



TT316 Rugged Fanless Thor Controller

For Robotics and Rugged Outdoor Operations

Key Features

- ▶ Rugged fanless platform
- ▶ IP67 waterproof and dustproof
- ▶ Advanced AI Performance
- ▶ x1 MTP 100GbE (4x 25GbE)
- ▶ x1 Gigabit Ethernet
- ▶ 2x NVMe M.2 M-Key Slots
- ▶ 14-core ARM Poseidon-AE CPU
- ▶ 128GB LPDDR5x Memory
- ▶ Hardware Security via SE050 TPM

Applications

- ▶ Autonomous Transportation
- ▶ Robotics
- ▶ Agriculture
- ▶ Mining
- ▶ UAV

Overview

The TT316 Rugged Fanless Thor is an IP67 waterproof AI compute platform built around the powerful NVIDIA® Jetson AGX Thor™ module. It features a 14-core ARM Poseidon-AE 64-bit CPU, an NVIDIA Blackwell Architecture GPU with 2560 CUDA® cores and 96 4th Gen Tensor Cores, and 128GB LPDDR5x DRAM running at 4266 MHz with 273 GB/s bandwidth, making it ideal for commercial and industrial applications.

Delivering up to 1050 FP8 TFLOPs/2100 FP4 TFLOPs of AI compute, the TT316 enables in high-performance edge inference and real-time video analytics. The system offers a wide range of latest-generation interfaces on the Jetson AGX Thor: 4x 25GbE through MTP fiber, Gigabit Ethernet, USB Type-C for KVM, 4x protected GPIO, 2x M.2 M-Key Slots (PCIe x2 and x4), and USB 2.0.

The platform integrates the NXP SE050 Secure Element, providing hardware root of trust, secure credential storage, and cryptographic acceleration. With EAL 6+ certification, it ensures strong protection for security-critical AI and IoT applications.

The TT316 supports 18V to 36V DC wide-range input and two built-in system control buttons for reset and force recovery. Rugged M12 connectors and an IP67-rated enclosure with a built-in heatsink guarantee reliable operation even in harsh environments, eliminating the need for additional cooling while providing robust protection against environmental challenges.

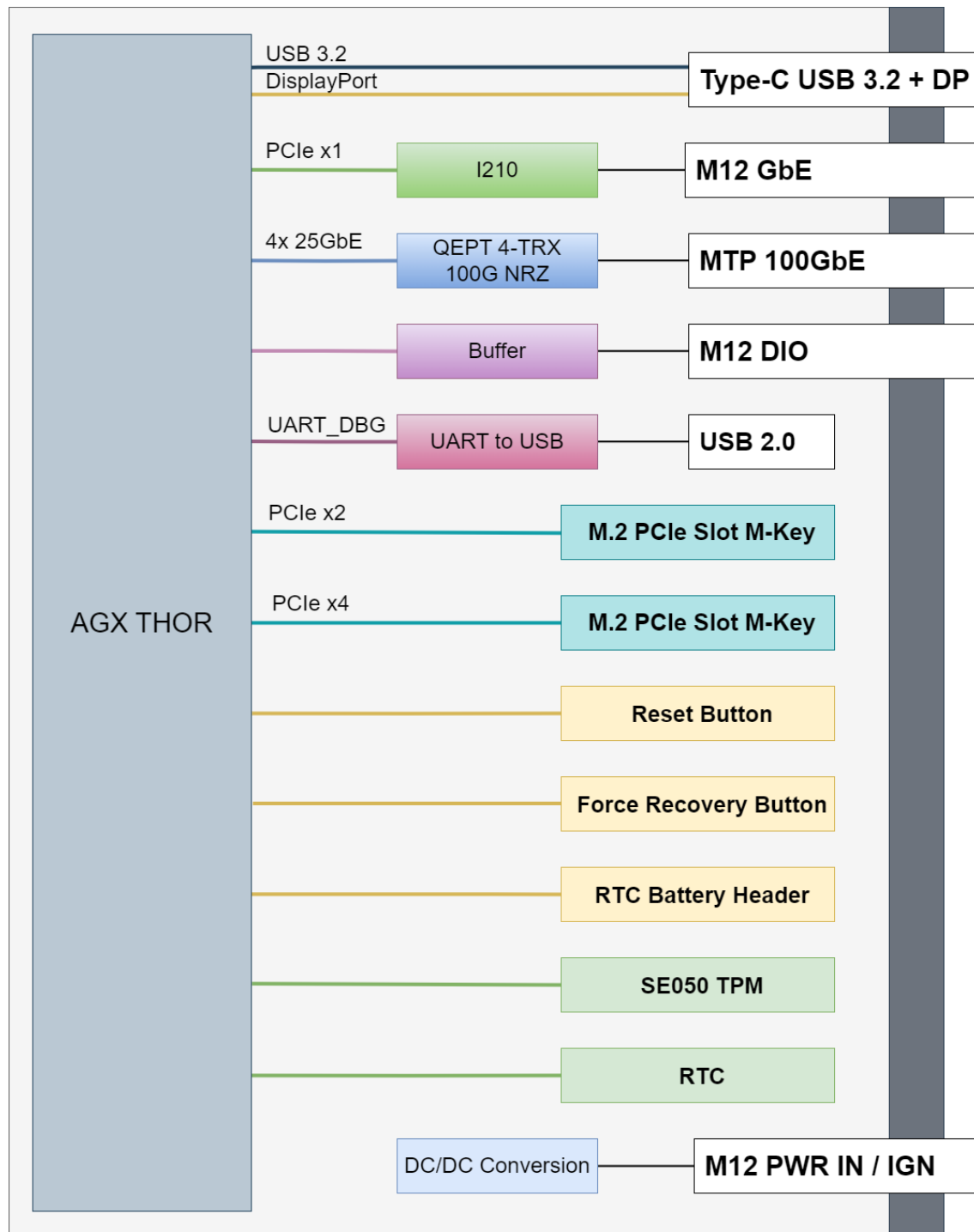
Key Advantages

- ▶ Powered by NVIDIA Jetson AGX Thor
- ▶ Rugged IP67 Waterproof Design
- ▶ NVIDIA Blackwell GPU with 2560 CUDA® cores and 96 4th Gen Tensor Cores
- ▶ 4K Graphics & High-Speed Communication
- ▶ 2x M.2 PCIe Expansion Slots (PCIe x2 and x4) for Storage
- ▶ 2x Built-in Buttons for System Maintenance and Recovery
- ▶ NXP SE050 Secure Element for Secure AI & IoT Operations



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Block Diagram



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Specifications

SOM	NVIDIA® Jetson AGX Thor up to 1050 FP8 TOPS/2100 FP4 TOPS
SYSTEM MEMORY	128GB LPDDR5x 4266MHz 256-bit, 273GB/s
DISPLAY INTERFACE	USB Type-C Display Port
ETHERNET	1x 100GbE MTP Interface (4x 25GbE)
	1x GbE LAN
I/O	USB 3.2 Type-C + DP
	3x Protected General Purpose I/O
EXPANSION	M.2 PCIe Slot M-Key PCIe x2
	M.2 PCIe Slot M-Key PCIe x4
ADDITIONAL FEATURES	NXP SE050 TPM
	I2C-Integrated RTC
	Debug USB 2.0
INDICATOR	Power LED
OS SUPPORT	Ubuntu 24.04
POWER	18V to 36V DC input
	Maximum 180W total power budget
DIMENSION	185 mm (W) x 185 mm (D) x 100 mm (H)

Environmental

OPERATING TEMPERATURE	-25°C to 60°C
STORAGE TEMPERATURE	-40°C to 85°C
HUMIDITY	10% to 90%, non-condensing
VIBRATION	Operating, MIL-STD-810H, Method 514.8, Category 4
SHOCK	Operating, MIL-STD-810H, Method 516.8, Procedure I
EMC	Designed to meet FCC, CE, and UL certifications, where applicable



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Ordering Options

TT316-ABC-000-000		
A = SOM		
0 = RESERVED		
1 = AGX THOR T5000 128GB		
B = M.2 M-KEY [J1A] (PCIe x4)		
0 = RESERVED		
C = M.2 M-KEY [J1B] (PCIe x2)		
0 = RESERVED		

The system can be customized for specific customer requirements, contact Tauro Technologies sales for details.



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