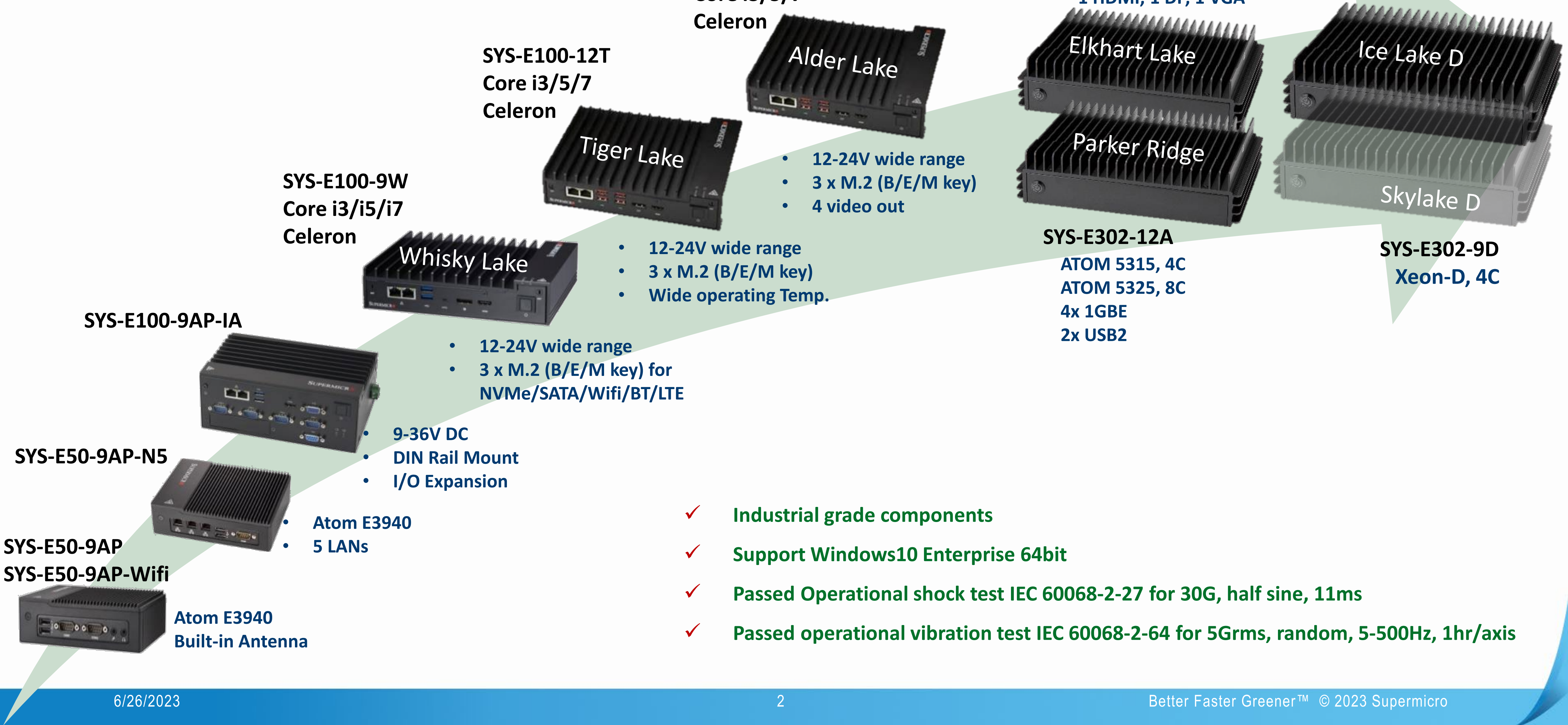
Fanless Systems and Compact Boxes

Joshua Ayeni (Senior Solution Manager)

Konstantin Gilevych (BDM)

Fanless Product Family

Confidential



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

Atom E3940
Built-in Antenna

SYS-E50-9AP-N5

- Atom E3940
- 5 LANs

SYS-E100-9AP-IA

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

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

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

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

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

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

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

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

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

Confidential

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

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

E50

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

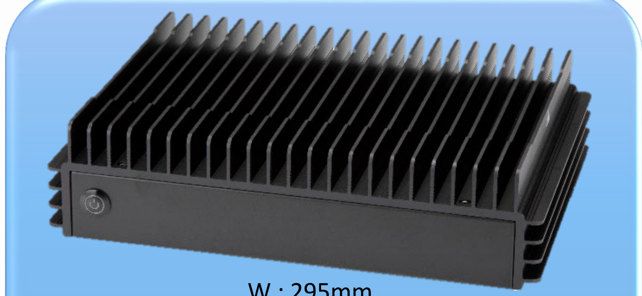
E100

- ✓ 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

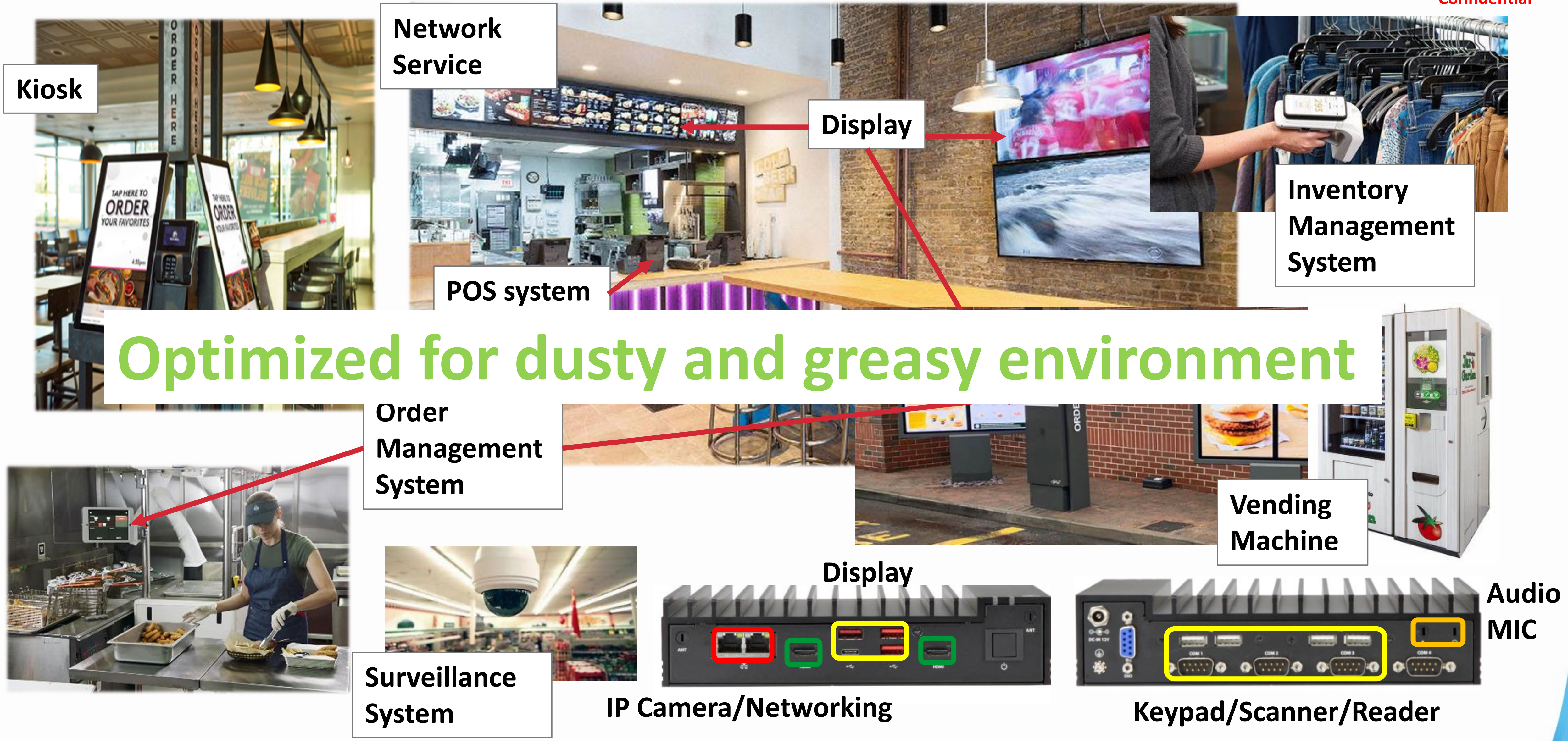
Fanless Solution
Atom to Mobil Core i7

SYS-E302 series

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

How Fanless Products Fit Into Retail and Restaurant Markets

Confidential



Kiosk

Network Service

Display

Inventory Management System

POS system

Optimized for dusty and greasy environment

Order Management System

Vending Machine

Surveillance System

Display

IP Camera/Networking

Audio MIC

Keypad/Scanner/Reader

Fanless System Feature Highlights

Confidential

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- ✓ IP51
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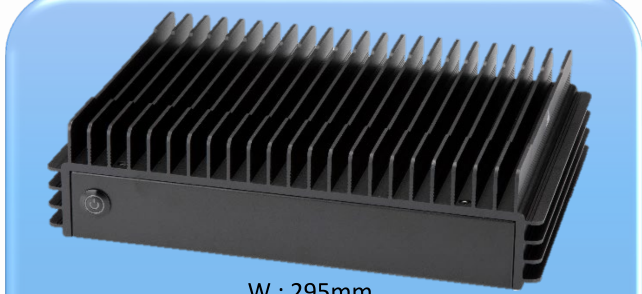
E100-IA



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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

SYS-E50-9AP

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

-20 to 50°C

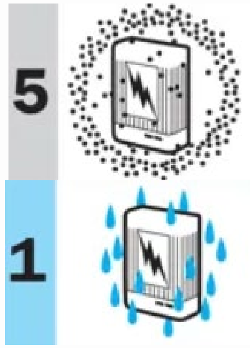
SYS-E50-9AP-N5

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

-20 to 50°C

SYS-E50-9AP-L

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



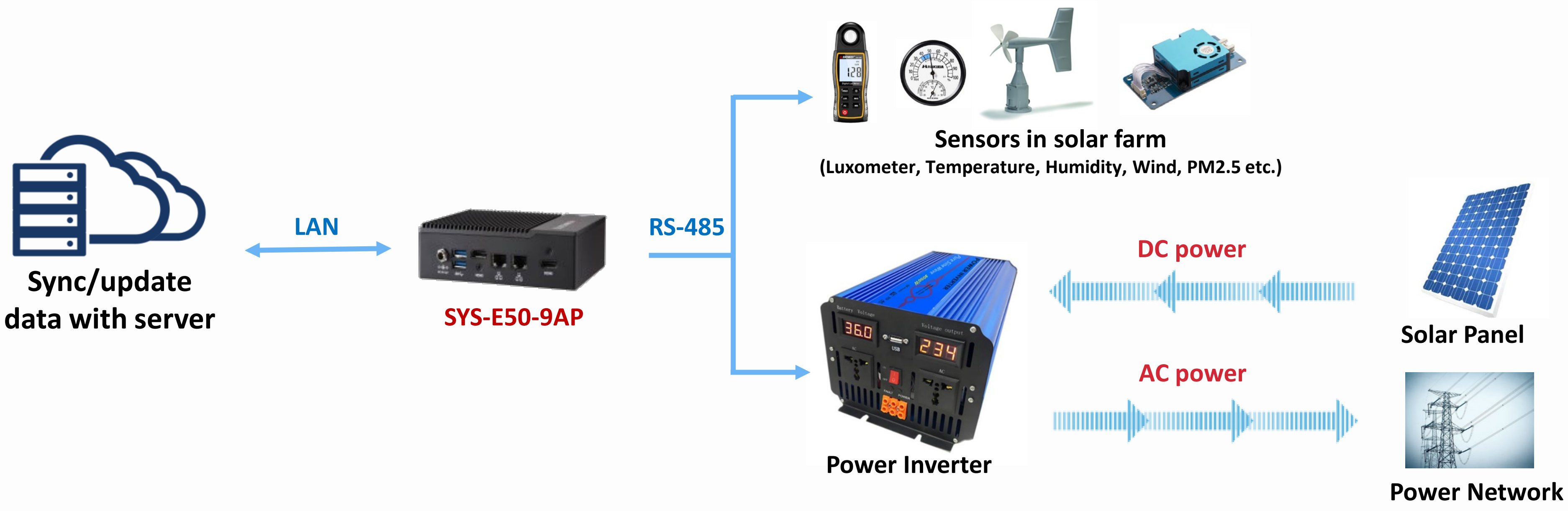
Dust Protected. Limited ingress of dust permitted. Will not interfere with operation of the equipment. Two to eight hours.

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



Sync/update data with server

LAN

SYS-E50-9AP

RS-485

Sensors in solar farm

(Luxometer, Temperature, Humidity, Wind, PM2.5 etc.)

Power Inverter

DC power

AC power

Solar Panel

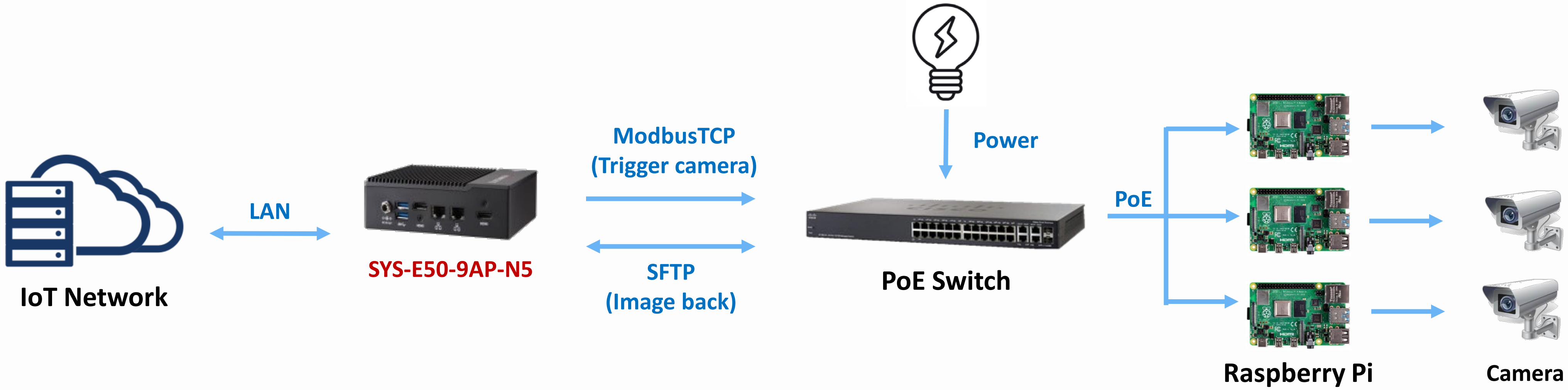
Power Network

Factory Automation

Confidential

- **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



IoT Network

LAN

SYS-E50-9AP-N5

ModbusTCP
(Trigger camera)

SFTP
(Image back)

Power

PoE Switch

PoE

Raspberry Pi

Camera

Fanless System Feature Highlights

Confidential

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

E50

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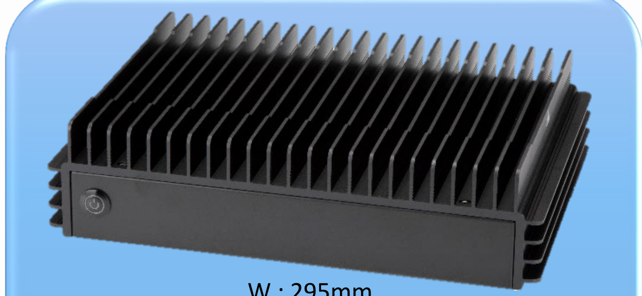
D : 151mm

E100

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

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

E100-IA



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

SYS-E100-9W-E

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

SYS-E100-9W-L

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

SYS-E100-9W-C

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

TigerLake

Operating temp : -30~50C

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**

ApolloLake

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

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

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˚Cto 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
X^e graphics architecture

(Tiger Lake vs Whiskey Lake)

NEW

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

Intel® Alder Lake Fanless Embedded System

Confidential

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

❶ **Processor**

Intel® Alder Lake-P U-series 12th Core i7-1265UE/i5-1245UE/i3-1215UE/Celeron 7305E, 15W

❷ **Memory Capacity**

2x SODIMM Slots
DDR5 up to 64GB, 4800MHz In-Band ECC

❸ **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)

❹ **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

❺ **Storage**

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

❻ **Mounting Options**

Wall Mount / VESA

❼ **Power Supply**

Lockable DC Power Adapter

❽ **Operating Temperature**

0°C - 50°C

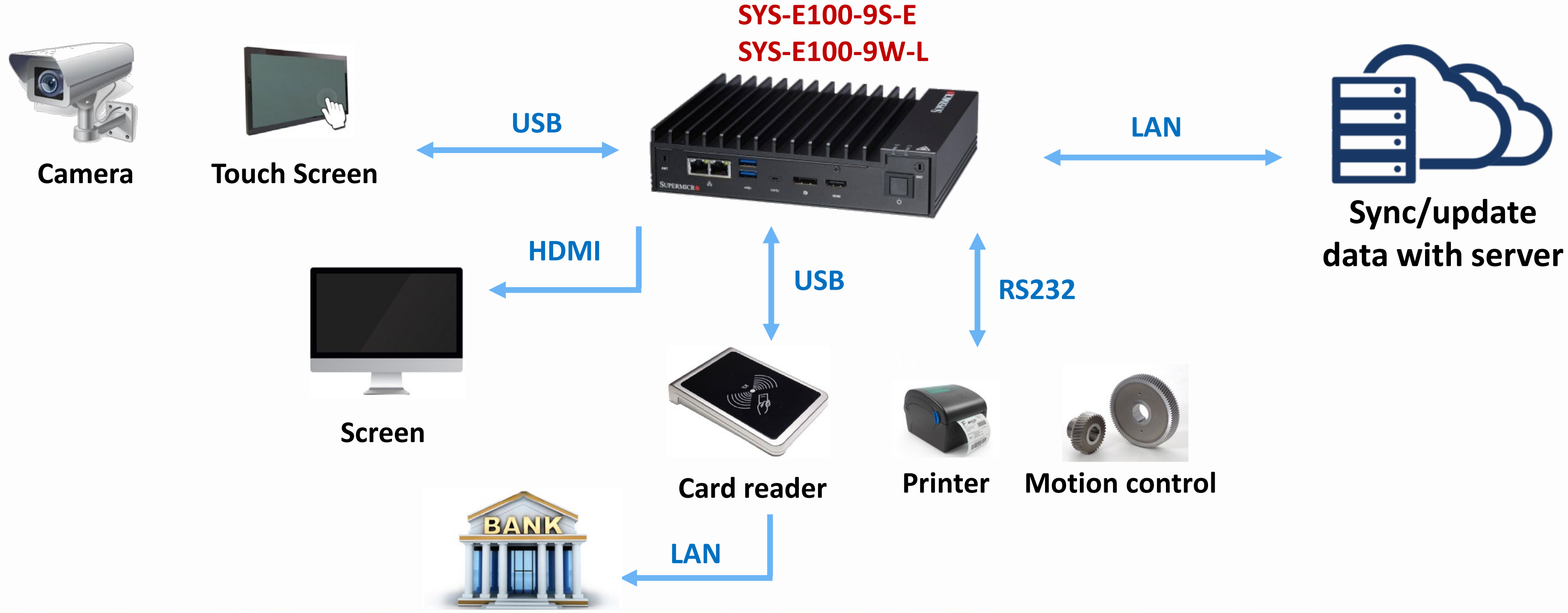
Automated Retail

Confidential

- **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


SYS-E100-9S-E
SYS-E100-9W-L

Camera
Touch Screen
USB

LAN
Sync/update data with server

HDMI
Screen

USB
Card reader

RS232
Printer
Motion control

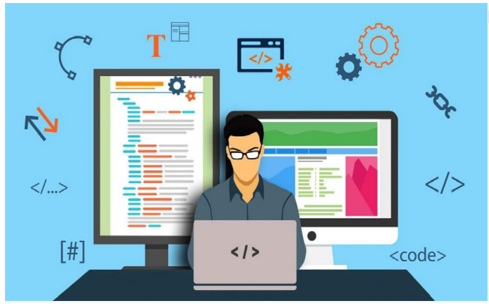
LAN

EV charging station solution

nfidential

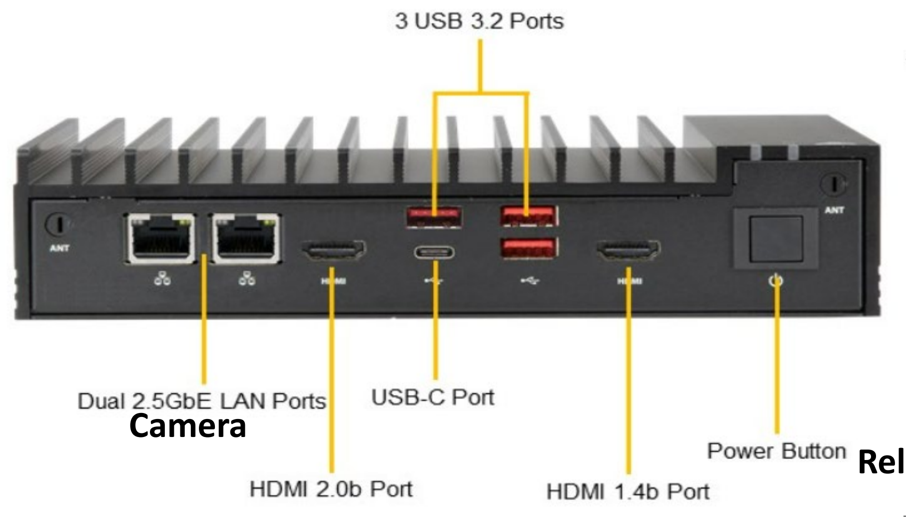
- Charging session authorization
- Collecting billing information
- Discovery and reservation of charging station

- 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

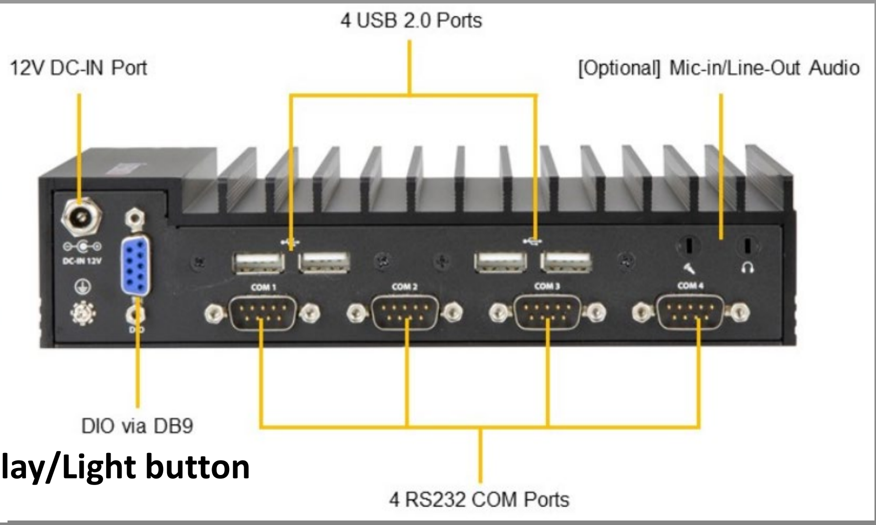
Support wifi/4G/LTE



Camera

Display

NFC/RFID reader



Relay/Light button

RS:232 Charging gun/Charging plug/ /printer/scanner

RS-485: Smart Meter

Fanless System Feature Highlights

Confidential

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

E50

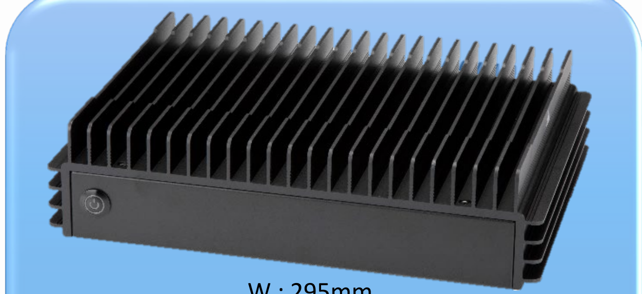
W : 195mm
H : 44mm
D : 151mm

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
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D : 206mm

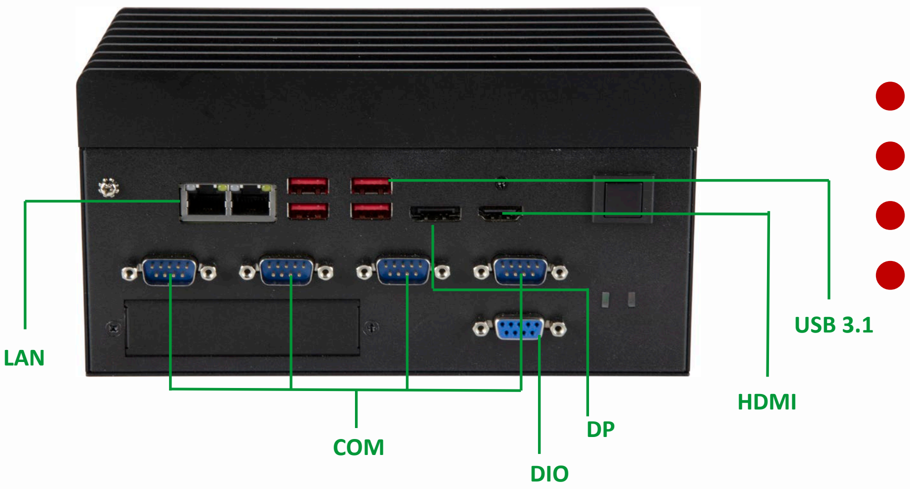
E302

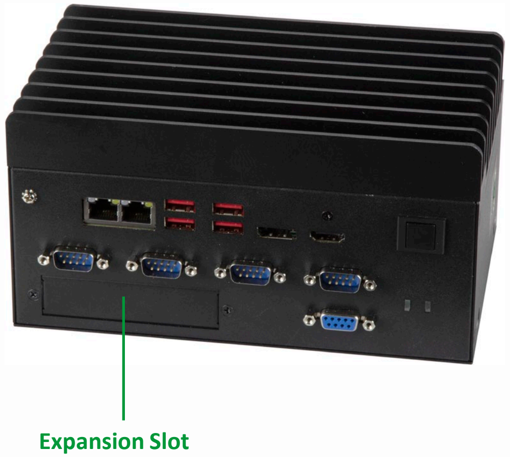
- ✓ **Passed Operational shock test IEC 60068-2-27 for 30G, half sine, 11ms**
- ✓ **Passed operational vibration test IEC 60068-2-64 for 5Grms, random, 5-500Hz, 1hr/axis**

SYS-E100-9W-IA Series

Confidential

Energy efficiency with 4K graphic display capability





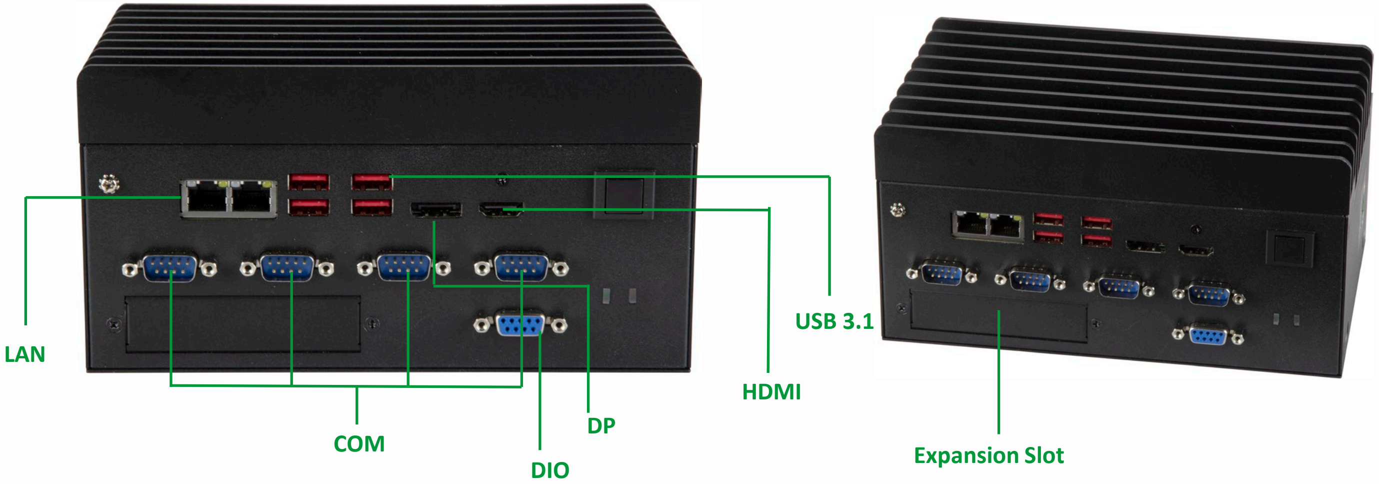
- High-end computing power with 8th gen. Core i & Celeron **(Whiskylake)** Processor
- Dual Display by DP++*(4K2K@60Hz)* & HDMI2.0(4K2K@60Hz)
- 4 USB 3.1 Gen2 ports & 4 USB 2.0
- TPM 2.0 onboard
- M.2 M-Key for NVMe or SATA Storage
M.2 B-Key with nanoSIM holder
M.2 E-Key
1 2.5” SATA SSD
- Wall Mount/VESA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

intel CORE i3 8th Gen
intel CORE i7 8th Gen
intel CORE i5 8th Gen
intel CELERON inside

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

Confidential

W : 148mm
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E50

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E100

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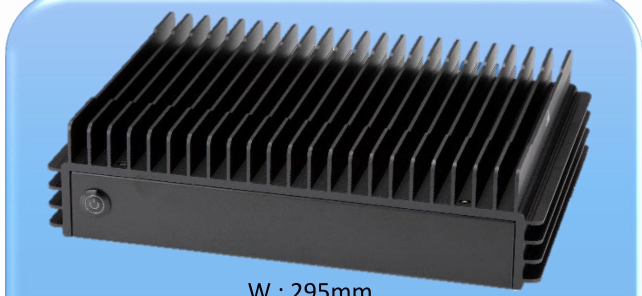
E100-IA



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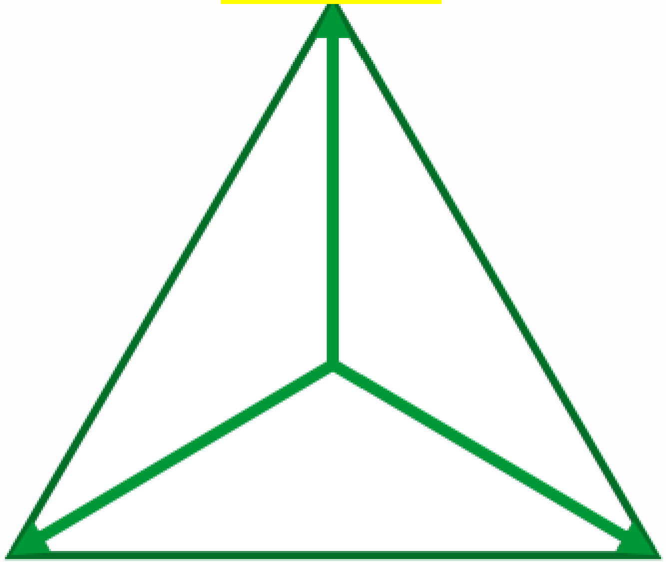
E302

- ✓ 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**

E302 & Compact Systems

Features in Fanless and Box PC



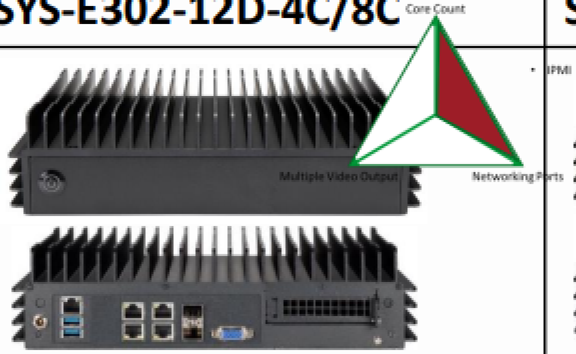
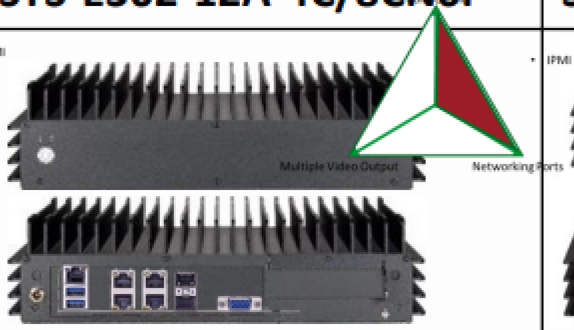
Server Type
Core Count

Multiple Video Output
Retail or Factory

Networking Ports
Networking Type

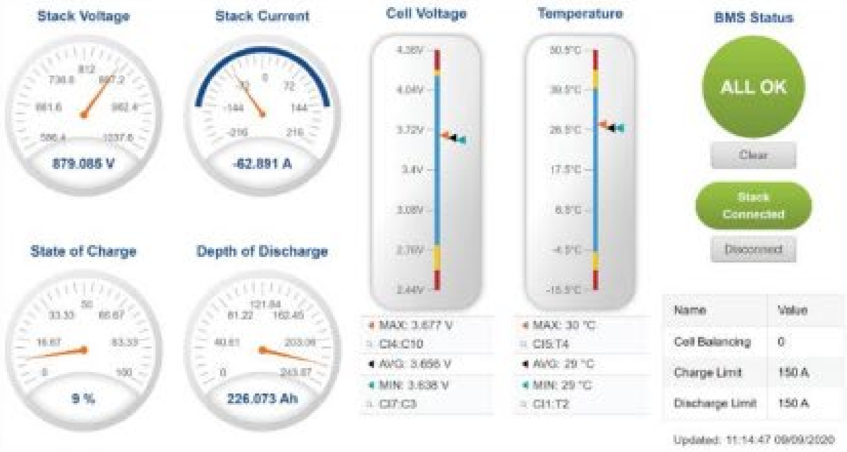
- IPMI

SYS-E302 Fanless Products

	SYS-E302-12D-4C/8C	SYS-E302-12A-4C/8CN6P	SYS-E302-12E
			
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



MAX: 3.677 V
CI4:C10
AVG: 3.656 V
MIN: 3.638 V
CI7:C3

MAX: 30 °C
CI5:T4
AVG: 29 °C
MIN: 29 °C
CI1:T2

Name	Value
Cell Balancing	0
Charge Limit	150 A
Discharge Limit	150 A

Updated: 11:14:47 09/09/2020

SYS-E50-9AP

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


Wind Turbine


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
- Supermicro'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

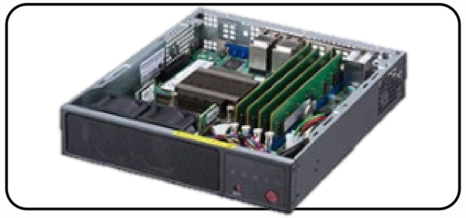
SYS-E102

Entry CPU

Compact w/3.5

Cost effective

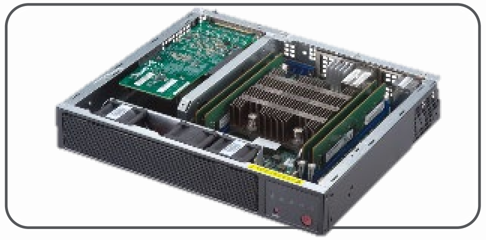
KIOSK



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

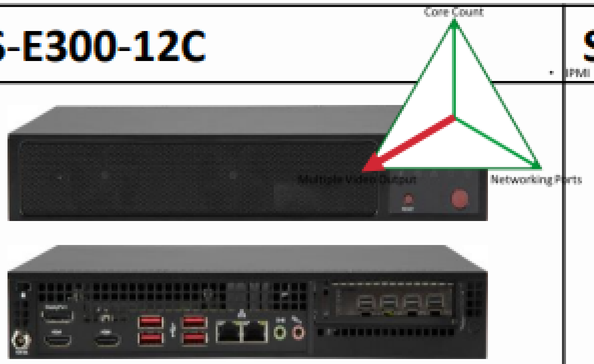
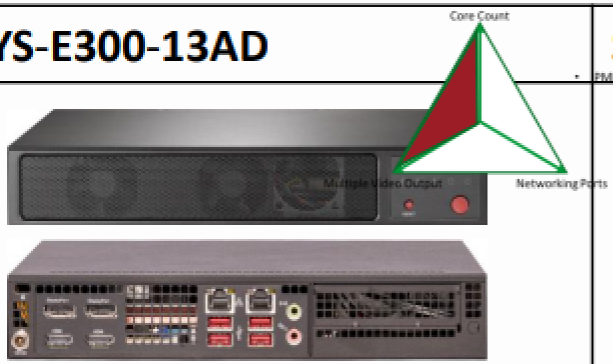
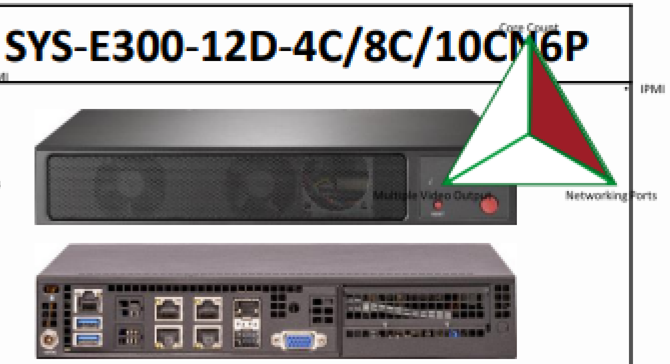
4 x 7mm SSD

Multi LAN ports

Retail/edge comp

SYS-E300 Solution

Confidential

	SYS-E300-12C	SYS-E300-13AD	SYS-E300-12D-4C/8C/10CN6P
			
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

❶ **Processor**
Intel® Alder Lake-S with Intel Q670E
Intel Core i9, i7, i5, i3, Celeron, Pentium Processor up to 65W

❷ **Memory Capacity**
2 Slots DDR4 3200MHz, up to 64GB Non-ECC DDR4 3200MHz SO-DIMM

❸ **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)

❹ **I/O Ports**
2x HDMI2.0 + 2x DP1.4 (Quadruple Independent Display)
2x GbE
4x USB 3.2 ports

❺ **Drive Bays**
1x SATA3.0 SSD 2.5" drive bay

❻ **Power Supply**
Power Adapter 180W

❼ **System Cooling**
Dual 40x28mm FAN, One Active Heatsink

❽ **Operating Temperature**
0°C - 40°C (32°F - 104°F)

Adopted OEM Solutions

Confidential

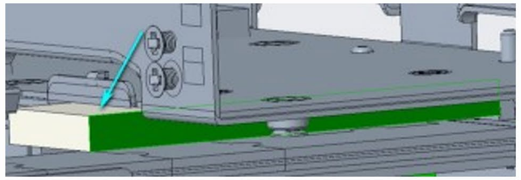
What to Buy:

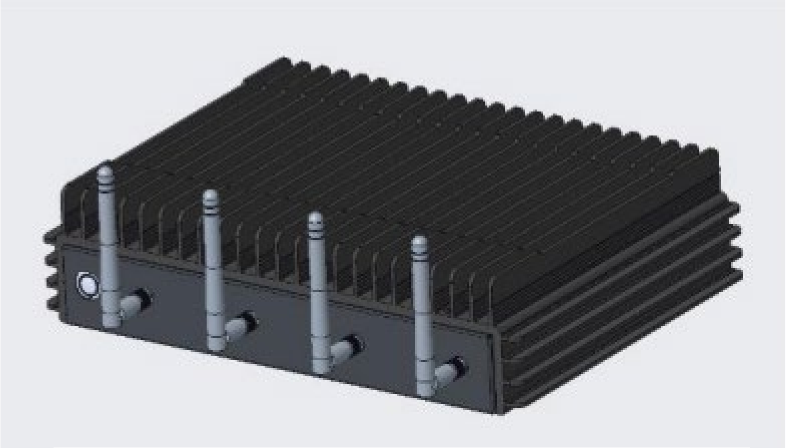
1) MCP-220-81504-0N
2) MCP-290-30203-0N

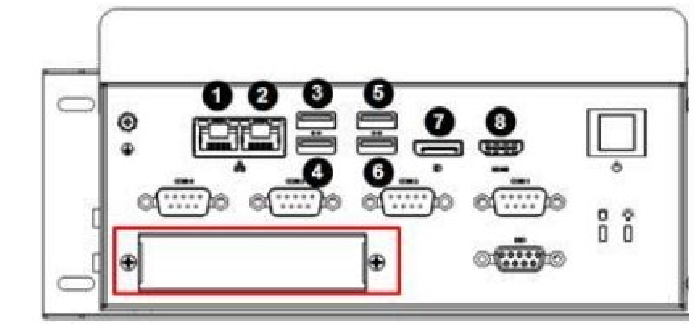
Confidential

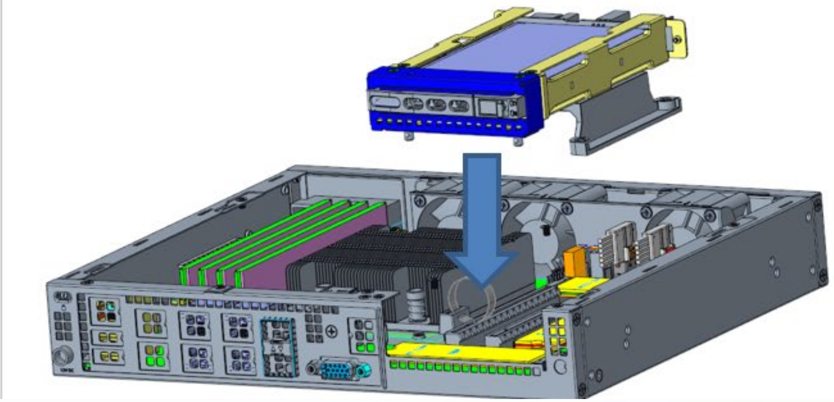
Benefit:

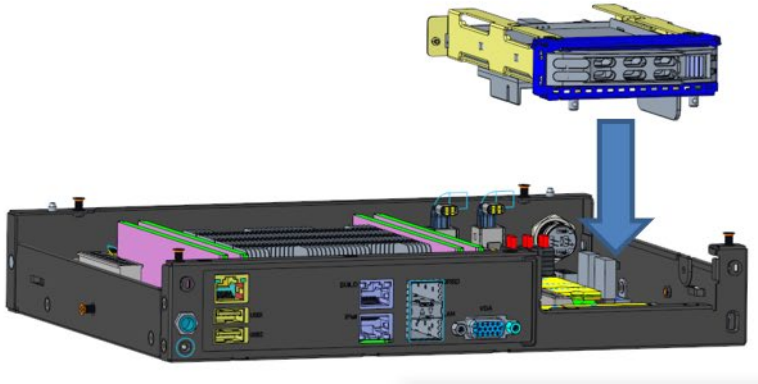
- Creating external accessible drive tray
- Customer can continue use M.2 storage below the tray, with enhance heat dispenser











SYS-E200 Intel® Atom Parker Ridge

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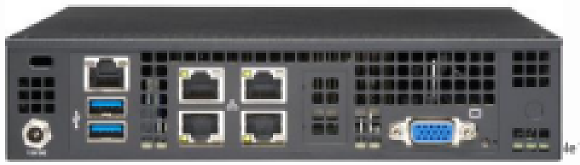
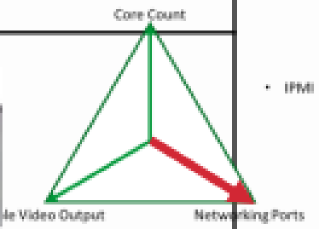
	SYS-E200-12A-4/8C
	 
CPU	4C: Intel® Atom C5315 8C: Intel® Atom C5325
Memory	DDR4 2400MHz 2 slots ECC RDIMM, up to 128GB
Storage	1 M.2 M-Key (2280), 1 M.2 B-Key (3052)
Networking	4x GbaseT
USB	2 USB 3.0
Display	1 VGA
Temp	0°C to 40°C (32°F to 104°F)
Other	Dedicate IPMI LAN

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

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)

FRONT

REAR

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

❶ **Processor**

Intel® Atom Parker Ridge C5315/C5325 SoC Processor, 4/8 Cores, 38W/41W

❷ **Memory Capacity**

2x SODIMM Slots

DDR4 2400/2933MHz ECC RDIMM up to 128GB (4/8 Cores)

❸ **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

❹ **I/O ports**

1x VGA,

2x USB 3.0

4x GbE

1x IPMI

❺ **Power Supply**

Lockable 150W AC-DC Power Adapter

❻ **System Cooling**

2x 4028mm 4-PIN PWM FAN

SYS-E102 Box PC

Confidential

	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

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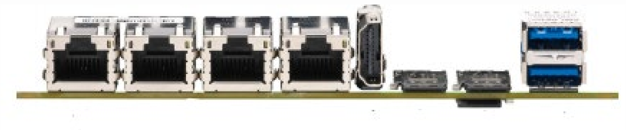
Motherboard: A2SAN-LN4-E / A2SAN-LN4-C
Chassis: CSE-E102TF
Dimension: W7.48” x D4.72” x H1.72” ” (190mm x 120mm x 44mm)



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

SUPERMICRO

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aws

AI EDGE LABS

intel

MECSware

brighter AI

Azure

avassa

Cumucore

SUPERMICRO

is-wireless

Prescient

HAILO

sixsq An Ekinops Company

IOTech

SuperCloud Composer

NVIDIA

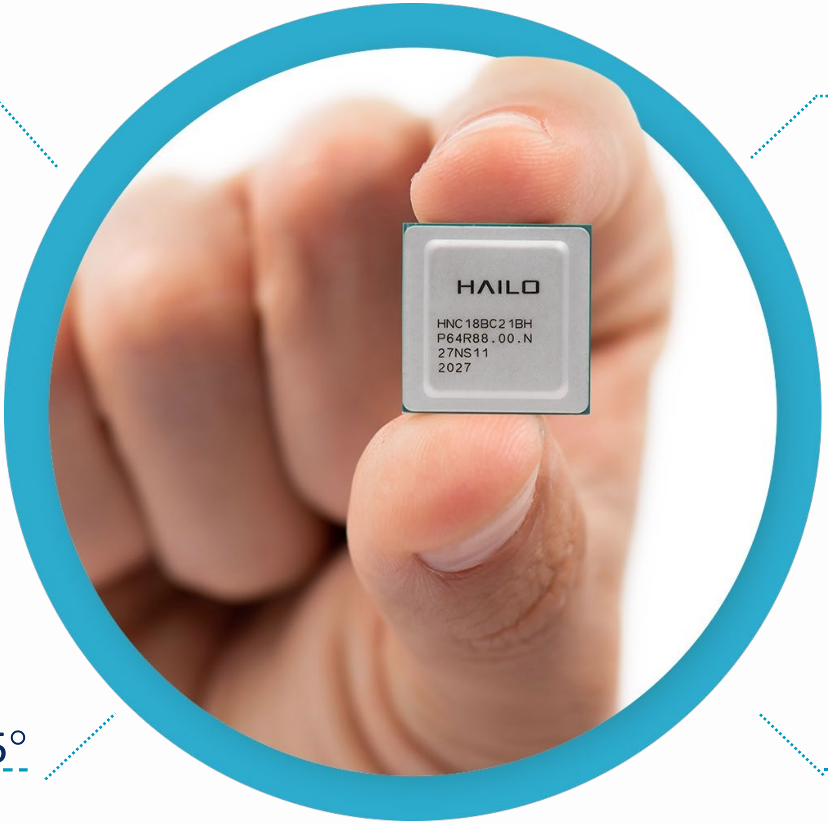
Hailo-8™ Highlights

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°



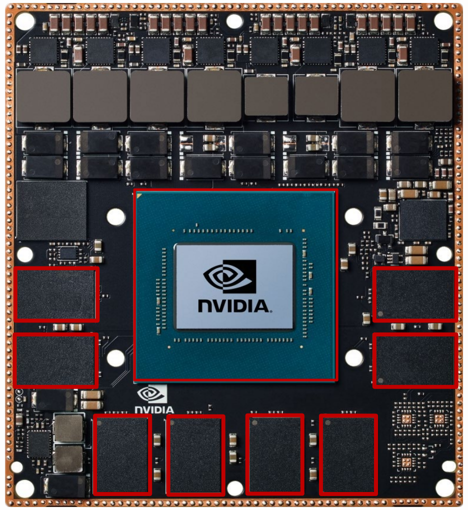
Power Efficiency
Typical Power
Consumption: 2.5W

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

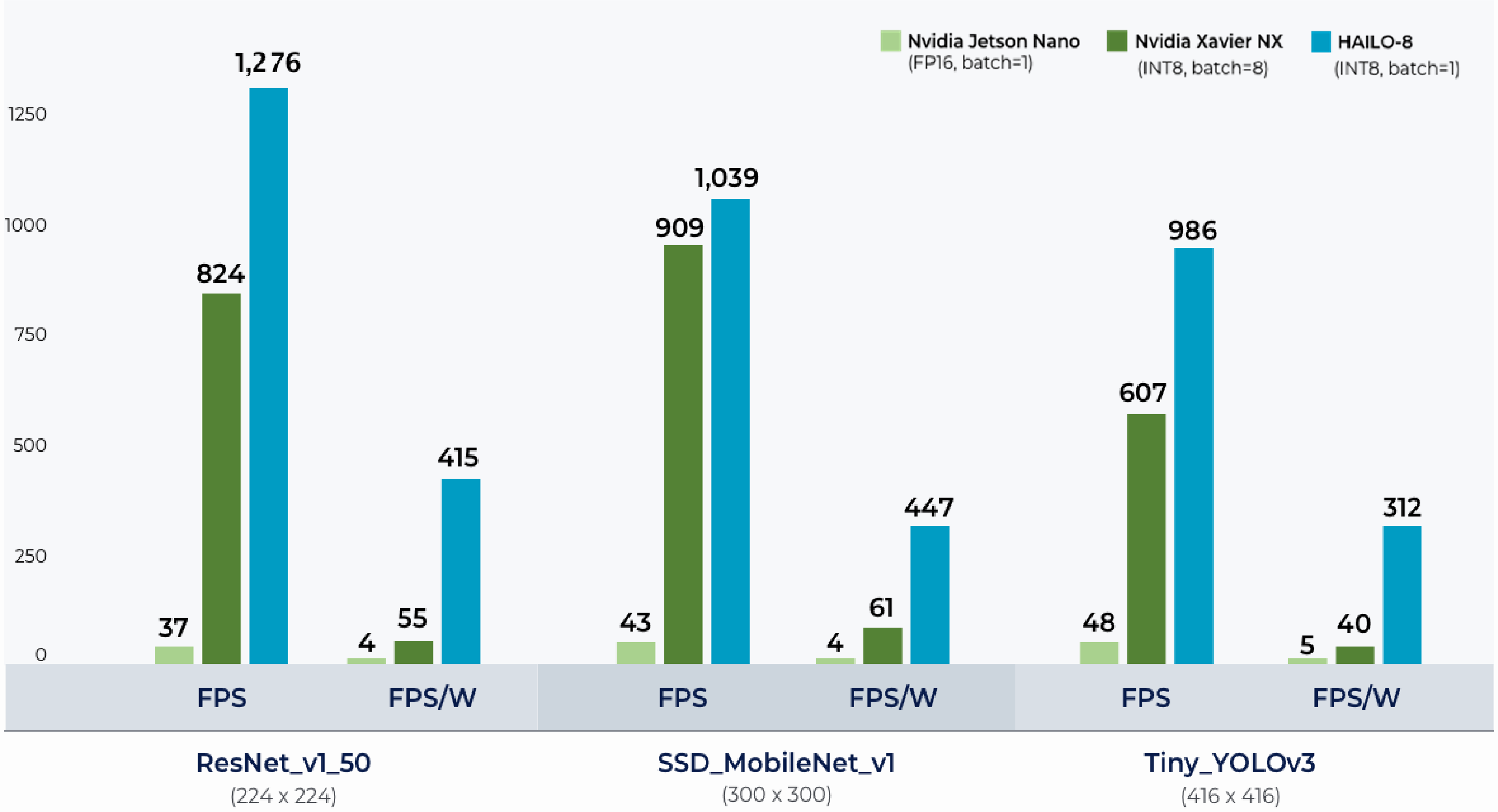
Conditions:
- TOPS (8-bit): Xavier 32 TOPS, Hailo-8 26 TOPS
- 224x224 image resolution feed @ 656 FPS
- 8-bit precision
- Batch size = 1

X15 Better
Area Efficiency

X20 Better
Power Efficiency

Unprecedented Performance at the Edge

x8 the power efficiency of Nvidia's best edge device



IOTech

IOTech

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®

IOTech

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

- Custom configuration*
- Custom ID on product*
- Custom packing*
- Custom BIOS*
- Custom BMC FW*
- Multiple Prod. Facility

- Response
- Quality
- Support
- Life span and value
- Priority
- Warranty

* Supermicro Building Blocks / MOQ and NRE involved

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

Target Industries/applications

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- Energy sector
- MOD (Cybersecurity)
- Computer Vision
- Industrial Automation
- Healthcare devices
- Retail

Rockwell Automation
ABB
Johnson Controls
HITACHI Inspire the Next
sse
SIEMENS
BOSCH
Honeywell
Schneider Electric

IoT Embedded and Edge Computing Compact System contact windows

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