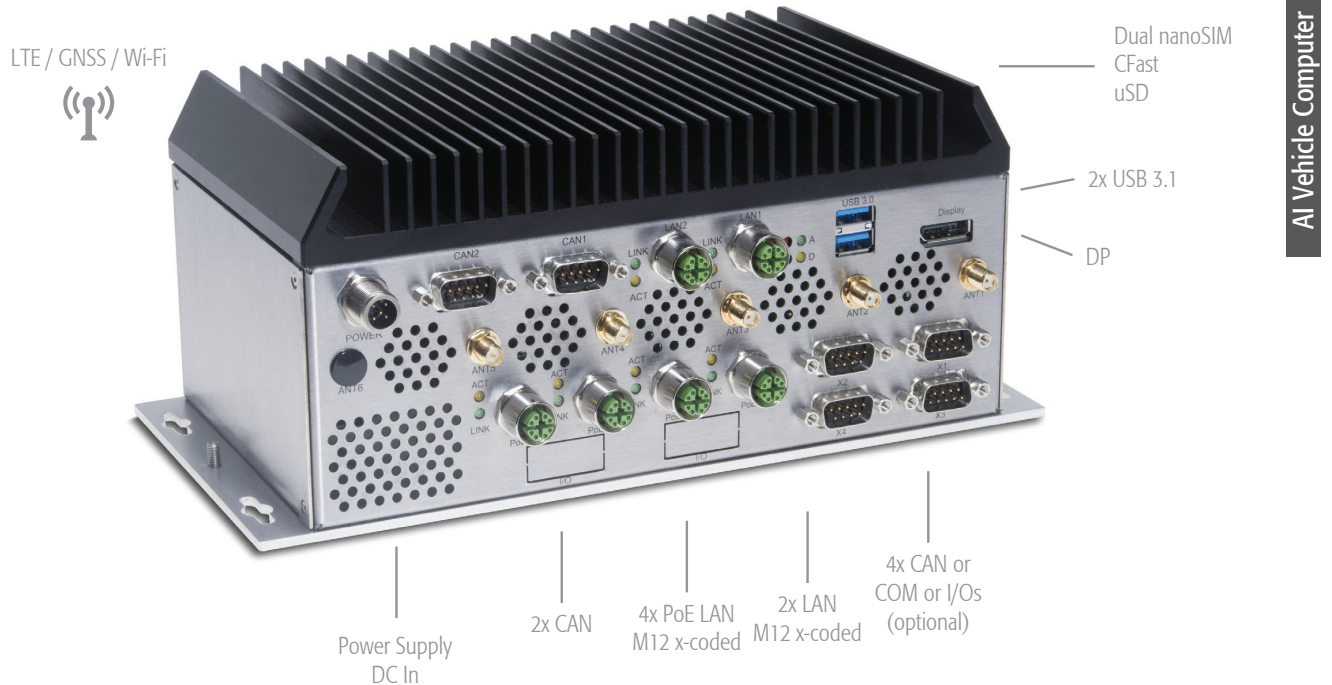


AI Vehicle Computer

COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson AGX Xavier



IPC/COMPACT A3 - RML-DEV

This fanless RML-COMPACT-A3 DEV generation is based on the NVIDIA Jetson AGX Xavier processor module and offers a wide range of interface options.

The robust and uncompromising industrial design allows the implementation in the most demanding AI applications and guarantees long term availability.

- 24/7 continuous operation
- Highly customizable interface options
- Extended AI Computing
- Power over Ethernet (PoE+), 48VDC out
- High Accuracy GNSS option

NVIDIA. Linux for Tegra (L4T)

Product Highlights

Goldcap or battery RTC clock backup
No moving parts / passive cooling
Each LAN interface has its own dedicated NIC
Hardware watchdog
Temperature supervision
ESD- protection on all interfaces
Long term availability (fixed BOM)
Shock and vibration resistant

Product Features

512-core NVIDIA Volta™ GPU with 64 Tensor Cores
8-Core ARM v8.2 64-bit NVIDIA Carmel CPU
32GB 256-Bit LPDDR4x RAM soldered on board
Socket for CFast
Ethernet, USB, Passive or Active CAN
Aluminum & Stainless steel housing

Markets / Applications

Production and Industrial Automation
Automated Guided Vehicles (AGV)
Transportation
Logistics
Robotics
Railway (rolling stock)



	Order Code	IPC/RMLA3K22-DEV1 ¹	IPC/RMLA3K22-DEV2 ¹
Processor module / Performance			
NVIDIA Jetson AGX Xavier (32GB) 512-Core NVIDIA Volta™ GPU with 64 Tensor Cores		•	•
8-Core ARM v8.2 64-bit NVIDIA Carmel CPU			
AI Performance		32 TOPs	32 TOPs
Memory / Storage			
Data L3 Cache Size		4MB	4MB
256-Bit LPDDR4x RAM soldered on board		32GB	32GB
eMMC 5.1 Flash Storage on board		32GB	32GB
microSD Card socket		1	1
M.2 socket ²		1	1
CFast socket with retention frame ²		1	1
Features			
Real time clock PC with Goldcap backup (charge holds 48h)		•	optional
Real time clock PC with battery backup Renata CR2477 (950 mAh)		optional	•
Hardware Watchdog & Temperature supervisor		•	•
Intelligent power management		•	•
Communication Interfaces			
Graphic interface		DisplayPort 1.2	DisplayPort 1.2
USB version 3.0 (Type A)		2	2
Internal USB version 2.0 OTG behind the cover (micro USB Type AB)		1	1
Ethernet 10/100/1000Mbit (M12 female x-coded)		2	2
Power over Ethernet - IEEE802.3at 10/100/1000Mbit (M12 female x-coded)		4	4
PSE - Power sourcing equipment, directly producing 48VDC-out for PoE device (total max power: 39W)		(total max power: 39W)	(total max power: 39W)
Active/passive-CAN ESD protected, isolated (DSUB9)		2	2
1-4 additional Active/passive-CAN ESD protected, isolated (DSUB9)		optional	optional
Serial Interface RS232 / RS422/485 ESD protected (DSUB9)		optional	optional
Digital I/O's, 24VDC (up to 4 inputs & 4 outputs)		optional	optional
Analog input, 16bit resolution, voltage input: -10 ...+10V / 0 ... 30V Accuracy: +/- 0.1%		optional	optional
Analog input, 16bit resolution, current: 0-20mA (4 inputs)		optional	optional
Mini PCIe socket ²		1	1
I2C bus ²		•	•
Buzzer		•	•
Wireless Connectivity			
Cellular 4G Module (GSM/UMTS/LTE) Telit or Sierra Wireless - M2M only!		2x SMA	2x SMA
Dual SIM Support (nanoSIM to mPCIe slot)		•	•
Positioning Wireless Module (GPS, Galileo, Glonass, Beidou) u-blox NEO-M8U Module incl. acceleration sensor		1x SMA	1x SMA
Acceleration / Motion Sensor STMicroelectronics ISM330DLC		•	•
Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO		2x RP-SMA	2x RP-SMA
High Accuracy Positioning Wireless Module u-blox ZED-F9P		optional	optional
Technical Data			
Dimensions w230 x h110 x d127 mm (housing, incl. mounting)		•	•
Net weight in gram		tbd	tbd
Input voltage and reverse polarity protected (M12 5P male a-coded)		16.8 ... 45VDC (isolated)	9 ... 36VDC
Interruption of voltage supply time: EN50155 Class S2		> 10ms	n/a
Current consumption typ. in mA @ 24V without Add-Ins, idle		~400	~400
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~10	~10
Environmental Conditions			
Operating temperature ³		-25°C ... +60°C	-25°C ... +60°C
Storage temperature		-25°C ... +80°C	-25°C ... +80°C
Protection standard		IP20	IP20
Conformal coating ⁴		on request	on request
Shock (designed to meet)		EN61373	EN60068-2-27
Vibration (designed to meet)		EN61373	EN60068-2-64
EMI-Conformity (designed to meet)		EN50121-3-2	EN55032 / EN55035
Safety (designed to meet)		EN62368-1	EN62368-1
Radio and Telecommunication (designed to meet)		RED	RED
MTBF @ 25°C ambient according to Telcordia SR-332, Environment GB, excluding battery and optional interfaces		~280 000h	~280 000h

¹ Please contact factory for minimum order quantities

² Internal connector

³ Depending on installation situation and interface connection. Please see user documentation. ⁴ On all possible components (excl. NVIDIA Xavier Module, connectors and wireless devices)

Product specifications subject to change without notice. | All data is for information purposes only and not guaranteed for legal purposes. Information in this data sheet has been carefully checked and is believed to be accurate. However, no responsibility is assumed for inaccuracies. Please refer to the user documentation for additional product specification.

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industrial computing

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