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.



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

MAKE YOUR EDGE A LENOVO THINKEDGE.
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