

AI Vehicle Computer

COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson TX2 NX



AI Vehicle Computer

IPC/COMPACT A2N - RM

This fanless COMPACT A2N generation is based on the NVIDIA Jetson TX2 NX 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.

- Power over Ethernet (PoE+), 48VDC out
- 24/7 continuous operation
- 6 total LAN Interfaces with individual NIC's
- Passively cooled, no moving parts
- Long term availability with fixed BOM

 **NVIDIA.** Linux for Tegra (L4T)

Product Highlights

Maintenance free
Power Ignition Controller
Shock and vibration resistant
Each LAN interface has its own dedicated NIC
No moving parts / passively cooled

Product Features

256-core NVIDIA Pascal™ GPU Dual-Core
NVIDIA Denver 2 64-Bit CPU Quad-Core
ARM® Cortex®-A57 MPCore
4GB 128-bit LPDDR4x RAM soldered on board
M.2 NVMe slot for storage expansion up to 2TB
Ethernet, USB, passive or active CAN
Aluminum & Stainless steel housing
Protection class IP65

Markets / Applications

Autonomous Mobile Robots (AMRs)
Automotive
Transportation
Robotics
Agriculture
Construction Vehicles



Processor module / Performance		
NVIDIA Jetson TX2 NX 256-core NVIDIA Pascal™ GPU		
6-Core ARM CPU (Dual-Core NVIDIA Denver 2 64-Bit CPU and Quad-Core ARM® Cortex®-A57 MPCore)		
AI Performance		1.33 TFLOPs
Memory / Storage		
Data Cache Size		2MB
128-bit LPDDR4 RAM soldered on board		4GB
eMMC 5.1 Flash Storage on board		16GB
M.2 2280 Key M socket (for NVMe SSD) ⁵		1
microSD card socket ²		1
Features		
Real time clock (RTC) with battery backup Renata CR2477N (950mAh)		•
Hardware Watchdog & Temperature supervisor		•
Buzzer		•
Communication Interfaces		
Display output <small>behind the service cover</small>		DisplayPort 1.4
Internal USB version 2.0 OTG <small>behind the service cover</small>	(micro USB Type AB)	1
USB version 2.0 <small>behind the service cover</small>	(Type A)	2
Display output		HDMI 2.0
USB version 3.1 (5 Gbit/s)	(Type A)	1
USB version 2.0 ¹	(Type A)	optional
Ethernet 10/100/1000 BASE-T (1x native, 1x I210-IT)	(M12 female, x-coded)	2
Power over Ethernet - IEEE802.3at 10/100/1000Mbit	(M12 female, x-coded)	4
PSE - Power sourcing equipment, producing 48VDC out		(total max power: 39W)
CAN 2.0A / CAN 2.0B (active/passive), CAN FD supported, isolated	(M12 female, a-coded)	1
Serial RS232	(M12 male, a-coded)	1
Serial RS422/RS485		optional
I2C bus ²		1
Digital I/O's, 24VDC ¹	(up to 4 inputs & 4 outputs)	optional
Analog input, 0-20mA or -10...+10V / 0... 30V ¹ (16bit resolution Accuracy: +/- 0.1%)	(4 inputs)	optional
Mini PCIe socket ² , used for extensions depending on configuration		2
MIPI CSI-2 / GMSL2 / FPDLinkIII Camera interface ¹		on request
Technical Data		
Dimensions [mm] (housing, excl. mounting)		w182 x h75 x d127
Dimensions [mm] (housing, incl. mounting)		w218 x h75 x d127
Net weight [gram]		~1900
Non isolated input voltage, with ignition controller, reverse polarity protected	(M12 male, a-coded)	9... 45VDC
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~12
Environmental Conditions		
Operating temperature ³		-25°C ... +65°C
Storage temperature		-25°C ... +85°C
Ingress protection standard according to EN60529		IP65
Conformal coating ⁴		on request
Shock (designed to meet)		EN60068-2-27
Vibration (designed to meet)		EN60068-2-64
EMI-Conformity (designed to meet)		EN55032 / EN55035
Safety (designed to meet)		EN62368-1
MTBF @ 25°C ambient <small>excluding battery</small>		~425 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. Xavier NX module, connectors and wireless devices)

⁵ It is possible to equip the products with an Industrial grade Apacer PV210 NVMe SSD. Retrofitting an SSD is not possible by the user without complete disassembly. Use these part codes:
IPC/RMA2NH20-E202S-01 = 120GB | IPC/RMA2NH20-E-202S-02 = 240GB | IPC/RMA2NH20-E202S-05 = 480GB | IPC/RMA2NH20-E202S-10 = 960GB

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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