

AI Rugged Computer

COMPACT AI Rugged Series

Intelligent Machine Learning Unit with NVIDIA Jetson TX2(i)

Dual nanoSIM
CFast
2 x USB
microSD
DisplayPort



LTE / GNSS / Wi-Fi / BT

Power Supply
9 ... 45 VDC

2x CAN

USB

2x LAN
x-coded

RPC/COMPACT A2 Series

This fanless RPC COMPACT-A2 generation is based on the NVIDIA Jetson TX2(i) processor module and offers a wide range of interface options.

The robust and uncompromising industrial design allows the implementation in the most demanding environments for AI applications and guarantees long term availability.

- IP67 Protection
- Shock and vibration resistant
- Dust and water proof
- Extended AI Computing
- 24/7 continuous operation

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

Product Highlights

Ultra rugged
Sealed housing
Maintenance free
No moving parts / passive cooling
Hardware watchdog
Temperature supervision
ESD- protection on all interfaces
Long term availability (fixed BOM)
RTC backup with battery or goldcap

Product Features

256-core NVIDIA Pascal™ GPU
Dual-Core NVIDIA Denver 2 64-Bit CPU
Quad-Core ARM® Cortex®-A57 MPCore
8GB 128-bit LPDDR4 RAM soldered on board
Socket for CFast
Ethernet, USB, CAN
Field M12 connectors
Rugged aluminum housing
Protection class IP67

Markets / Applications

Construction Vehicles
Transportation
Agriculture
Automated Guided Vehicles (AGV)



Processor module / Performance				
NVIDIA Jetson TX2 256-core NVIDIA Pascal™ GPU		•	•	•
NVIDIA Jetson TX2i 256-core NVIDIA Pascal™ GPU		optional	optional	optional
NVIDIA Jetson TX2 4GB 256-core NVIDIA Pascal™ GPU		on request	on request	on request
Dual-Core NVIDIA Denver 2 64-Bit CPU and Quad-Core ARM® Cortex®-A57 MPCore		•	•	•
AI Performance		1.3 TOPs	1.3 TOPs	1.3 TOPs
Memory / Storage				
Data Cache Size		2MB	2MB	2MB
4ch x 32-bit LPDDR4 RAM soldered on board		8GB	8GB	8GB
eMMC 5.1 Flash Storage on board		32GB	32GB	32GB
microSD Card socket ²		1	1	1
CFast socket with retention frame ²		1	1	1
Features				
Real time clock PC compatible with battery backup Renata CR2477N (950 mAh)		•	•	•
Hardware Watchdog & Temperature supervisor		•	•	•
Intelligent power management		•	•	•
Inertial measurement unit (IMU) STMicroelectronics ISM330DLCTR		•	•	•
Communication Interfaces				
Graphic interface <small>behind the cover</small>		DisplayPort 1.2	DisplayPort 1.2	DisplayPort 1.2
Internal USB version 2.0 OTG <small>behind the cover</small>	(micro USB Type AB)	1	1	1
USB version 2.0 <small>behind the cover</small>	(Type A)	2	2	2
USB version 2.0	(1x M12 female a-coded)	2	none	2
Ethernet 10/100/1000Mbit (1x native, 1x I210-IT)	(M12 female x-coded)	2	2	2
Active/passive-CAN ESD protected, isolated	(M12 female a-coded)	2 (2x M12 5P)	2 (1 x M12 8P)	2 (2x M12 5P)
Mini PCIe socket ²		1	1	1
I2C bus ²		•	•	•
Buzzer		•	•	•
MIPI CSI-2 Camera Interface ²		•	•	•
USB version 3.0 ¹		on request	on request	on request
Wireless Connectivity				
Cellular 4G Module with GNSS receiver (LTE/UMTS/GSM) Sierra Wireless MC7455 - M2M only, uses mPCIe socket ²		3 x SMA	3 x SMA	none
Dual SIM Support (nanoSIM to mPCIe slot ²)		•	•	none
Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth 4.1		2 x RP-SMA	2 x RP-SMA	none
Technical Data				
Dimensions [mm] (housing, incl. mounting)		w245 x h75 x d165	w245 x h75 x d165	w245 x h75 x d165
Net weight [gram]		~3000	~3000	~3000
Non isolated Input voltage, with Ignition controller, reverse polarity protected (M12 4P male a-coded)		9 ... 45VDC	9 ... 45VDC	9 ... 45VDC
16.8...45VDC Input voltage, isolated with Ignition controller, reverse polarity protected ¹		optional	optional	optional
Current consumption typ. in mA @ 24V without Add-Ins, idle		~400	~400	~400
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~10	~10	~10
Environmental Conditions				
Operating temperature ³		-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C
Storage temperature		-25°C ... +80°C	-25°C ... +80°C	-25°C ... +80°C
Extended operating temperature -40°C ... +70°C		with TX2i	with TX2i	with TX2i
Extended storage temperature -40°C ... +85°C		with TX2i	with TX2i	with TX2i
Ingress protection standard according to EN60529 (ISO 20653)		IP67 / IP69	IP67 / IP69	IP67 / IP69
Conformal coating ⁴		on request	on request	on request
UN/ECE R10 (E-mark) certification		on request	on request	on request
Shock		EN60068-2-27	EN60068-2-27	EN60068-2-27
Vibration		EN60068-2-64	EN60068-2-64	EN60068-2-64
EMI-Conformity		EN55032 / EN55035	EN55032 / EN55035	EN55032 / EN55035
Designed to meet safety according to		EN62368-1	EN62368-1	EN62368-1
Radio and Telecommunication (designed to meet)		RED	RED	RED
MTBF @ 25°C ambient <small>according to Telcordia SR-332, Environment GB, excluding battery</small>		~490 000h	~490 000h	~700 000h

¹ Please contact factory for minimum order quantities² Internal connector³ Depending on installation situation and interface connection. Please see user documentation.⁴ On all possible components (excl. TX2(i) Module, connectors and wireless devices)

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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