ASSURED
SYSTEMS

NVIDIA. PREFERRED PARTNER

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Railway Computer **RML A4NX**

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

preliminary

Railway Series

Similar image, IPC/RMLA4NX16-B201S-01

Product Highlights
24/7 continuous operation
Railway certified, EN50155 & EN45545 HL3
Long term availability with fixed BOM
Passive cooling, no moving parts
Power Over Ethernet (PoE+)

ACCESSORIES

CE UK CA

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Railway Computer **RML A4NX**

Order Code	IPC/RMLA4NX16-A201S-02[1,6]	IPC/RMLA4NX16-B201S-01[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	120GB
microSD Card socket [2]	1	1
Features		
Inertial measurement unit (IMU) STMicro ISM330DHCXTR	✓	✓
Real time clock (RTC), with goldcap backup (charge holds typ. 36h)	✓	✓
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) (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 (M12 female x-coded) PSE - Power sourcing equipment, producing 48VDC out	4 (total max. power: 39W)	4 (total max. power: 39W)
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
Mini PCIe socket [2]	1	1
Digital I/O's, current sinking, isolated [12/24VDC] (M12 male, a-coded)	4in / 2out	none
Serial RS232 (M12 male, a-coded)	1	none
Wireless Connectivity		
Cellular 4G Module (LTE/UMTS/GSM) with GNSS Sierra Wireless EM7590 (Dual nano SIM support)	3 × SMA	none
Wireless LAN (Wi-Fi 6) 802.11ax/ac/a/b/g/n dual-band 2x2 MIMO & Bluetooth 5.2 Intel AX210	2 × RP-SMA	none
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 incl. mounting holes [mm]	w314 × h94 × d170	~w330 × h94× d170
Net weight [gram]	~2750	~2700
Isolated wide input voltage with RP protection (M12 male, a-coded)	16.8 … 137.5 VDC	16.8 … 137.5 VDC
Interruption of voltage supply time: EN50155 Class S2	>10ms	>10ms
Power consumption typ. under load [3]	~25W	~25W
Software / OS		
NVIDIA JetPack SDK – Jetson Linux (Ubuntu 20.04 based)	✓	✓
Environmental Conditions		
Operating temperature [3]	−25ºC … +65ºC	−25ºC … +65ºC
Storage temperature	−25ºC … +85ºC	−25ºC … +85ºC
Ingress protection standard (IP-rating)	IP20	IP20
Conformal coating [4]	PCX	PCX
Shock	EN 61373	EN 61373
Vibration	EN 61373	EN 61373
EMC-Conformity	EN 50121-3-2 (IEC62236-3-2)	EN 50121-3-2 (IEC62236-3-2)
Fire protection (designed to meet)	EN 45545-2 HL3	EN 45545-2 HL3
Safety (designed to meet)	EN62368-1	EN62368-1
Radio and Telecommunication (designed to meet)	RED	n/a
estimated MTBF @ 25ºC ambient according to Telcordia SR-332, Environment GB, excluding SSD	~275 000h	~350 000h

[1] Please contact factory for minimum order quantities
[2] Internal connector
[3] Depending on installation situation and interface connection (e.g. PoE). Cold start at −25ºC, during operation −40ºC is possible. Please see user documentation.
[4] On all possible components (excl. Orin 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: IPC/RMLA4NX16-x201S-**02**(240GB), **-05**(480GB), **-10**(960GB), **-20**(1920GB)

For support and further information support@syslogic.ai or www.syslogic.ai

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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.

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