

AI Vehicle Computer

COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson Xavier NX

preliminary

optional
LTE / GPS / Wi-Fi



2x USB 2.0
microSD
DisplayPort

Image similar



Power Supply
9 ... 45VDC

CAN

2x GBit LAN

USB 3.1

HDMI

AI Vehicle Computer

IPC/COMPACT A3N - RS

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.

- 24/7 continuous operation
- Extended AI Computing
- 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
LTE, GNSS and Wi-Fi connectivity options
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 128-bit LPDDR4x RAM soldered on board
M.2 slot for storage expansion
Ethernet, USB, Passive or Active CAN
LTE, GNSS & WiFi
Aluminum & Stainless steel housing
Protection class IP65

Industries / Applications

Automated Guided Vehicles (AGV)
Automotive
Transportation
Robotics
Agriculture
Construction Vehicles



Order Code IPC/RSA3NI19-E102S¹ IPC/RSA3NI19-F102S¹

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

AI Performance (INT8)

21 TOPs

21 TOPs

Memory / Storage

Data Cache Size

2MB

2MB

128-bit LPDDR4x RAM soldered on board

8GB

8GB

eMMC 5.1 Flash Storage on board

16GB

16GB

M.2 2280 slot for SSD storage up to 2TB²

1

1

microSD card socket²

1

1

Features

Inertial measurement unit (IMU) STMicroelectronics ISM330DHCXTR

•

•

Real time clock (RTC) with battery backup Renata CR2477N (950mAh)

•

•

Hardware Watchdog & Temperature supervisor

•

•

Communication Interfaces

Graphic interface behind the service cover

DisplayPort 1.4

DisplayPort 1.4

Internal USB version 2.0 OTG behind the service cover

(micro USB Type AB)

1

1

USB version 2.0 behind the service cover

(Type A)

2

2

Graphic interface

HDMI 2.0

HDMI 2.0

USB version 3.1

(Type A)

1

1

USB version 2.0¹

(Type A)

optional

optional

Ethernet 10/100/1000Mbit (1x native, 1x I210-IT)

(M12 female, x-coded)

2

2

Active/passive-CAN ESD protected, isolated

(M12 female, a-coded)

1

1

Serial RS232²

2

2

Mini PCIe socket²

2

2

I2C bus²

1

1

Buzzer

1

1

MIPI CSI-2 / GMSL2 / FPDLinkIII Camera interface¹

on request

on request

Wireless Connectivity

Cellular Module (LTE/UMTS/GSM) with GNSS positioning functionality Sierra Wireless MC7455 - M2M only! (Dual nano SIM)

none

3x SMA

Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth 4.1 SparkLAN WPEB-263ACNI(BT)

none

2x RP-SMA

High precision GNSS module¹ u-blox ZED-F9P module

optional

optional

Technical Data

Dimensions [mm] (housing, excl. mounting)

w182 x h55 x d127

w182 x h55 x d127

Dimensions [mm] (housing, incl. mounting)

w218 x h55 x d127

w218 x h55 x d127

Net weight [gram]

~ 1400

~ 1500

Non isolated input voltage, with ignition controller, reverse polarity protected (M12 male, a-coded)

9... 45VDC

9... 45VDC

Current consumption typ. in mA @ 24V without Add-Ins, idle

~ 400

~ 400

Power consumption typ. in Watt @ 24V without Add-Ins, idle

~ 10

~ 10

Environmental Conditions

Operating temperature³

-25°C ... +65°C

-25°C ... +65°C

Storage temperature

-25°C ... +85°C

-25°C ... +85°C

Ingress protection standard according to EN60529

IP65

IP65

Conformal coating⁴

on request

on request

Shock (designed to meet)

EN60068-2-27

EN60068-2-27

Vibration (designed to meet)

EN60068-2-64

EN60068-2-64

EMI-Conformity (designed to meet)

EN55032 / EN55035

EN55032 / EN55035

Safety (designed to meet)

EN62368-1

EN62368-1

Radio and Telecommunication (designed to meet)

RED

RED

MTBF @ 25°C ambient excluding battery

tbd

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 NX module, connectors and wireless devices)

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

US

sales@assured-systems.com

Sales: +1 347 719 4508

Support: +1 347 719 4508

1309 Coffeen Ave
Ste 1200
Sheridan
WY 82801
USA

EMEA

sales@assured-systems.com

Sales: +44 (0)1785 879 050

Support: +44 (0)1785 879 050

Unit A5 Douglas Park
Stone Business Park
Stone
ST15 0YJ
United Kingdom

VAT Number: 120 9546 28

Business Registration Number: 07699660