



TT313 AGX Orin Controller

For Robotics and Ground Vehicle Applications

Key Features

- ▶ Rugged fanless platform
- ▶ IP67 waterproof and dustproof
- ▶ x4 Gigabit Ethernet (PoE+)
- ▶ x3 Gigabit Ethernet (Non-POE)
- ▶ Wi-Fi/4G/5G
- ▶ Advanced AI Performance

Applications

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

Overview

The TT313 AGX Orin is a rugged, IP67 waterproof compute platform, that provides exceptional AI performance and low power consumption in a compact form factor. With up to 275 sparse TOPS, this product can be used in autonomous vehicles, UAVs, and Robotics, enabling real-time video processing and AI workloads to simultaneously transcode up to 22 1080p video streams.

The waterproof USB 3.1 Type-C connector provides 4K Display Port output for ADAS applications involving real-time surround-view awareness. 7x waterproof M12 GbE ports are also provided for high-speed data communication.

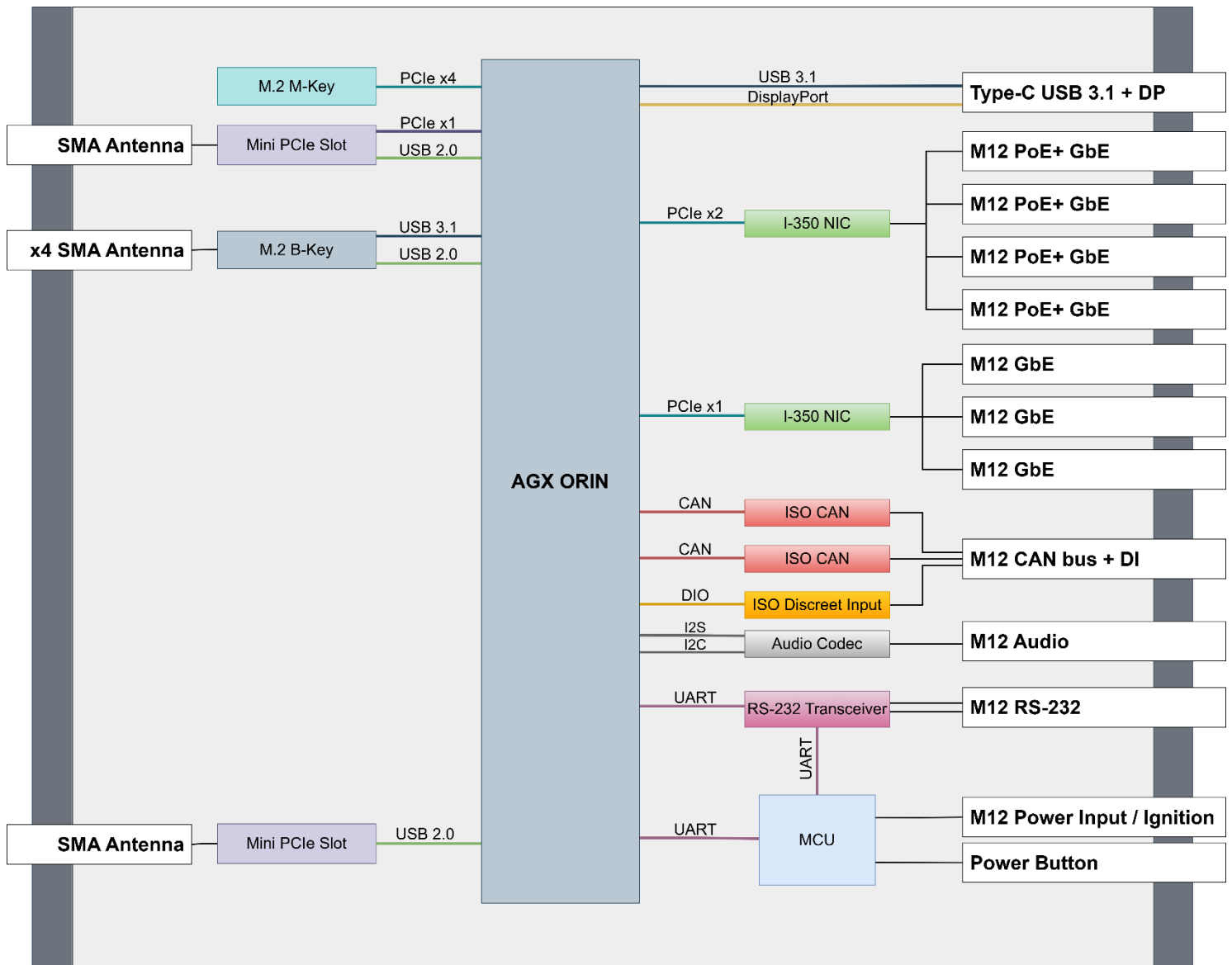
The TT313 supports 18V to 36V wide-range DC input with ignition power control, 2x isolated CAN bus ports, and an audio port making it ideal for in-vehicle deployment. Expansion options include M.2 and mini-PCIe sockets for 5G/LTE or Wi-Fi modules and M.2 NVMe storage for additional storage needs. It also provides MCU for system monitoring. With a streamlined waterproof design, the TT313 is an all-in-one solution for industrial vehicles, outdoor robotics, and edge AI inspection systems.

Key Advantages

- ▶ NVIDIA Jetson AGX Orin 32GB/64GB SOM up to 275 TOPS
- ▶ Rugged IP67 Waterproof Design
- ▶ Waterproof Audio Interface with Integrated TAC5112 Audio Codec
- ▶ 4K Graphics & High-Speed Communication
- ▶ M.2 and Mini PCIe Expansion Slots for LTE/5G/Wi-Fi and Storage
- ▶ MCU for System Monitoring



Block Diagram



Specifications

SOM	NVIDIA® Jetson AGX Orin™ up to 275 TOPS
SYSTEM MEMORY	32GB/64GB LPDDR5 @ 3200 MHz on SOM
DISPLAY INTERFACE	USB Type-C Display Port
ETHERNET	4x GbE LAN POE+ M12 Interface
	3x GbE LAN Non-POE
I/O	USB 3.1 Type-C + DP
	MCU RS-232, AGX RS-232
	1x Audio Line Input, 2x Audio Line Output
	2x isolated CAN 2.0 + Isolated DI
EXPANSION	1x M.2 PCIe Slot B-key (for LTE/5G)
	1x M.2 PCIe Slot M-Key (for NVMe SSD)
	1x Mini PCIe Slot (USB 2.0 + PCIe x1)
	1x Mini PCIe Slot (USB 2.0)
INDICATOR	Power LED
OS SUPPORT	Ubuntu 20.04
POWER	18V to 36V DC input with Ignition Control
	Maximum 275W total power budget
DIMENSION	235 mm (W) x 260 mm (D) x 102 mm (H)

Environmental

OPERATING TEMPERATURE	-10°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

TT313-ABC-DE0-000		
A = SOM	D = MINI PCIE SLOT [J3A] (PCIE + USB 2.0)	
0 = RESERVED 1 = AGX ORIN 64GB 2 = AGX ORIN 32GB	0 = RESERVED	
B = M.2 M-KEY [J1]	E = MINI PCIE SLOT [J3B] (USB 2.0)	
0 = RESERVED	0 = RESERVED	
C = M.2 B-KEY [J14]		
0 = RESERVED		

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



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