

# DE-1002

Intel® Atom™ E3845 Quad Core Power Efficient Fanless Computer  
with 2x PCI / 2x PCIe Expansion



- Onboard Intel® Atom™ E3845 Processor Quad Core, 1.91GHz
- 2x DDR3L SO-DIMM Max. up to 8GB
- Dual Independent Display from 1x DVI-I and 1x DisplayPort
- 2x Intel® GbE Port, Support Wake-on-LAN and PXE
- 1x USB 3.0, 4x USB 2.0
- 6x RS232/422/485 Port with 5V/12V Power
- 4x Isolated DI, 4x Isolated DO
- 2x 2.5" SATA SSD/HDD Bay, 1x mSATA (Shared by Mini-PCle Socket), 1x CFast Card and 1x SIM Card Socket
- 9~48VDC Power Input, Support AT/ATX Mode
- 2x Mini-PCle Slot for Wi-Fi, GSM, or I/O Expansion
- 2x PCI or 2x PCIe x1 Expansion
- Power Ignition
- EN50121-3-2 Certified/ EN62368-1

## Overview

DE-1000 Series Fanless Embedded PC supports Intel® Bay Trail platform, integrated with Intel® Atom™ E3845 Quad Core 1.91 GHz processor. Delivering the excellent quad-core processing power at only 10 watts power consumption, DE-1000 series is definitely an ideal solution for ultimate computing performance, energy efficiency, and superior reliability.

Designed with rich I/O, high flexibility and easy expansion capabilities, DE-1000 series is ideal for diverse industrial applications. It offers multiple I/O extension modules, including up to 2x PCI or 2x PCIe x1 slot for flexible integration of a variety of add-on cards; 2x mini-PCle slot for GSM and WLAN wireless communication; it also supports three storage expansions: 2.5" SATA HDD, CFast and SIM card.

Supporting power ignition function, DE-1000 series can meet various applications, such as: surveillance, in-vehicle, and industrial automation applications, etc.

DE-1000 series supports wide temperature range from -25°C to 70°C, wide range (9~48V) DC power input, power protection, cable free and one-piece housing design, as well as compliant with EN50121-3-2 certification for rail transportation applications; it is designed to ensure stable operation in robust and harsh environments.

## Specifications

### Processor

- Onboard Intel® Atom™ Processor E3845 Quad Core, 1.91 GHz with AMI 64Mbit SPI BIOS.

### Memory

- 2x 204-Pin DDR3L 1066 / 1333MHz SO-DIMM (un-buffered and non-ECC), Max. up to 8GB

### Graphics

- Intel® HD Graphics Max. 792 MHz
- Support Dual Display
  - 1x DVI-I and 1x DisplayPort (2560 x 1600)
  - 1x DVI-D and 1x VGA (with optional split cable)
  - 1x DisplayPort and 1x VGA (with DVI-I to VGA adapter)

### Storage

- 2x 2.5" SATA HDD Bay
- 1x Internal mSATA Slot (Shared by Mini-PCIe Socket)
- 1x External CFast Socket
- 1x External SIM Card Socket

### External I/O Interface

- 1x DVI-I & 1x DisplayPort
- 2x GbE LAN Port (Intel® i210, Support Wake-on-LAN and PXE)
- 1x Mic-in and 1x Line-out (Codec: Realtek ALC888S)
- 1x USB 3.2 Gen1 Port & 4x USB 2.0 Port
- 1x 4 Isolated DI & 4 Isolated DO Port
- 6x COM (DB9, RS232/422/485 with Auto Flow Control)
- 1x PS/2 Port
- 2x Antenna Hole
- 1x Power Switch
- 1x AT/ATX Switch
- 1x Remote Power Connector and Reset Connector

### Expansion

- 2x Full-size Mini PCIe Socket for Wi-Fi / GSM / Expansion Module
- 2x Universal I/O Bracket
- 2x PCIe x1 (DE-1002-EE Only)

MEC Module	Support maximum dimensions of add-on card (H x L)
Without MEC Module	111.15mm x 174.63mm
With MEC-LAN-M102-30	60mm x 174.63mm
With MEC-USB-M102-30	63mm x 174.63mm
With MEC-COM-M212-DB9	60mm x 174.63mm

- 2x PCI (DE-1002-PP Only)

MEC Module	Support maximum dimensions of add-on card (H x L)
Without MEC Module	111.15mm x 174.63mm
With MEC-LAN-M102-30	60mm x 174.63mm
With MEC-USB-M102-30	63mm x 174.63mm
With MEC-COM-M212-DB9	60mm x 174.63mm

### Watchdog Timer

- Software Programmable Supports 256 Levels System Reset

### Power Requirement

- Support AT/ATX Power Mode
- Power Input Voltage 9~48VDC
- One 3-pin Terminal Block Connector
- Optional Power Adapter AC/DC 12V/5A 60W

### Physical

- Dimension: 203mm (W) x 200mm (D) x 114.5mm (H)
- Weight: 3.66 kg
- Construction: Aluminum Chassis with Fan-less Design
- Mounting: Wall Mounting
- Cable-less Design

### Environment

- Operating Temperature: -25°C to 70°C (ambient with air flow; with Industrial Grade Peripherals)
- Storage Temperature: -30°C to 85°C
- Relative Humidity: 10%~95% (non-condensing)
- Shock: 50 Grms  
(With SSD According to IEC 60068-2-27, Half Sine, 11ms Duration)
- Vibration: Random: 5 Grms  
(With SSD According to IEC 60068-2-64, 5~500Hz, 1 hr/axis)

### Digital Input & Output

- 4x Digital Input (Source Type)
  - Input Voltage (Dry Contact):
    - Logic 0: Close to GND
    - Logic 1: Open
  - Input Voltage:
    - Logic 0: 3V max.
    - Logic 1: 5V min. (DI to COM-)
- 4x Digital Output
  - Supply Voltage: 9~30VDC
  - Sink Current: 580 mA Max. Per Channel

### Certification

- EMC: CE, UKCA, FCC, ICES-003 Class A, EN50121-3-2
- Safety: LVD IEC/EN 62368-1

### Protection

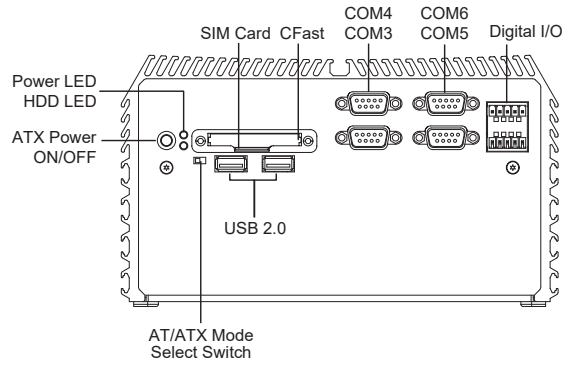
- Surge Protection: 2kv

### Operating System

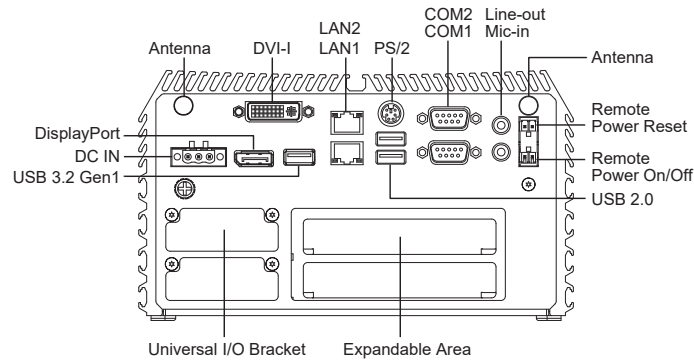
- Windows® 10
- Windows® 8
- Windows® Embedded 8 Standard
- Windows® 7
- Windows® Embedded Standard 7
- Linux: Supports by Project

**External Layout**

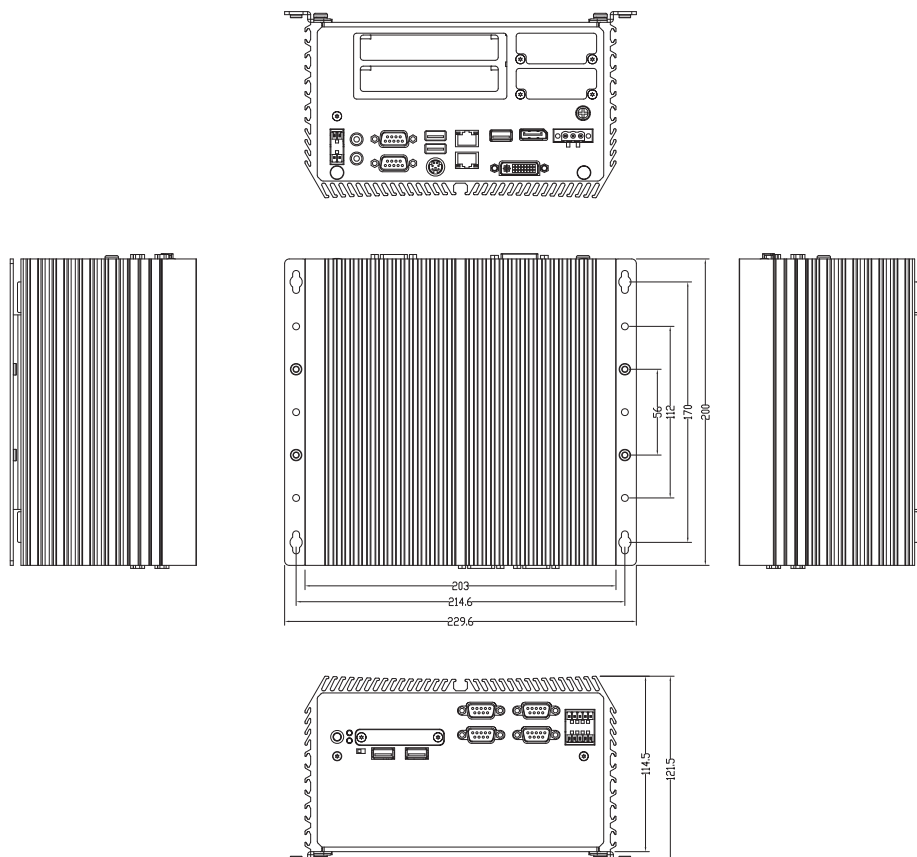
Front I/O



Rear I/O



**Dimensions**



Unit: mm

## Ordering Information

### Available Models

Model No.	Description
DE-1002-EE	Intel® Atom™ E3845 Quad Core Power Efficient Fanless Computer with 2x PCIe x1 Expansion
DE-1002-PP	Intel® Atom™ E3845 Quad Core Power Efficient Fanless Computer with 2x PCI Expansion

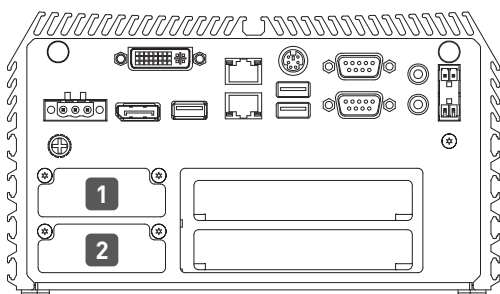
### Package Checklist

- DE-1002 Embedded System x 1
- DIO Terminal Block Connector x 2
- Power Terminal Block Connector x 1
- Wall Mount Kit x 1
- Remote Power Terminal Block Connector x 2
- DVI-I to VGA Adapter x 1
- Screw Pack x 1

### Optional Modules & Accessories

Model No.	Description
GST60A12-CIN1	Adapter AC/DC 12V 5A 60W with 3pin Terminal Block Plug 5.0mm Pitch, Level VI
SL2-SL3	US 2 heads power cord, US B type to IEC C13, SVT 18AWG/3C Black 1.8M SL-2+SL-3
SL6-SL3	EU 2 heads power cord, EU G type to IEC C13, H05VV-F 0.75mm2/3G Black 1.8M SL-6+SL-3
QP026-SL3	UK 2 heads power cord, UK I type to IEC C13, H05VV-F 0.75mm2/3G Black 1.8M QP026+SL-3
VESA-DE	DE series VESA Mount Kit
SIDE-DE	DE series SIDE Mount Kit
DINRAIL	Diamond series DIN-RAIL Mount Kit
UB0211	Universal Bracket with 2x RJ45 Cutout
UB0214	Universal Bracket with 2x USB Cutout
UB0203	2x Universal Bracket each with 1x DB9 Cutout for DE-1000 Series

## Optional Module Configuration



Model No.	Description	1	2
MEC-LAN-M102-30	Mini-PCIe Module with 2x LAN Ports, 2x 30cm cable	V	V
MEC-USB-M102-30	Mini-PCIe Module with 2x USB Ports, 1x 30cm cable	V	V
MEC-COM-M212-DB9	Mini-PCIe Module with 2x RS-232 Serial Ports, 1x Standard DB9 Cable	V	V

V: Compatible