COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson Xavier NX



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 Al 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



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 with dust covers Ethernet, RS232, passive or active CAN Anodized aluminum & stainless steel housing Protection class IP65

Markets / Applications

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



Processor module / Performance		,
NVIDIA Jetson Xavier NX 384-core NVIDIA Volta™ GPU with 48 Tensor Core.	\$	•
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		optional
6-Core ARM v8.2 64-bit NVIDIA Carmel CPU		ориона
Memory / Storage		060
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		<u> </u>
microSD card socket ²		1
Features		
Real time clock (RTC) with battery backup Renata CR2477N (950mAh)		•
Hardware Watchdog & Temperature supervisor		•
Buzzer		1
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 2.01	(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	(W12 lethale, x-coded)	(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
Serial RS422/RS485	(W12 Haic, a coucu)	optional
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 PCle socket 2, used for extensions depending on configuration	(4 прису)	2
12C bus ²		<u>Z</u>
MIPI CSI-2 / GMSL2 / FPDLinkIII Camera interface ¹		on request
		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
EMC-Conformity		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
Please contact factory for minimum order quantities		

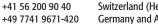
Please contact factory for minimum order quantities

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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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-E202S-01 = 120GB | IPC/RMA3NI19-E202S-02 = 240GB | IPC/RMA3NI19-E202S-05 = 480GB | IPC/RMA3NI19-E202S-10 = 960GB