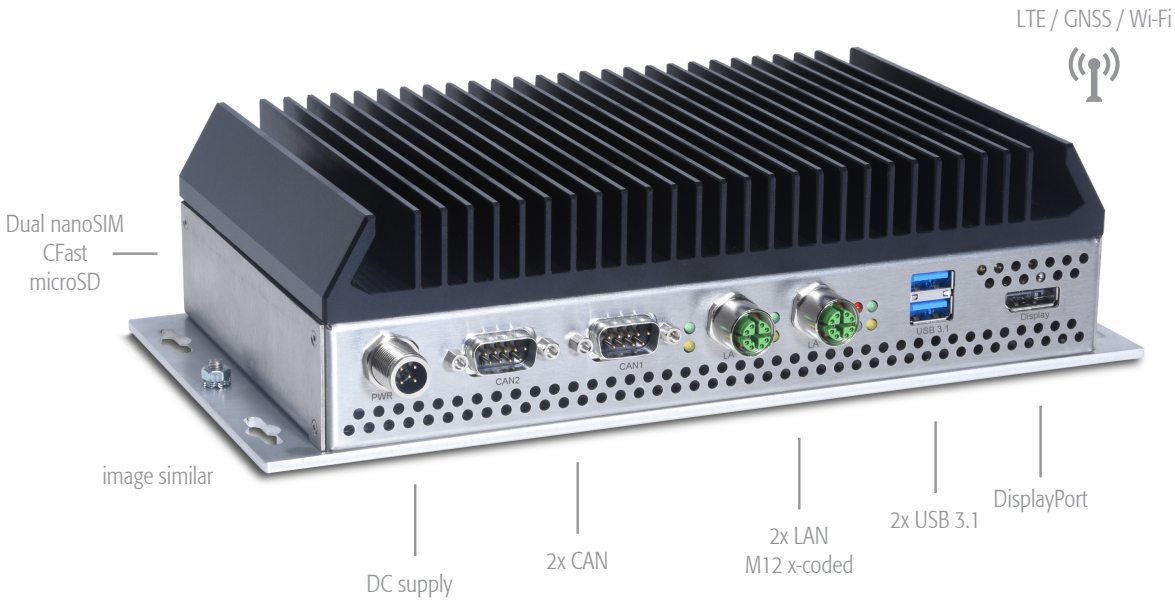
AI Vehicle Computer

COMPACT AI Vehicle Series

Computer Vision Edge Unit with NVIDIA Jetson AGX Xavier



IPC/COMPACT A3 - RSL

This fanless RSL COMPACT-A3 generation is based on the 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 mobile AI applications and guarantees long term availability.

- **24/7 continuous operation**
- **Extended AI Computing**
- **Passively cooled, no moving parts**
- **Long term availability with fixed BOM**

NVIDIA
Linux for Tegra (L4T)

CE E1

Product Highlights

UNECE-R10 (E-mark) certified
Positioning capabilities with dead reckoning
Power ignition controller
Shock and vibration resistant
LTE and Wi-Fi connectivity options
No moving parts / passively cooled

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
Storage options: NVMe M.2 2280 & CFast
Ethernet, USB, CAN (J1939)
LTE, GNSS and WiFi
Aluminum & stainless steel housing

Industries

Automotive
Automated Guided Vehicles (AGV)
Transportation
Robotics
Off-highway vehicles

Your partner for reliable embedded computer solutions.

AI Vehicle Computer

		Order Code	IPC/RSLA3K22-A106S[1]	IPC/RSLA3K22-C103S[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 behind the cover			1	1
M.2 2280 Key M socket (for NVMe SSD) [2]			1	1
CFast socket with retention frame [2]			1	1
Features				
Inertial measurement unit (IMU) STMicroelectronics ISM330DHCXTR			on request	on request
Real time clock (RTC) with battery backup Renata CR2477 (950 mAh)			•	•
Communication Interfaces				
Graphic interface			DisplayPort 1.2	DisplayPort 1.2
USB version 3.1(10 Gbit/s)	(Type A)		2	2
Internal USB version 2.0 OTG behind the cover	(micro USB Type AB)		1	1
Ethernet 10/100/1000 BASE-T	(M12 female x-coded)		2	2
CAN 2.0A / CAN 2.0B (active/passive), CAN FD supported, isolated	(DSUB9)		2	2
Power over Ethernet - IEEE802.3at 10/100/1000Mbit requires taller housing: h95mm	(RJ45 / M12 female x-coded)		on request	on request
Serial RS232 / RS422/RS485 requires taller housing: h95mm	(DSUB9)	choose one	on request	on request
Digital I/O's, 24VDC requires taller housing: h95mm	(up to 4 inputs & 4 outputs)		on request	on request
Analog input[1], 0-20mA or -10...+10V / 0... 30V (16bit resolution Accuracy: +/- 0.1%), requires taller housing: h95mm	(4 inputs)		on request	on request
MIPI CSI-2 / GMSL2 / FPDLinkIII Camera interface [1], requires taller housing: h95mm			on request	on request
Wireless Connectivity				
Cellular 4G Module (LTE/UMTS/GSM) with built-in GNSS Telit LE910C4-WWX [6] (Dual nano SIM support)			3x SMA	none
Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth 5.0 Emwicon WMX6218 [6]			2x RP-SMA	none
High Accuracy GNSS Positioning Module w/ RTK support [1] u-blox ZED F9R / F9P may require taller housing depending on final SKU			on request	none
Technical Data				
Dimensions [mm] (housing, incl. mounting plate)			w256 x h67.5 x d127	w256 x h67.5 x d127
Net weight [gram]			~2300	~2250
Non isolated input voltage with ignition controller and reverse polarity protection	(M12 5P male a-coded)		9 ... 45VDC	9 ... 45VDC
Power consumption [3]			depends on power mode (15W, 30W, MAXN)	
Environmental Conditions				
Operating temperature [3]			–25°C ... +65°C	–25°C ... +65°C
Storage temperature			–25°C ... +80°C	–25°C ... +80°C
Ingress protection standard according to EN60529 (ISO 20653)			IP20	IP20
Conformal coating [4]			on request	on request
Road vehicles [5]			UNECE-R10 (E-mark)	UNECE-R10 (E-mark)
Shock			EN60068-2-27	EN60068-2-27
Vibration			EN60068-2-64	EN60068-2-64
EMI-Conformity			EN55032 / EN55035	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			~325 000h	~435 000h

[1] Please contact factory for minimum order quantities
[2] Internal connector
[3] Depending on installation situation, interface connection and power mode. Please see user documentation.
[4] On all possible components (excl. NVIDIA Xavier Module, connectors and wireless devices)
[5] UN/ECE-R10 is the type-approval test for European automotive electronics. It includes a variety of testing including RF immunity and emissions, transient immunity and emissions.
[6] These LTE and Wi-Fi modules have replaced the previously used Sierra Wireless MC7455 and SparkLAN WPEB-263ACNI(BT) due to these modules going EOL (previous products: IPC/RSLA3K22-A103S)

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Assured Systems

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