



MPC-OPC12 & -15

12.1" & 15" LED/LCD Touch Screen Panel PC

Fanless Intel® Core™ E3845 QuadCore CPU

Rugged Embedded Computer for All-Weather Conditions

Quick Reference Guide

1ST Ed –4 December 2018

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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 MarinePC product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments.

Your satisfaction is our primary concern. Here is a guide to MarinePC 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.marinepc.com>

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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.

1.2 Packing List

- ☒ 1 x MPC-OPC12/15 Panel PC
- ☒ 1 x Power Adapter (if ordered)
- ☒ 1 x Power cord (for DC cord, White is +, Black is -)
- ☒ 1 Set Mounting Hardware for Flush Mount



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

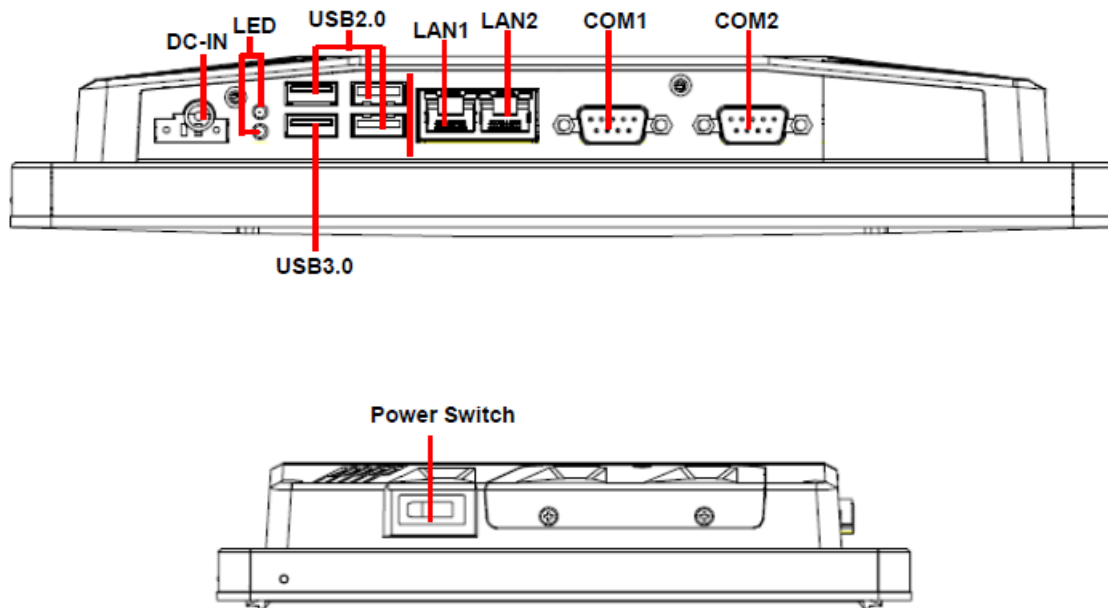
1.3 System Specifications

Panel	MPC-OPC12	MPC-OPC15
LCD Size	12.1", 4:3	15", 4:3
Display Type	XGA	
Resolution	1024 x 768	
Pixel pitch	0.1905 mm (H) x 0.1905 mm (V)	0.297mm(H) x 0.297mm(V)
Luminance	600 cd/m ²	400 cd/m ²
Contrast ratio	700	
Viewing angle	80 (U), 80 (D), 80 (L), 80 (R)	70 (U), 70 (D), 80 (L), 80 (R)
Response time	16ms	
Backlight	LED	
Touch Type	5 Wires resistive (Standard) Projected Capacitive (Optional)	
Touch Light Transmission	80% (Resistive) 89% (PCAP)	
Touch Controller	Onboard USB touch (PenMount) EETI (PCAP)	
System		
SBC	ARC-BYT	
Processor	Intel® Atom™ E3845 4 -Core 1.91GHz (Standard) Intel® Celeron® J1900 4-Core 2.0Ghz (Optional)	
I/O Chipset	EC ITE IT8528E	
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB	
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./1sec.step	
H/W Status Monitor	Monitoring SYSTEM Temperature and Voltage with Auto Throttling Control	
Expansion	1 x Mini PCIe Support mSATA 1 x Optional 80-pin Expansion	
Storage	1 x 2.5" Drive Bay	
I/O		
USB	1 x USB 3.0, 3 x USB 2.0	
SATA	1 x SATA II	
Com Port	1 x RS-232/422/485 (Factory Optional) 1 x RS-232	
Other	3 x Knockouts for Antenna Mounting	
Display		
Chipset	Intel® Valleyview SoC integrated Graphics Supports optional dual display	
Resolution	HDMI: Max. resolution 1920x1200 @ 60Hz (by IET module)	

Dual Display	HDMI + LVDS	
Audio		
Audio Codec	Realtek ALC892	
Audio Interface	Speaker Out	
Speaker Output	2 x 2W	
Ethernet		
Chipset	2 x Intel® I210IT (A Model) 2 x Intel® I2101AT (B Model)	
Ethernet Interface	10/100/1000 Base-Tx GbE compatible	
Lan Port	2 x RJ-45	
Power Requirement		
Power Connector	Lockable DC Jack	
Power Requirement	+12V ~ +26V	
Power Type	AT/ATX (ATX is default setting)	
Adapter	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)	
Mechanical & Environmental		
System Fan	Fanless	
Construction - Front	Silver Aluminum	
Construction - Rear	Black	
Dimension	MPC-OPC12 294 x 226.3 x 51 mm	MPC-OPC15 350.5 x 274.5 x 53 mm
Weight	2.4 Kgs	3.7 Kgs
Operating Temperature	-20°C ~ 60°C (-4°F ~ 140°F) (A Model) -10C ~ 50°C (-14°F ~ 122°F) (B Model)	
Storage Temperature	-30°C ~ 70°C (-22°F ~ 158°F)	
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing	
Vibration Test	MPC-OPC12 With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis MPC-OPC12 PCAP, MPC-OPC15 With SSD/mSATA : 3Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis	
Shock Test	Operating with SSD/CFast/mSATA : MIL-STD-810G, Method 516.6, Procedure I, functional shock=20G	
Certifications	CE, FCC Class B	
OS Information	Win 10, Linux	
Ordering Information/ Description		
ACC-ARC-USB-1R	4 x USB3.0 (ARC-BYT DB-A)	

1.4 System Overview

1.4.1 I/O View

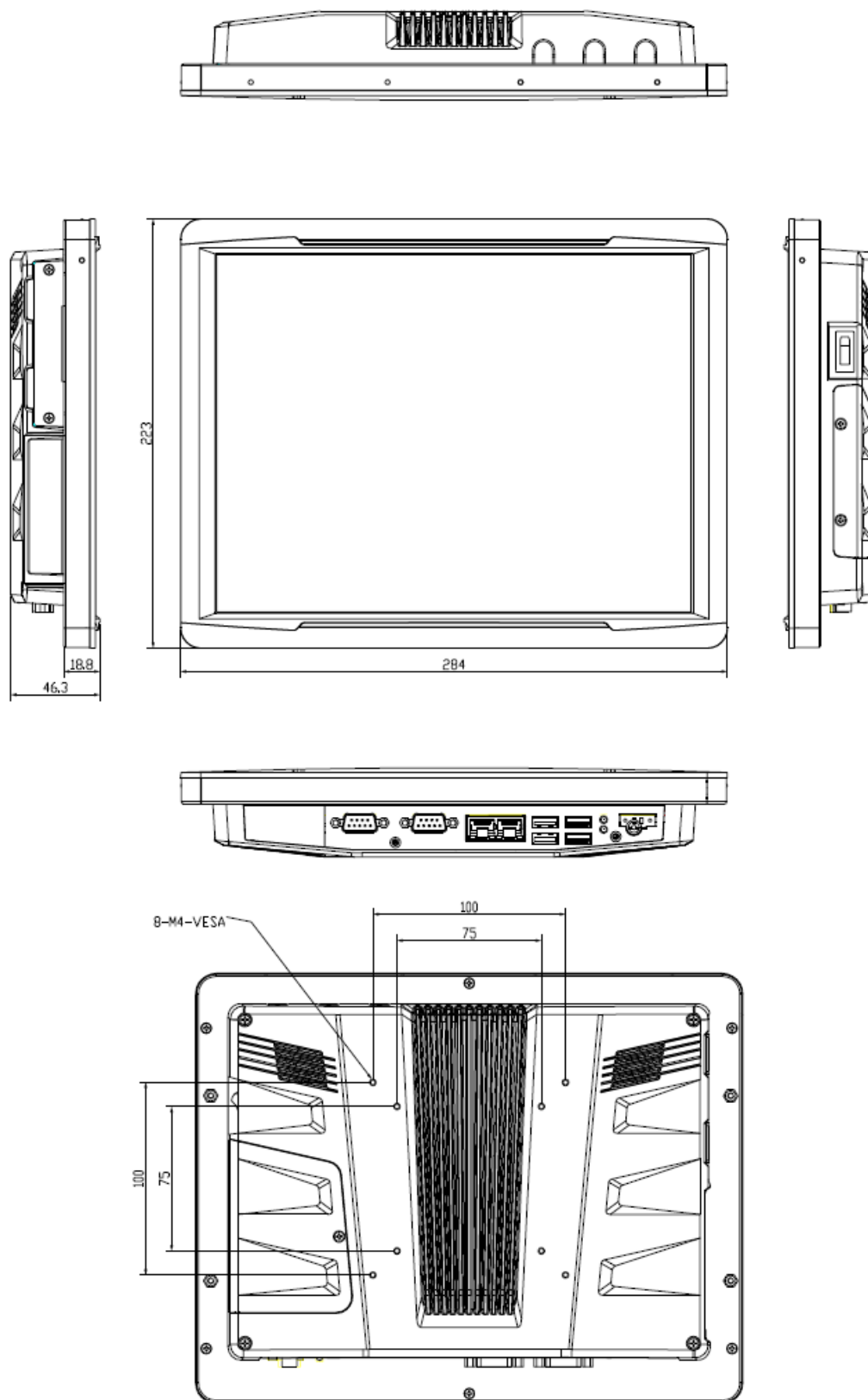


Connectors

Label	Function	Note
DC-IN	DC Power-in connector	Default: Lockable DC Jack Option: Phoenix Connector(MOQ apply)
COM1/2	Serial port 1/2 connector	DB-9 male connector
USB	3 x USB 2.0 connector 1 x USB 3.0 connector	
LAN1/2	RJ-45 Ethernet 1/2	
LED	HDD/Power LED indicator	
Power Switch	Power on button	

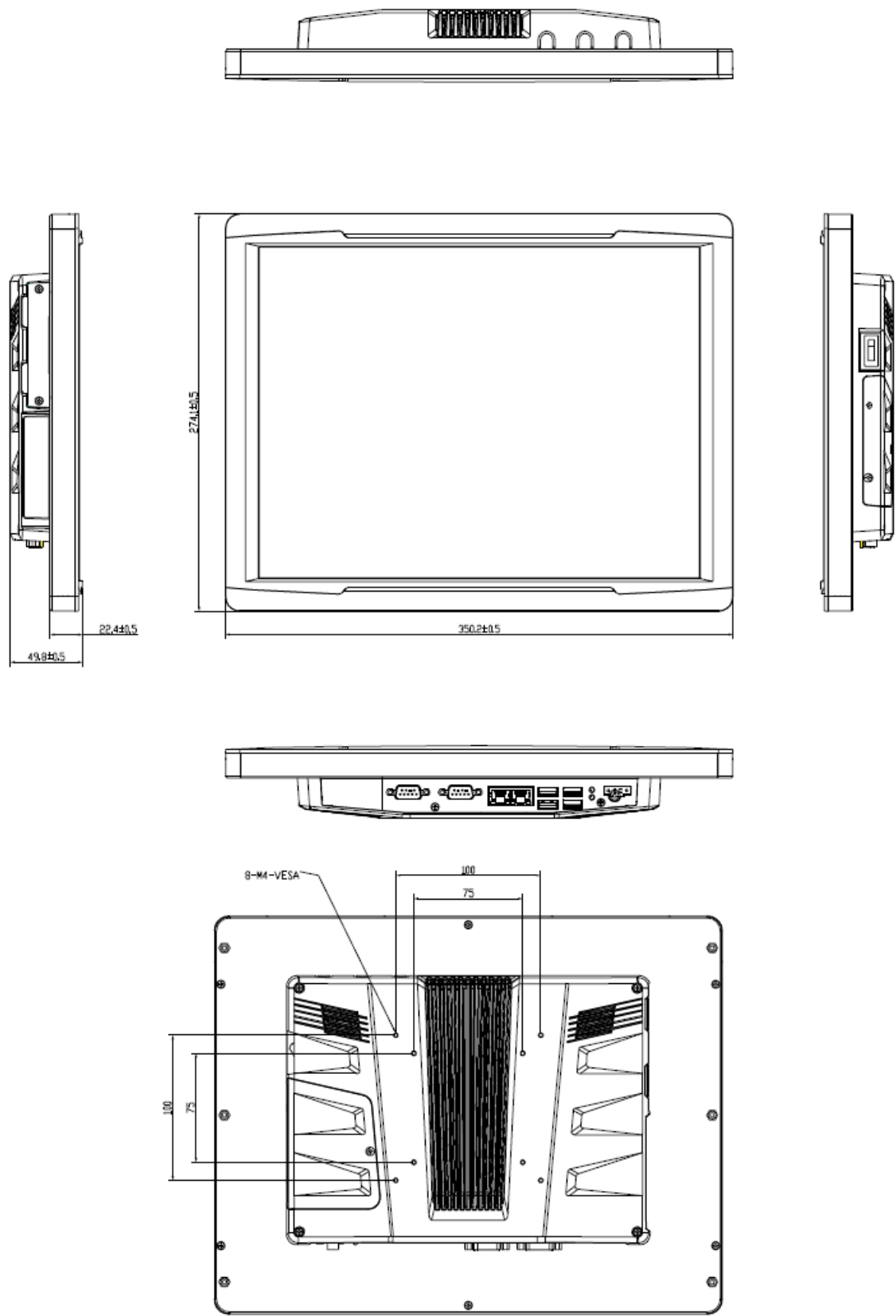
1.5 System Dimensions

1.5.1 MPC-OPC12



(Unit: mm)

1.5.2 MPC-OPC15



(Unit: mm)

2.BIOS Setup

2.1 Introduction

The BIOS setup program allows users to modify the basic system configuration. In this following chapter will describe how to access the BIOS setup program and the configuration options that may be changed.

2.2 Starting Setup

The AMI BIOS™ is immediately activated when you first power on the computer. The BIOS reads the system information contained in the NVRAM and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways:

By pressing or <F2> immediately after switching the system on, or

By pressing the or <F2> key when the following message appears briefly at the left-top of the screen during the POST (Power On Self Test).

Press or <F2> to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to.

Press F1 to Continue, DEL to enter SETUP

2.3 Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the PageUp and PageDown keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

Button	Description
⌂	Move to previous item
⌂	Move to next item
⌂	Move to the item in the left hand
⌂	Move to the item in the right hand
Esc key	Main Menu -- Quit and not save changes into NVRAM Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F2 key	Previous Values.
F3 key	Optimized defaults
F4 key	Save & Exit Setup

⌂ Navigating Through The Menu Bar

Use the left and right arrow keys to choose the menu you want to be in.



Note: Some of the navigation keys differ from one screen to another.

⌂ To Display a Sub Menu

Use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>. A " ⌂ " pointer marks all sub menus.

2.4 Getting Help

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc> or the F1 key again.

2.5 In Case of Problems

If, after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the AMI BIOS supports an override to the NVRAM settings which resets your system to its defaults.

The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both BIOS Vendor and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to the chipset setup has the potential for causing you to use the override.

2.6 BIOS setup

Once you enter the Aptio Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

2.6.1 Advanced Menu

This section allows you to configure your CPU and other system devices for basic operation through the following sub-menus.

