

AI Vehicle Computer

COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson TX2



AI Vehicle Computer

IPC/COMPACT A2 - RS

This fanless RS COMPACT-A2 generation is based on the NVIDIA Jetson TX2(i) 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
- Extended AI Computing
- No moving parts / passive cooling
- Product lifecycle management
- Long term availability with fixed BOM

NVIDIA. Linux for Tegra (L4T)

Product Highlights

Maintenance free
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

Product Features

256-core NVIDIA Pascal™ GPU
Dual-Core NVIDIA Denver 2 64-Bit CPU
Quad-Core ARM® Cortex®-A57 MPCore
8GB 128-bit LPDDR4 RAM soldered on board
Socket for CFast
Ethernet, USB, Passive or Active CAN
Optional 4G LTE connectivity
Aluminum & Stainless steel housing
Protection class IP40

Markets / Applications

Automated Guided Vehicles (AGV)
Transportation
Cleantech



Order Code IPC/RSA2I20-A103S¹ IPC/RSA2I20-B103S¹

Processor module / Performance			
NVIDIA Jetson TX2 256-core NVIDIA Pascal™ GPU	•	•	
NVIDIA Jetson TX2i 256-core NVIDIA Pascal™ GPU	optional	optional	
NVIDIA Jetson TX2 4GB 256-core NVIDIA Pascal™ GPU	on request	on request	
Dual-Core NVIDIA Denver 2 64-Bit CPU and Quad-Core ARM® Cortex®-A57 MPCore	•	•	
AI Performance	1.3 TOPs	1.3 TOPs	
Memory / Storage			
Data Cache Size	2MB	2MB	
4ch x 32-bit LPDDR4 RAM soldered on board	8GB	8GB	
eMMC 5.1 Flash Storage on board	32GB	32GB	
microSD Card socket ²	1	1	
CFast socket with retention frame ²	1	1	
Features			
Inertial measurement unit (IMU) STMicroelectronics ISM330DLC	•	•	
Real time clock (RTC) with battery backup Renata CR2450N (540mAh)	•	•	
Real time clock (RTC) with Goldcap backup (48h)	optional	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 (1x native, 1x I210-IT) (M12 female x-coded)	2	2	
Active/passive-CAN ESD protected, isolated (1x DSUB9)	2	2	
RS232 / RS422/485 ESD protected (DSUB9)	optional	optional	
Mini PCIe socket ²	1	1	
I2C bus ²	•	•	
Buzzer	•	•	
MIPI CSI-2 Camera Interface ²	•	•	
Wireless Connectivity			
Cellular Module (LTE/UMTS/GSM) with GNSS positioning functionality Sierra Wireless MC7455 - M2M only! (3x SMA)	optional	•	
Dual SIM Support (nanoSIM to mPCIe slot ²)	•	•	
Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth 4.1 (2x RP-SMA)	•	•	
Technical Data			
Dimensions w174 x h52 x d127 mm (housing without mounting bracket)	•	•	
Net weight in gram	~950	~950	
Non isolated input voltage, with Ignition controller, reverse polarity protected (M12 4P male a-coded)	9... 45VDC	9... 45VDC	
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 ... +70°C	-25°C ... +70°C	
Storage temperature	-25°C ... +80°C	-25°C ... +80°C	
Extended operating temperature -40°C ... +70°C	with TX2i	with TX2i	
Extended storage temperature -40°C ... +85°C	with TX2i	with TX2i	
Protection standard	IP40	IP40	
UN/ECE R10 (E-mark) certification	on request	on request	
Conformal coating ⁴	on request	on request	
Shock (designed to meet)	EN60068-2-27	EN60068-2-27	
Vibration (designed to meet)	EN60068-2-64	EN60068-2-64	
EMC/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	~700 000h	~490 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. TX2(i) 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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