

EBC-3000

Mini-ITX Chassis for High Power Consumption Applications

Version: 1.0

Quick Installation Guide



ABOUT

The EBC-3000 is designed for Mini-ITX motherboards. The front panel includes spaces for an I/O interface panel and optional I/O ports. One HDD drive may be installed.

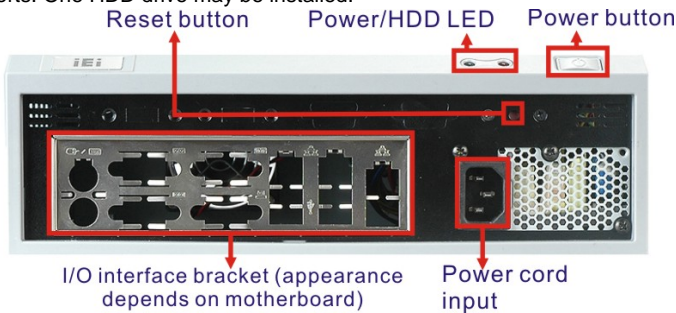


Figure 1: Chassis Front Panel

SPECIFICATIONS

Specifications	EBC-3000-R10
SBC Form Factor	Mini-ITX
Drive Bays	One 3.5" HDD
System Cooling fan	One 6cm fan
I/O Ports	Depends on SBC
Indicators	Power, HDD LED
Buttons	Power, Reset
Chassis construction	Heavy duty metal with plastic front panel
Color	Black
Mounting	Desktop, wall mount
Operating temperature	0°C~40°C (*Operating temperature is determined by system thermal test running with KINO-9654G4,Pentium IV 3.4GHz processor 651 and 2GB DDR2 RAM.)

Operating humidity	10% ~90%
EMC/Safety	CE, FCC class A
Weight (Net/Gross)	2.5Kg / 3.9Kg
Dimensions (DxWxH)	230 mm x 280 mm x 88 mm

Table 1: Specifications

COMPATIBLE SBC/COOLING KIT

Compatible SBC	Recommended cooling kits
KINO-9654G4	CF-520-RS, CF-775B-RS
KINO-9454	CF-520-RS, CF-775B-RS
KINO-9652	CF-479B-RS
KINO-9453	CF-479B-RS
KINO-9452	CF-479B-RS
KINO-690AM2	CF-AM2-RS
KINO-761AM2	CF-AM2-RS

Table 2: Compatible SBC and Cooling Kit

POWER SUPPLY SPECIFICATIONS

The EBC-3000 embedded chassis is shipped with a power supply. The specifications for each option are listed below.

Specifications	ACE-A627A-RS					
Input Type	90~264 VAC Full Range					
	+3.3 V	+5 V	+12 V	+12 V 2	-12 V	+5 Vsb
Output Voltage	16 A (0.5 A min)	18 A (0.5 A min)	16 A (1 A min)	10 A (1 A min)	0.8 A (0 A min)	2.5 A (0 A min)
Efficiency	80%					
Temperature	Operating : 0°C ~ 50°C Storage : -20°C ~ 80°C					
MTBF(hrs)	100,000 hrs					
Output Connector	20-pin ATX, 4-pin 12 V, FDD and 3 x HDD					
Dimensions	150 x 81.5 x 40.5 (mm)					
Table 3: ACE-A627A-RS Specifications						

Specifications	ACE-A618A-RS				
Input Type	90~264 VAC Full Range				
	+3.3 V	+5 V	+12 V	-12 V	+5 Vsb
Output Voltage	14 A (0.3 A min)	16 A (0.3 A min)	14 A (1.5 A min)	0.5 A (0 A min)	2.0 A (0 A min)
Efficiency	68%				
Temperature	Operating : 0°C ~ 50°C Storage : -20°C ~ 80°C				
MTBF(hrs)	100,000 hrs				
Output Connector	20-pin ATX, 4-pin 12 V, FDD and 3 x HDD				
Dimensions	150 x 81.5 x 40.5 (mm)				
Table 4: ACE-A618A-RS Specifications					

PACKING LIST

- EBC-3000-R10/ACE-A627A or EBC-3000-R10/ACE-A618A
- Quick Installation Guide
- Power cord
- SATA cable for slim type ODD
- Screw set
- Wall mount kit

SCREW SET DETAILS

Part/Peripheral	Screw Type
? (4)	
HDD (6)	
SBC (4)	
HDD/ODD bracket (4)	
Wall mount bracket (6)	
Table 5: Screw Set Details	

DIMENSION DRAWING

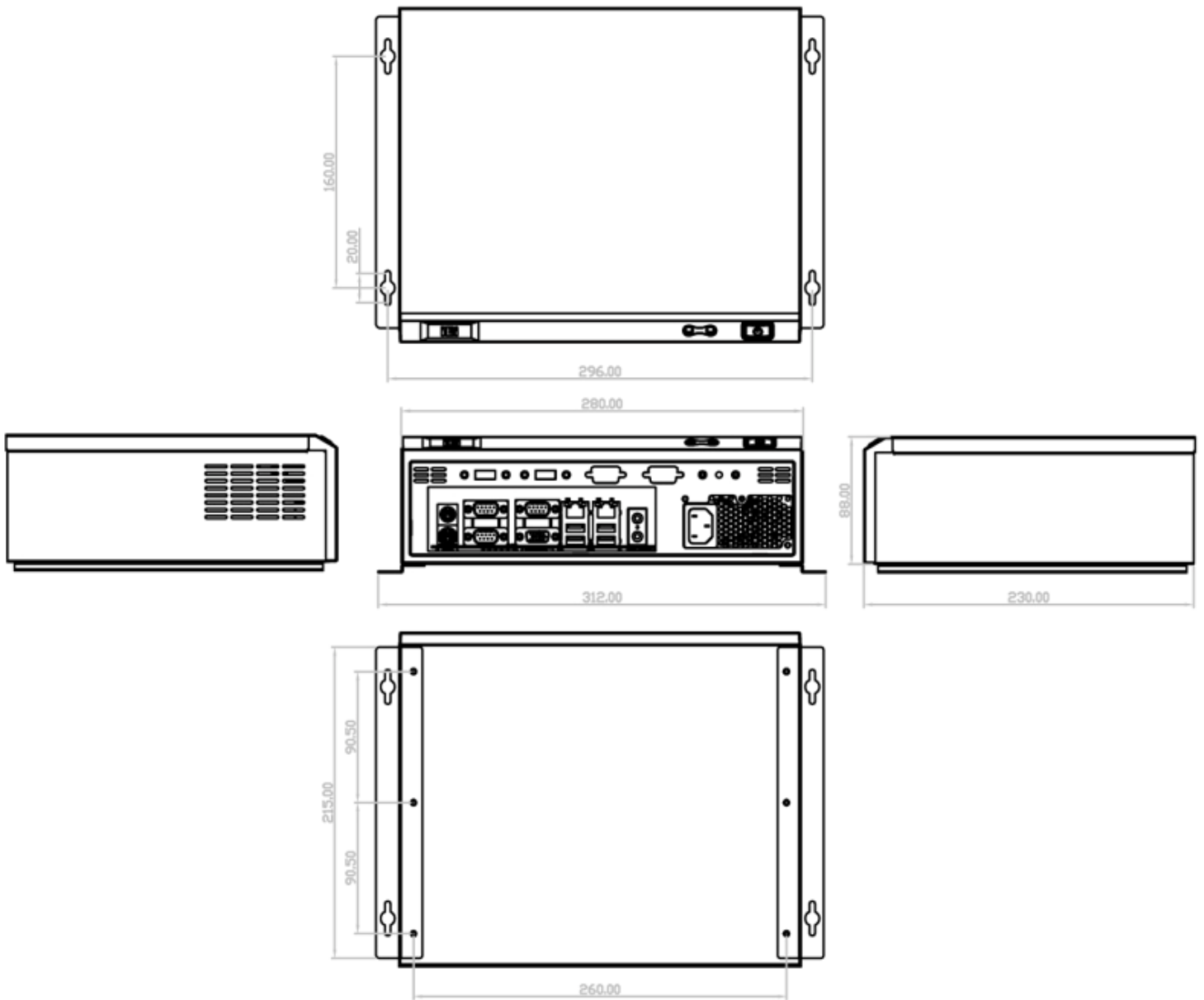


Figure 2: Dimension Drawing (measurement in millimeters)

INSTALLATION STEPS

To install the EBC-3000 chassis, the following installation steps must be completed:

1. Remove Chassis Cover
2. Install I/O Bracket
3. Install SBC
4. Install HDD
5. Front Panel Connections
6. Reinstall Chassis Cover
7. Wall Mounting (optional)

The installation steps outlined above are described in detail below. Please refer to the relevant section.

UNPACK

The RACK-4000B is shipped in a plastic bag that is placed inside a cardboard box. The accessories are also shipped with the chassis. When unpacking the chassis:

- Make sure all the accessories and components mentioned in the PACKING LIST section are present.
- Make sure the chassis has not been damaged in any way

REMOVE CHASSIS COVER AND HDD BRACKET

- Step 1:** Remove the chassis cover retention screw on the rear panel (**Figure 3**).

Chassis cover retention screws



Figure 3: Chassis Cover Retention Screws

- Step 2:** Push the cover back to separate it from the chassis until the cover case can be lifted from the chassis

- Step 3:** Remove HDD bracket. The bracket is attached to the chassis by four retention screws (**Figure 4**). Remove the retention screws.

HDD bracket retention screws



Figure 4: HDD Bracket Retention Screws

INSTALL I/O BRACKET

Note: I/O brackets differ in appearance depending on the SBC model to be installed in the EBC-3000.

- Step 1:** Snap the I/O bracket into place from the inside of the chassis.



Figure 5: I/O Bracket Installation

INSTALL SINGLE BOARD COMPUTER (SBC)

To install a Single Board Computer (SBC) with cooling kit into the chassis, please follow these steps:

- Step 1:** Mount the SBC on the four metal posts on the bottom of the chassis. Make sure the SBC I/O interface panel is aligned with the I/O bracket.

Motherboard retention screws

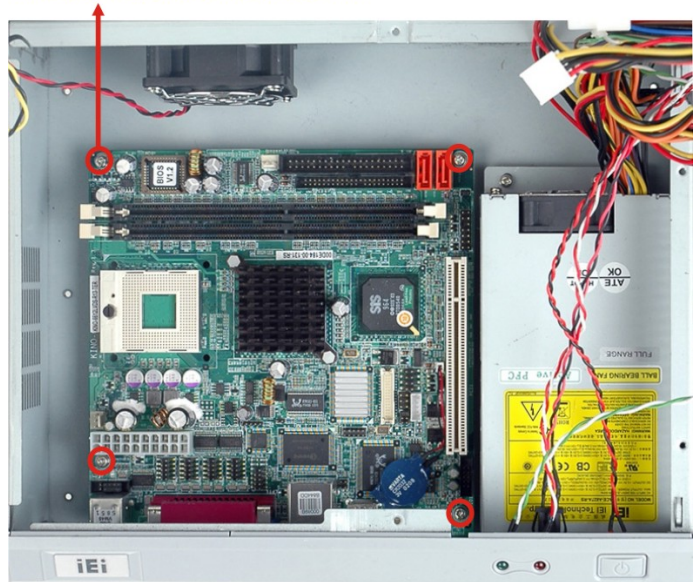


Figure 6: SBC Retention Screws

- Step 2:** Align the retention screw holes on the SBC with the metal post retention screw holes.

- Step 3:** Insert the four retention screws to secure the SBC to the chassis.

- Step 4:** Connect the power supply to the SBC according to the SBC user manual.

INSTALL HDD

To install a 3.5" SATA HDD, please follow the steps below.

- Step 1:** Attach the HDD to the HDD bracket. To do this, slide the HDD into the HDD bracket with the SATA cable and power connects at the rear of the bracket as shown in the figure below.



Figure 7: HDD Bracket (Top)

Step 2: Attach the HDD to the HDD bracket. Align the retention screw holes in the sides of the bracket with the retention screw holes on the HDD. Insert the retention screws into the bracket as seen below.

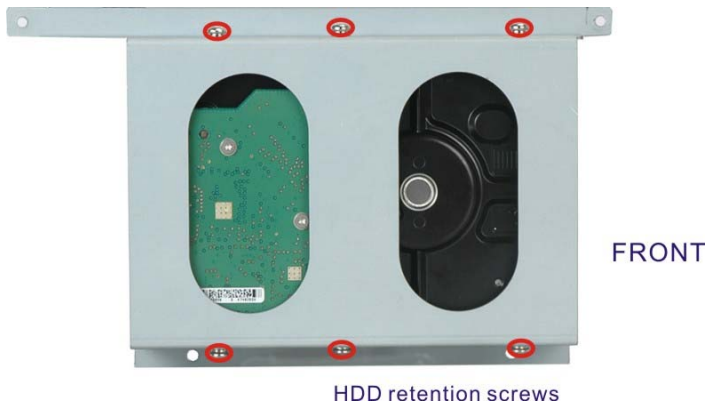


Figure 8: HDD Retention Screws

Step 3: Attach SATA and power cable to HDD and SBC as shown below according to the SBC user manual.



Figure 9: SATA Cables

Step 4: Install the bracket with HDD into the chassis by aligning the bracket retention screw holes in the top of the HDD bracket with the retention screw holes on the chassis. Insert the four previously removed retention screws into the top of the HDD bracket (Figure 10).

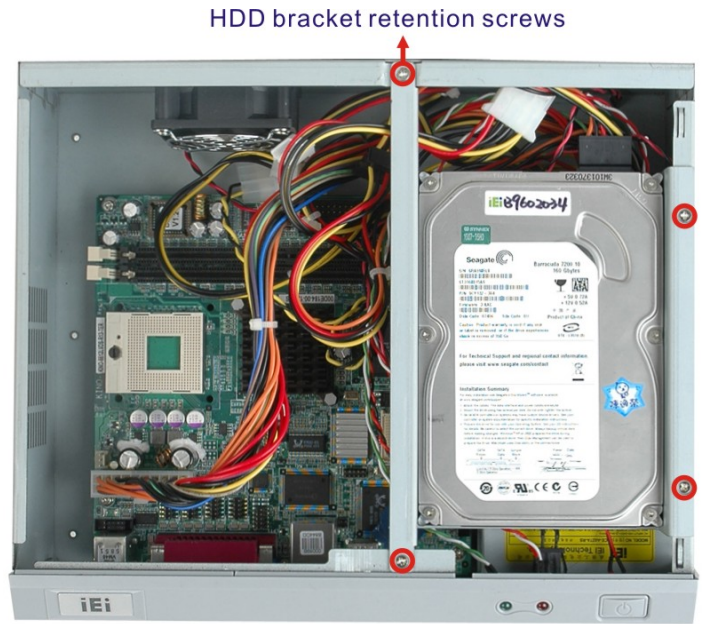


Figure 10: HDD/ODD Bracket Retention Screws

FRONT PANEL CABLE CONNECTIONS

The following buttons and LEDs are on the front panel of the EBC-3000 chassis.

- 1 x Power LED
- 1 x HDD LED
- 1 x Power switch
- 1 x Reset button

These components are all connected to the SBC with cables. To correctly connect these cables, please refer to the technical documentation that came with your SBC. The connectors that are provided with the chassis are listed below.





No.	Name
1	 Power LED cable
1	 Reset Switch cable
1	 HDD LED cable
1	 Power switch cable

Table 6: Chassis Connectors

REINSTALL CHASSIS COVER

- Step 1:** Replace chassis cover.
- Step 2:** Reinsert the two retention screws.

WALL MOUNTING (OPTIONAL)

To mount the embedded system onto a wall using the wall mount bracket kit, please follow the steps below.

- Step 1:** Attach the wall mounting brackets to the chassis with the four bracket retention screws as shown in the figure below.

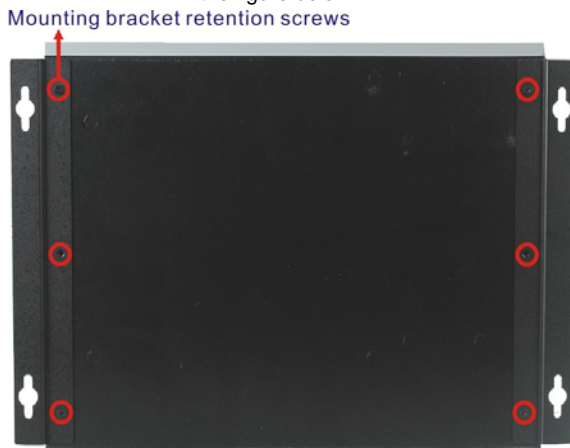


Figure 11: Wall-mounting Bracket and Retention Screw Locations

- Step 2:** Select the location on the wall for wall mounting screws.
- Step 3:** Carefully mark the locations of the four bracket screw holes on the wall.
- Step 4:** Drill four pilot holes at the marked locations on the wall for the wall mounting screws.
- Step 5:** Insert the four wall mounting screws into the pilot holes in the wall.
- Step 6:** Align the holes on the bracket with the wall mounting screws in the wall. See figure below.
- Step 7:** Insert the screws through the holes and gently pull the chassis downwards until it rests securely in the slotted holes. Ensure that all four of the mounting screws fit snugly into their respective slotted holes.
- Step 8:** Tighten the wall mounting screws to secure system to the wall.

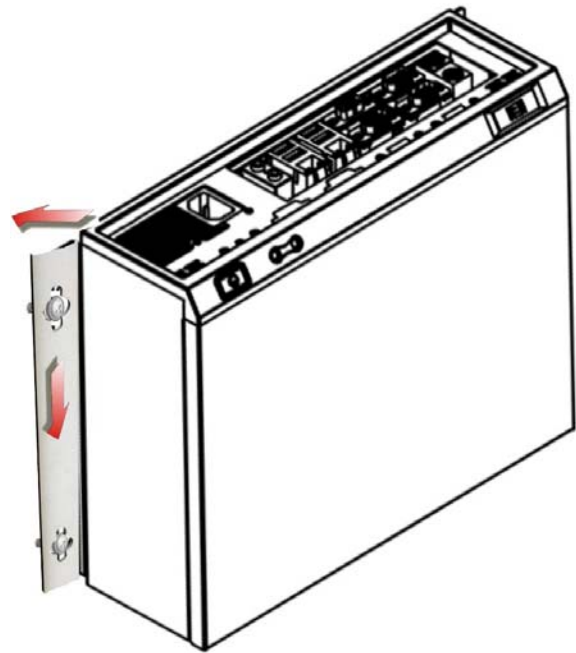


Figure 12: Wall-mounting the EBC-3000

EBC-3000 MAINTANENCE

The following EBC-3000 components may be replaced if they fail:

- Power Supply Replacement
- System Fan Replacement

POWER SUPPLY REPLACEMENT

A power supply is installed in the chassis. To replace the power supply, please follow the instructions below.

- Step 1:** Disconnect the power supply connector cable from the SBC.
- Step 2:** Remove the three power supply retention screws on the front panel of the chassis as indicated below.



Figure 13: Power Supply Retention Screws

- Step 3:** Remove the power supply bracket retention screws that secure the power supply to the bottom of the chassis as shown below.
- Step 4:** Remove the power supply from the chassis and remove the screws securing the bracket to the power supply.



Power supply bracket retention screws

Figure 14: Power Supply Bracket Retention Screws

- Step 5:** Replace the power supply.
- Step 6:** Secure the power supply bracket to the power supply and then secure the power supply bracket to the chassis as shown in **Figure 14**.
- Step 7:** Secure the power supply to the front panel of the chassis with the three screws as indicated in **Figure 13**.
- Step 8:** Connect the power supply to the SBC according to the SBC user manual.

SYSTEM FAN REPLACEMENT

To replace the system fan please follow the steps below.



NOTE:

Please ensure that the power of the computer is switched off before fan replacement procedure.

- Step 1:** Remove the chassis cover.
- Step 2:** Disconnect the system fan cable from the SBC.
- Step 3:** Remove the system fan from the chassis by removing the four retention screws on the back panel (**Figure 15**).



System fan retention screws

Figure 15: System Fan Retention Screws

- Step 4:** Install the new system fan with the four previously removed retention screws.
- Step 5:** Reconnect the system fan cable connector.