



THOR-100/200

Half 19" 1U/1.5U Rugged Fanless Server

*Intel® Core® i7 Broadwell within transformable
1U Dual Node Solution*

- ▶ Rugged fanless Half 19" 1U/1.5U rack-mount with Intel® 5th generation Core i7 processor
- ▶ Rugged IP65 aluminum chassis
- ▶ MIL-STD Amphenol M12 rugged connectors with customized I/O feature
- ▶ Rugged design for reliability under demanding MIL-STD-810G Shock, Vibration, EMC condition
- ▶ Combinable system for dual-node within 19" 1U solution
- ▶ Operating temperature range: -40°C to 70°C
- ▶ Wide range 9V to 36V DC-in
- ▶ Stackable PCIe/104 expansion slot for graphic module and I/O expansion
- ▶ Multi-display by Nvidia GT730M (or GTX950M by request)

Extended
Temperature
+70°C
-40°C

CPU Full Speed


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Exceptional Ruggedness ▶

Compact size with stunning capability – 1U Dual Node

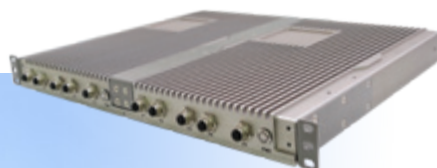
THOR100 is designed as an extremely compact and unique solution, with high-performance computing power in the half the width of a standard 19" rack-mount and 1U dimension, enabling system to fulfill limited size application and usage. The system brings maximum flexibility to user; it can not only be functioned individually but also two systems can be combined together through customized bracket in standard 19" rack-mount to achieve 1U Dual Node. 1U Dual Node is an innovative 1U rack-mount system supporting two compute nodes, which is designed to provide outstanding double performance compare with general rack-mount server, simultaneously reducing the cost and energy, thus one step further to enhance the operating efficiency and processing density in limited space.

Remarkable system performance

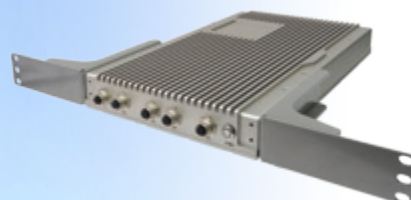
THOR100/200 is powered by Intel Broadwell Core i7-5650U processor and SSD soldering onboard, providing outstanding CPU and graphic performance by dual cores 3.2 GHz clock speed while consuming low power consumption. The extremely compact rugged system supports extended temperature from -40 up to 70°C; even when the temperature reaches 70°C, CPU remains high performance of 2.29GHz (THOR100)(Intel® Broadwell Core™ i7-5650U processor has 2.2 GHz base frequency). Furthermore, wide range 9V~36V DC input can protect system from damages caused by sudden surge of voltage, thus further secure the reliability of its critical components and the system itself.

Fully IP65 Classified – Dust and Waterproof Design

To meet the extreme ruggedness standard, THOR100/200 is classified against dust, water, and humidity protection, which allow the system to achieve high reliability and stability when operating under unpredictable harsh environment. THOR100/200 is guaranteed to avoid the intrusion of dust with complete ingress protection which can reach Dust Tight level and even the strong power of water projection won't post a threat to the system.



1U Dual Node



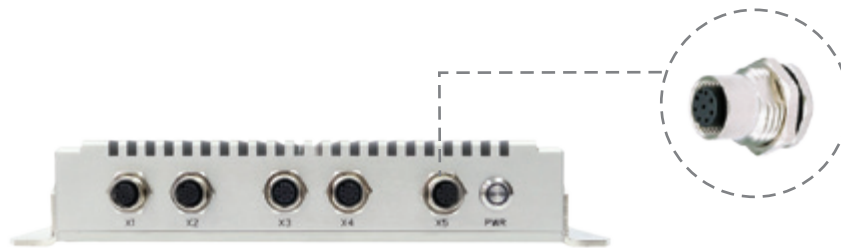
1U Rack-mount Bracket



Rugged M12 connectors

THOR100/200 adopts robust and reliable M12 connectors which provide maximum stability and protection. M12 connectors can seal the connector area securely and prevent cable-losing problem to ensure efficient operation even under the most severe condition such as contamination, moisture, vibration, and extremely rugged environment.

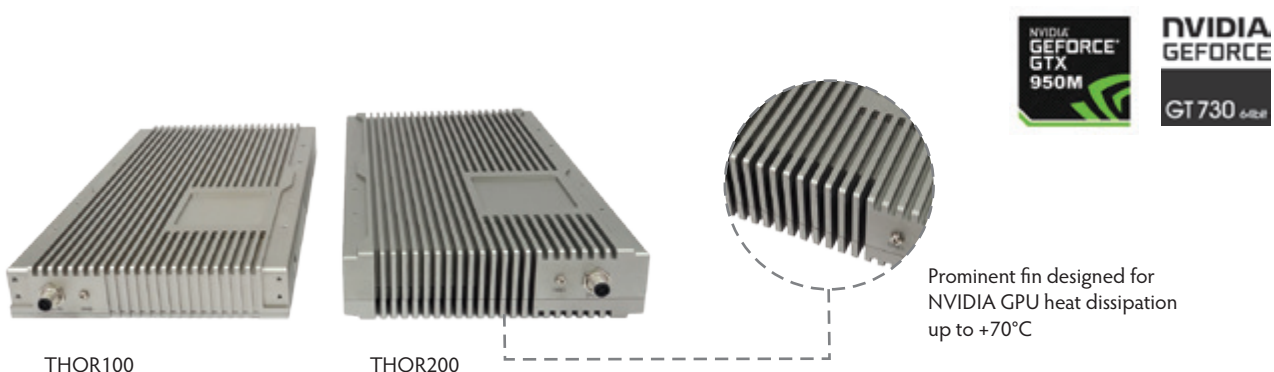
The system equipped with Amphenol M12 connectors which possess ideal application in machinery and equipment of construction, forestry, mining, agriculture, transportation and defense. With screw plugs, sealing caps and closing caps made of plastic or metal, the unoccupied plug-in connections are protected or closed to stand out from harsh environment, allowing THOR100/200 to operate under rugged connection with sensors, controllers, actuators, and switches.



THOR200 – 1.5U Fanless Server with Extreme Graphic Power ▶

To fulfill various usage of system, besides high efficient performance, compact size and extreme ruggedness, THOR200 features with stackable PCIe/104 and FPE expansion slot, allowing optional module connection which increase a variety of possibility for device connects; moreover, the rugged structure of stackable PCIe/104 prevents system from possible damage caused by unpredictable shock and vibration. The system offers high flexibility installation of PCIe/104 Graphic Module featuring NVIDIA GPU GT730M or PCIe/104 MXM Graphic Card GTX 950M. THOR200 is ideal for application in control room, energy management automation, heavy-duty transportation and defense with competitive size and outstanding image processing capability.

THOR200 possess dual side special designed heat sink with copper heat spreader for CPU while heat pipe for GPU to achieve high efficiency of heat dissipation, allowing the system operate under wide range of temperature even the system heat gained by the installation of GPU, meanwhile remaining remarkable performance and high adaptation toward various environments.



Technical Specifications ▶

THOR100

CPU

- Intel® Broadwell-U Core™ i7-5650U Processor (4M Cache, up to 3.2 GHz)

GPU

- Intel® Integrated

Memory

- 2 x XR-DIMM up to 16GB

Housing

- Aluminum

Dimension (W x H x D)

- 220 x 44 x 380 mm

Ethernet

- 2 x LAN

COM

- 1 x COM

Display

- 1 x VGA

USB

- 2 x USB2.0

Power Button

- 1

Power Supply

- 9V to 36V DC-in, AT/ATX Mode Select by Jumper

Operating Temp.

- -40 to 70°C (ambient with air flow)

Storage Temp.

- -40 to 70°C

THOR200

CPU

- Intel® Broadwell-U Core™ i7-5650U Processor (4M Cache, up to 3.2 GHz)

GPU

- NVIDIA GPU GT730M
(• NVIDIA GPU GTX 950M by request)

Memory

- 2 x XR-DIMM up to 16GB

Housing

- Aluminum

Dimension (W x H x D)

- 220 x 56 x 380 mm

Ethernet

- 2 x LAN

COM

- 1 x COM

Display

- 1 x VGA

USB

- 2 x USB2.0

Power Button

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Power Supply

- 9V to 36V DC-in, AT/ATX Mode Select by Jumper

Operating Temp.

- -40 to 70°C (ambient with air flow)

Storage Temp.

- -40 to 70°C

Relative Humidity

- 5% to 95%, non-condensing

EMC

- CE and FCC compliance

Green Product

- RoHS, WEEE compliance

MIL-STD-810G Test

- Method 507.5, Procedure II (Temperature & Humidity)
- Method 516.6 Shock-Procedure V Non-Operating (Mechanical Shock)

- Method 516.6 Shock-Procedure I Operating (Mechanical Shock)
- Method 514.6 Vibration Category 24/Non-Operating (Category 20 & 24, Vibration)
- Method 514.6 Vibration Category 20/Operating (Category 20 & 24, Vibration)
- Method 501.5, Procedure I (Storage/High Temperature)
- Method 501.5, Procedure II (Operation/High Temperature)
- Method 502.5, Procedure I (Storage/Low Temperature)
- Method 502.5, Procedure II (Operation/Low Temperature)
- Method 503.5, Procedure I (Temperature shock)

Ordering Information ▶

THOR100

Half 19" 1U IP65 Fanless Rugged System with Intel® Core™ i7-5650U Broadwell Processor, 2x XR-DIMM up to 16GB, 64GB onboard SSD, 1 x mPCIe expansion slot, installed HDD/ SSD, Amphenol type connectors, 9V to 36V DC-in, Extended Temperature -40 to 70°C

THOR200

Half 19" 1.5U IP65 Fanless Rugged System with Intel® Core™ i7-5650U Broadwell Processor, 2x XR-DIMM up to 16GB, 64GB onboard SSD, 2 x mPCIe expansion slot, installed HDD/ SSD, Amphenol type connectors, NVIDIA GPU GT730M or GTX 950M, 9V to 36V DC-in, Extended Temperature -40 to 70°C

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