Rugged Computer **RML A4NX**

Computer Vision Edge Unit with NVIDIA Jetson Orin NX (16GB)

Rugged Series

Product Highlights

24/7 continuous operation
IP67 protection, extended temperature range
Power ignition controller
High shock and vibration resistance
Power Over Ethernet (PoE+)

ACCESSORIES

CE UK CA

Rugged Computer RML A4NX

Order Code	RPC/RMLA4NX16-A202S-02[1,6]	RPC/RMLA4NX16-B202S-02[1,6]
Processor module / Performance		
NVIDIA Jetson Orin NX	(16GB RAM) 1024-core NVIDIA Ampere GPU with 32 Tensor Cores 8-core NVIDIA Arm® Cortex A78AE 64-bit CPU	✓	✓
NVIDIA Jetson Orin NX	(8GB RAM) 1024-core NVIDIA Ampere GPU with 32 Tensor Cores 6-core NVIDIA Arm® Cortex A78AE 64-bit CPU	on request [1]	on request [1]
AI Performance	100 TOPs	100 TOPs
Memory / Storage		
128-Bit LPDDR5 (102,4 GB/s) RAM soldered on board	16GB	16GB
M.2 2280 Key M socket (for NVMe SSD) [6, an SSD is required, no internal eMMC storage available]	240GB	240GB
microSD Card socket [2]	1	1
Features		
Inertial measurement unit (IMU) STMicro ISM330DHCXTR	✓	✓
Real time clock (RTC), with battery backup Renata CR2477 (950 mAh)	✓	✓

Communication Interfaces			
DisplayPort 1.4a @ 8K30 behind the service cover (rear)		1	1
Internal USB version 2.0 behind the service cover (rear), for device flashing and SSH access only	(micro USB Type AB)	1	1
USB version 2.0 behind the service cover (rear)	(Type A)	2	2
USB version 3.1 (5 Gbit/s) with dustcap	(Type A)	1	1
Ethernet 10/100/1000 BASE-T (1× native, 1× I210-IT)	(M12 female, x-coded)	2	2
Power over Ethernet - IEEE802.3at 10/100/1000Mbit PSE - Power sourcing equipment, producing 48VDC out	(M12 female x-coded)	4	4
CAN 2.0A / CAN 2.0B (active/passive), CAN FD supported, isolated	(M12 female, a-coded)	1	1
CAN 2.0B only (active/passive), CAN FD supported, isolated	(M12 female, a-coded)	1	1
Digital I/O's, current sinking, isolated [12/24VDC]	(M12 male, a-coded)	4in / 2out [5]	4in / 2out [5]
Serial RS232	(M12 male, a-coded)	1	1
Mini PCIe socket [2, PCIe bandwidth shared with PoE ports]		1	1
USB version 2.0 [1]	(M12 female, a-coded)	on request	on request

Wireless Connectivity		
Cellular 4G Module (LTE/UMTS/GSM) with GNSS Sierra Wireless EM7590 (Dual nano SIM support)	none	3 × SMA
Wireless LAN (Wi-Fi 6/6E) 802.11ax/ac/a/b/g/n dual-band 2x2 MIMO & Bluetooth 5.2 Intel AX210	none	2 × RP-SMA
Cellular 5G module (4G/3G fallback) with GNSS	on request	on request
High precision multiband GNSS module with optional heading support [1] u-blox ZED-F9P/F9R	on request	on request

Technical Data		
Dimensions excl. mounting holes [mm]	w250 × h100 × d170	w250 × h100 × d170
Net weight [gram]	~3600	~3650
Non-isolated input voltage with ignition controller and RP protection (M12 male, a-coded)	9 … 45VDC	9 … 45VDC
Typical power consumption under load with few peripherals attached (25W Mode) [3]	35W	35W

Software / OS		
NVIDIA JetPack SDK – Jetson Linux (Ubuntu based)	✓	✓

Environmental Conditions		
Operating temperature [3, *Cold startup max. -25ºC]	−40ºC* … +70ºC	−40ºC* … +70ºC
Storage temperature	−40ºC … +85ºC	−40ºC … +85ºC
Ingress protection standard according to EN60529	IP67	IP67
Conformal coating [4]	on request	on request
Shock according to ISO 15003 (designed to meet)	50g peak acc. (11ms)	50g peak acc. (11ms)
Vibration according to ISO 15003 (designed to meet)	2g (10 – 350Hz)	2g (10 – 350Hz)
EMC-Conformity	EN55032 / EN55035	EN55032 / EN55035
Safety (designed to meet)	EN62368-1	EN62368-1
Radio and Telecommunication (designed to meet)	n/a	RED
estimated MTBF @ 25ºC ambient according to Telcordia SR-332, Environment GB, excluding battery and SSD	~tbd	~tbd

[1] Please contact factory for minimum order quantities
[2] Internal connector
[3] Depends on installation situation interface connection and device load. Please see user documentation. Cold startup maximal -25ºC
[4] On all possible components (excl. Xavier NX module, connectors and wireless devices)
[5] The six total digital I/Os are each configurable as either output or input via software.
[6] The product must be ordered with an SSD, use the following order codes: RPC/RMLA4NX16-x202S-**02**(240GB), **−05**(480GB), **−10**(960GB), **−20**(1920GB)

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