



Rugged Computer RML A4NX

Computer vision edge device featuring NVIDIA Jetson Orin NX 16GB

PRELIMINARY



Product Highlights

- High-precision GNSS (RTK) w/heading
- IP67, IP69 protection
- High shock and vibration resistance
- Resistance to chemicals
- Inertial measurement unit (IMU)
- Fanless, no moving parts

Market / Applications

- Agriculture
- Construction
- Off-Highway

RPC RML A4NX

The fanless AI edge computers from Syslogic's rugged series are perfectly suited for tough 24/7 use in mobile machinery and agriculture. The RPC RML A4NX not only meets the highest requirements in terms of robustness, but also stands out in terms of AI compute power. It is based on the powerful NVIDIA Jetson Orin™ NX

The AI Rugged Computer RML A4NX was designed from the ground up for autonomous machines and vehicles. The AI edge computer typically handles inference tasks such as object recognition, or intelligent control of autonomous robots, machines and vehicles.

Rugged Computer RML A4NX



Order Code

RPC/RMLA4NX16-H202S-20¹

Processor module / Performance

NVIDIA Jetson Orin NX 1 (16GB RAM) 1024-core NVIDIA Ampere GPU with 32 Tensor Cores
8-core NVIDIA Arm® Cortex A78AE 64-bit CPU, with 100 TOPs



Memory / Storage

2128-Bit LPDDR5 (102.4 GB/s) RAM soldered on module

32GB

Industrial grade NVMe SSD M.2 2280 ² Apacer PV920

1920GB

microSD card socket ²

1x

Features

Real time clock (RTC) with battery Renata CR2477 (950 mAh)



Inertial measurement unit STMicroelectronics ISM330DHCXTR (Please see user documentation for more detailed information and maximum sampling rate)



Intelligent power management (Ignition controller)



Communication Interfaces

DisplayPort 1.4a @ 8K60 ^{behind the service cover (rear)}

(DisplayPort)

1x

Internal USB version 2.0 ^{behind the service cover (rear), for device flashing and SSH access only}

(micro USB Type AB)

1x

USB version 2.0 behind the service cover (rear)

(Type A)

2x

USB version 3.1 (5 Gbit/s) with dustcap

(Type A)

1x

Ethernet 10GbE (100/1000/10000 BASE-T)

(M12 female, x-coded)

1x

Ethernet 1GbE (100/1000 BASE-T)

(M12 female, x-coded)

1x

CAN 2.0A / CAN 2.0B (set to active by default, passive mode possible), CAN FD supported, isolated

(M12 female, a-coded)

2x

GPIOs (Digital I/O's), isolated, current sinking inputs / current sourcing outputs (high side-switch) ^{1)2)24VDC}

(M12 male, a-coded)

4 inputs / 2 outputs

Serial RS232

(M12 male, a-coded)

1x

Wireless connectivity

4G LTE Cat-13 (3G fallback) Sierra Wireless EM7590, dual nano SIM support - M2M only¹

(SMA)

2x SMA

High precision GNSS module (with RTK and heading) u-blox ZED-F9P & ZED-F9H

(SMA)³

2x SMA

Wireless LAN (Wi-Fi 6) 802.11ac/a/b/g/n/aX Intel, Bluetooth 5.2 Module Intel Wireless AX210

(RP-SMA)

2x RP-SMA

Technical Data

Exterior Dimensions [mm] (housing incl. mounting plate)

w250 x h75 x d170

Net weight [gram]

-3000

Non-isolated input voltage, with ignition controller and RP protection

(M12 5P male a-coded)

9 ... 45VDC

Power consumption typ. [Watt] @ 24V without peripherals

-15-25W

Environmental Conditions

Operating temperature ⁴ (Cold startup at maximal -25°C)

-40°C ... +70°C

Non operating temperature (Recommended storage temperature 20°C .. 25°C)

-40°C ... +85°C

Ingress protection standard according to EN60529

IP67, IP69

Conformal coating ⁵

on request

Shock according to ISO 15003 (designed to meet)

50g peak acc. (11ms)

Vibration according to ISO 15003 (designed to meet)

4.1g (10 - 350Hz)

EMC-Conformity

ISO 13766 / ISO 14982

Safety (designed to meet)

EN62368-1

Radio and Telecommunication (designed to meet)

RED

MTBF @ 25°C ^{according to Telcordia SR-332, Environment GM, excluding CFast and optional interfaces}

tbd

Certifications

UKCA/CE



Software

NVIDIA JetPack SDK - [Jetson Linux](#) (Ubuntu based)



¹ Made to order product. Please contact factory for minimum order quantities

² Internal connector

³ Multiband antenna needed (GNSS L1 band and L2/E5b/R2) bands. Example u-Blox type: ANN-MB

⁴ Depends on interface connection and device load. Please see user documentation.

⁵ on all possible components (excl. 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.

Accessories

[syslogic.ai/accessories](mailto:sales@syslogic.com)



For support and further information:
sales@syslogic.com
or syslogic.com