Blox data sheet

A modular approach to hardware

About AI Blox

AI-Blox wants to make edge technology easy. We believe edge technology can democratise the use of AI. But edge intelligence requires specific hardware and we experienced that a lot of new edge AI applications suffer on the hardware elements, resulting in suboptimal hardware solutions. Also knowing that the tooling landscape is still immature, and encountering a knowledge gap between software-hardware, we noticed a loss of time & energy in the teams we worked with.
We know hardware can be hard, but we believe this should not be the case and therefore we provide modular hardware blocks to accelerate your edge AI application rollout. Our clients typically reduce 50% of the time spent on hardware selection, configuration & setup & maintenance. Our strategy is to take away friction points in the AI value chain and bridge the (knowledge/expertise) gap between hardware & software. That is the client focus that determines our roadmap

Description

Blox is a modular industrial embedded AI computer built around the NVIDIA Jetson family. The device has an anodized aluminium enclosure which functions as a heatsink. It's available with an integrated 7" touchscreen. The modular setup is created by 2 extension slots, one dedicated for communication and one for interfacing. We have various standard communication & interface modules available to support a broad range of use cases. The modular design is unique in the market (as well as the looks). With a single form factor we can make endless variants and tailor-make a platform according to clients needs. That makes our platform highly scalable and suited for use cases across all industries.

Interface Modules

We use a configurable interface slot to add different kinds of external I/O depending on the application needs. Currently the following interface modules are available or planned to be released in the near future:

- Dev kit module
- Up to 6 MIPI cameras
- Up to 4 3.0 USB entries
- Up to 4 Ethernet camera's (100 Mbs or Gige) including PoE
- Others coming soon!

Communication Modules

Standard following communication options are currently supported:

- 4G LTE cat 4 with integrated GNSS module
- WiFi
- Gigabit Ethernet
- Wifi + Gigabit Ethernet
- LTE + Gigabit Ethernet

Display

Blox is available with an integrated 7" LCD touchscreen. This allows the user to interact directly with the device without the need for an external display. In case no display is required, the Blox platform will be delivered with a mounting bracket.

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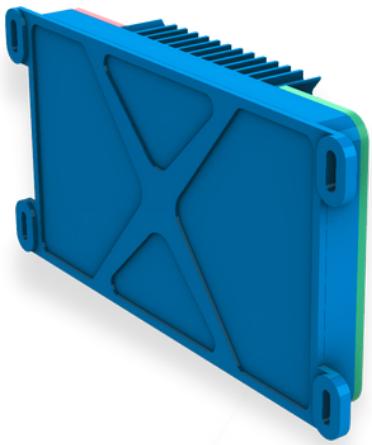
An industrial design to serve in all conditions

Interface module

Communication module

Industrial design
Passive cooled
Width input voltage - 10 VDC - 48 VDC
Width operating temperature : -25˚C - +60˚C
Up to IP67 Protection Class
Compact: 115mm x 39mm x 197 mm

Headless



7" touchscreen

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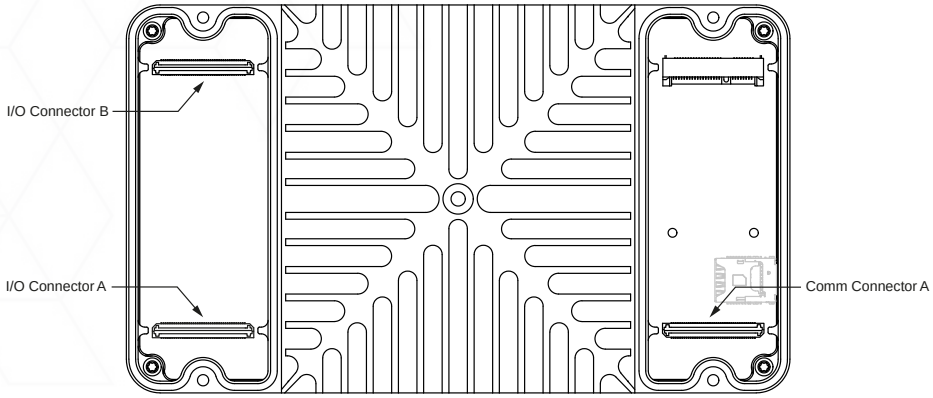
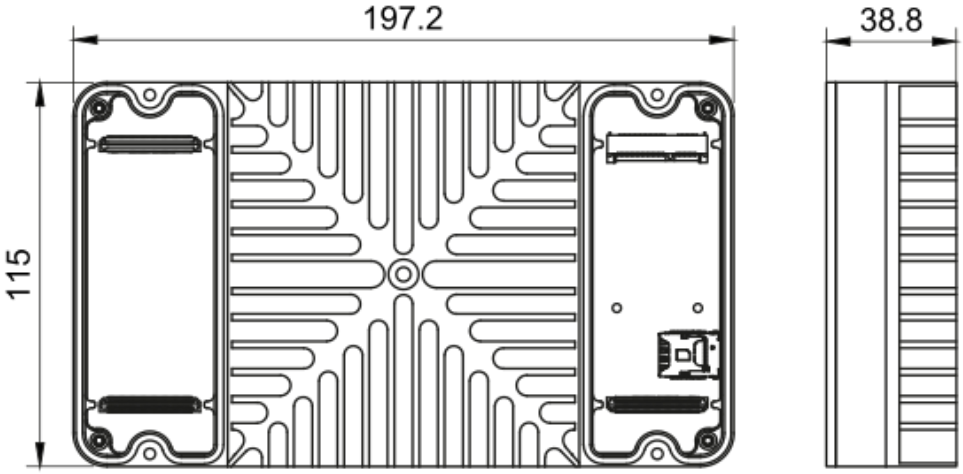
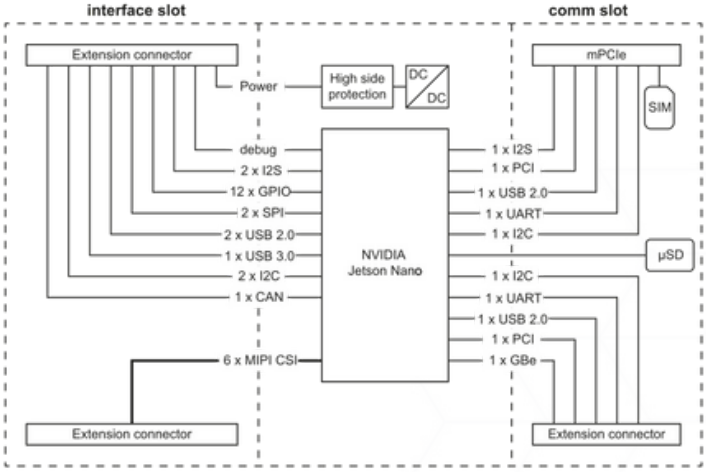
Look what's inside







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Technical Specifications

Technical data	MX1010	MX1020	MX1030 - 1/2	MX1030 - 3/4
GPU Module	Jetson Nano	Jetson TX2 NX	Jetson Xavier NX 8Gb	Jetson Xavier NX 16Gb
AI performance	0.5 TOPS	1.33 TOPS	21 TOPS	21 TOPS
GPU	128-core NVIDIA Maxwell GPU	256-core Nvidia Pascal GPU	384-core NVIDIA Volta GPU with 48 Tensor Core	384-core NVIDIA Volta GPU with 48 Tensor Core
CPU	Quad-core ARM Cortex-A57 MPCore Processor	Dual core Denver 2 64-bit + Quad-core ARM Cortex-57 MPCore	6-core NVIDIA Camel ARMv8.2 64-bit 6MB L2 + 4MB L3	6-core NVIDIA Camel ARMv8.2 64-bit 6MB L2 + 4MB L3
Memory	4GB 64-bit LPDDR4 25.6 GB/s	4GB 128-bit LPDDR4 51.2 GB/s	8GB 128-bit LPDDR4 59,7 GB/s	16GB 128-bit LPDDR4 59.7 GB/s
Storage	16GB eMMC 5.1	16 GB eMMC 5.1	16 GB eMMC 5.1	16 GB eMMC 5.1
Display	Optional: 7" with integrated capacitive touch screen			
Power Supply	10 V DC - 48 V DC			
Dimensions	Headless: 115 mm x 41mm x 227,2 mm With 7" display: 115 mm x 38,8 mm x 197,2 mm			
Weight	700g			
Operation temperature	-25˚C ... +60˚C			
Storage temperature	-40˚C ... +80˚C			
Protection Class	Max IP67, depends on interface blox			
Approvals / Marking	CE			
Vibration / Shock Resistence	conforms to EN 60068-2-6/EN 60068-2-27			
EMC immunity / emission	conforms to EN 60068-2-6/EN 60068-2-27			

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Technical Specifications

Technical data	MX1011-01/02	MX1011-03/04	MX1031-01/02	MX1031-03/04
GPU Module	Jetson Orin Nano 4Gb	Jetson Orin Nano 8Gb	Jetson Orin NX 8Gb	Jetson Orin NX 16Gb
AI performance	20 TOPs	40 TOPs	70 TOPs	100 TOPs
GPU	512-core Nvidia Ampere Architecture GPU with 16 Tensor cores	1024-core Nvidia Ampere Architecture GPU with 32 tensor cores	1024-core Nvidia Ampere Architecture GPU with 32 tensor cores	1024-core Nvidia Ampere Architecture GPU with 32 tensor cores
CPU	6-core Arm Cortex-A78AE v8.2 64bit CPU 1.5 MB L2 + 4 MBL3	6-core Arm Cortex-A78AE v8.2 64bit CPU 1.5 MB L2 + 4 MBL3	8-core Arm Cortex-A78AE v8.2 64bit CPU 2 MB L2 + 4 MBL3	8-core Arm Cortex-A78AE v8.2 64bit CPU 2 MB L2 + 4 MBL3
Memory	4GB 64-bit LPDDR5 34 GB/s	8GB 128-bit LPDDR5 68 GB/s	8GB 128-bit LPDDR5 102,4 GB/s	16GB 128-bit LPDDR5 102,4 GB/s
Power	5W-10W	7W-15W	10W-20W	10W-25W
Storage	Supports external NVMe			
Display	Headless : comes with Displayport Optional: 7" integrated capacitive touch screen			
Power Supply	10 V DC - 48 V DC			
Weight	700g			
Operation temperature	-25˚C ... +60˚C			
Storage temperature	-40˚C ... +80˚C			
Protection Class	Max IP67, depends on interface blox			
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Vibration / Shock Resistence	conforms to EN 60068-2-6/EN 60068-2-27			
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