



FANLESS EMBEDDED SYSTEMS

ACO-6000 series

Surveillance Applied System with LGA 1151 for Intel® 6th/7th Gen Processor and Q170 PCH, 2x LAN



FEATURES

- LGA 1151 socket for 6th/7th Gen. Intel® Core™ i7/i5/i3 or Pentium® / Celeron® Desktop Processor
- Intel® Q170 chipset
- 2x 260-pin DDR4 SODIMM. max up to 32GB
- Triple independent display supported by 1x DVI-I and 2x DisplayPort
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 4x 2.5" SATA HDD bay and 2x mSATA supporting RAID 0, 1, 5, 10
- 3x full-size mini PCIe for communication or expansion modules, 3x SIM socket
- 2x universal bracket (for mini PCIe application)
- 5x RS-232/422/485 (w/ 3x internal), 6x USB 3.0, 2x USB 2.0 (internal), TPM 2.0
- 8x DI + 8x DO with isolation
- 9 to 24VDC wide range power input supporting AT/ATX mode
- -25°C to 70°C extended operating temperature
- Power ignition management

SPECIFICATIONS

System

| | |
|-----------|--|
| Processor | Support 6 th & 7 th Gen Intel® Core™ i7 / i5 / i3 / Pentium® / Celeron® Desktop Processor (LGA 1151) |
| | - 7 th Gen Intel® Core™ i7-7700T, Quad Core, 8MB cache, up to 3.8 GHz |
| | - 7 th Gen Intel® Core™ i5-7500T, Quad Core, 6MB cache, up to 3.3 GHz |
| | - 7 th Gen Intel® Core™ i3-7101TE, Dual Core, 3MB Cache, 3.4 GHz |
| | - 6 th Gen Intel® Core™ i7-6700TE, Quad Core, 8MB cache, up to 3.4 GHz |
| | - 6 th Gen Intel® Core™ i5-6500TE, Quad Core, 6MB Cache, up to 3.3 GHz |
| | - 6 th Gen Intel® Core™ i3-6100TE, Dual Core, 4MB Cache, 2.7 GHz |
| | - Intel® Pentium® G4400TE, Dual Core, 3MB Cache, 2.4 GHz |
| | - Intel® Celeron® G3900TE, Dual Core, 2MB Cache, 2.3 GHz |

| | |
|----------------|---|
| System Chipset | Intel® Q170 Express Chipset |
| LAN Chipset | GbE1: Intel® I210-AT (Support Wake-on-LAN and PXE) GbE2: Intel® I219LM (Support Wake-on-LAN and PXE) GbE3-GbE10: Intel® I350-AM4 (Optional) |
| Audio Codec | Realtek ALC888S |
| System Memory | 2x 260-Pin DDR4 1866/2133MHz SODIMM. Max. up to 32GB |
| BIOS | AMI 128Mbit SPI BIOS |
| Watchdog | Software Programmable Supports 1-255 sec. System Reset |
| TPM | TPM 2.0 |

Display

| | |
|------------------|-------------------------------|
| VGA | Yes (by optional split cable) |
| DVI | 1x DVI-I |
| DisplayPort | 2x DisplayPort |
| Multiple Display | Triple Display |

Storage

| | |
|------------|---|
| SSD/HDD | 2x Internal 2.5" SATA HDD Bay 2x Removable 2.5" SATA HDD Bay Support RAID 0, 1, 5, 10 |
| mSATA | 2x mSATA (Shared by 2x Mini PCIe) |
| SIM Socket | 2x External SIM socket 1x Internal SIM socket |

Expansion

| | |
|-----------------------|--|
| Mini PCI Express | 3x Full-size Mini PCIe |
| 4-Port GbE (Optional) | 4-port GbE module with Intel® I350-AM4 Chipset, RJ-45 or M12 connector (PoE optional) Occupied one Universal I/O Slot |
| 2-Port GbE (Optional) | 2-Port RJ45 10GbE with Intel X710-AT2 Chipset Occupied one Universal I/O Slot |
| 4-Port USB (Optional) | 4-Port USB with Renesas uPD720201K8 host controller Occupied one Universal I/O Slot |

I/O

| | |
|-----------------------|--|
| COM | 2x RS-232/422/485, 3x RS-232/422/485 (internal) |
| USB | 6x USB 3.0, 2x USB 2.0 (internal) |
| LAN | 2x RJ45 |
| Audio | 1x Mic-in, 1x Speaker-out |
| DIO | 8 in / 8 out (Isolated) |
| Universal I/O Bracket | 2x Universal I/O Bracket (By mini PCIe interface) |
| Others | 6x WiFi Antenna Holes 1x Power Switch, 1x AT/ATX Switch, 1x Remote Power On/Off |

Operating System

| | |
|---------|---|
| Windows | 6 th Gen CPU: Windows 10, Windows 7, WES7 7 th Gen CPU: Windows 10 |
| Linux | Linux kernel 4.X |

Power

| | |
|------------------------|--|
| Power Mode | AT, ATX |
| Power Supply Voltage | 9-24VDC |
| Power Ignition Sensing | Power Ignition Management |
| Power Connector | 3-pin Terminal Block |
| Power Adaptor | Optional AC/DC 24V/5A, 120W Optional AC/DC 24V/9.2A, 220W |
| Power Protection | OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection |

Environment

| | |
|---------------------------|--|
| Operating Temp. | -25°C to 70°C |
| Storage Temp. | -30°C to 85°C |
| Relative Humidity | 10% to 95% (non-condensing) |
| Vibration | With SSD: 5 Grms, 5 - 500 Hz, 0.5 hr/axis With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis |
| Shock | With SSD: 50G, half sine, 11ms |
| Standards / Certification | CE, FCC Class A, E-Mark, EMC Conformity with EN50155 & EN50121-3-2 |

Physical

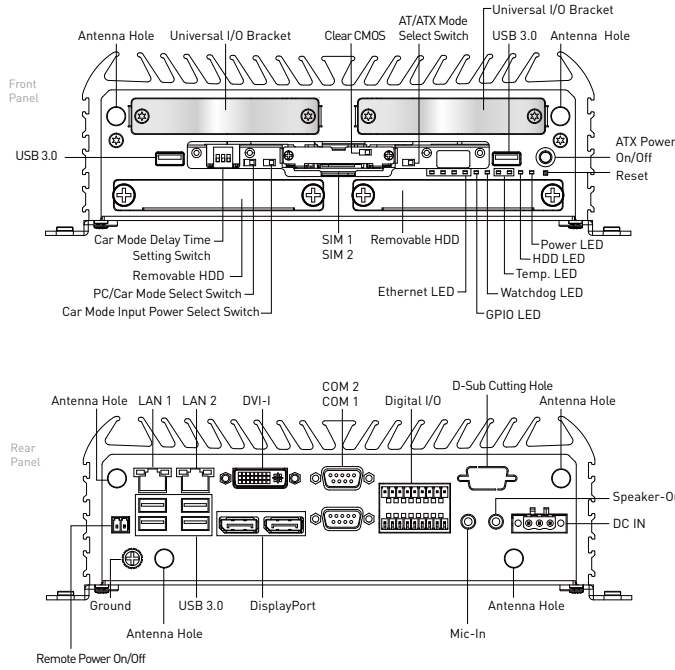
| | |
|--------------|---|
| Construction | Extruded Aluminum with Heavy Duty Metal |
| Dimension | 240 (W) x 261 (D) x 79 (H) mm |
| Weight | 3.94 - 4.98 kg |
| Mounting | Wall Mounting |

* All specifications and photos are subject to change without notice.



ACO-6000 series

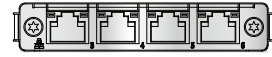
EXTERNAL I/O MECHANICAL LAYOUT



Universal I/O Bracket



LAN Port PoE Port



ACO-6000-4L / ACO-6000-8L
ACO-6000-4P / ACO-6000-8P



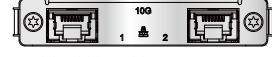
M12 LAN Port
M12 PoE Port



ACO-6000-4L-M12 / ACO-6000-8L-M12
ACO-6000-4P-M12 / ACO-6000-8P-M12



D10G Port



ACO-6000-D10G



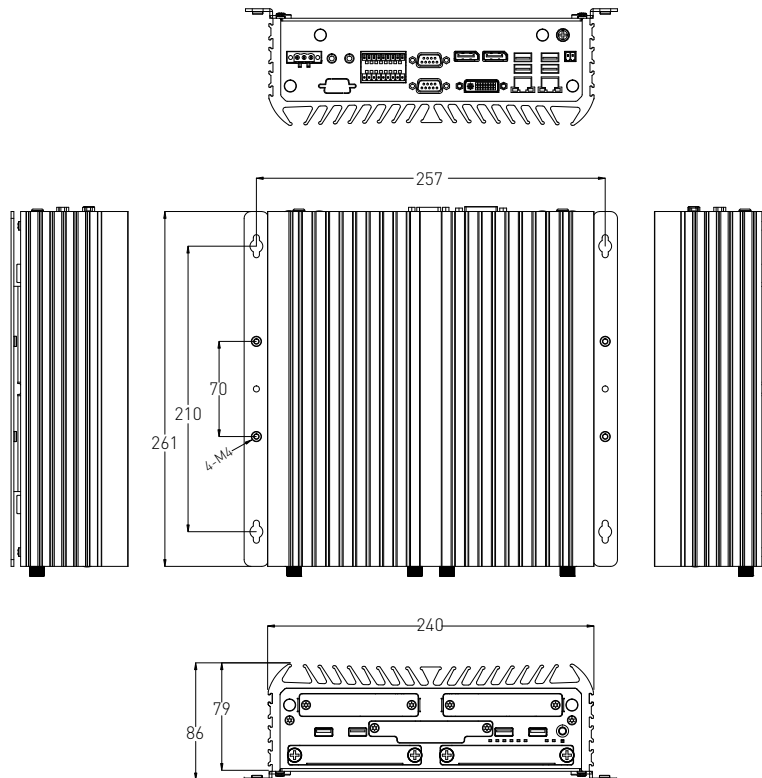
USB Port



ACO-6000-4U3 / ACO-6000-8U3

DIMENSION

Unit: mm





ACO-6000 series

ORDERING INFORMATION

| MODEL NO. | DESCRIPTION |
|-------------|---|
| 1-E09A12002 | Adapter AC/DC 24V 5A 120W with 3pin Terminal Block Plug 5.0mm Pitch |
| 1-E09A22102 | Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch |
| 1-TPCD00005 | Power Cord, 3-pin US Type, 180cm |
| 1-TPCD00002 | Power Cord, European Type |
| 1-TPCD00001 | Power Cord, 3-pin UK Type, 180cm |

PACKING LIST

- 1x ACO-6000 Series Embedded System
- 1x Wall Mount Kit
- 1x Accessory Kit
- 1x DVI to VGA Adapter

AVAILABLE MODELS

| MODEL NO. | DESCRIPTION |
|-----------------|--|
| ACO-6000 | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN |
| ACO-6000-4L | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 6x LAN |
| ACO-6000-4L-M12 | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN, 4x M12 LAN |
| ACO-6000-8L | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 10x LAN |
| ACO-6000-8L-M12 | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN, 8x M12 LAN |
| ACO-6000-4P | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN, 4x PoE |
| ACO-6000-4P-M12 | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN, 4x M12 PoE |
| ACO-6000-8P | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN, 8x PoE |
| ACO-6000-8P-M12 | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN, 8x M12 PoE |
| ACO-6000-D10G | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN, 2x 10G LAN |
| ACO-6000-4U3 | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN, 10x USB |
| ACO-6000-8U3 | Surveillance Applied Fanless System with LGA 1151 for Intel® 6 th /7 th Gen Processor and Q170 PCH, 2x LAN, 14x USB |



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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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