



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

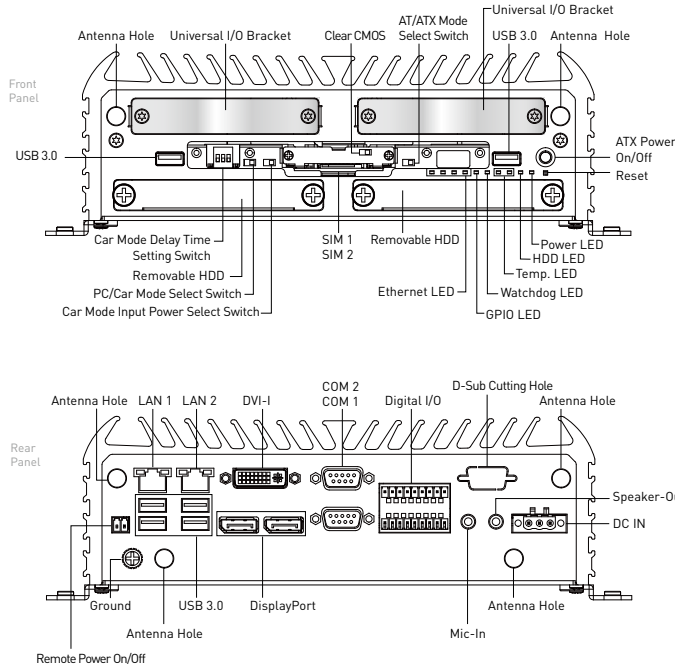
Construction	Extruded Aluminum with Heavy Duty Metal
Dimension	240 (W) x 261 (D) x 79 (H) mm
Weight	3.94 - 4.98 kg
Mounting	Wall Mounting

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



ACO-6000 series

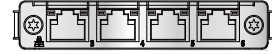
EXTERNAL I/O MECHANICAL LAYOUT



Universal I/O Bracket



LAN Port PoE Port



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



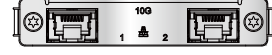
M12 LAN Port
M12 PoE Port



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



D10G Port



ACO-6000-D10G



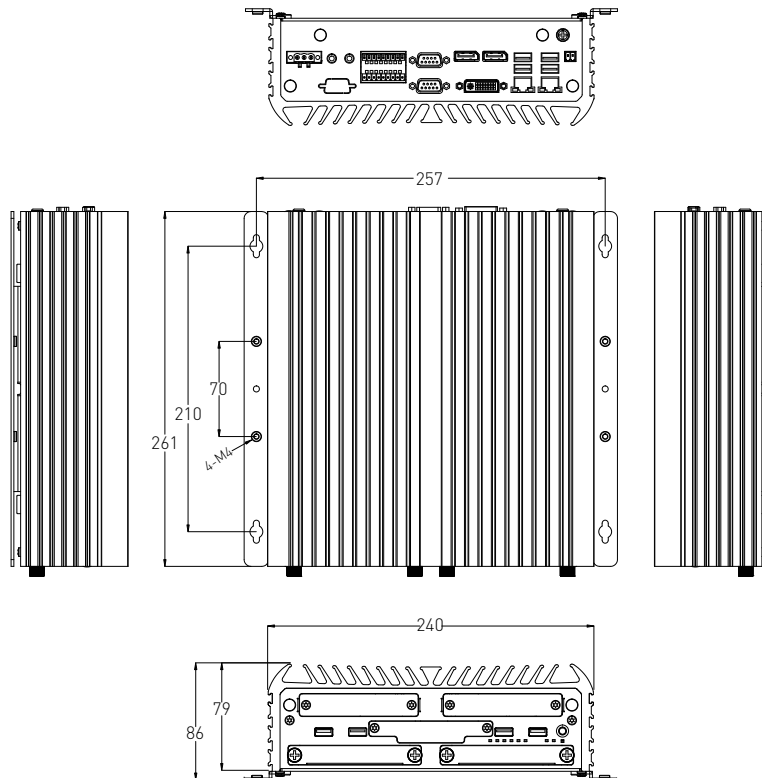
USB Port



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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