

# ACO-3000-4L-M12

Vehicle Applied Fanless Embedded System with 5<sup>th</sup> Gen Intel® Broadwell Core™ i5/i3 or Celeron® Processor, 2x LAN, 4x M12 LAN

## FEATURES

- Intel® Core™ Processor i5-5350U, up to 2.9GHz / i3-5010U, 2.1GHz or Celeron® 3765U, 1.9GHz
- 1x 204-pin DDR3L SODIMM. Max up to 8GB
- Triple independent display supported by 1x DVI-I and 1x DisplayPort
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 4x Intel® GbE with M12 connector
- 2x 2.5" SATA HDD bay and 2x mSATA supporting RAID 0, 1, 5, 10
- 2x Full-size mini PCIe for communication or expansion modules, 2x SIM socket
- 4x RS-232/422/485, 2x USB 3.0, 2x USB 2.0
- 4x DI + 4x DO with Isolation
- 9 to 48VDC wide range power input supporting AT/ATX mode
- -40°C to 70°C extended operating temperature
- Power Ignition Management



## SPECIFICATIONS

### SYSTEM

|                |  |
|----------------|--|
| Processor      | - 5 <sup>th</sup> Gen Intel® Core™ i5-5350U Processor, Dual Core, 3MB Cache, up to 2.9 GHz<br>- 5 <sup>th</sup> Gen Intel® Core™ i3-5010U Processor, Dual Core, 3MB Cache, 2.1 GHz<br>- 5 <sup>th</sup> Gen Intel® Celeron® Processor 3765U, Dual Core, 2MB Cache, 1.9 GHz |
| System Chipset | SoC integrated   |
| LAN Chipset    | GbE1: Intel® I210-AT (Support Wake-on-LAN and PXE)<br>GbE2: Intel® I218-LM (Support Wake-on-LAN and PXE)<br>GbE3~GbE6: Intel® I210-AT  |
| Audio Codec    | Realtek ALC888S  |
| System Memory  | 1x 204-Pin DDR3L 1333/1600MHz SODIMM. Max. up to 8GB   |
| BIOS           | AMI 128Mbit SPI BIOS   |
| Watchdog       | Software Programmable Supports 1~255 sec. System Reset   |

### DISPLAY

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

### STORAGE

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

### EXPANSION

|                    |                        |
|--------------------|------------------------|
| Mini PCI Expansion | 2x Full-size Mini PCIe |
|--------------------|------------------------|

### I/O

|       |                            |
|-------|----------------------------|
| COM   | 4x RS-232/422/485          |
| USB   | 2x USB 3.0, 2x USB 2.0     |
| LAN   | 2x RJ45<br>4x M12 (module) |
| Audio | 1x Mic-in, 1x Speaker-out  |

|        |   |
|--------|---|
| DIO    | 4 in / 4 out (Isolated)   |
| Others | 3x WiFi Antenna Holes<br>1x Power Switch, 1x AT/ATX Switch,<br>1x Remote Power On/Off |

### OPERATING SYSTEM

|         |  |
|---------|--|
| Windows | Windows 10, Windows 8.1, WES8.1, Windows 7, WES7 |
| Linux   | Linux kernel 3.X                                 |

### POWER

|                        |  |
|------------------------|--|
| Power Mode             | AT, ATX  |
| Power Supply Voltage   | 9~48VDC  |
| Power Ignition Sensing | Power Ignition Management  |
| Power Connector        | 3-pin Terminal Block   |
| Power Adaptor          | Optional AC/DC 12V/5A, 60W   |
| Power Protection       | OVP (Over Voltage Protection)<br>OCP (Over Current Protection)<br>Reverse Protection |

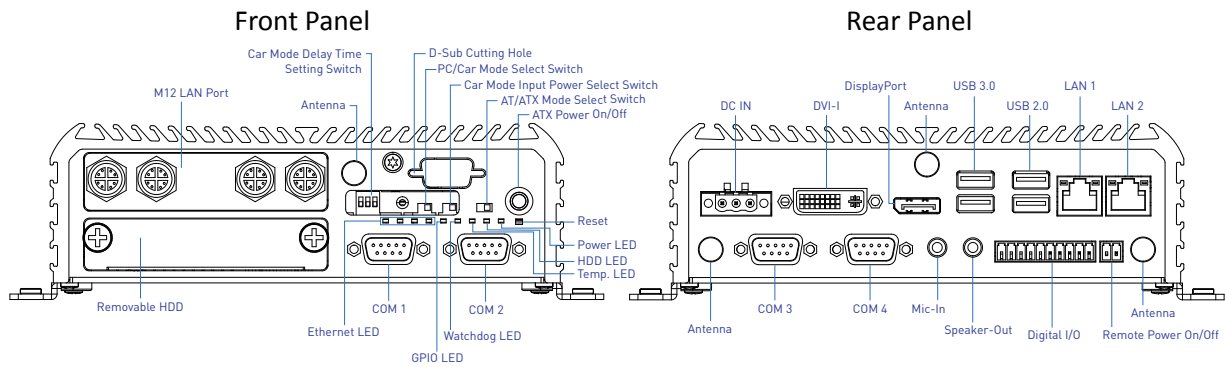
### ENVIRONMENT

|                           |  |
|---------------------------|--|
| Operating Temp.           | -40°C to 70°C  |
| Storage Temp.             | -40°C to 85°C  |
| Relative Humidity         | 10% to 95% (non-condensing)  |
| Vibration                 | With SSD: 5 Grms, 5 - 500 Hz, 0.5 hr/axis<br>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,<br>EMC Conformity with EN50155 & EN50121-3-2                  |

### PHYSICAL

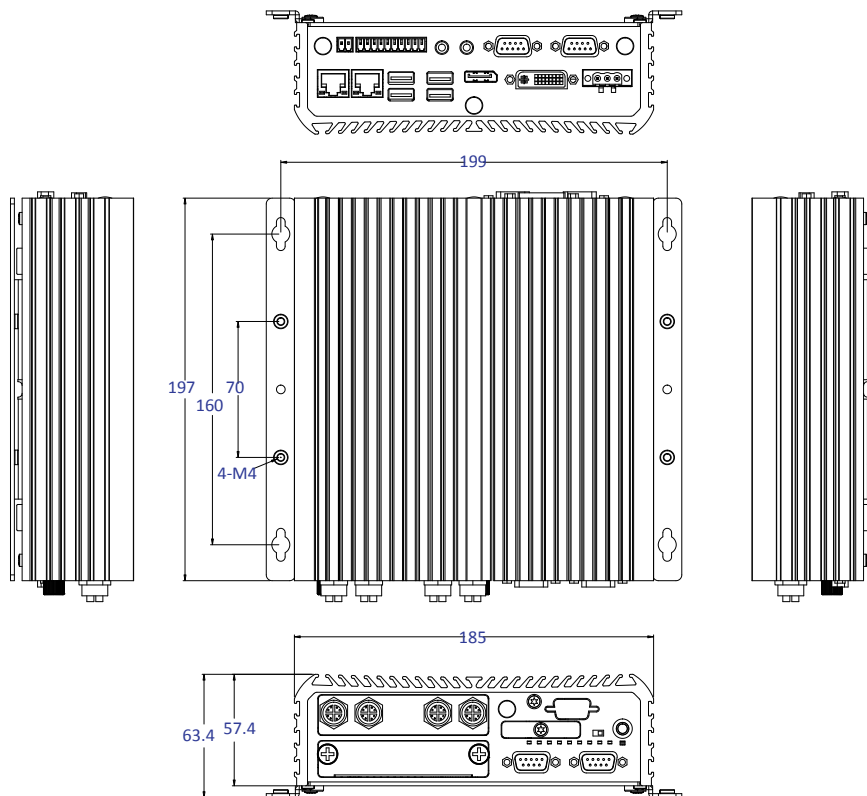
|              |   |
|--------------|---|
| Construction | Extruded Aluminum with Heavy Duty Metal       |
| Dimension    | 185 (W) x 197 (D) x 57.4 (H) mm               |
| Weight       | 2.50 kg                                       |
| Mounting     | Wall Mounting<br>DIN-Rail Mounting (Optional) |

## EXTERNAL I/O MECHANICAL LAYOUT



## DIMENSION

Unit: mm



### AVAILABLE MODELS

| MODEL NO.             | DESCRIPTION  |
|-----------------------|--|
| ACO-3000-4L-M12-5350U | Vehicle applied fanless embedded system with Intel® i5-5350U processor, 2x LAN, 4x M12 LAN       |
| ACO-3000-4L-M12-5010U | Vehicle applied fanless embedded system with Intel® i3-5010U processor, 2x LAN, 4x M12 LAN       |
| ACO-3000-4L-M12-3765U | Vehicle applied fanless embedded system with Intel® Celeron® 3765U processor, 2x LAN, 4x M12 LAN |

### PACKING LIST

- 1x ACO-3000 Series Applied Fanless Embedded System
- 1x Utility DVD Driver
- 1x Wall Mount Kit
- 1x Accessory Kit
- 1x DVI to VGA Adapter

### OPTIONAL ACCESSORIES

| MODEL NO.   | DESCRIPTION   |
|-------------|---|
| 1-E09A06007 | Adapter AC/DC 12V 5A 60W with 3-pin Terminal Block Plug 5.0mm Pitch |
| SFICBL022   | Power Cord, 3-pin US Type, 180cm                                    |
| 1-TPCD00002 | Power Cord, European Type, 180cm                                    |
| 1-TPCD00001 | Power Cord, 3-pin UK Type, 180cm                                    |
| 3-DINR-0003 | DIN-Rail Mount Kit  |