AI Vehicle Computer

COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson TX2

GNSS / Wi-Fi / BT
optional LTE

Dual nanoSIM
CFast
uSD
DisplayPort

PWR

CAN

USB 3.0
USB 3.0

ACT LAN 2   ACT LAN 1

LINK

R

B

DC Supply
9 … 45VDC

2x CAN

2x USB 3.0

2x LAN
M12 x-coded
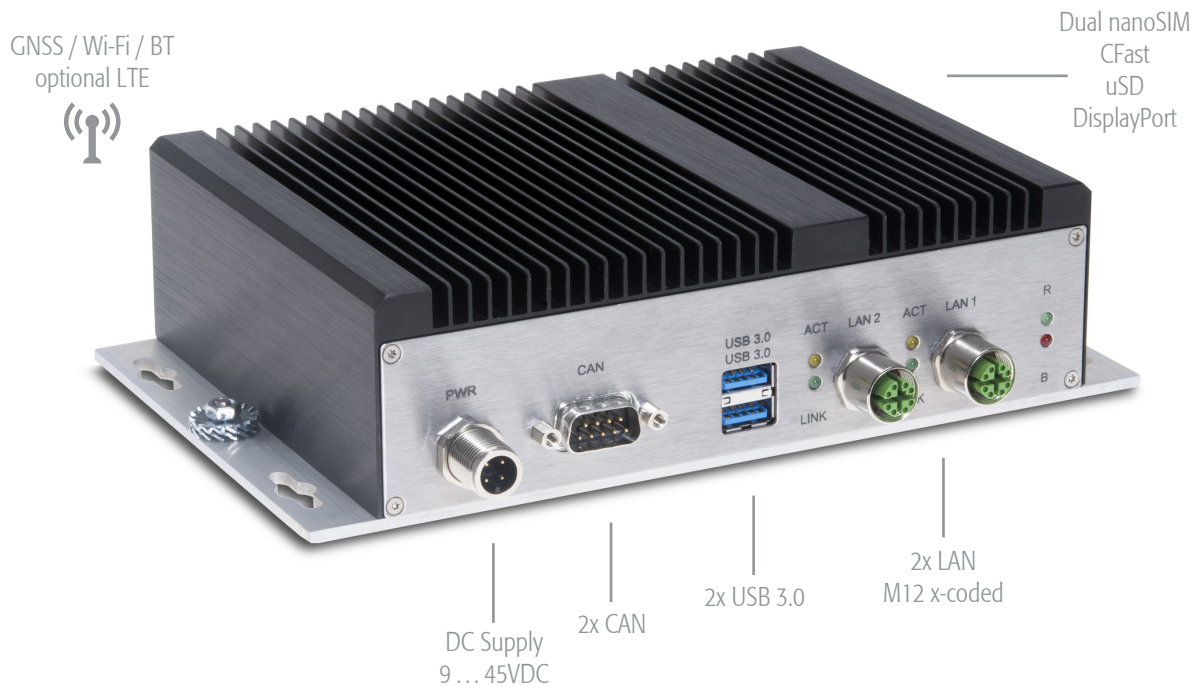
IPC/COMPACT A2 - RS

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
Aluminum & Stainless steel housing
Protection class IP40

Markets / Applications

Automated Guided Vehicles (AGV)
Transportation
Cleantech

CE

Your partner for reliable embedded computer solutions.

	Order Code	IPC/RSA2I20-A103S[1]
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 behind the cover	(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 (housing without mounting bracket)		•
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 according to Telcordia SR-332, Environment GB, excluding battery		~700 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)

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industrial computing