

# ML350G-10 Manual

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## ML350 Quick Start Guide

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## 1 - About Logic Supply

Logic Supply is powering innovation with highly configurable embedded and IoT computers engineered for reliability. Businesses worldwide depend on our solutions to operate in the toughest environments while tapping into the evolving Industrial Internet of Things.

This guide will introduce you to the ML350G-10 industrial fanless computer and the system specifications. For technical questions or support, please reach out via our contact information below.

You have a lot of choices when choosing computer hardware. The Logic Supply Team wants to thank you for trusting our components to meet your application needs. The ML350G-10 is the result of input from partners like you. We've worked hard to create a system that meets the varied needs of industrial and IoT computing and we've manufactured this system under our strict quality assurance and immunity standards to serve you best. If you have any concerns about the quality or performance of this product, please contact us directly or [visit our support page](#).

### Contact Information

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**Regulatory Compliance:** This digital device is designed to comply with all applicable FCC Rules Part 15 and CE compliance requirements for electronic equipment. For more detailed or additional regulatory compliance information, please see the relevant product page at [www.logicsupply.com](http://www.logicsupply.com) or contact Logic Supply directly at [info@logicsupply.com](mailto:info@logicsupply.com).

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### 3 - Safe Use and Installation Instructions

1. Do not open or modify the device. The device has been tested and complies with FCC and CE regulations. Modification of the device will void these certifications.
2. Install the device securely. Be careful handling the device to prevent injury and do not drop.
3. Wall or ceiling mounting device requires use of a mounting plate or pair of mounting brackets. Plate or brackets must be of metal construction and have a minimum thickness of 1mm.
4. Use M3x0.5mm Flat Head screws to attach mounting plate or mounting brackets to threaded holes on bottom of chassis. Screws should be minimum length of 4mm. Add 1mm of screw length for every mm of additional thickness of plate or bracket beyond 1.5mm.
5. Operational temperature must be between 0-40°C with a noncondensing relative humidity of 10-90%.
6. The device can be stored at temperatures between 0-60°C.
7. Keep the device away from liquids and flammable materials.
8. Do not clean the device with liquids. The chassis can be cleaned with a cloth.
9. Allow at least 2 inches of space around all sides of the device for proper cooling. If device is mounted to vertical surface then recommended device orientation is so that heatsink fins allow air to rise unobstructed. Alternative orientations may result in reduced operational temperature range.
10. This device is intended for indoor operation only.
11. Use UL listed external power supply with rated output 9Vdc, 4.0A min. to 24Vdc, 1.5A min., NEC Class 2, or LPS output or equivalent.
12. Install the device only with shielded network cables.
13. Service and repair of the device must be done by qualified service personnel. This includes but is not limited to replacement of CMOS battery. Replacement CMOS battery must be of same type as original.
14. Proper disposal of CMOS battery must comply with local governance.

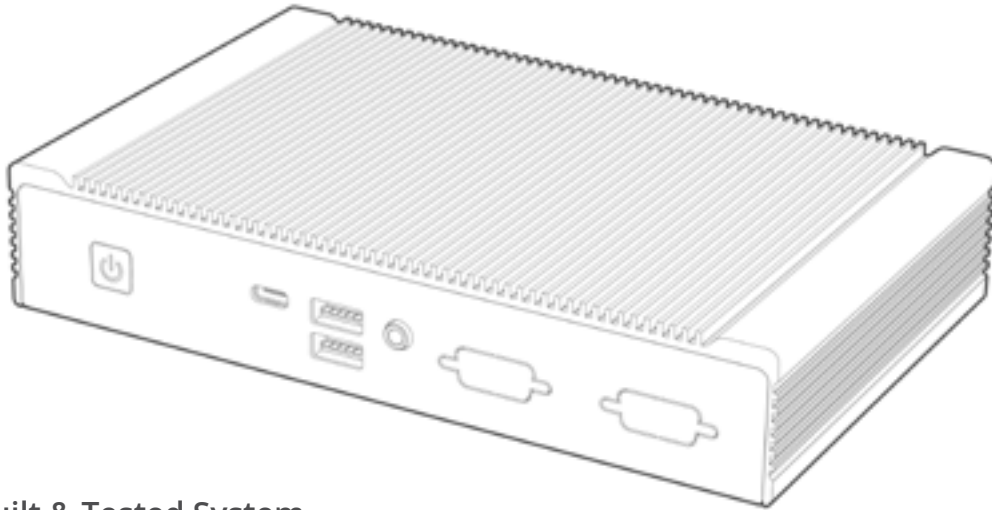


**WARNING:** There is danger of explosion if the CMOS battery is replaced incorrectly.

#### Wireless

If this product was configured with a wireless device, the FCC and IC IDs will be detailed on a label on the chassis.

## 4 - What's In The Box



**ML350 Built & Tested System**



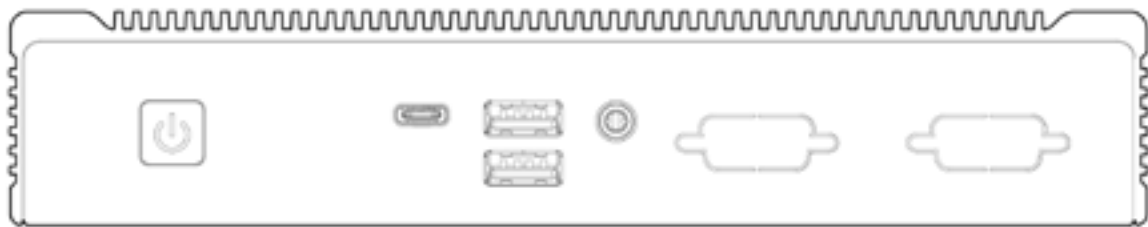
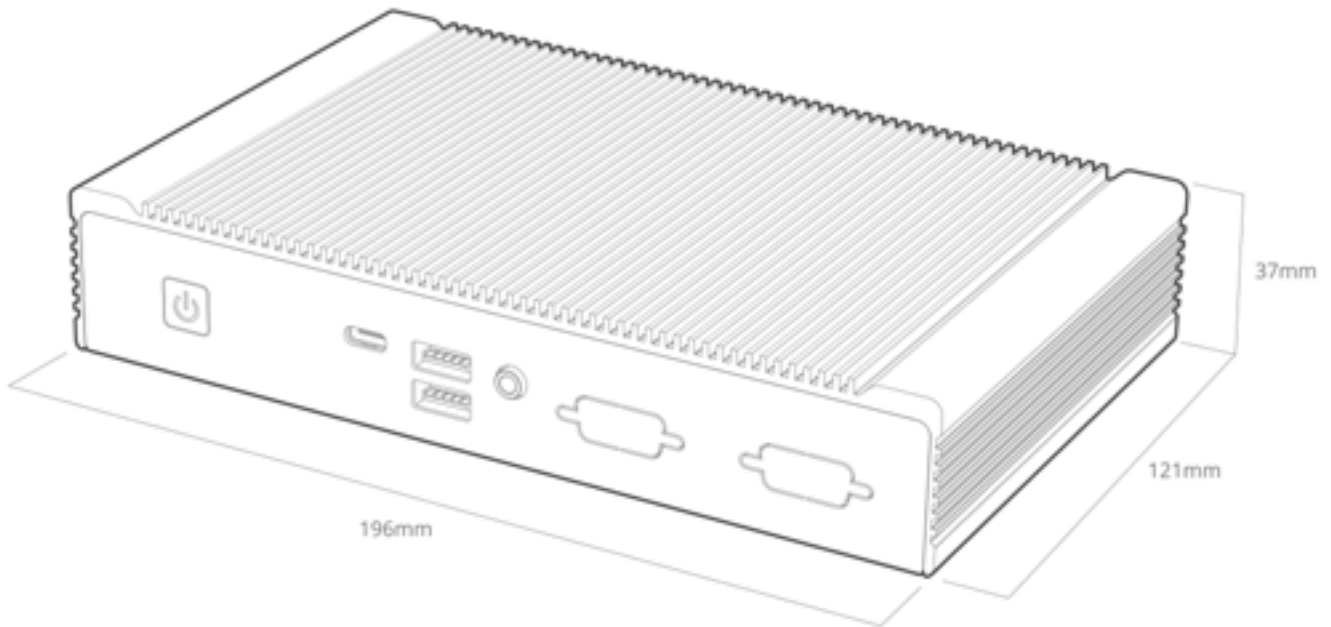
**Any Selected Accessories**

If you purchased additional items such as specific mounting brackets, power supplies or antennas, they will be located in the system box or within the outer shipping carton.

All drivers and product guides can be found on the corresponding product page at [www.logicsupply.com](http://www.logicsupply.com).

## 5 - System Overview

### 5.1 - System Diagram



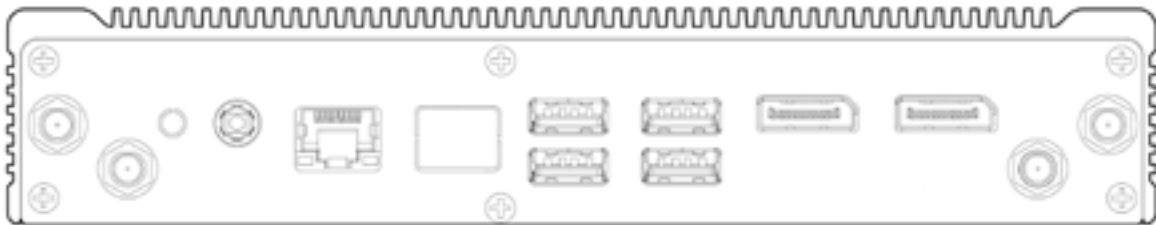
Power Button

USB C

USB 3.0

Audio  
In/Out

COM  
(Optional)



Antenna  
(Optional)

Power In

Gb LAN

Gb LAN  
(Optional)

USB 2.0

CEC

Antenna  
(Optional)

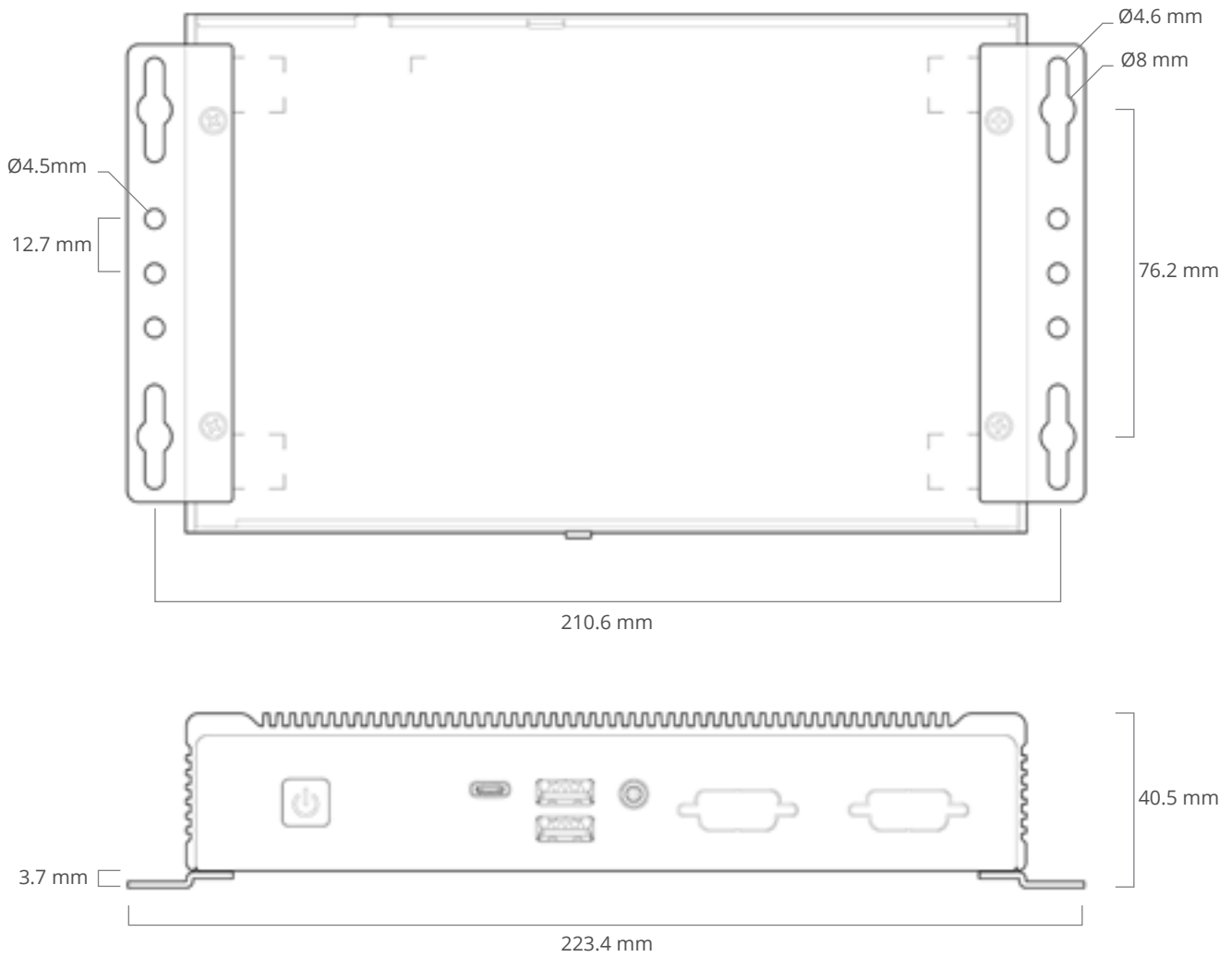
DisplayPort

## 5.2 - System Specifications

		N3350	N4200
<b>Processor and Chipset</b>	Intel Apollo Lake with integrated graphics		
<b>Memory</b>	1 x 204-pin DDR3L SO-DIMM up to 8GB		
<b>Audio Controller</b>	Realtek ALC283 audio codec		
<b>Expansion</b>	Full-size/half-size mPCIe with PCIe, SATA, and USB signal	1	
	Full-size mPCIe with PCIe and USB signal	1	
	Full-size mPCIe with SATA and USB signal	1	
<b>Rear I/O</b>	DisplayPort, Version 1.2 (HDMI CEC option, supports dual mode and MST)	2	
	GbE LAN	1	2
	USB2.0	4	
<b>Front I/O</b>	USB3.0	2	
	USB type C 3.1	1	
	Audio jack; line-in/out	1	
	Power button	1	
<b>Onboard I/O</b>	USB2.0 pin header (2 USB supported)	1	
	RS-232/422/485 pin header	2	
	SATA power	1	
	CEC header	1	
	AT mode jumper header	1	
	RTC battery header	2	
	Ambient temperature header	1	
<b>Super I/O Controller</b>	NCT6793D		
<b>LAN Controller</b>	RTL8111G		
<b>BIOS</b>	BIOS resident in a Serial Peripheral Interface (SPI) Flash device Support for Advanced Configuration and Power Interface (ACPI) and System Management BIOS (SMBIOS)		
<b>Environment</b>	Operating Temperature: 0°C ~ 40°C		
	Operation humidity: 10%~ 90%		
	Storage Temperature: 0°C ~ 60°C		
	Storage humidity: 5%~ 95%		
<b>Dimensions</b>	196 x 121 x 37mm		
<b>Mounting</b>	Wall, DIN, VESA-75/100. (Additional mounting hardware required)		
<b>Certifications</b>	CE (EN 55022, EN55032, EN 55024, EN 60950-1) FCC part 15b, Class A RoHS, WEEE UL/IEC 62368-1, UL/IEC 60950-1		



**5.3 - Mounting Hole Pattern**



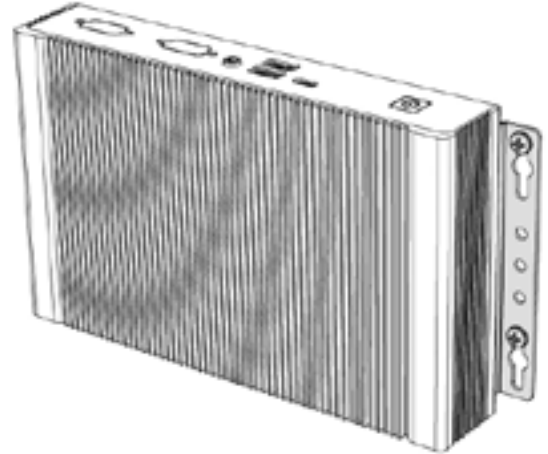
## 5.4 - Mounting Guide

### **Wall Mounting**

Step 1: Attach wall mount brackets to chassis

Step 2: Mark and prep holes in surface for mounting

Step 3: Fasten system to surface

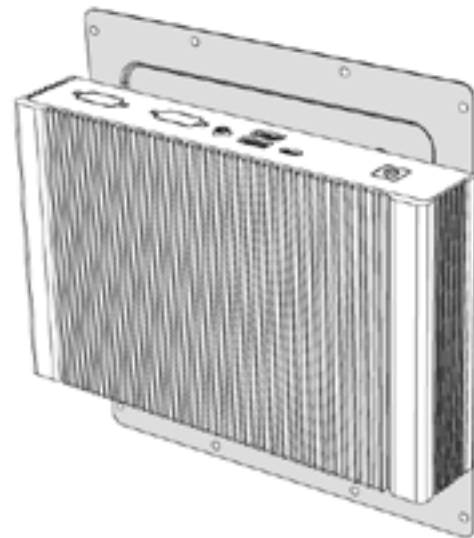


### **VESA Mounting**

Step 1: Install 4 VESA Screws into your display/surface

Step 2: Attach VESA bracket to the chassis

Step 3: Hang combined system and bracket to display/surface

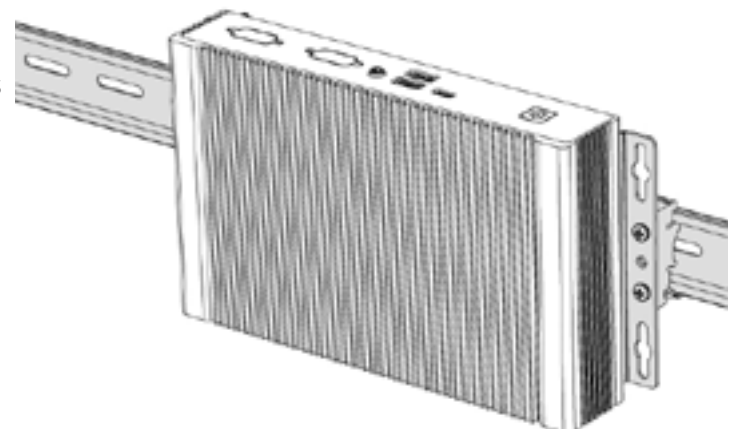


### **DIN Rail Mounting**

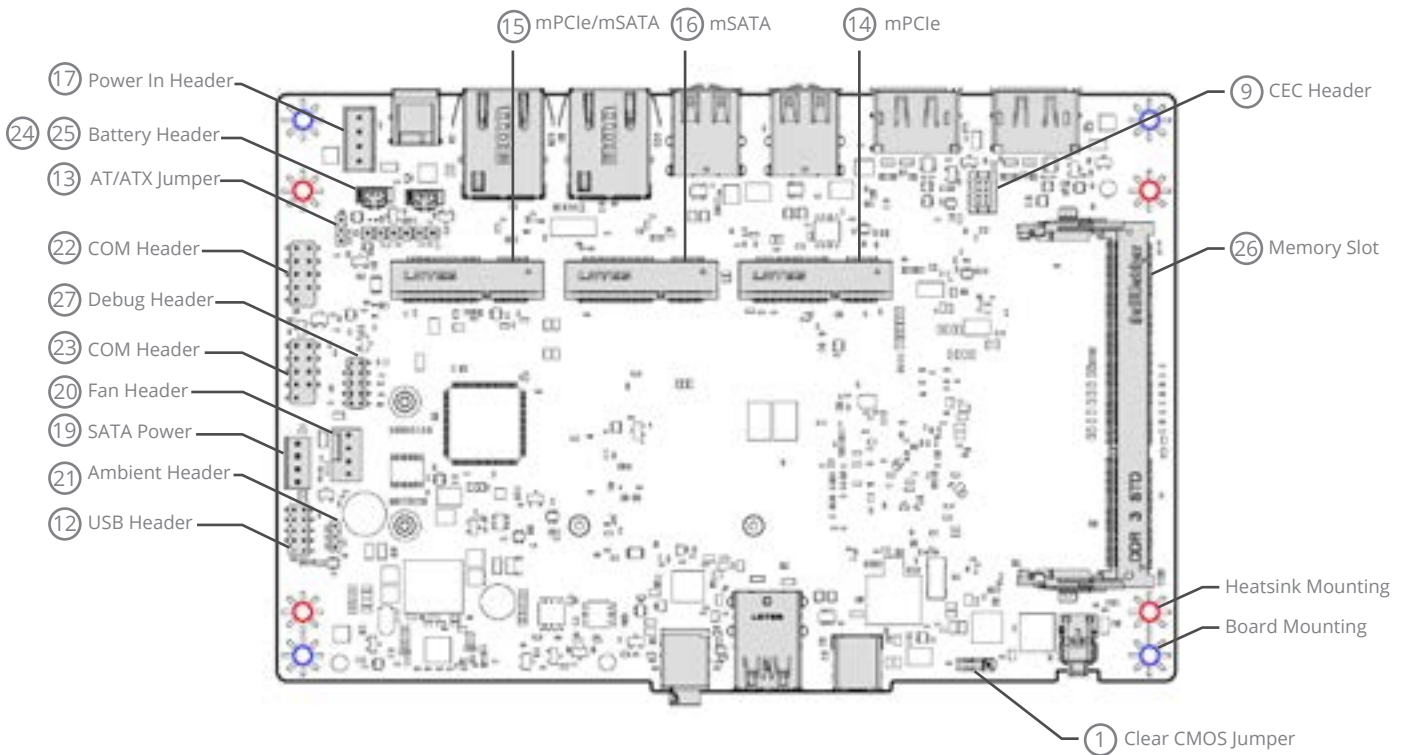
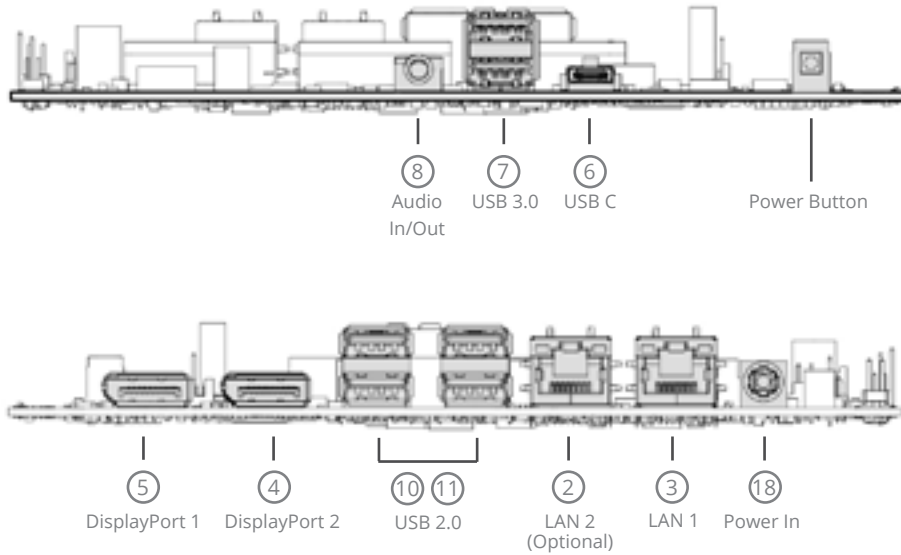
Step 1: Attach wall mounting brackets to the chassis

Step 2: Attach DIN Rail Clips to the mounting brackets

Step 3: Clip system to the DIN Rail



## 6 - Motherboard Overview



## 6.1 - Jumpers and Headers Guide

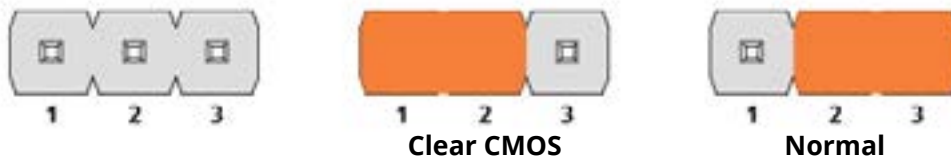
Number	Location	Function
1	J1_BIOS	BIOS Load Default Header/Clear CMOS
2	J2	LAN 1 Connector
3	J3	LAN 2 Connector
4	J4	DisplayPort 1
5	J5	DisplayPort 2
6	J6	USB Type C Connector
7	J7	USB 3.0 Connector
8	J8	Audio Connector
9	J9_CEC	CEC Header
10	J10	USB 2.0 Connector
11	J11	USB 2.0 Connector
12	J12_USB	USB 2.0 Header
13	J13_AT_ATX	AT/ATX Mode Jumper
14	J14_PCIE	Mini PCIe (PCIe+USB)
15	J15_MUX	Mini PCIe (PCIe+SATA+USB)
16	J16_SATA	mSATA (SATA+USB)
17	J18_Power_In	4 Pin Power Connector
18	J20	DC In
19	J21_SATA	SATA Power Header
20	J22_FAN	FAN Header
21	J23_AMBIENT	Ambient Sensor Header
22	COM1	Serial Port 1 Header
23	COM2	Serial Port 2 Header
24	XBT1_BATTERY	Coin Battery Header
25	XBT2_BATTERY	Coin Battery Header
26	SO_DIMM1	Memory Slot
27	DEBUG	Debug Header

## 6.2 - Configuring Jumpers

Refer to the following diagrams for configuring jumpers and onboard headers.

### J1\_BIOS

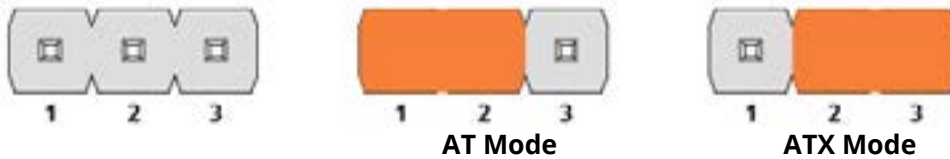
The J1\_BIOS jumper loads the default BIOS settings. Short pins 2-3 for normal operation. Short pins 1-2 to clear the CMOS and reset the system setup configuration to default settings. If you experience challenges powering up, short pins 1-2 to troubleshoot.



### J13\_AT\_ATX

AT = Auto power on.

ATX = No auto power on.



## 6.3 - Onboard Headers

An onboard header is a connection on the motherboard that permits connecting a peripheral component to an external port on the system

### J9\_CEC

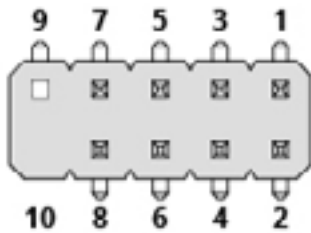
The ML350G-31 can be configured with a module that allows for CEC functionality. The J9\_CEC connector includes wiring connections for the HDMI Consumer Electronics Control (CEC).

### COM1 and COM2

The motherboard includes the following COM ports:

COM1: I/O port 0x3F8, IRQ 4

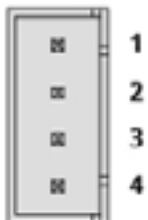
COM2: I/O port 0x2F8, IRQ 3



	RS232	RS422	RS485
1	DCD	TX (negative)	TX (negative)
2	RXD#	RX (positive)	N/A
3	TXD#	TX (positive)	TX (positive)
4	DTR	RX (negative)	N/A
5	GND	GND	GND
6	DSR	N/A	N/A
7	RTS	N/A	N/A
8	CTS	N/A	N/A
9	RI	N/A	N/A
10	Key	N/A	N/A

### Power Headers J18\_POWER IN

Connect DC power in to J18\_POWER IN.



1	V+
2	GND
3	GND
4	V+

### J23\_Ambient Header

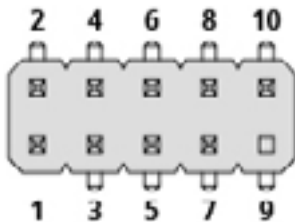
The J23\_AMBIENT connector provides System Management Bus (SM Bus) communication.



1	SMBus Clock
2	SMBus Data
3	GND

### J12\_USB

The J12\_USB connector supports two USB ports.

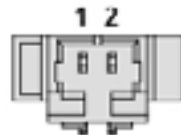
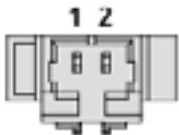


1	5V_USB
3	Data (Negative)
5	Data (Positive)
7	GND
9	Key

2	5V_USB
4	Data (Negative)
6	Data (Positive)
8	GND
10	None

### XBT1\_BATTERY and XBT2\_BATTERY

Connect the system and backup batteries to the XBT1\_BATTERY and XBT2\_BATTERY connectors.



1	3V
2	GND

1	3V
2	GND