# TALO-A1000 Series

NVIDIA® Jetson Thor™ Embedded AI Computing System

## Preliminary



### Features

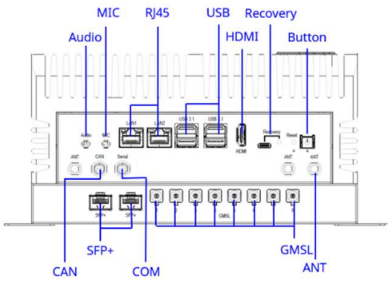
- Advanced AI computer system based on the NVIDIA® Jetson Thor™ platform delivering up to 2070 TOPS of AI performance
- Powered by NVIDIA's latest Blackwell architecture with 2,560 NVIDIA® CUDA® cores and 96 Fifth-Gen Tensor cores
- Supports IEEE 802.1AS/Qav/Qbv time-synchronized networking with 2x 10G + 2x 1G Ethernet and dual 10G SFP+ ports, ensuring deterministic data flow for robotics applications
- 4x USB 3.1 Type-A ports
- Supports automotive-grade 8x GMSL2 camera interfaces with 5 Gbps bandwidth and FAKRA-Z connectors, enabling high-reliability robotic vision input
- 2x isolated RS-232/485 and 2x CAN Bus 2.0A/B, ensuring reliable, interference-resistant communication for robotic systems
- 9 to 55V DC isolation power input with 1500V AC isolation rating

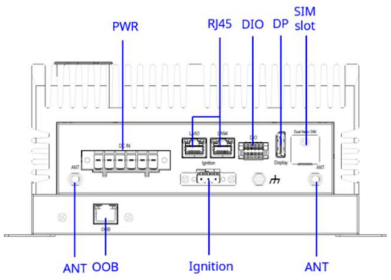
### Specifications

| | |
|---|---|
| **System** | |
| CPU | T5000: 14x core Arm® Neoverse V3AE symmetric multi-processing |
| GPU | T5000: 2560-core NVIDIA® Blackwell architecture GPU with 96 fifth-gen Tensor cores |
| OS Support | NVIDIA Jetson SDK |
| **I/O Interface** | |
| USB | 4x USB 3.1, supporting up to 5 Gbps |
| COM | 2x Isolated COM RS-232/485 |
| CAN Bus | 2x Isolated CAN Bus with M8 connector |
| Digital I/O | 4x DI + 4x DO with 3kV /60s isolation capability |
| Micro USB | 1x Micro USB for system recovery |
| Button | 1x Power, 1x Force Recovery, 1x Reset |
| LED | Power, System alive |
| SIM | 2x SIM sockets |
| Antenna | 5x antenna for WiFi/4G/5G/GNSS |
| Audio | 1x 10W speaker and 1x MIC input |
| **Expansion** | |
| M.2 | 1x M.2 B Key (3042/3052, USB 3.0)<br>1x M.2 E Key (2230, PCIe/USB) |
| **Graphics** | |
| Interface | 1x HDMI 2.1, up to 8K30<br>1x DisplayPort (DP) 1.4a |
| Video Encode | 2x 4K@60, 4x 4K@30, 8x 1080p@60 (HEVC) |
| Video Decode | 4x 8K@30, 8x 4K@60, 18x 4K@30, 38x 1080p@60 (HEVC) |
| **Camera** | |
| GMSL | 8x GMSL1/2 camera with external GNSS trigger input and FAKRA Z connectors, up to 5Gbps bandwidth /per channel |
| **Storage** | |
| M.2 | 2x M.2 M Key (2280, PCIe Gen 4 x4) |
| **Ethernet** | |
| LAN1 to LAN2 | 10/100/1000 Base-T Ethernet GigE LAN, RJ45 connector (Optional X-coded M12 connector) |
| LAN 3 to LAN 4 | 10/100/1000/2.5G/5G/10G Base-T Ethernet GigE LAN with PTP/1588v2, synchronous Ethernet |
| **Fiber Optical** | |
| LAN5 to LAN 6 | 10G SFP+ compliant with 10GBASE-CR and 10GBASE-SR |
| **Security** | |
| TPM | firmware TPM compliant with TCG 2.0 |

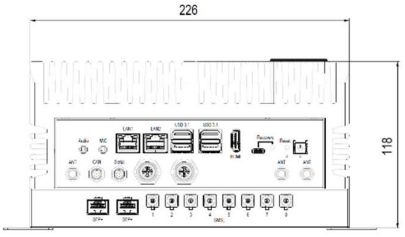
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|---|---|
| **Power** | |
| Power Input | 9V to 55V DC isolated Power Input with 6-pin terminal block, 1500V AC |
| Ignition Control | 16-mode software ignition control |
| Remote Switch | Supports soft power on/off and suspend mode |
| **Out-of-Band Management** | |
| Interface | Ethernet LAN with 10/100Mbps, RJ45 connector |
| Remote Management | Remote power ON/OFF, reset and power cycling |
| **Mechanical** | |
| Dimensions (W x L x H) | TALO-A1000: 226 x 191 x 88 mm<br>(8.89' x 7.51' x 3.46')<br>TALO-A1100: 226 x 191 x 118 mm<br>(8.89' x 7.51' x 4.64') |
| Weight | TALO-A1000: TBD<br>TALO-A1100: TBD |
| Mounting | DIN Rail, Wall mount |
| **Environment** | |
| Operating Temperature | -20℃ to 55℃ (-4°F to 131°F), Fanless |
| Storage Temperature | -40℃ to 85℃ (-40°F to 185°F) |
| Humidity | 5% to 95%, Non-condensing |
| Relative Humidity | 95% @ 75℃ |
| Certifications | CE, FCC |

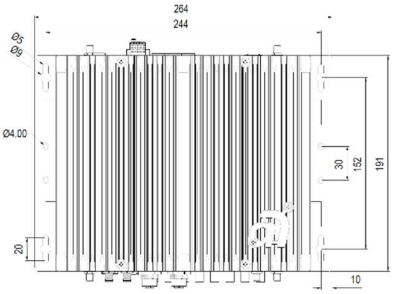
## I/O Interface

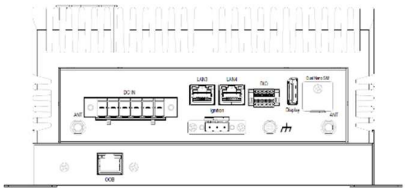


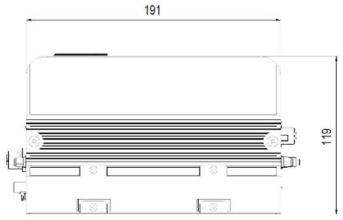




## Dimensions






## Ordering Information

| Model Name | Platform | LAN | USB 3.1 | Iso. COM | Iso. CAN | Iso. DIO | GMSL | SIM | M.2 | OOB |
|---|---|---|---|---|---|---|---|---|---|---|
| TALO-A1000-T5-SXXX* | Jetson Thor T5000 | 4 | 4 | 2 | 2 | 4 | - | 2 | 4 | No |
| TALO-A1100-OT5-SXXX* | Jetson Thor T5000 | 6 | 4 | 2 | 2 | 4 | 8 | 2 | 4 | Yes |

NVMe SSD List

| | |
|---|---|
| S128 | 128G NVMe SSD |
| S256 | 256G NVMe SSD |
| S512 | 512G NVMe SSD |
| S01T | 1TB NVMe SSD |

## Accessories

Power Adapter

| | |
|---|---|
| PWA-280WB-WT | 280W, 24V, 85V AC to 264V AC Power Adapter with 6-pin Terminal Block, Wide Temperature -30°C to 70°C |
| PWA-180WB | 180W, 24V, 85V AC to 264V AC Power Adapter with 6-pin Terminal Block |

Mounting

| | |
|---|---|
| DIN Rail | DIN Rail Mounting Kit |

Others

| | |
|---|---|
| GMSL Camera Kit | ISX 031 camera with FAKRA Z cable |
| WiFi & Bluetooth Module | WiFi & Bluetooth Module with antenna |
| 5G Module | 5G Module with Antenna |
| 4G Module | 4G/GPS Module with Antenna |
| 10G SFP+ Active Optical Cable | 850nm, multi-mode, 1m distance |
| 10G SFP+ Direct Attach Cable | SFP+ Copper Twinax Direct Attach Cables, 0.5m |
| H-MTD Cable | H-MTD Cable, 30cm |