AI Embedded Box PCs
COMPACT-S AI Series
Intelligent Machine Learning Unit with NVIDIA JETSON AGX Xavier NX

preliminary

LTE / GPS / WI-FI

2x USB 2.0
CFast /uSD
DisplayPort

Image similar

GND VDC PF   CAN   LAN4 LAN3 D LAN2 LAN1 USB3 R
A B

2x USB 3.1

4x Gbit LAN

2x CAN

Power Supply
9 ... 30VDC

IPC/COMPACT A3N

This fanless COMPACT A3N generation is based on the NVIDIA Jetson AGX 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 AI applications and guarantees long term availability.

- 24/7 continuous operation
- Extended AI Computing
- No moving parts
- Product lifecycle management
- Long term availability with fixed BOM

◎ NVIDIA. Linux for Tegra (L4T)

Product Highlights

Maintenance free
Goldcap instead of battery backup
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

384-core NVIDIA Volta™ GPU
with 48 Tensor Cores
6-Core ARM v8.2 64-bit NVIDIA Carmel CPU
8GB 128-bit LPDDR4x RAM soldered on board
Socket for CFast
Ethernet, USB, Passive or Active CAN
Optional LTE & WiFi extensions
Aluminum & Stainless steel housing
Protection class IP40

Markets / Applications

Industrial Automation
Automated Guided Vehicle (AGV)
Traffic control
Transportation and vehicle construction
Cleantech

CE

Your partner for reliable embedded computer and display solutions.

Processor module / Performance	
NVIDIA Jetson JETSON AGX XAVIER NX | 384-core NVIDIA Volta™ GPU with 48 Tensor Cores	•
6-Core ARM v8.2 64-bit NVIDIA Carmel CPU	•
AI Performance (INT8)	21 TOPs

Memory / Storage	
Data Cache Size	2MB
128-bit LPDDR4x RAM soldered on board	8GB
eMMC 5.1 Flash Storage on board	16GB
microSD Card socket [2]	1
CFast socket with retention frame [2]	1

Features	
Real time clock PC compatible with battery backup Renata CR2477N (950mAh)	•
Real time clock PC compatible with Goldcap backup (48h)	optional
Hardware Watchdog & Temperature supervisor	•
Intelligent power management	•

Communication Interfaces		
Graphic interface		DisplayPort 1.4
USB version 3.1	(Type A)	2
Internal USB version 2.0 OTG behind the cover	(micro USB Type AB)	1
Ethernet 10/100/1000Mbit (1x native, 3x I210-IT)	(RJ45)	4
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 / GMSL 1&2 Camera interface [1]		on request

Wireless Connectivity		
Cellular Module (LTE/UMTS/GSM) with GNSS positioning functionality Sierra Wireless MC7455 - M2M only!	(3x SMA)	optional
Dual SIM Support (nanoSIM to mPCIe slot [2])		•
Inertial measurement unit (IMU) STMicroelectronics ISM330DLC		•
Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth 4.1 Sparklan WPEB-263ACNI(BT)	(2x RP-SMA)	oprional

Technical Data	
Dimensions w174 x h52 x d127 mm (housing without mounting bracket)	•
Net weight in gram	~1000
Non isolated input voltage, with Ignition controller, reverse polarity protected	9... 30VDC
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 ... +60°C
Storage temperature	−25°C ... +80°C
Protection standard: IP40	•
Conformal coating [4]	tbd
Shock: EN60068-2-27 / EN61373	•
Vibration: EN60068-2-64 / EN61373	•
EMI-Conformity EN-50121-3-2	•
Safety according to EN62368-1	•
Radio and Telecommunication: Designed to meet RED	•
estimated MTBF ~150 000h (17.1 Years) @ 25°C excluding battery	tbd

[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 Module, connectors and wireless devices)

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