AI Vehicle Computer

COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson Xavier NX

2x USB 2.0
microSD
DisplayPort

USB 3.1
HDMI

Image similar

Power Supply
9 ... 45VDC

RS232

CAN

2x GBit LAN
(M12-x)

4x PoE LAN
(RJ45)
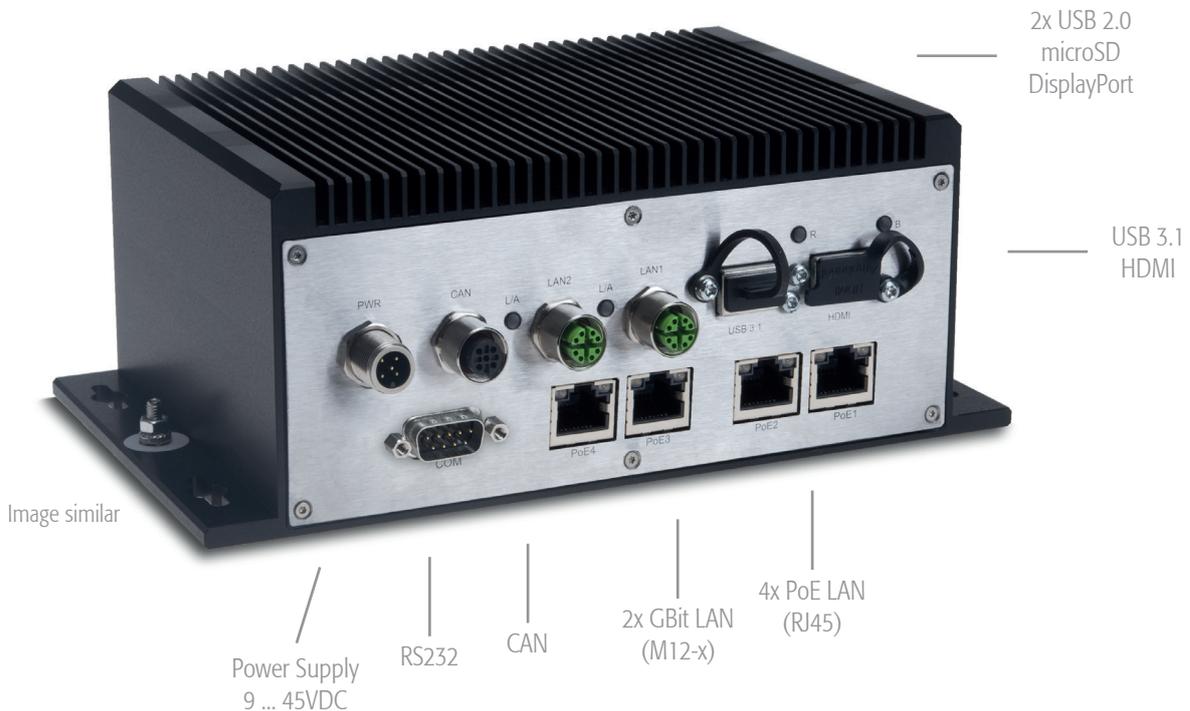
IPC/COMPACT A3N - RM

This fanless COMPACT A3N generation is based on the NVIDIA Jetson Xavier 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

384-core NVIDIA Volta™ GPU
with 48 Tensor Cores
6-Core ARM v8.2 64-bit NVIDIA Carmel CPU
8GB / 16GB 128-bit LPDDR4x RAM
M.2 NVMe slot for storage expansion up to 2TB
USB 3.1 and HDMI 2.0 ports
Ethernet, RS232 Passive or Active CAN
Anodized aluminum & stainless steel housing

Markets / Applications

Autonomous Mobile Robots (AMRs)
Automotive
Transportation
Robotics
CCTV

CE

Your partner for reliable embedded computer and display solutions.

Processor module / Performance	
NVIDIA Jetson Xavier NX | 384-core NVIDIA Volta™ GPU with 48 Tensor Cores 6-Core ARM v8.2 64-bit NVIDIA Carmel CPU	•
NVIDIA Jetson Xavier NX **(16GB RAM)** | 384-core NVIDIA Volta™ GPU with 48 Tensor Cores 6-Core ARM v8.2 64-bit NVIDIA Carmel CPU	optional

Memory / Storage	
Data Cache Size	2MB
128-bit LPDDR4x RAM soldered on board	8GB
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 behind the service cover		DisplayPort 1.4
Internal USB version 2.0 OTG behind the service cover	(micro USB Type AB)	1
USB version 2.0 behind the service cover	(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 PSE - Power sourcing equipment, producing 48VDC out	(M12 female, x-coded)	4 (total max power: 39W)
CAN 2.0A / CAN 2.0B (active/passive), CAN FD supported, isolated	(M12 female, a-coded)	1
Serial RS232 up to two ports available internally	(M12 male, a-coded)	1
Digital I/O's, 24VDC	(up to 4 inputs & 4 outputs)	optional
Analog input1, 0-20mA or -10...+10V / 0... 30V (16bit resolution Accuracy: +/- 0.1%)	(4 inputs)	optional
Mini PCIe socket [2, used for extensions depending on configuration]		2
I2C bus [2]		1
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]		~1700
Non isolated input voltage, with ignition controller, reverse polarity protected	(M12 male, a-coded)	9... 45VDC
Idle power consumption typ. in Watt @ 24V without Add-Ins		~13

Environmental Conditions	
Operating temperature [3]	−25°C ... +65°C
Storage temperature	−25°C ... +85°C
Ingress protection standard according to EN60529	IP40
Conformal coating [4]	on request
Road vehicles: UNECE-R10 (E-mark)	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 according to Telcordia SR-332, Environment GB, excluding battery and SSD	~415 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/RMA3NI19-G202S-01 = 128GB | IPC/RMA3NI19-G202S-02 = 256GB | IPC/RMA3NI19-G202S-05 = 512GB | IPC/RMA3NI19-G202S-10 = 1TB

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