

# Installation Instructions

Original Instructions



**Allen-Bradley**

by ROCKWELL AUTOMATION

## ASEM 6300B Wall Mount Box PC

Catalog Numbers 6300B-PBCx and 6300B-PBDx

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### Summary of Changes

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

Topic	Page
Added enhancement of I/O ports and slots to "I/O Port and Slot Locations" section	3



**ATTENTION:** This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC 60664-1), at altitudes up to 2000 m (6561 ft) without derating. This equipment is considered Group 1, Class A industrial equipment according to IEC/EN 61326-1. Without appropriate precautions, there can be potential difficulties with electromagnetic compatibility in other environments due to conducted as well as radiated disturbance. This equipment is considered open equipment, which means it must be mounted in an enclosure where the equipment can be operated from the front panel. The enclosure in which this equipment is installed must be accessed only with a key or tool, and only by trained and authorized personnel. In addition to this publication, see the following:  
Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#), for more installation requirements  
UL 50, CSA C22.2 No. 94.1, and IEC 60529, as applicable, for explanations of the degrees of protection provided by enclosures

### UL/cUL Mark Compliance

Equipment with the UL/cUL mark complies with the requirements of UL 61010-1, UL 61010-2-201, CSA C22.2 No. 61010-1, and CSA C22.2 No. 61010-2-201. A copy of the certificate of compliance is available at [rok.auto/certifications](http://rok.auto/certifications).

### European Union Directive Compliance

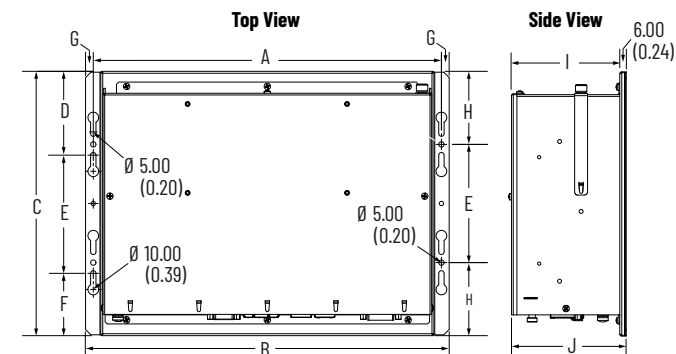
This computer meets the European Union Directive requirements when installed within the European Union or EEA regions and have the CE marking. A copy of the declaration of the conformity is available at [rok.auto/certifications](http://rok.auto/certifications).



**ATTENTION:** This equipment is intended to operate in an industrial or control room environment, which uses some form of power isolation from the public low-voltage mains. Some computer configurations cannot comply with the EN 61000-3-2 Harmonic Emissions standard as specified by the EMC Directive of the European Union. Obtain permission from the local power authority before you connect any computer configuration that draws more than 75 W of AC power directly from the public mains. All I/O cables must be used only indoors.

## Approximate Dimensions

Table 1 - Approximate Dimensions [mm (in.)]



Dimension	6300B-PBCx	6300B-PBDx
A	324 (12.76)	362 (14.25)
B	338.4 (13.32)	377 (14.84)
C	246 (9.69)	232 (9.13)
D	78 (3.07)	51 (2.00)
E	110 (4.33)	150 (5.90)
F	58 (2.28)	31 (1.22)
G	7.2 (0.28)	7.5 (0.30)
H	68 (2.68)	41 (1.61)
I	69.8 (2.75)	122 (4.80)
J	75.8 (2.98)	128 (5.04)

## Required Tools and Hardware

The following tools and hardware are required for mounting and installation..

For Mounting		For Installation
• Drill and drill bit	• Small screwdriver	• Multi-purpose electricians tool (wire stripper, cutter, and crimper) • Various shielded peripheral cables <sup>(1)</sup> • DC power supply (Cat. No. 6300B-PBCx)
• Level	• Safety glasses	
• Tape measure	• Stainless steel screws (4 quantity)	
• Pencil		

(1) To comply with EN 61326-1, use shielded cables. All I/O cables must be used only indoors, and USB cables must be less than 3 m (9.84 ft) long.

## Installation Requirements

### Site Requirements

When choosing the installation site, consider the following:

- The site must have sufficient power.
- The site must be an industrial or control room environment which uses some form of power isolation from the public, low-voltage mains.
- The site must be indoors.
- The site must not expose your 6300B wall mount box PC to direct sunlight.
- The surrounding air temperature ranges during operation must be:
  - 0...50 °C (32...122 °F) for Cat. No. 6300B-PBCx with the Intel Core i3 processor or Intel Core i5 processor.
  - 0...45 °C (32...113 °F) for Cat. No. 6300B-PBCx and 6300B-PBDx with the Intel Core i7 processor.
  - 0...50 °C (32...122 °F) for Cat. No. 6300B-PBDx with the Intel Celeron, Intel Core i3, and Intel Core i7 processors.
- The surrounding air temperature must not exceed the maximum operating temperature for your 6300B wall mount box PC, especially when mounted in an enclosure.
- The 6300B wall mount box PC can be stored in a surrounding air temperature range of -10...+60 °C (14...140 °F).
- The humidity of the ambient air must not exceed 80% noncondensing.

## Mounting Requirements

Figure 1 - Minimum Clearance and Vertical Position [mm (in.)]

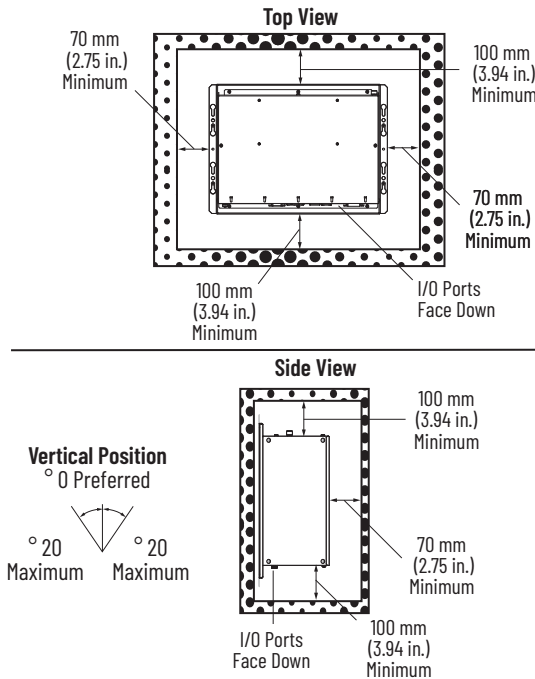
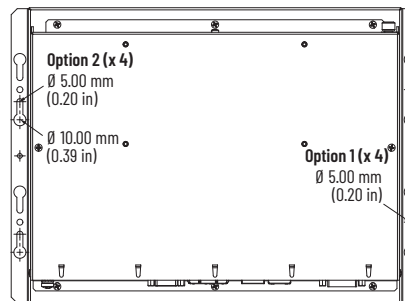


Figure 2 - Mounting Methods



Follow these requirements to mount your 6300B wall mount box PC.

- Choose a suitable mounting height based off of [Approximate Dimensions](#).
- Mount with the I/O ports facing down. This will help prevent overheating and to provide access to the I/O ports for cable connections.
- Provide a minimum clearance around the perimeter (see [Figure 1](#)) to accommodate for air circulation necessary for cooling.
- Determine the vertical position. It can be tilted up to 20° forward or backward from the upright position (see [Figure 1](#)).

**IMPORTANT** Any tilt angle reduces the maximum operating temperature by 5 °C (41 °F).

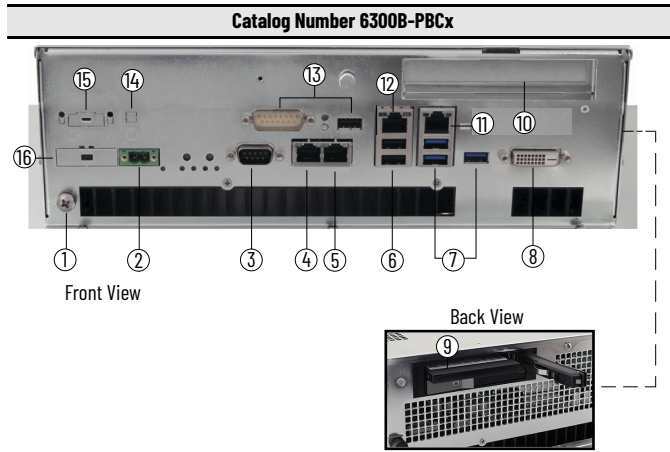
- Select your mounting option (see [Figure 2](#)) using either the mounting hole (Option 1) or keyhole (Option 2) on the attached brackets.

## I/O Port and Slot Locations

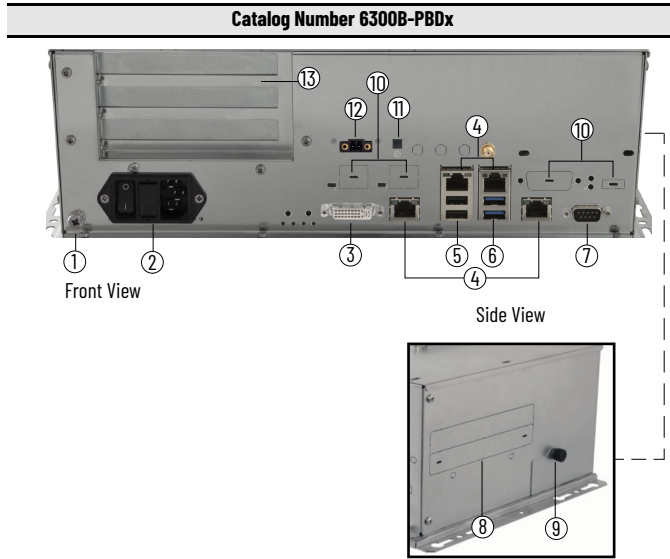


The I/O port and slot locations of your shipped product may vary from what is shown in [Table 2](#).

Table 2 - I/O Port and Slot Locations



Note No.	Description	Note No.	Description
1	Ground Screw	9	CFast Card Slot
2	DC Input Power Connection	10	PCIe Expansion Slot
3	Serial Port, RS-232 (DB9M)	11	LAN1 RJ45
4	LAN4 RJ45	12	LAN2 RJ45
5	LAN3 RJ45	13	Add-on Area
6	USB 2.0, 2 qty.	14	Power Button
7	USB 3.0, 3 qty.	15	Remote Power Button Connector
8	DVI-D Full HD	16	UPS Connection



Note No.	Description	Note No.	Description
1	Ground Screw	8	CFast Card Slot
2	AC Input Power Connection	9	SSD Card Slot
3	DVI-D Full HD	10	Add-on Area
4	LAN RJ45, 4 quantity	11	Power Button
5	USB 2.0, 2 quantity	12	Remote Power Button Connector
6	USB 3.0, 2 quantity	13	PCIe Expansion Slot, 3 quantity
7	Serial Port, RS-232 (DB9M)		

## Mount the Wall Mount PC

**IMPORTANT** Be sure you have met all requirements listed in [Mounting Requirements on page 2](#) before mounting your 6300B wall mount PC.



Before mounting your 6300B wall mount PC, install additional hardware (such as PCIe, CFast card, or SSD card) to at this time. See the user manual, publication [6300B-UM002](#) for guidance.

- Level, measure, then mark the top of the selected holes (Option 1) or keyhole slots (Option 2) of the attached brackets as shown in [Figure 2 on page 2](#).
- Set your 6300B wall mount box PC aside.
- Drill holes in your mounting surface to accommodate for the four M4x20 stainless steel screws (not supplied).
- Partially tighten the four M4x20 stainless steel screws into the mounting surface, leaving a gap equivalent to the bracket thickness.
- Lift and align the top set of mounting holes of the brackets on your 6300B wall mount box PC with the top two screws.
- Align the bottom two screws.
- Slide your 6300B wall mount box PC downward until all four M4x20 stainless steel screws are at the top of each bracket slot.
- Fully tighten the four M4x20 stainless steel screws against the mounting surface.

## Connect the Peripheral Cables

- Connect peripheral cables to the appropriate I/O ports. See [Table 2](#) for I/O port locations depending upon your catalog number.

**IMPORTANT** To comply with EN 61326-1, use shielded cables. All I/O cables must be used only indoors, and USB cables must be less than 3 m (9.84 ft) long.

## Grounding and Bonding

Whenever two connected pieces of equipment are far apart, it is possible that their ground connections could be at different potential levels. To overcome possible grounding problems, the following bonding methods are recommended:

- Method 1: Connect the data cable shields to the equipotential bonding rail on both sides before you connect the cable to the interfaces.
- Method 2: Use an equipotential bonding cable (16 mm<sup>2</sup> or 6 AWG) to connect the grounds between this 6300B wall mount box PC and a connected monitor.

## Install the Ground Wire

- Turn off the main power switch or breaker.
  - Remove the supplied nut, eyelet terminal, and washers from the ground screw.
  - For earth ground, fasten a 2.5 mm<sup>2</sup> (14 AWG) or larger external wire to the eyelet terminal.
- Use a ground wire with an insulation color that is approved by local inspection authority.
- Install the ground wire to the ground screw in the sequence shown below.



Sequence No.	Description
1	Toothed Washer
2	Eyelet Terminal
3	Washer
4	Lock Washer
5	Ground Screw

## Connect the Power



**ATTENTION:** When you connect power to the computer for the first time, these actions occur:

- The default UEFI setting automatically starts the computer after it is plugged into a power source.
- For 6300B wall mount box PCs with a Microsoft Windows operating system (OS), you must read and accept an End User Setup procedure.

Do not disconnect power from the system until after the Windows Setup procedure is completed. If power is disconnected during this procedure, it can result in a corrupted system image.



**ATTENTION:** For 6300B wall mount box PCs with Windows OS:

- Supply the PC with its own disconnect. Use an uninterruptible power source (UPS) to help protect against unexpected power failure or power surges.
- Always shut down the Windows OS before you disconnect power to the computer to minimize performance degradation and OS failures.

### Connect DC Power (6300B-PBCx)

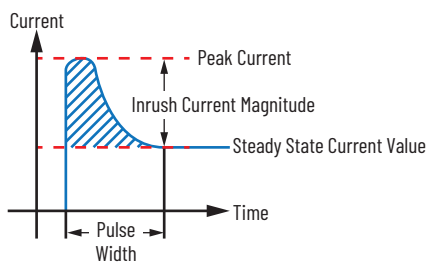
All DC powered models require a safety extra low voltage (SELV) power supply per UL, where SELV is defined in IEC 61010-2-201. The power supply is internally protected against reverse polarity.

To minimize ground loop currents and noise, Allen-Bradley® recommends that DC powered models use only one grounded connection. For the ground connection on these model, see [Table 2 on page 3](#).

#### DC Power Supply Guidelines

Follow these guidelines to select a DC power supply for your 6300B-PCBx.

- Your 6300B-PCBx wall mount box PC must be powered with a voltage of 24V DC (18...32V DC SELV input voltage range).
- The nominal output power must be 25% larger than the drained power.
- The output voltage rise time has to be less than 100 ms.
- Consider the working temperature and the thermal derating of the power supply.
- The inrush current can be represented by the figure below where the peak current is 10 A and the pulse width time is 400 μs.



#### Install the DC Power Connector Assembly Kit

The DC power connector assembly kit provides strain relief for the DC power wires by reducing their movement. To assemble and attach the connector assembly, refer to [Figure 3](#) and [Table 3](#) to perform the following steps.

Figure 3 - DC Power Connector Assembly Kit

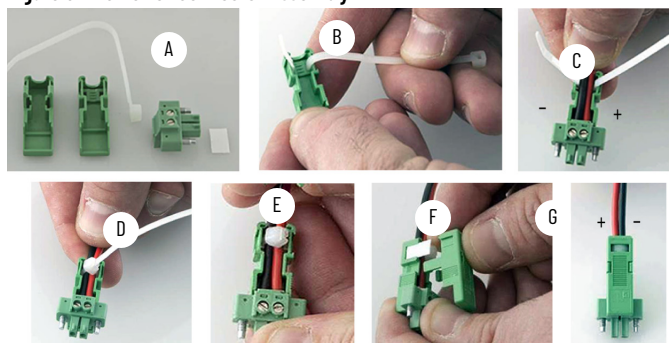


Table 3 - DC Power Connection Assembly Specifications

Note No.	Description	Specification
1	DC+ (24V DC nominal) recommended power wire size	1.5 mm <sup>2</sup> (16 AWG)
2	DC- (0V DC) recommended power wire size	
3	Stripped wire length	7 mm (0.275 in.)
4	Torque range to secure DC power wires	0.22...0.25 N•m (0.16...0.18 lb•ft)
5	Torque value to reinstall DC terminal block to product	0.3 N•m (0.22 lb•ft)

- Remove the DC terminal block from the computer chassis. For the terminal block location, see [Table 2 on page 3](#).
- Open the power connector assembly kit that ships with the computer (A of [Figure 3](#)).
- Insert the cable tie through the slots of the appropriate connector half (B of [Figure 3](#)).
- Strip the end of each DC power wire to the length in [Table 3](#).

**IMPORTANT** DC power wires must be of stranded copper and sized according to [Table 3](#).

- Insert each stripped end into the DC terminal block as shown in [Table 3](#).
- Tighten the screws on top of the terminal block to secure the DC power wires to the torque value in [Table 3](#).
- Slide the connector half with the attached tie onto the end of the DC terminal block (C of [Figure 3](#)).
- Tighten the cable tie so it is snug against the terminal wires.
- Use cutting pliers to cut the excess part of the cable tie (D of [Figure 3](#)).
- Install the white label supplied with the kit (E of [Figure 3](#)). The white label can be used for identification or other information.
- Align and install the other connector clamp half to complete the assembly (F of [Figure 3](#)). When installed correctly, both clamp tabs snap into place (G of [Figure 3](#)).
- Reconnect the DC terminal block with the connector assembly to the chassis.
- Torque the DC terminal block flange screws to the values in [Table 3](#).
- Turn on the main power switch or breaker. LED status indicators located on the front of the chassis will illuminate. See [LED Status Indicators on page 5](#) for status definitions.

### Connect AC Power (6300B-PBDx)

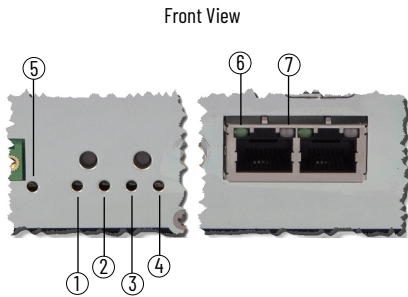
To connect AC power, perform the following steps.

- Connect the appropriate end of the power cord to the AC power input port. See [Table 2 on page 3](#) for the AC power input location.
- Connect the other end of the power cord to an AC power source with an input voltage of 110...230V AC, 50/60 Hz. LED status indicators located on the front of the chassis will illuminate. See [LED Status Indicators on page 5](#) for status definitions.

## LED Status Indicators

Your 6300B wall mount box PC features LED status indicators located on the front of the chassis. Once power is applied, various LED status indicators illuminate to display the current state of your 6300B wall mount box PC.

Table 4 - LED Status Indicators



Note No.	Description	Color	Function
1	Thermal Alarm / Battery Fault	Red	The computer has exceeded its operating temperature.
		Flashing Red	The real-time clock (RTC) battery is lower than 2.5V. To avoid the risk of date and time loss, replace the RTC battery.
2	Watchdog	Red	The watchdog timer has expired.
3	Mass Storage	Yellow	When lit, access to a mass storage device (SSD or CFast) is occurring through a SATA channel.
4	Power On	No color	Your 6300B wall mount box PC is not powered on.
		Green	Your 6300B wall mount box PC is powered on and is powered by the main power supply.
		Flashing Green	Your 6300B wall mount box PC is on and is powered by a UPS.
		Yellow	If a UPS is connected, verify that the UPS connection is secure or that the UPS battery is not faulty.
5	Optional On/Off/Standby/UPS	No Color	Your 6300B wall mount box PC is powered off or the CPU is not initiating.
		Green	Your 6300B wall mount box PC is powered on. The system is in a low-power state, and the current session information is being stored in the RAM.
		Yellow	Your 6300B wall mount box PC is safe to power off; the OS has been shut down successfully.
		Flashing Green	Your 6300B wall mount box PC is powered on, but a UPS is powering the system while main power is not present.
6	Data Speed	No Color	10 Mbps
		Green	100 Mbps
		Yellow	1000 Mbps (1 Gbps)
7	Data Link	No color	No data link is present.
		Green	Data link is established.
		Flashing Green	Data link is established and there is data transfer.

## Additional Resources

This publication provides basic installation instructions. For more information, see the following Rockwell Automation publications at [rok.auto/literature](http://rok.auto/literature).

Resource	Description
6300B Wall Mount Box PCs User Manual, publication <a href="#">6300B-UM002</a>	Provides detail on how to install, configure, operate, and troubleshoot 6300B wall mount box PCs.
6300 Industrial Computer and Monitor Specifications Technical Data, publication <a href="#">IC-TD003</a>	Provides technical specifications for 6300 industrial computers and monitors.
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines to install a Rockwell Automation industrial system.
Product Certifications website, <a href="http://rok.auto/certifications">rok.auto/certifications</a>	Provides declarations of conformity, certificates, and other certification details.

# Rockwell Automation Support

Use these resources to access support information.

<b>Technical Support Center</b>	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	<a href="http://rok.auto/support">rok.auto/support</a>
<b>Local Technical Support Phone Numbers</b>	Locate the telephone number for your country.	<a href="http://rok.auto/phonesupport">rok.auto/phonesupport</a>
<b>Technical Documentation Center</b>	Quickly access and download technical specifications, installation instructions, and user manuals.	<a href="http://rok.auto/techdocs">rok.auto/techdocs</a>
<b>Literature Library</b>	Find installation instructions, manuals, brochures, and technical data publications.	<a href="http://rok.auto/literature">rok.auto/literature</a>
<b>Product Compatibility and Download Center (PCDC)</b>	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	<a href="http://rok.auto/pcdc">rok.auto/pcdc</a>

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## Waste Electrical and Electronic Equipment (WEEE)



At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at [rok.auto/pec](http://rok.auto/pec).

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