

# BFC-1232

12.1" 6th Gen Intel® Core™ SoCFanless Full Flat Multi-Touch  
Panel PC with Front IP-65

## Quick Reference Guide

1<sup>st</sup> Ed –11 May 2021

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## FCC Statement



THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

## A Message to the Customer

### *Avalue Customer Services*

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

### *Technical Support*

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

<http://www.avalue.com.tw/>

# Content

- 1. Getting Started.....4**
  - 1.1 Safety Precautions .....4
  - 1.2 Packing List .....4
  - 1.3 System Specifications .....5
  - 1.4 System Overview.....7
    - 1.4.1 Top View ..... 7
    - 1.4.2 Bottom View ..... 7
  - 1.5 System Dimensions.....8
- 2. Hardware Configuration.....9**
  - 2.1 BFC-1232 connector mapping.....10
    - 2.1.1 Serial port 3/4 connector (COM1/2) ..... 10
    - 2.1.2 Serial port 5 connector (COM4) ..... 10
  - 2.2 Installing Hard Disk & Memory (BFC-1232).....11

# 1. Getting Started

## 1.1 Safety Precautions

### Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

### Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

## 1.2 Packing List

- 1 x BFC-1232 Panel PC



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If any of the above items is damaged or missing, contact your retailer.

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## 1.3 System Specifications

Component	
Mother Board	<ul style="list-style-type: none"> <li>EBM-SKLU</li> </ul>
CPU	<ul style="list-style-type: none"> <li>6th Gen Intel® Core™ SoC ULT Processor i5-6300U processor (option for i7-6600U/i3-6100U/Celeron 3955U)</li> </ul>
Memory	<ul style="list-style-type: none"> <li>One 204-pin DDR3L SODIMM Socket, Supports Up to 8GB DDR3L 1333MHz SDRAM</li> </ul>
Speaker	<ul style="list-style-type: none"> <li>8ohm 2W x 2</li> </ul>
Wireless LAN	<ul style="list-style-type: none"> <li>By option</li> </ul>
Bluetooth	<ul style="list-style-type: none"> <li>By option</li> </ul>
Operating System	<ul style="list-style-type: none"> <li>Win7, Win 10, Linux</li> </ul>
Expansion Card	<ul style="list-style-type: none"> <li>1 x Mini PCIe Support mSATA</li> <li>1 x Mini PCIe Supports SIM Card</li> </ul>
Storage	
Hard Disk Drive	<ul style="list-style-type: none"> <li>By SATA</li> </ul>
Solid State Drive	<ul style="list-style-type: none"> <li>By SATA</li> </ul>
Other Storage Device	<ul style="list-style-type: none"> <li>1 x mSATA</li> </ul>
Panel	
LCD Panel	<ul style="list-style-type: none"> <li>E9689412107R (12.1" Innolux G121XCE-L01)</li> </ul>
LCD Control Board	<ul style="list-style-type: none"> <li>Built-in</li> </ul>
Touch Screen	<ul style="list-style-type: none"> <li>E968X000126R (12.1" PCAP H8573A+EETI EXC3188 )</li> </ul>
Touch Controller	<ul style="list-style-type: none"> <li>EETI</li> </ul>
External I/O	
Serial Port	<ul style="list-style-type: none"> <li>3 x RS-232 (from COM3,4,5)</li> </ul>
USB Port	<ul style="list-style-type: none"> <li>4 x USB3.0, 2 x USB2.0</li> </ul>
Video Port	<ul style="list-style-type: none"> <li>1 x HDMI</li> </ul>
LAN Port	<ul style="list-style-type: none"> <li>1 x Intel® I210AT</li> <li>1 x Intel® I219LM</li> </ul>
Wireless LAN Antenna	<ul style="list-style-type: none"> <li>By option</li> </ul>
Indicator Light	<ul style="list-style-type: none"> <li>Power LED, HDD LED</li> </ul>
Mechanical	
Power Type	<ul style="list-style-type: none"> <li>AT/ATX</li> </ul>
Power Connector Type	<ul style="list-style-type: none"> <li>Lockable DC in</li> <li>(Option with 2-pin power connector)</li> </ul>
Demension	<ul style="list-style-type: none"> <li>292.86 x 225.4 x 49 mm</li> </ul>
Weight	<ul style="list-style-type: none"> <li>3.8 Kg</li> </ul>
Color	<ul style="list-style-type: none"> <li>Silver Aluminum, Black Metal</li> </ul>

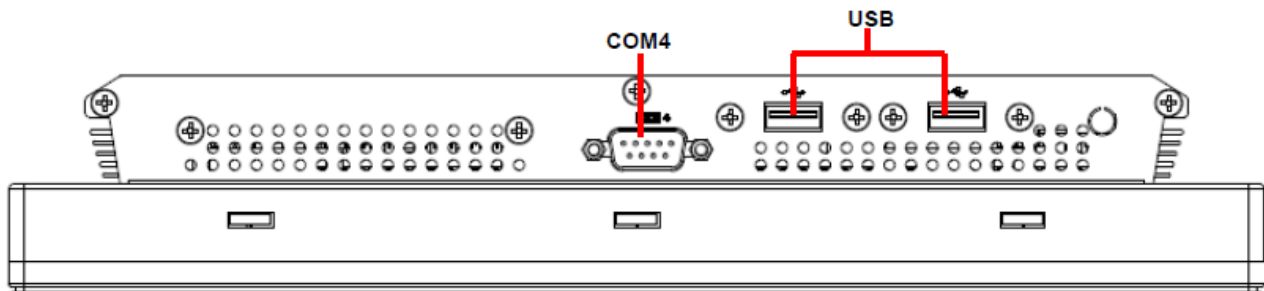
<b>Fanless</b>	<ul style="list-style-type: none"> <li>• Yes</li> </ul>
<b>OS Support</b>	<ul style="list-style-type: none"> <li>• Win7, Win10, Linux</li> </ul>
<b>Reliability</b>	
<b>EMI Test</b>	<ul style="list-style-type: none"> <li>• CE FCC class B</li> </ul>
<b>Dust and Rain Test</b>	<ul style="list-style-type: none"> <li>• Front IP65</li> </ul>
<b>Vibration Test</b>	<ul style="list-style-type: none"> <li>• With SSD/mSATA : 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis</li> </ul>
<b>Mechanical Shock Test</b>	<ul style="list-style-type: none"> <li>• With CF/SSD : 10Grms, IEC 60068-2-27, Half Sine, 11ms</li> </ul>
<b>Drop Test</b>	<ul style="list-style-type: none"> <li>• ISTA 2A, IEC-60068-2-32 Test:Ed</li> </ul>
<b>Operating Temperature</b>	<ul style="list-style-type: none"> <li>• 0°C ~ 40°C (32°F ~ 104°F)</li> </ul>
<b>Operating Humidity</b>	<ul style="list-style-type: none"> <li>• 40°C@ Relative Humidity, Non-condensing</li> </ul>
<b>Storage Temperature</b>	<ul style="list-style-type: none"> <li>• -10°C ~ 50°C (14°F ~ 122°F)</li> </ul>



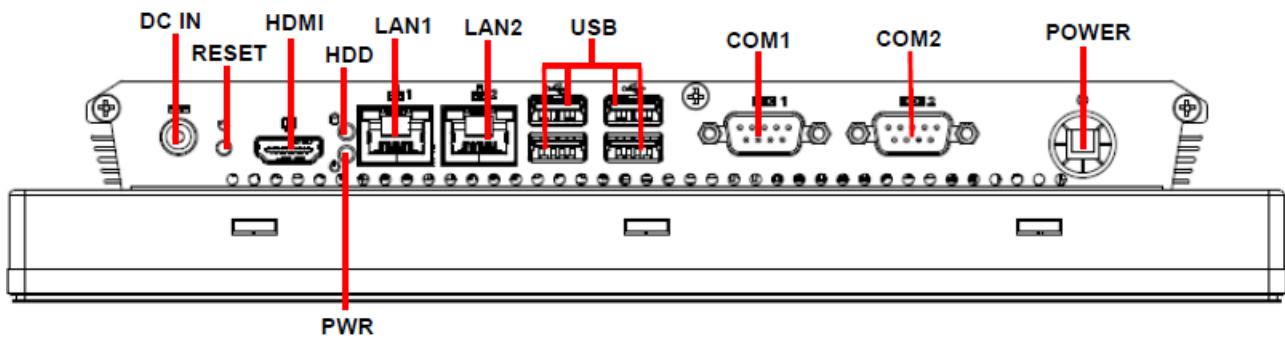
**Note:** Specifications are subject to change without notice.

## 1.4 System Overview

### 1.4.1 Top View



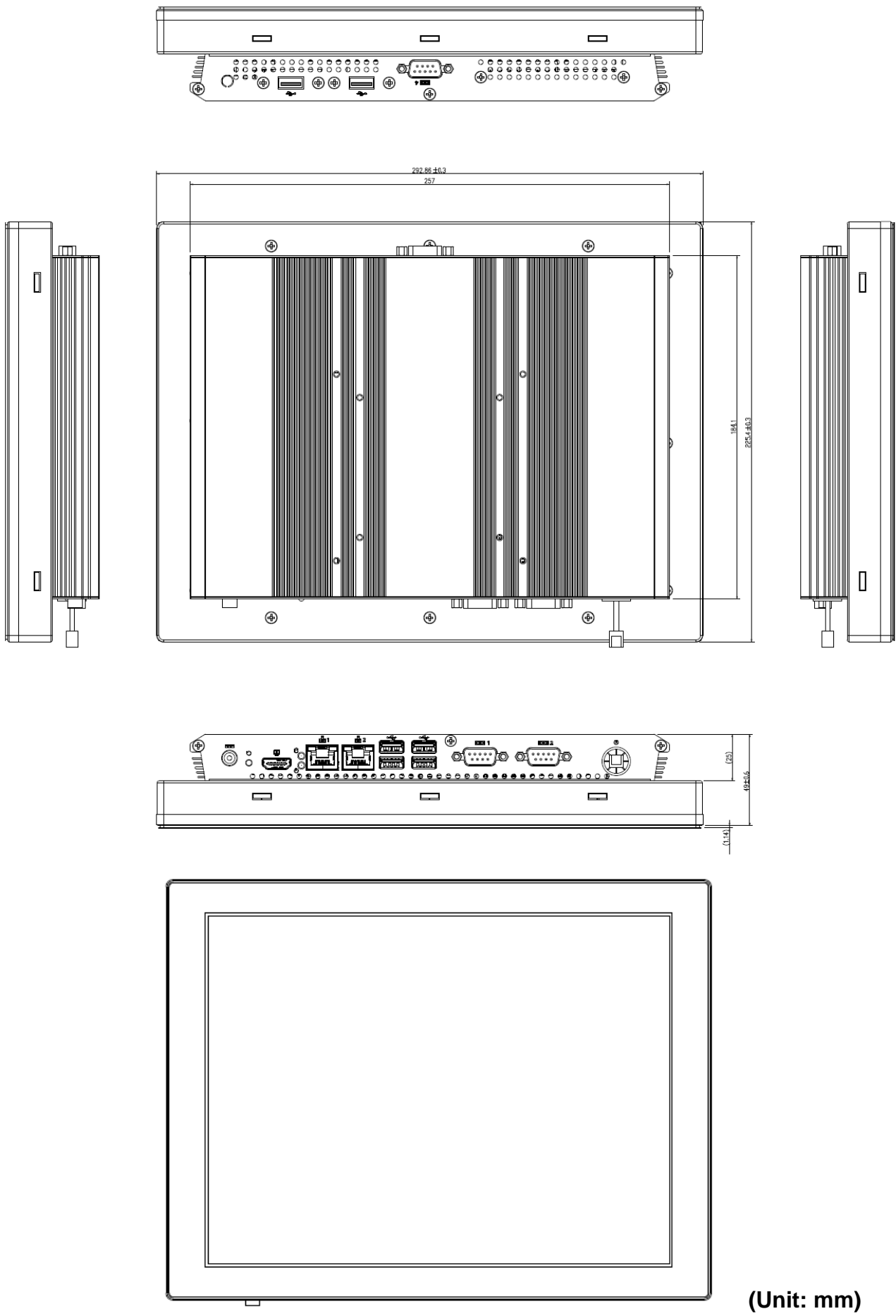
### 1.4.2 Bottom View



#### Connectors

Label	Function	Note
<b>COM1/2/4</b>	Serial port 3/4/5 connector	DB-9 male connector
<b>HDMI</b>	HDMI connector	
<b>LAN1/2</b>	RJ-45 Ethernet 1/2	
<b>Power</b>	2 pin Power connector	
<b>DC IN</b>	DC Power-in connector	
<b>RESET</b>	Reset button	
<b>HDD</b>	HDD LED	
<b>PWR</b>	Power LED	
<b>USB</b>	USB 2.0 connector x 2 USB 3.0 connector x 4	

1.5 System Dimensions





## 2. Hardware Configuration

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For advanced information, please refer to:

- 1- EBM-SKLU User's Manual

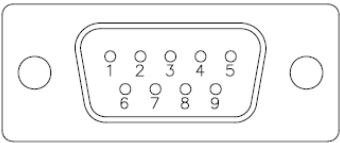
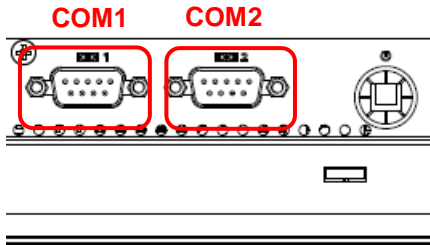


**Note:** If you need more information, please visit our website:

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2.1 BFC-1232 connector mapping

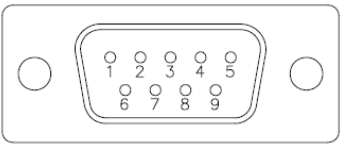
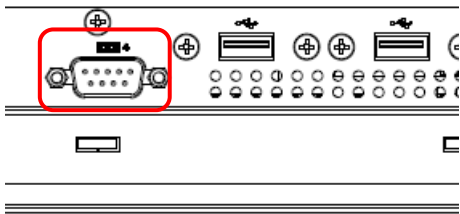
2.1.1 Serial port 3/4 connector (COM1/2)



Signal	PIN	PIN	Signal
DCD#	1	6	DSR#
RXD	2	7	RTS#
TXD	3	8	CTS#
DTR#	4	9	RI#
GND	5		

**Note:**  
COM1 is connect from COM3 pin header at motherboard.  
COM2 is connect from COM4 pin header at motherboard.

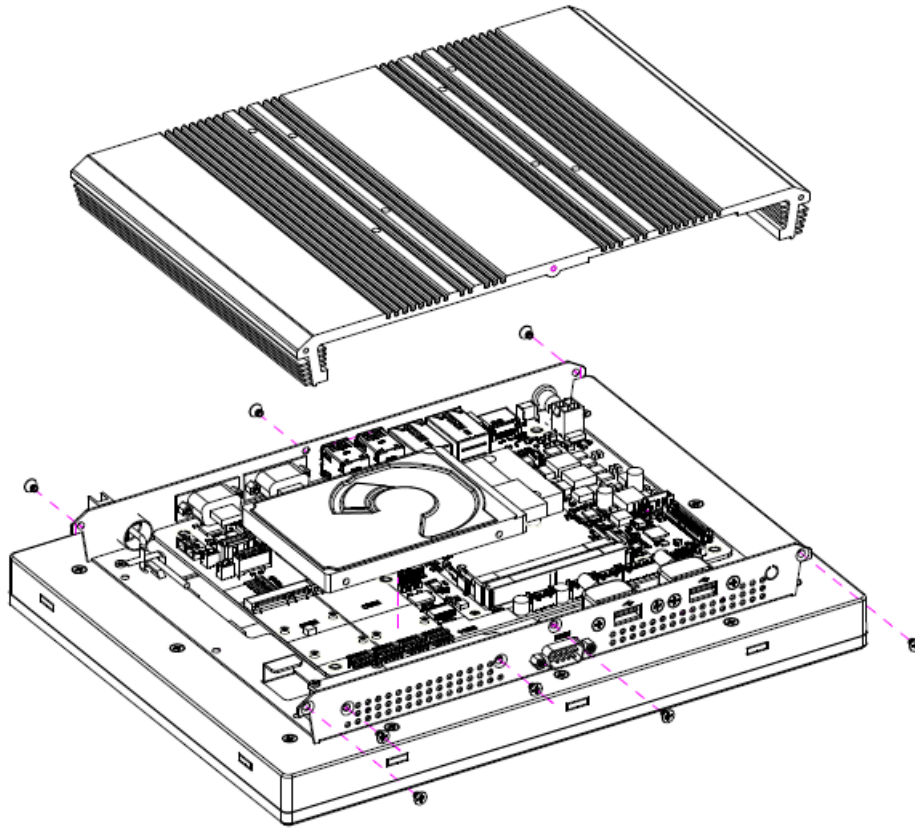
2.1.2 Serial port 5 connector (COM4)



Signal	PIN	PIN	Signal
DCD#	1	6	DSR#
RXD	2	7	RTS#
TXD	3	8	CTS#
DTR#	4	9	RI#
GND	5		

**Note:**  
COM4 is connect from COM5 pin header at motherboard.

## 2.2 Installing Hard Disk & Memory (BFC-1232)



- Step 1.** Remove 6 screws to release the chassis cover, and remove it.
- Step 2.** Remove 2 screws to release the HDD bracket.
- Step 3.1** Slide HDD into its bracket until properly seated.
- Step 3.2** Secure HDD by means of 2 screws.
- Step 4.** Slide the DDR4 SODIMM into the memory socket and press it down until properly seated.

