Fanless Mini - METIS - In-Vehicle - IP50 (12V)

AI Accelerated Platform | Fanless • Passively cooled | IP50

In-vehicle fanless edge AI computer with ignition control and anti-vibration design.



Product Overview

The FM-METISIV-50-12V is an in-vehicle edge AI platform purpose-built for continuous operation in mobile environments. Unlike a general-purpose fanless system, it combines vehicle-specific power management, rugged mechanical design, and on-device AI acceleration to deliver reliable edge computing on the move. Intelligent ignition control synchronizes system startup and shutdown with the vehicle's ignition while automatically managing power to help protect the vehicle battery from unnecessary drain. A fully fanless, passively cooled enclosure, reinforced with an anti-vibration design, provides dependable operation under constant movement, shock, vibration, and dusty conditions, eliminating moving parts that could fail in demanding deployments.

Powered by the Axelera Metis AIPU, the platform performs AI inference directly inside the vehicle, enabling real-time vision and analytics workloads without relying on a continuous network connection. Optional Wi-Fi and 4G connectivity support connected fleet operations, remote management, and data synchronization when required, while its standardized hardware configuration enables straightforward, repeatable deployment and maintenance across large vehicle fleets. These capabilities make the FM-METISIV-50-12V well suited for fleet management, transportation networks, public safety vehicles, and field service operations, where rugged, reliable edge AI must operate wherever the vehicle goes.

Key Specifications

- Processor: Rockchip RK3588, 8 cores (4 x Cortex-A76 + 4 x Cortex-A55)
- Intelligent ignition control: powers on and off with the vehicle ignition, protecting the battery from drain
- Anti-vibration plate and no-moving-parts design keep operation stable through shock and vibration
- AI inference on-device: The Axelera Metis AIPU processes vision and analytics inside the vehicle, without depending on a connection.

Key benefits of **FANLESS** and **RUGGED** computers

- No fans means silent operation, and that is not the only benefit.
- With no fans to power, energy consumption is lower.
- No air is drawn through the chassis, so dust and dirt, a common cause of failures and downtime, stay out.
- With no moving parts, the system withstands shock and vibration.
- Built to withstand harsh and constrained working conditions.
- An Ingress Protection (IP) rating states the level of protection against solids and liquids.
- The chassis is designed and milled in-house from aluminium for passive cooling across the operating temperature range.
- The chassis aluminium is repurposed and recycled, and production waste is recycled too.

PRODUCT FAMILY

Tranquil IT · AI Accelerated Platforms

Tranquil IT 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 IT 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.

TRANQUIL IT | AXELERA ARTIFICIAL INTELLIGENCE

Fanless Mini - METIS - In-Vehicle - IP50 (12V)



I/O Rear

Power/reset switch, 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	**MAX Capacity:** 16GB **Type:** LPDDR4X **ECC Support:** No	**Storage**	**Included:** 64 GB onboard eMMC **Storage 2 Max:** 8TB 2.5" SATA SSD (option) **Storage 3:** MicroSD Card Slot (option)
AI Accelerator	Axelera Metis AIPU	**AI Performance**	214 TOPS
Graphics Controller	ARM Mali-G610 GPU (integrated)	**Graphics Interface**	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	**Hardware Monitoring**	Watchdog On-Board
Encryption	ARM TrustZone	**Supported OS**	Yocto-based Linux OS Docker Support
Power Input	3-pin 5.08mm pitch "Phoenix" connector		
Input Voltage	12V		
Consumption	9-20W		

Physical Specification

I/O Front	Power/reset switch	**LED Front**	Power
Extra I/O	GPIOs, ADC, I2C, SPI	**COM Port Option**	UART
Operational Temp	0°C to 60°C (32°F to 140°F)	**Storage Temp**	-20°C to 70°C (-4°F to 158°F)
Maximum relative humidity	5% to 95%	**Cooling Type**	Passive Cooling
Size (H x W x D)	80 x 336 x 221 mm	**Weight**	9.4 kg
Accessories	Power connector	**Optional Accessories**	Wireless Antenna, Mounting options (Desk, Wall or Anti-Vibration plate)
Certifications	CE UKCA RoHS FCC WEEE	**Warranty**	3 Years

TRANQUIL IT | AXELERA ARTIFICIAL INTELLIGENCE

Configuration options (OS, branding, software preload) are available and do not alter the certified platform baseline. For bespoke requirements requiring engineering change, enquire about Tranquil Studio.

2CRSi UK Ltd · 2 Queensmead Place · Trafford Park · Manchester · M17 1PH · Company Reg No: 04750746