# KBox A-203-AI-GC

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## Industrial Computer Platform for AI-Applications

- ▶ Ideal for AI and Gateway-applications
- ▶ Based on Intel Atom® processor & Google Coral Edge TPU
- ▶ TensorFlow Lite compatible
- ▶ Maintenance-free: no moving parts, battery-free

POSSIBILITIES START HERE

kontron
S&T Group

## KBox A-203-AI-GC
### AI Engine & Gateway for IoT Edge-Applications

Based on the Google Coral Edge TPU in combination with the Intel Atom® x7-E3950 processor the maintenance-free, fanless and battery-free KBox A-203 was developed as an AI inference gateway for visual AI-applications.
The smart platform guarantees high performance and versatile interfaces for IoT gateway-applications.

The KBox comes with a pre-installed Google Coral Edge TPU and Kontron provides a Debian Linux image with pre-installed software packages from Google. Due to the standardized design approach the KBox supports TensorFlow Lite applications, which are available at common websites.
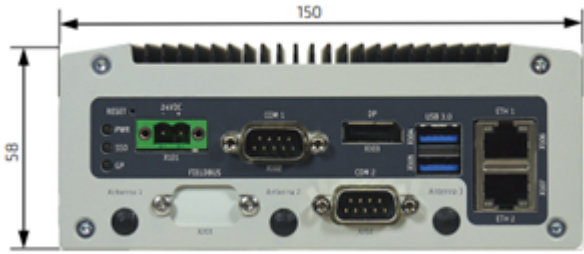
The hardware platform of the KBox A-203-AI-GC offers up to 2 serial ports and optional fieldbus connectivity as well as WiFi and LTE interfaces.
For secure applications, the KBox with an integrated security chip in addition to the Trusted Platform Module 2.0 provides comprehensive protection for the application software.
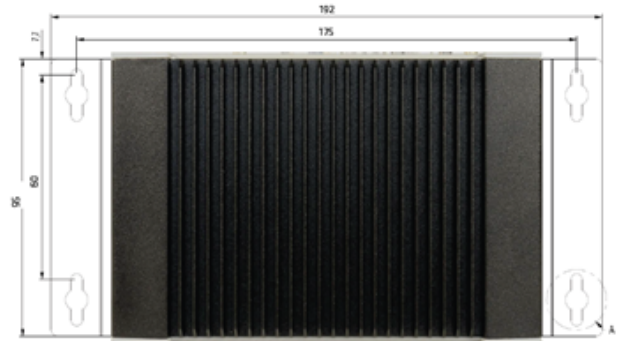
▶ TECHNICAL INFORMATION

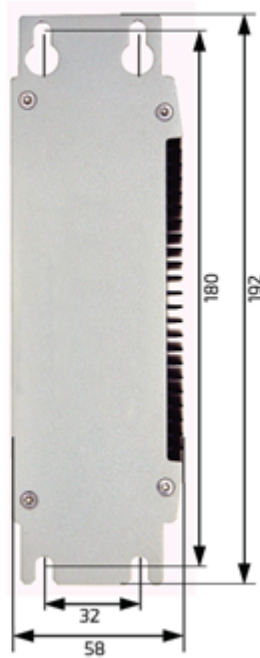| | | |
|---|---|---|
| **PROCESSOR** | CPU | Intel Atom® |
| | | x7-E3950 4x 1.6 GHz (max. Turbo 2.0 GHz), 12 W |
| | | Google Coral Edge TPU |
| | BIOS | AMI® Aptio 5.x |
| **MEMORY** | TECHNOLOGY | LPDDR4 -2133 MHz |
| | CAPACITY | 2/4/8 GByte |
| **GRAPHICS** | GRAPHICS CORE | Internal Intel® HD 500/HD 505 |
| | MAX. RESOLUTION | 4096x2160 @60 Hz |
| **FRONT I/O** | GRAPHICS PORTS | 1x DisplayPort V1.2 |
| | USB | 2x USB 3.0 |
| | ETHERNET | 2x GbE ETH (Wake-on-Lan support) |
| | CONTROLLER | Intel® I210 |
| | SERIAL PORTS | 1x Serial (COM1, RS232/RS422/RS485) |
| | | 1x Serial (COM2, RS232) optional |
| | CONTROL | 3x LEDs (Power, SSD, GP), Reset switch |
| **INTERNAL EXPANSION SLOTS** | mPCIe | 2x miniPCIe sockets for full-size modules |
| **STORAGE** | MICRO SD | mSD socket, accessible from the rear |
| | FLASH | up to 32 GByte onboard flash (eMMC) |
| | SATA | Drive Bay to install 2.5" SATA SSD |
| **SECURITY** | FEATURES | TPM V2.0 |
| **MIDDLEWARE** | KEAPI | Kontron KEAPI |
| **POWER SUPPLY (EXTERNAL)** | INPUT VOLTAGE | 24 VDC (+/- 20 %) |
| **MECHANICAL** | COOLING | Fanless (Conduction cooled) |
| | DIMENSIONS (W x H x D) | 150 x 58 x 100 mm (2.23" x 5.91" x 3.94") |
| | WEIGHT | Approx. 1 kg (2.2 lbs) |
| | MOUNTING OPTIONS | DIN RAIL, Desktop, Wall, Cabinet |
| **ENVIRONMENT** | OPERATING TEMPERATURE | -20 °C to +60 °C (32 °F to 140 °F) |
| | STORAGE TEMPERATURE | -40 °C to +85 °C (-40 °F to 185 °F) |
| | RELATIVE HUMIDITY | 93% @ 40 °C (non-condensing) |
| | OPERATING VIBRATION | 5 - 500 Hz, 1 G (IEC 60068-2-6) |
| | OPERATING SHOCK | 15 G, 11 ms, half sine, acc. to IEC 60068-2-27 |
| | ALTITUDE | 2000 m (approx. 6550 ft) |
| | TYPICAL POWER CONSUMPTION | 15 W typ. (with E3950 CPU) |
| **APPROVALS** | EMC | CE |
| | SAFETY CERTIFICATIONS | CB scheme |
| **SOFTWARE** | | Yocto based Linux Debian image in eMMC |
| **AI SOFTWARE** | | TensorFlow Lite compatible (C++, Python) |
| | | See Github/Google Coral website for more information |
| **CAMERA** | | USB camera, v4l2 (video for Linux v2) compatible |
| | | (not included in package content) |

▶ DIMENSIONS



// Front as desktop



// Top side (with wall/table mounting brackets)



// Left side



// Rear side with vertical
mounting plate

| ARTICLE | PART NO. | DESCRIPTION |
|---|---|---|
| SYSTEM | KBox A-203-AI-GC | KBox A-203 with Intel Atom® E3950 processor<br>Google Edge TPU integrated<br>4 GByte RAM, 32 GByte eMMC<br>Desktop housing<br>Debian Linux and application software pre-installed |
| ACCESSORY | | |
| AC/DC ADAPTER | 1057-7077 | 24 V/60 W |

► GLOBAL HEADQUARTERS

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