

AI Vehicle Computer

COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson TX2



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



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
Aluminum & Stainless steel housing
Protection class IP40

Markets / Applications

Automated Guided Vehicles (AGV)
Transportation
Cleantech



Order Code IPC/RSA2I20-A103S¹

Processor module / Performance		
NVIDIA Jetson TX2 256-core NVIDIA Pascal™ GPU		•
NVIDIA Jetson TX2i 256-core NVIDIA Pascal™ GPU		on request
NVIDIA Jetson TX2 4GB 256-core NVIDIA Pascal™ GPU		on request
Dual-Core NVIDIA Denver 2 64-Bit CPU and Quad-Core ARM® Cortex®-A57 MPCore		•
AI Performance		1.3 TOPs
Memory / Storage		
Data Cache Size		2MB
4ch x 32-bit LPDDR4 RAM soldered on board		8GB
eMMC 5.1 Flash Storage on board		32GB
microSD Card socket ²		1
CFast socket with retention frame ²		1
Features		
Inertial measurement unit (IMU) STMicroelectronics ISM330DLC		•
Real time clock (RTC) with battery backup Renata CR2450N (540mAh)		•
Communication Interfaces		
Graphic interface		DisplayPort 1.2
USB version 3.0	(Type A)	2
Internal USB version 2.0 OTG <small>behind the cover</small>	(micro USB Type AB)	1
Ethernet 10/100/1000Mbit (1x native, 1x I210-IT)	(M12 female x-coded)	2
Active/passive-CAN ESD protected, isolated	(1x DSUB9)	2
RS232 / RS422/485 ESD protected	(DSUB9)	optional
Mini PCIe socket ²		1
I2C bus ²		•
Buzzer		•
MIPI CSI-2 Camera Interface ²		•
Wireless Connectivity		
Cellular Module (LTE/UMTS/GSM) with GNSS positioning functionality ¹	(3x SMA)	on request
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 <small>(housing without mounting bracket)</small>		•
Net weight in gram		~950
Non isolated input voltage, with Ignition controller, reverse polarity protected	(M12 4P male a-coded)	9... 45VDC
Current consumption typ. in mA @ 24V without Add-Ins, idle		~400
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~10
Environmental Conditions		
Operating temperature ³		-25°C ... +70°C
Storage temperature		-25°C ... +80°C
Extended operating temperature -40°C ... +70°C		with TX2i
Extended storage temperature -40°C ... +85°C		with TX2i
Protection standard		IP40
UN/ECE R10 (E-mark) certification		on request
Conformal coating ⁴		on request
Shock (designed to meet)		EN60068-2-27
Vibration (designed to meet)		EN60068-2-64
EMC/EMI-Conformity		EN55032 / EN55035
Safety (designed to meet)		EN62368-1
Radio and Telecommunication (designed to meet)		RED
MTBF @ 25°C ambient <small>according to Telcordia SR-332, Environment GB, excluding battery</small>		~700 000h

¹Please contact factory for minimum order quantities

²Internal connector

³Depending on installation situation and interface connection. Please see user documentation

⁴On 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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