



## Main Features

- Onboard Intel® Core™ i7-4650U/i5-4300U processor
- 4 Gigabit Ethernet
- 1x DVI-D and 1x DVI-I display output
- 3 USB 2.0, 2 USB 3.0
- 1 RS232/422/485 isolated
- DDR3L 8GB/ M.2 SATA 128GB
- Built in 24VDC power input
- IEC-60945 maritime standards compliance

CE-HW-01/02 computer features the Intel® Core i7-4650U/i5-4300U processor with low power consumption and deliver a reliable, durable, high-performance platform of wide versatility for use in maritime and offshore environments. It has an isolated RS-232/422/485 port, four gigabit Ethernet LAN ports, five USB posts, and also supports dual independent display through a DVI-D and a DVI-I outputs.

The CE-HW series computers are designed with a wide -15°C to 70°C temperature range, supports 24VDC power input, and come with a fanless minimalistic enclosure designed. It features a rugged chassis proven against best anti-vibration, providing a most reliable platform even in harsh environments. The CE-HW series computers are compliant to IEC-60945 maritime standards.

## Specifications

### System

- CPU
  - CE-HW-01: Onboard Intel® Core™ processor i7-4650U, 1.7 GHz, 4M Cache
  - CE-HW-02: Onboard Intel® Core™ processor i5-4300U, 1.9 GHz, 3M Cache
- BIOS AMI BIOS
- Ethernet
  - LAN chip: 2x Intel® I210-IT Gigabit LAN + 2x Intel® 82574 Gigabit LAN
  - Ethernet interface: 10/100/1000 Mbps
  - Support wake up on LAN
- System memory: 2x 204-pin DDR3L SO-DIMM socket, 8GB DDR3L (default), support up to 16GB DDR3L-1066/1333, non-ECC and un-buffered
- Graphics: Intel® HD Graphics
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage

### I/O Interface-Front

- DisplayPort: 1x DVI-D port
- USB: 1x USB 2.0
- 1x Mic-in and 1x Line-out
- Power status/HDD status LEDs
- Power on/off switch
- Reset button

### I/O Interface-Rear

- Ethernet: 4x RJ45
- 2nd DisplayPort: 1x DVI-I port
- USB: 2x USB 2.0, 2x USB 3.0
- COM #1: 1x RS232/422/485
- DC power input connector: 3-Pin Phoenix terminal blocks

### Device

- 1x SATA M.2 connector, 128G M.2 SATA (default)
- 1x mini-PCIe connector

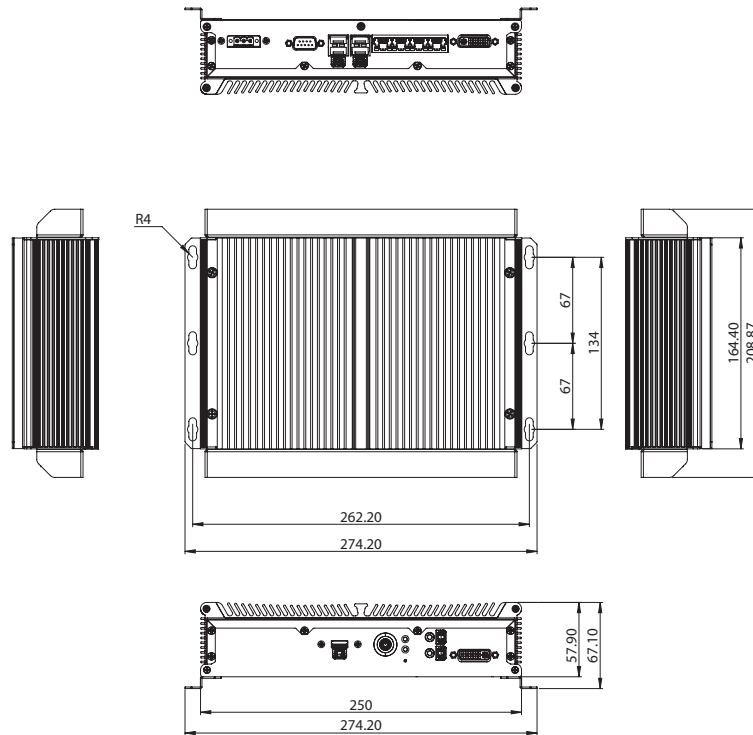
### Power Requirements

- DC power input:
  - Input voltage: 24VDC
  - Reverse polarity protection
  - Galvanic isolated
  - Power consumption: 20W to 35W

### Mechanical & Environment

- Fanless system design
- Pantone black RAL9005, extruded and painted aluminum housing
- IP protection: IP20 top cover
- Vibration
  - 1Grms @ random condition, 5~500Hz, 2hr/axis (operating/non-operating)

## Block Diagram



- Shock
  - IEC 68 2-27
  - 20G @ wall mount, half sine, 11ms
- Operating temperature: -15°C to 70°C
- Storage temperature: -25°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 250 x 164.4 x 57.9 mm
- Weight: 3 KG

### Certifications

- CE approval
- FCC Class A
- CCC approval
- IEC-60945 maritime standards compliance

## Ordering Information

### Barebone

- ♦ **CE-HW-01 (P/N: 10A1000HW00X0)**  
Intel® Core™ i7-4650U marine fanless system
- ♦ **CE-HW-02 (P/N: 10A1000HW01X0)**  
Intel® Core™ i5-4300U marine fanless system