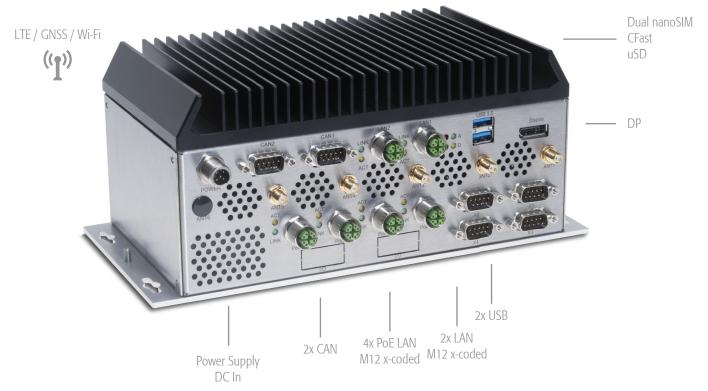
Al Vehicle Computer COMPACT Al Vehicle Series

preliminary

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
- High Accuracy GNSS option

NVIDIA. Linux for Tegra (L4T)

Product Highlights

Goldcap or battery RTC clock backup No moving parts / passive cooling ARM CPU core Hardware watchdog Temperature supervision ESD- protection on all interfaces Long term availability (fixed BOM) Shock and vibration resistant

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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

CE

Railway (rolling stock)

Processor module /	Performance
NVIDIA Jetson AGX Xavier	r (32GB) 512-Core NVIDIA Volta™ GPU with 64 Tensor Cores
8-Core ARM v8.2 64-bit N	IVIDIA Carmel CPU
Al Performance	

Al 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	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	(Туре А)	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
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		optional	optional
Analog I/O		optional	optional
Mini PCle socket ²		1	1
I2C bus ²		•	•
Buzzer		•	•
Wireless Connectivity			

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)		•	٠
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)		•	٠
Net weight in gram		tbd	tbd
Input voltage and reverse polarity protected	(M12 5P male a-coded)	16.8 45VDC (isolated)	9 30VDC
Interruption of voltage supply time: EN50155		> 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 +50°C	−25°C +50°C
Storage temperature		−25°C +80°C	−25°C +80°C
Protection standard: IP20		•	•
Conformal coating ⁴		tbd	tbd
Shock: EN60068-2-27 / EN61373		•	٠
Vibration: EN60068-2-64 / EN61373		•	•

 VIDIAtion: EN60068-2-64 / EN61373
 •

 EMI-Conformity EN-50121-3-2
 •

 Designed to meet safety according to EN62368-1
 •

 Radio and Telecommunication: Designed to meet RED
 •

 MTBF ~ 150 000h (17.1 Years) @ 25°C
 tbd

 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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