

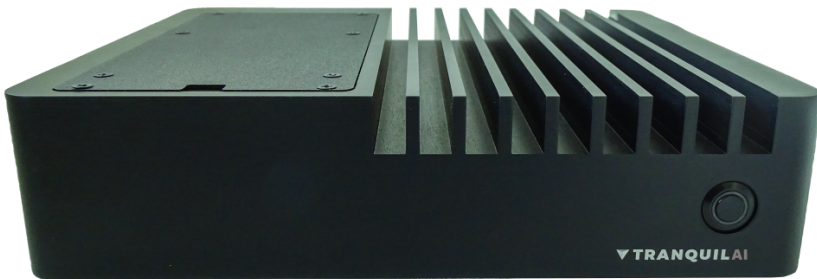
Fanless Mini - METIS - IP51

AI Compute

Fanless • Passively cooled

IP51

Fanless small-form-factor edge AI system, optimized for rugged industrial and outdoor environments.



Product Overview

The FM-METIS-51 is a compact, fanless edge AI platform that combines Axelera's industry-leading Metis AI accelerator with Tranquil AI proven industrial design to deliver high-performance computer vision and AI inference directly at the network edge. Pairing the Metis AIPU with an ARM-based host processor, it provides the on-board compute needed to process multi-stream vision and analytics workloads where data is created, eliminating the need to send video or sensor data to the cloud.

This architecture is well suited to real-time object detection, classification, segmentation, and analytics on live camera feeds, enabling rapid response while reducing bandwidth consumption and improving data privacy. Typical deployment areas include retail, mobility and traffic (vehicle detection and tracking), logistics (movement and safety monitoring), security (multi-camera incident detection), smart-city infrastructure, and Industry 4.0 (defect detection and quality control). By processing data locally, the platform minimizes dependence on continuous network connectivity while keeping sensitive data on-site.

Within the Tranquil AI solution family, the FM-METIS-51 is designed for controlled, low-power edge AI deployment, delivering predictable inference performance within a defined power envelope. Its fully fanless, passively cooled construction contains no moving parts, making it well suited to continuous operation in industrial, retail, security, and outdoor environments where reliability, serviceability, and long-term uptime are critical.

Key Specifications

- Processor: Rockchip RK3588 - 8 Core (4 x Cortex-A76 + 4 x Cortex-A55)
- 214 TOPS AI acceleration
- Operating Range: 0C to 60C
- Dual LAN

Key benefits of FANLESS and RUGGED



No fans obviously means no noise, but it's not the only benefit!



No fans allow an important decrease in power consumption, making our products more sustainable!



A fanless computer eliminates the risk to draw in dust and dirt from the environment, the cause of potential failures and costly downtime.



The absence of moving parts enable our products to resist shocks and vibrations, for an increased reliability.



They are built to withstand harsh and constrained working conditions.



High Ingress Protection (IP) rating, indication the protection level of products against both solid and liquids in electrical enclosures.



The in-house designed and milled aluminium chassis is optimized for efficient passive cooling and durability. Its conception proved their reliability in extended operating temperatures.



The aluminium used for the chassis production is repurposed and recycled, and the production waste is recycled too!

SOLUTION FAMILY

Tranquil AI - AI Compute platforms

Tranquil AI by 2CRSi Edge combines best-in-class AI processing technology with industrial-grade engineering, enabling organisations to deploy powerful AI solutions outside the datacentre. Designed and assembled in the UK, Tranquil AI platforms transform AI development hardware into deployable production systems suitable for industrial, transport, security, smart-city and infrastructure applications. Fanless operation, rugged construction and configurable deployment options allow customers to move from proof-of-concept to production without redesigning their AI infrastructure.

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I/O Rear

DC-In 12V, 2x RJ45 for LAN, 4x USB 3.1, 1x USB-C, 1x HDMI, Micro SD Slot

Technical Specification

Processor	Rockchip RK3588 (ARM-based) – 8 Core (4 x Cortex-A76 + 4 x Cortex-A55) – up to 2.4 GHz		
Memory	Capacity: 16GB Type: LPDDR4X ECC Support: No	Storage	Included: 64 GB onboard eMMC Storage 1 Max (option): 8TB 2.5" SATA SSD Storage 2 (option): MicroSD Card Slot
AI Accelerator	Axelera Metis AIPU	AI Performance	214 TOPS
Graphics	ARM Mali-G610 GPU (integrated)	Graphics	1 x HDMI 2.0 - 4096 x 2160 @ 60Hz
Network Interface	2x Gigabit LAN	Network Options	Optional Wi-Fi or 4G/LTE connectivity via internal M.2
Network Feature	Wake-on-LAN PXE	Encryption	ARM TrustZone
Hardware Monitoring	Watchdog On-Board	Supported OS	Yocto-based Linux OS Docker Support
Power Input	2.5 x 5.5mm DC Jack		
Input Voltage	12V		
Consumption	9-20w		

Physical Specification

I/O Front	Power/reset switch	LED Front	Power
Extra IO	GPIOs, ADC, I2C, SPI	COM Port Option	UART
Operational Temp	0C to 60C (32F to 140F)	Storage Temp	-20C to 70C (-4F to 158F)
Maximum relative humidity	5% to 95%	Cooling Type	Passive Cooling
Size	51 x 177 x 208 mm	Weight	2.4 KG
Accessories	Power Supply, power cord	Optional Accessories	Wireless Antenna, Mounting options (Desk, Wall or Anti-Vibration plate)
Certifications	CEUKCARoHSFCCWEEE	Warranty	3 Years