataflow compiler

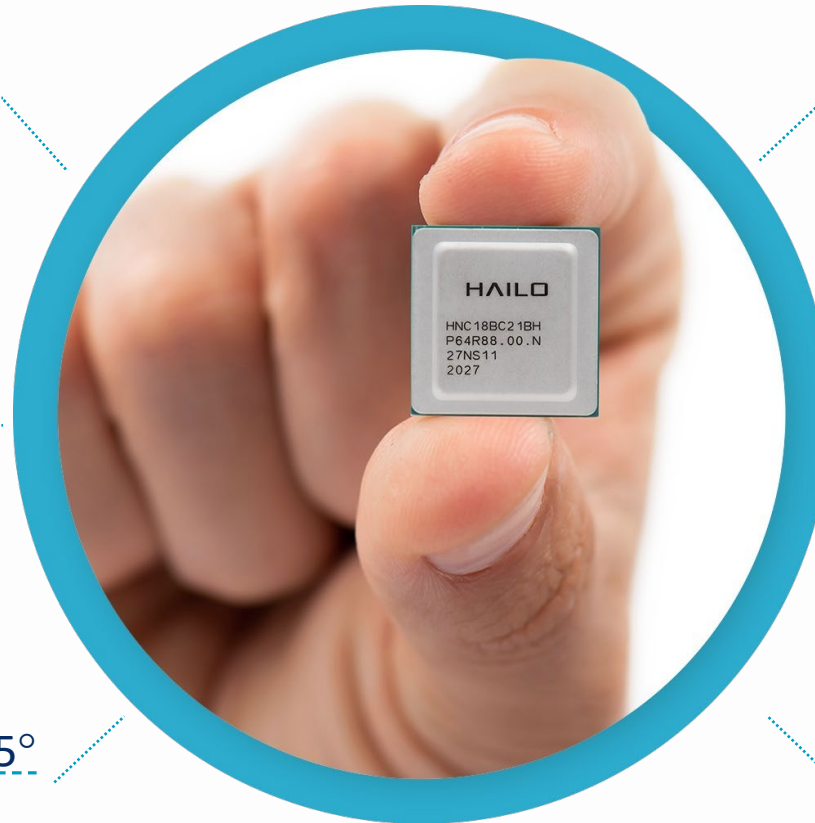
Efficient RT library



Industrial & Automotive Grades

Industrial: -40° up to 85°

Automotive: -40° up to 105°



Power Efficiency

Typical Power

Consumption: 2.5W



Single Chip Solution

No External DRAM

required



Scalable & Flexible

Multi-streams

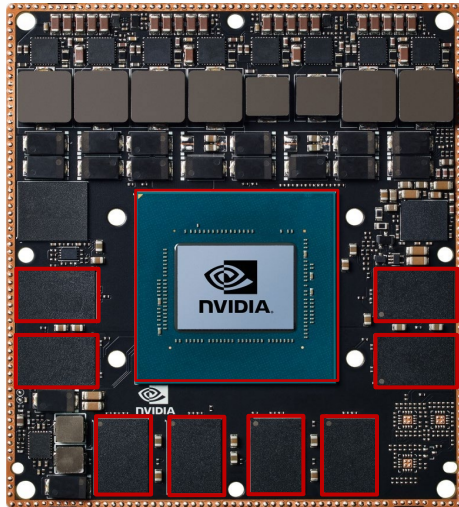
Multi-model

Multi-chip



Amazing AI Performance

NVIDIA AGX Xavier



General Purpose GPU
+ External Memory

Hailo-8™



Dedicated AI Chip
No External Memory

ResNet-50 Benchmark

Device	Total Power [Watt]	Total Power Efficiency [TOPS/W]
Hailo-8™	1.7	2.8
Nvidia Xavier AGX	32	0.14

Conditions:

- TOPS (8-bit): Xavier 32 TOPS, Hailo-8 26 TOPS
- 224x224 image resolution feed @ 656 FPS
- 8-bit precision
- Batch size = 1



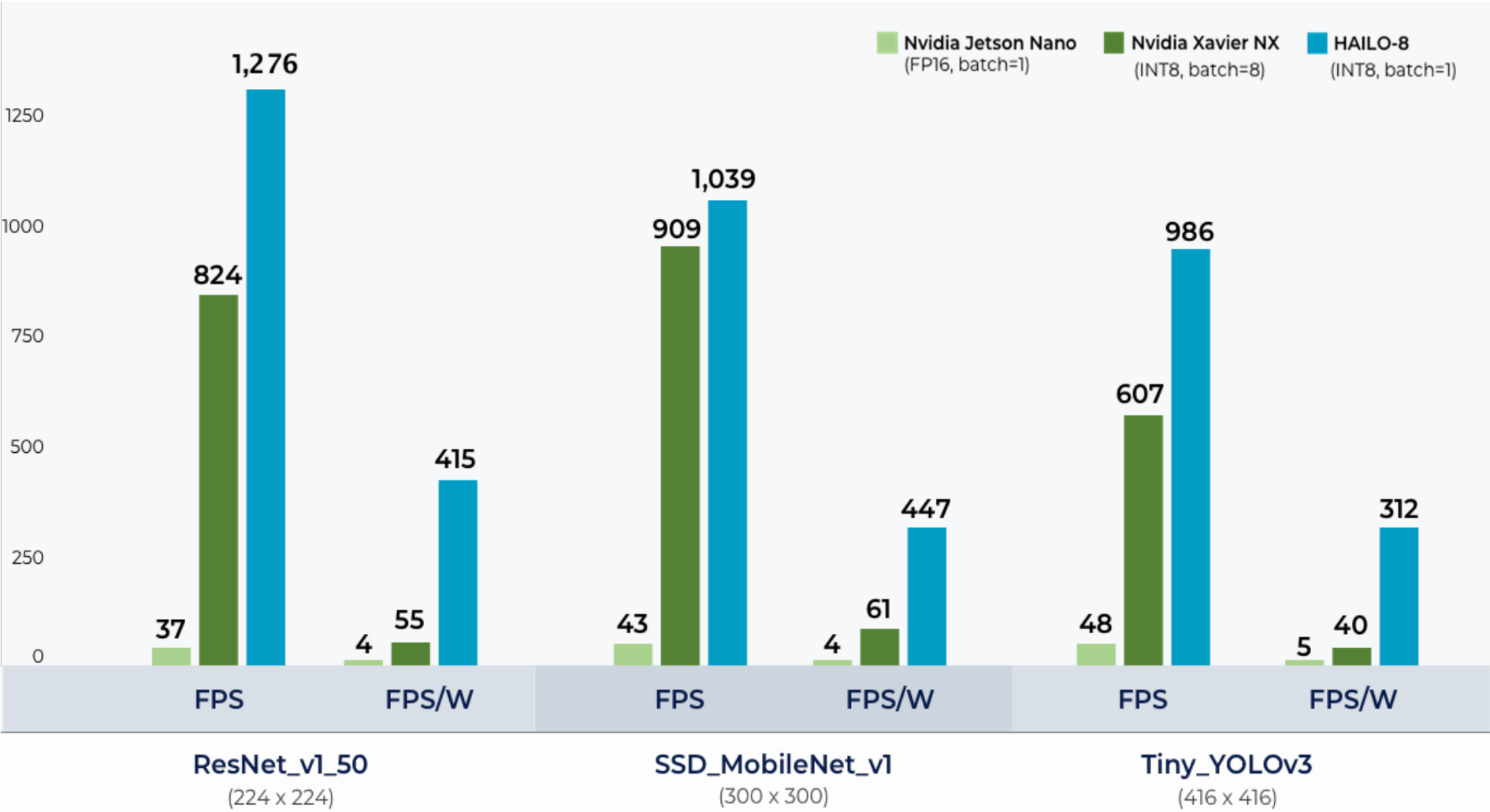
X15 Better
Area Efficiency



X20 Better
Power Efficiency

Unprecedented Performance at the Edge

x8 the power efficiency of Nvidia's best edge device





About

Industrial IoT Edge Solutions - Operation Efficiency and Control

IOTech builds and deploys vendor-neutral software platforms and tools to support the rapid development, deployment and management of applications at the IoT edge helping drive IoT innovation, global market adoption, velocity and scale.



Edge Xpert®



Edge Xrt®



Edge Builder®



Better and Smarter Together

Using IOTech IIoT edge software and Super Micro's E50-9AP and E302-9D hardware, together we provide a simplified environment for collecting, processing and integrating data from multiple different devices at the edge. Running on edge gateways or servers, the platforms can onboard and acquire data from the different sensors and edge devices. The data is normalized and aggregated, and made available for edge decision making, analytics and control.



Popular Solution Applications

Edge IOT Solutions for:

- Manufacturing
- Oil and Gas/Energy
- Smart City
- Building Automation
- Retail

Why Supermicro Embedded Solutions

- Robust system design with high grade components
- IPMI function on Edge devices
- Good selection of devices from Atom to Xeon core performance
- Validated component parts for system solution
- Local EU support

What we can offer – Embedded Team

- Customer product training
 - In-depth product training for Embedded Solutions
- OEM designs
 - Dedicated Solutions manager
- Project/Product support

OEM Services from Supermicro



* Supermicro Building Blocks / MOQ and NRE involved

* Fan-less system , Compact box, 1U short depth, Mini-Tower : 800~1000 per year / 3 years long

IoT Embedded and Edge Computing

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