

# ThinkEdge SE50

Smart, automated Internet of Things (IoT) applications streamline your industrial operations. They speed up production and help you trim costs.

Rapidly roll out your own smart IoT applications with Lenovo's ThinkEdge SE50 edge computing infrastructure powered by Intel® technology and built for the data needs of tomorrow.

## **MORE POWER, MORE VERSATILITY**

The SE50 has the power to handle all your real-time data aggregation and processing with higher performance options for superior computational capabilities at the edge — so you can confidently scale your IoT environment as your business grows. The SE50 even doubles as an IoT gateway, with diverse wired and wireless connections built right in.

## **BANDWIDTH AND STORAGE SAVINGS**

End users can deploy the ThinkEdge SE50 to aggregate and analyze real-time data from distributed IoT devices. This smart edge device can filter and forward IoT data across the WAN to the cloud or data center. Customers have the option to enhance their edge AI strategy with cutting-edge silicon and optimized software leveraging the OpenVINO™ toolkit.

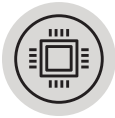
## **BUILT-IN RELIABILITY AND CONNECTIVITY**

True to the Lenovo brand, the fanless SE50 is rugged, built to withstand industrial environments from 0° to 50°C, and comes with an IP50 rating. Available CAN bus and expandable NICs enable rapid communication between devices at the edge of your business.

Smarter  
technology  
for all

Lenovo





### POWER AND RELIABILITY AT THE EDGE

The ThinkEdge SE50 is designed for versatile applications that require higher analytics and data processing at the edge. The embedded edge compute device includes an Intel® Core™ i5 or i7 vPro® processor (WHL-UE) for industrial computing and up to 32GB of memory, ideal for critical workload consolidation or edge AI/computer vision applications.

The SE50 will keep pace with your real-time smart edge applications whether they're improving efficiencies on a factory floor, in a warehouse, or in a smart building.



### STAYING SECURE

Lenovo helps you reduce the risk of IoT devices becoming unwanted entry points for intrusion into your network. You can partition the SE50's dual Ethernet ports, using one for local communications and one for the WAN, to block intrusions originating at remote IoT devices.



### RICH COMMUNICATIONS

The SE50 can communicate with your local and remote IoT devices, management systems, the cloud, and your own or third-party data centers over wired and wireless Internet connections. The SE50 can also serve as an IoT gateway, connecting devices supporting dissimilar communications protocols across a network connection.



### MANAGEABILITY

The SE50 is compatible with the Microsoft® Azure IoT Edge and Amazon Web Services (AWS) IoT Greengrass platforms. It's able to locally process data generated by Azure and AWS cloud services while still using the cloud for management, analytics, and longer-term storage.



# SE50 Edge Gateway

## RECOMMENDED USE CASES

### smart manufacturing: factory floor

- Rugged PC with customized I/O for machine connectivity
- Barcode scanning
- Interactive display
- Quality verification from camera vision
- Edge reporting

### smart retailing: warehousing and vending

- Rugged PC with customized I/O for machine connectivity
- CAN bus-connected manufacturing OT to IT convergence
- Conduct transactions over secure wireless
- Embedded motion sensors
- Camera vision and analytics
- Trigger automated alert or action based on machine status
- Workload consolidation in retail and containerized "Back of Store" virtualization

### smart buildings: facilities

- Local data collection from motion sensors, clocks, surveillance cameras, and other machines
- Trigger lighting systems, thermostats, HVACs, sprinklers, alarms, and other systems to take automated action, depending on whether people are present, time of day, temperature, humidity, smoke levels, and other variables

## Lenovo SE50

### performance

#### PROCESSOR

Intel® WHL-UE i7 for industrial computing  
Intel® WHL-UE i5 for industrial computing

#### OPERATING SYSTEM

Windows 10 IoT LTSC  
Ubuntu Server 20.04, Core 20

#### MEMORY

Up to 32GB DDR4

#### AUDIO

1 x mic, 1 x audio out

#### STORAGE

3 x M.2 256GB/512GB/1TB SSD

#### PSU

65W AC to DC adapter

### connectivity

#### FRONT INPUT/OUTPUT PORTS

1 x USB 3.2 Gen 2  
2 x RS232  
1 x audio  
Power button  
DC input (10V-60V)

#### REAR INPUT/OUTPUT PORTS

2 x USB 2.0  
1 x USB 3.2 Gen 2  
1 x HDMI 1.4  
1 x DP 1.2  
2 x GbE LAN  
2 x RS-232  
Choice of one of the following:  
Industry card  
(CAN bus + 4DI/4Do + 2 x RS-422/485) **or**  
2 x NIC (with 2 GbE onboard, total 4 GbE) **or**  
4 x NIC (with 2 GbE onboard, total 6 GbE)

### design

#### DIMENSIONS

179mm x 182.9mm x 72mm  
7.04in x 7.2in x 2.83in

#### WEIGHT

2.6kg/5.7lb

### external mechanical mounting options

DIN rail bracket

### security

ThinkShield Security Platform  
HW TPM 2.0  
UEFI Secure Boot  
Tamper switch  
Smart USB protection  
Kensington™ lock slot

### reliability

#### VIBRATION

With SSD: 3 Grms, random, 5 - 500 Hz  
1 hr/axis, X, Y, Z axes

#### SHOCK

With SSD: 50 G, half sine, 11 ms duration

#### OPERATING TEMPERATURE

Temp: 0°-50°C; Humidity: 10%-95% (non-condensing)

#### STORAGE TEMPERATURE

Temp: -40°-60°C; Humidity: 10%-90% (non-condensing)

#### OFFICIAL IP PROTECTION

Passed IP50 dust-proof test  
IEC 60068 Environmental Testing Part 2  
IEC 60721-3-3 Classification of Environmental Conditions Part 3  
Test equipment: Dust chamber, internal dimension: 1 x 1 x 1m  
Test material: Talcum powder, diameter: 50-75µm, weight: 2 kg

### manageability

Microsoft® Azure IoT Edge  
AWS IoT Greengrass

### certifications

#### SW AND IoT CERTIFICATIONS

AWS IoT Greengrass certified  
Microsoft® Azure IoT Edge certified

#### EMC

CE/FCC/ICES Class A,  
BSMI, RCM, VCCI

#### SAFETY

UL (UL 60950-1, UL 61010-1,  
UL 61010-2-201), CCC, BSMI,  
GS, BIS, CE, CM

### SE50 product highlights

- Fanless design (0°-50°C operating temperature)
- Diverse I/O port support: 4 COM (standard), 6 COM (optional), 6 GbE (optional), or CAN bus (optional)
- DIN rail, wall mount support
- High-performing computing and memory
- Microsoft® Azure IoT Edge Certified
- AWS IoT Greengrass Certified

#### SE50 EDGE COMPUTER

### The Lenovo Advantage

- Higher-performing CPU
- Transparent supply chain
- Best-in-class engineering

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