AVA-5500 Series

Rugged, Fanless AIoT Platform with NVIDIA Quadro® GPU Embedded for Real-time Video/Graphics Analytics

Features

- 6th/7th Gen Intel® Core™ i7 Processors
- NVIDIA Quadro® GPU MXM 3.1 Type A/B module on PCI Express x16
- 8x M12 GbE (4x PoE), 4x RS-422, 4x USB 3.0, 1x DVI-I, 4x DisplayPort with lockable connectors
- Multiple storage options: 2x 2.5" SATA 6.0 Gb/s drive bays, 1x M.2 2280 slot, 1x CFast socket
- GNSS/3G/4G/WLAN support via 2x Mini PCIe slots and 2x USIM slots
- 4x isolated DI and 4x isolated DO
- MVB/CAN bus support through Mini PCIe add-on module
- Wide range DC input: 24VDC, 36VDC, 72VDC and 110VDC
- EN50155-compliant, rugged, fanless design for harsh operating environments

New

EN 50155 Compliant

Specifications

System

Processor
6th/7th Gen Intel® Core™ i7 processors (formerly Skylake and Kaby Lake)
Intel® Core™ i7-6820EQ CPU, 2.8GHz
Intel® Core™ i7-7820EQ CPU, 3.0GHz

Memory
Dual channel DDR4-2133 SDRAM with dual SODIMM sockets, up to 32GB

BIOS
AMI UEFI

Storage

Up to 4x 2.5" SATA drive bays
(two for AVA-5500 series, four for AVA-5510 series)
1x CFast slot, externally accessible
1x M.2 2280 (SATA)

Graphics

2x DisplayPort from Intel processor
4x DisplayPort with lockable design from GPU MXM (SKU dependent)
1x DVI-I from Intel processor

Connectivity

Ethernet
2x RJ-45 1000BASE-T Ethernet ports
4x M12 X-coded 1000BASE-T Ethernet ports with PoE Class 2 (7W), 1.5kV isolation
4x M12 A-coded 1000BASE-T Ethernet ports, 1.5kV isolation

USB
4x USB 3.0 Type A ports
Additional 2x M12 USB ports in AVA-5510 series

Serial Port
4x DB-9 RS-232/422/485 ports (RS-422 by default)
2kVrms isolation

Digital I/O (optional)

4x isolated DI and 4x isolated DO via two DB-9 connectors, supported by add-on module (occupies one 2.5" drive space)
DI: 0-24V input voltage with 1500VDC isolation
DO: 3.3V-35VDC output voltage, 250mA/ch sink current, 1500VDC isolation

Audio

Mic-in/ Line-out ports

CAN/MVB

Supported by Mini PCIe card with two DB-9 outputs

Wireless

2x Mini PCIe card slots are available for cellular modem or WLAN modules
Compliant to Mini PCIe card spec v1.2 (PCIe and USB 2.0)
Each Mini PCIe slot supports one micro-SIM
4x RP-SMA antenna connector cutouts

In-system Expansion I/O

2x full size Mini PCI Express slots
1x Type A/B MXM slot on PCI Express x16 (P1000, P3000)
1x USB 2.0 wafer connector

External I/O

2x USIM slots
4x M12 GbE with PoE ports
4x M12 GbE ports
2x RJ-45 GbE ports
6x DisplayPorts
1x DVI-I port
4x USB 3.0 Type A ports
2x M12 USB 2.0 ports (in AVA-5510)
2x DB-9 connectors reserved for MVB or CAN Mini PCIe module
1x Mic-in port
1x Line-out port
Four antenna cutouts reserved
Reset button
Power button

Specifications

● Miscellaneous

LEDs
1x diagonostics, 1x storage, 1x WDT, 3x user defined

Battery
Coin cell CR2032 (change to rechargeable golden cap by request)

Board Management
ADLINK SEMA 3.0:
- Watch Dog
- Hardware monitor
- Runtime statistics
- Failsafe dual BIOS

Power Supply
One 4-pin S-coded M12 connector
+24V/+36V/+72V/+110VDC nominal power input (16.8V to 137.5V, EN50155 compliant)

Power Consumption
149W on AVA-5500/6820/8G/P1000; 158W on AVA-5500/6820/8G/P3000 at
1. +24VDC in
2. CPU 100% loading
3. P1000 or P3000 100% loading

● Mechanical

Dimension (WxDxH)
360mm x 225.1mm x 88.8mm (for AVA-5500)
360mm x 225.1mm x 105.4mm (for AVA-5510)

Weight
6.3 kg

Mounting
Wall mount

● Environmental

Operating Temperature
Convection cooled
Class OT1: -25°C to 55°C with P3000 MXM module (supported by condition)
Class OT3: -25°C to 70°C with P1000 MXM module

Storage Temperature
-40°C to +85°C

Humidity
EN 50125-1, compliance EN 60068-2-78: 2012 Edition 2.0, Clause 4.2 at 40°C

Vibration
EN50155 standard, method EN61373: 2010, Category 1 Class B

Shock
EN50155 standard, method EN61373: 2010, Category 1 Class A & Class B

Safety
EN 50153
EN50124-1

Fire Protection
EN 45545-2:2013+A1:2015

EMC
EN 50121-3-2, EN50155

● Operating System
Windows 8, Windows 10
Ubuntu 16.04

Ordering Information

- **AVA-5500/6820/16G**
  Fanless railway computer with Intel® Core™ i7-6820EQ and 16GB DDR4 and two SATA bays (conformal coating by request; external cables and power adapter are excluded)

- **AVA-5500/7820/32G/P3000**
  Fanless railway computer with Intel® Core™ i7-7820EQ and 32GB DDR4 with P3000 MXM module and two SATA bays (conformal coating by request; external cables and power adapter are excluded)
  *Please contact your sales representative for P3000 support condition.

- **AVA-5510/6820/16G/P1000**
  Fanless railway computer with Intel® Core™ i7-6820EQ and 16GB DDR4 with P1000 MXM module and four SATA bays (conformal coating by request; external cables and power adapter are excluded)
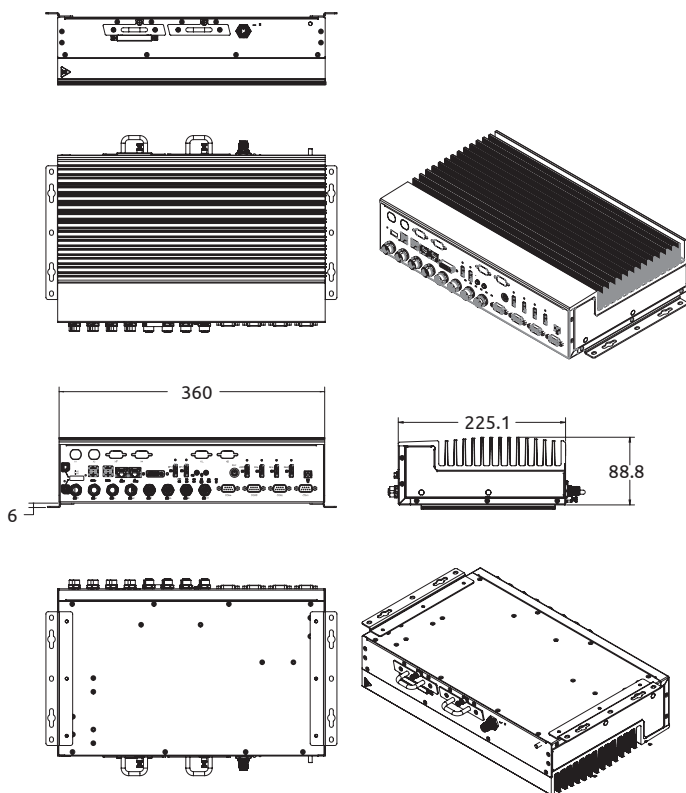
Optional Accessories

- **Factory-installed industrial grade SSD**
- **Mini PCIe card 3G/Wi-Fi/BT/GPS wireless kit**
- **Mini PCIe card CAN bus Kit**
- **Starter cable kit for AVA-5500**
  4x PoE M12(X) to RJ-45 cable, 4x Ethernet M12 A(M) to RJ-45(F) cable, 1x PS/2 KB/MS Y cable and 1x M12(S) to DC power cable
- **Starter cable kit for AVA-5510**
  4x PoE M12(X) to RJ-45 cable, 4x Ethernet M12 A(M) to RJ-45(F) cable, 2x M12(A) to USB 2.0 type A cable, 1x PS/2 KB/MS Y cable and 1x M12(S) to DC power cable
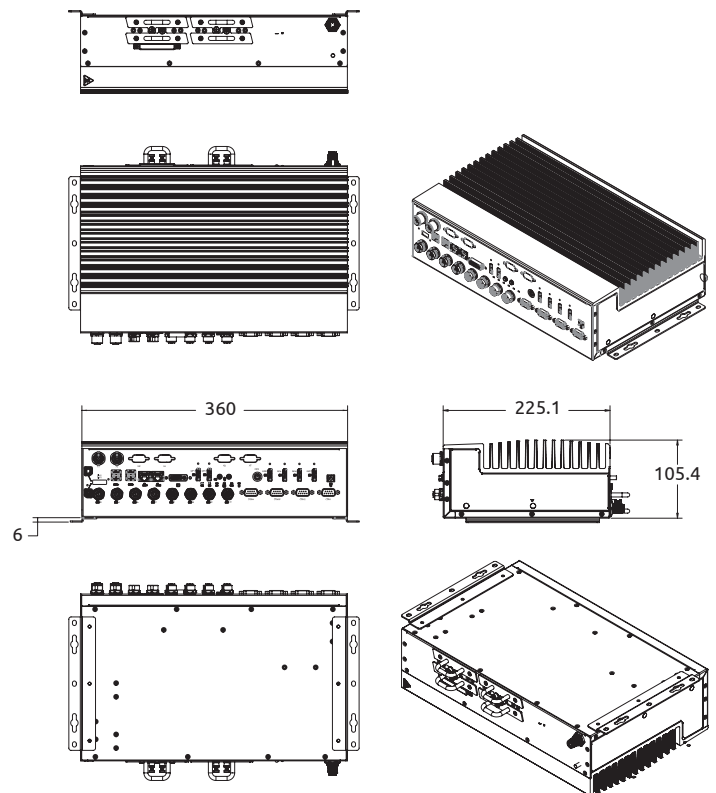
Dimensions

(Units: mm)

AVA-5500

AVA-5510

ADLINK
Leading **EDGE COMPUTING**

AVA-5520

Rugged, Fanless AIoT Platform with NVIDIA Quadro® GPU Embedded for Real-time Video/Graphics Analytics

Features

- 6th/7th Gen Intel® Core™ i7 Processors, up to 32GB
- NVIDIA Quadro® GPU MXM 3.1 Type A/B module on PCI Express x16
- 8x M12 GbE (4x PoE), 4x RS-422, 4x USB 3.0, 1x DVI-I, 4x DisplayPort with lockable connectors
- Multiple storage options: 2x 2.5" SATA 6.0 Gb/s drive bays, 1x M.2 2280 slot, 1x CFast socket
- GNSS/3G/4G/WLAN support via 2x Mini PCIe slots and 2x USIM slots
- 4x isolated DI and 4x isolated DO
- +12VDC power input

New

Specifications

- **System**

    Processor
    6th/7th Gen Intel® Core™ i7 processors (formerly Skylake and Kaby Lake)
    Intel® Core™ i7-6820EQ CPU, 2.8GHz
    Intel® Core™ i7-7820EQ CPU, 3.0GHz

    Memory
    Dual channel DDR4-2133 SDRAM with dual SODIMM sockets, up to 32GB

    BIOS
    AMI UEFI

- **Storage**

    2x 2.5" SATA drive bays
    1x CFast slot, externally accessible
    1x M.2 2280 (SATA)

- **Graphics**

    2x DisplayPort from Intel processor
    4x DisplayPort with lockable design from GPU MXM (SKU dependent)
    1x DVI-I from Intel processor

- **Connectivity**

    Ethernet
    2x RJ-45 1000BASE-T Ethernet ports
    4x M12 X-code 1000BASE-T Ethernet ports with PoE Class 2 (7W), 1.5kV isolation
    4x M12 A-coded 1000BASE-T Ethernet ports, 1.5kV isolation

    USB
    4x USB 3.0 Type A ports

    Serial Port
    4x DB-9 RS-232/422/485 ports (RS-422 by default)
    2kVrms isolation

- **Digital I/O (optional)**

    4x isolated DI and 4x isolated DO via two DB-9 connectors, supported by add-on module (occupies one 2.5" drive space)
    DI: 0-24V input voltage with 1500VDC isolation
    DO: 3.3V-35VDC output voltage, 250mA/ch sink current, 1500VDC isolation

    Audio
    Mic-in/ Line-out ports

    Wireless
    2x Mini PCIe card slots are available for cellular modem or WLAN modules
    Compliant to Mini PCIe card spec v1.2 (PCIe and USB 2.0)
    Each Mini PCIe slot supports one micro-SIM
    4x RP-SMA antenna connector cutouts

    In-system Expansion I/O
    2x full size Mini PCI Express slots
    1x Type A/B MXM slot on PCI Express x16 (MXM P1000, P3000, P5000)
    1x USB 2.0 wafer connector

    External I/O
    2x USIM slots
    4x M12 GbE with PoE ports
    4x M12 GbE ports
    2x RJ-45 GbE ports
    6x DisplayPorts
    1x DVI-I port
    4x USB 3.0 Type A ports
    1x Mic-in port
    1x Line-out port
    Four antenna cutouts reserved
    Reset button
    Power button

Specifications

- ## Miscellaneous

  ### LEDs
  1x diagnostics, 1x storage, 1x WDT, 3x user defined

  ### Battery
  Coin cell CR2032

  ### Board Management
  ADLINK SEMA 3.0:
  - Watch Dog
  - Hardware monitor
  - Runtime statistics
  - Failsafe dual BIOS

  ### Power Supply
  One 4-pin S-coded M12 connector
  +12VDC nominal power input

  ### Power Consumption
  177W on AVA-5520/6820/32G/P5000 at
  1. +12VDC in
  2. CPU 100% loading
  3. P5000 100% loading

- ## Mechanical

  ### Dimension (WxDxH)
  360mm x 225.1mm x 88.8mm

  ### Weight
  6.3 kg

  ### Mounting
  Wall mount

- ## Environmental

  ### Operating Temperature
  Convection cooled
  -25°C to 70°C with P1000 MXM module
  0°C to 55°C with P3000/P5000 MXM module

  ### Storage Temperature
  -40°C to +85°C

  ### Humidity
  EN 50125-1, compliance EN 60068-2-78: 2012 Edition 2.0, Clause 4.2 at 40°C

  ### Vibration
  1 m/s2 @5 Hz – 150 Hz operating, according to EN61373

  ### Shock
  EN50155 standard, method EN61373: 2010, Category 1 Class A & Class B

  ### Safety
  EN 50153
  UL 94V-0

  ### Fire Protection
  EN 45545-2:2013+A1:2015

  ### EMC
  EN 50121-3-2, EN50155

- ## Operating System

  Windows 8, Windows 10
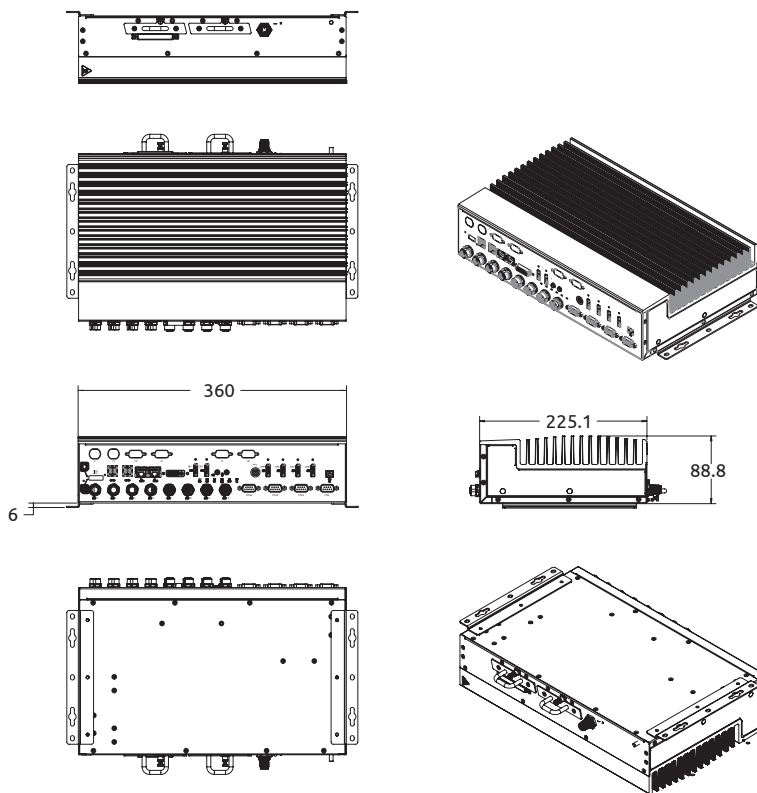 Ubuntu 16.04

Ordering Information

- **AVA-5520/7820/32G/P5000**
  Fanless computer with Intel® Core™ i7-7820EQ and 32GB DDR4 with P5000 MXM module and two SATA bays (external cables and power adapter are excluded)

- **AVA-5520/6820/16G/P3000**
  Fanless computer with Intel® Core™ i7-6820EQ and 16GB DDR4 with P3000 MXM module and two SATA bays (external cables and power adapter are excluded)

Optional Accessories

- **Factory-installed industrial grade SSD, single or dual 256GB options**
- **Starter cable kit for AVA-5520**
  4x PoE M12(X) to RJ45 cable, 4x Ethernet M12 A(M) to RJ-45(F) cable, 1x PS/2 KB/MS Y cable and 1x M12(S) to DC power cable

Dimensions

(Units: mm)

Metromatics

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