

Installation Instructions

Original Instructions



Allen-Bradley

by ROCKWELL AUTOMATION

ASEM 6300B-JB1 Compact Box PC

Bulletin 6300B, Family JB1

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. Copies of the certificate of compliance are available at rok.auto/certifications.

Safety instructions



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 EN 61326-1. Without appropriate precautions, there can be potential difficulties with electromagnetic compatibility in other environments caused by conducted as well as radiated disturbance.

In addition to this publication, see the following:

- Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#), for more installation requirements.
- UL 50, UL 50E, CSA C22.2, No. 94.1, and CSA C22.2, No. 94.2, as applicable, for explanations of the degrees of protection provided by enclosures.

European Union Directive and UKCA Compliance

This equipment meets the European Union Directive and UK requirements when installed within the European Union, UK, or EEA regions and have the CE or UKCA marking. A copy of the declaration of the conformity is available at rok.auto/certifications.



ATTENTION: This computer 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 are rated for indoor use only.

Installation Requirements

Follow these guidelines to make sure that your computer provides service with excellent reliability.

- When choosing the installation site, consider the following:
 - The site must have sufficient power.
 - The site must be indoors and non-hazardous.
 - The site must not expose the computer to direct sunlight.
- The Box PC can operate in the following environmental conditions:
 - Operating temperature: 0...50 °C (32...122 °F).
 - Storage temperature: -20...+60 °C (-4...+140 °F).

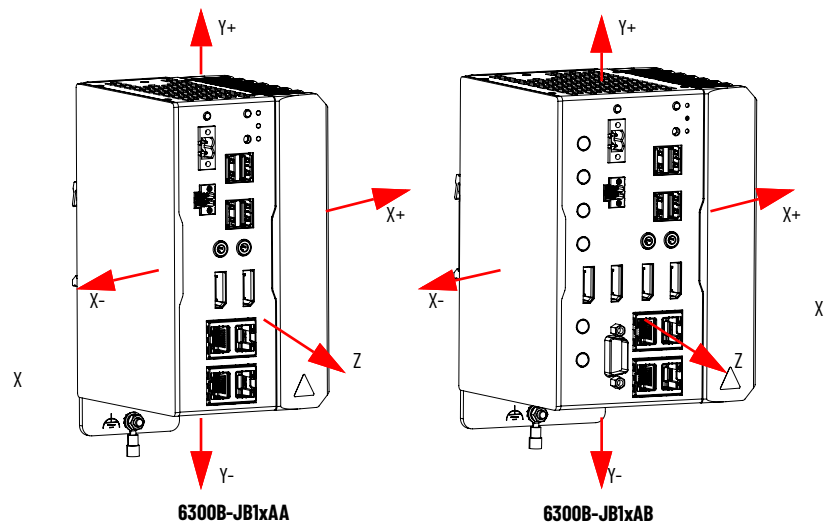
Operating/storage relative humidity (RH) non condensing: 20...90%.

Follow these requirements to mount the computer.

- I/O ports must face forward; ground screw must be located on bottom mounting bracket tab.
- To help prevent overheating and to provide access to the I/O ports for cable connections, mount the computer with the following minimum clearances from all four sides of the outer frame and back of the computer chassis:

Item	Description	Value [mm. (in.)]
X+	Right	50 (2)
X-	Left	50 (2)
Y+	Top	102 (4)
Y-	Bottom	102 (4)
Z	Front (for I/O port access and ventilation)	127 (5)

Book / DIN Rail mount installation min. clearance

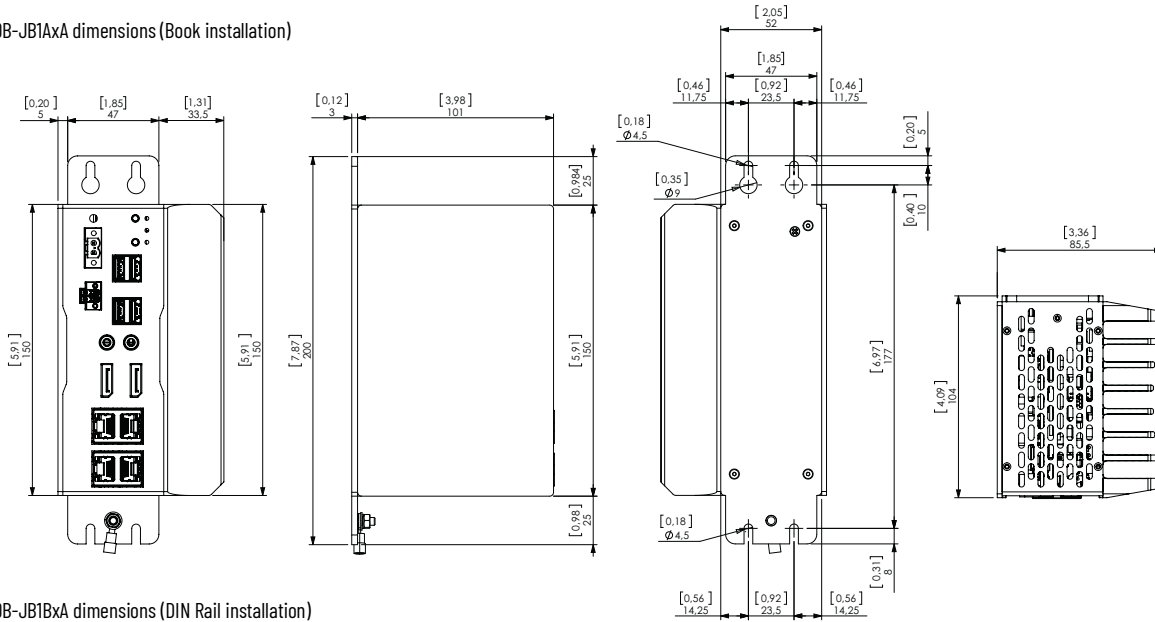


IMPORTANT Because of self-heating, do not operate the computer in an enclosure by using the minimum clearances unless adequate ventilation or other methods are used to lower the temperature within the enclosure.

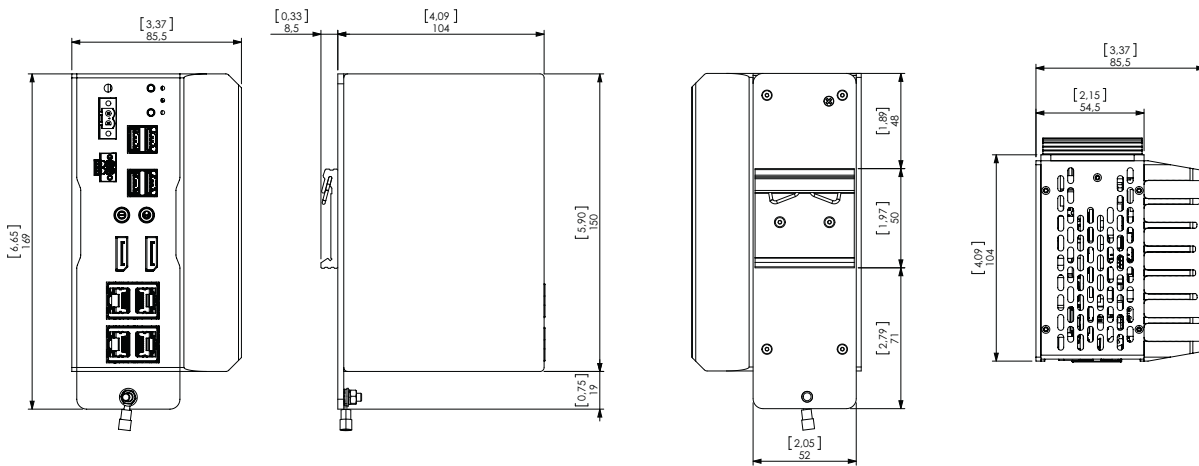
Approximate dimensions

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

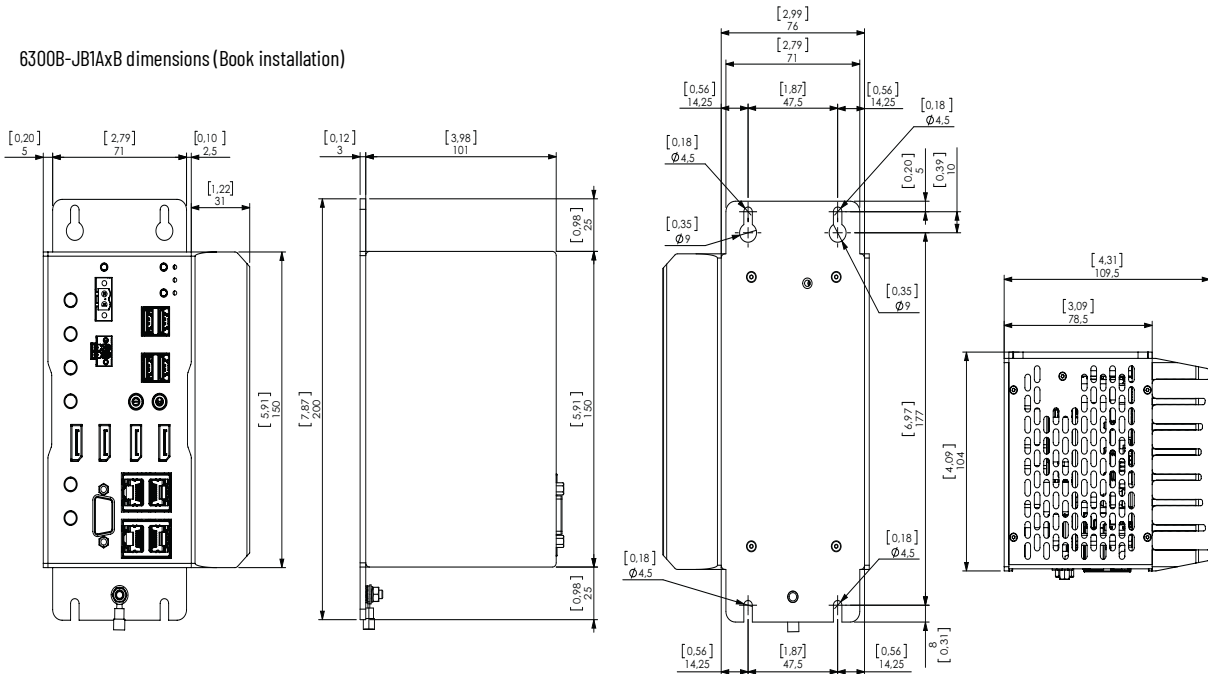
6300B-JB1AxA dimensions (Book installation)



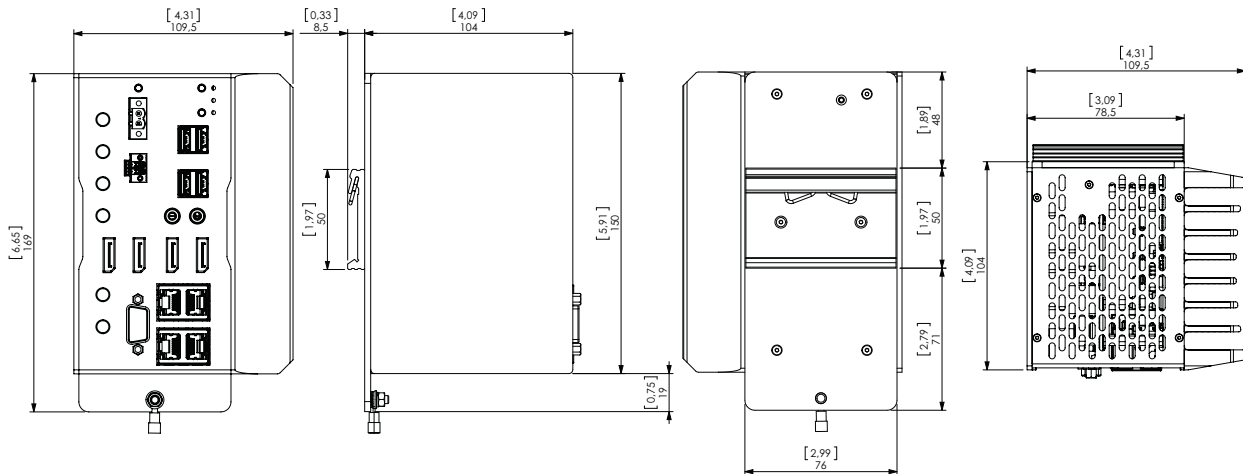
6300B-JB1BxA dimensions (DIN Rail installation)



6300B-JB1AxB dimensions (Book installation)



6300B-JB1xB dimensions (DIN Rail installation)



Book mount Installation



WARNING: Failure to follow these guidelines can result in personal injury or damage to the panel components.
AVERTISSEMENT: Le non-respect de ces directives peut entraîner des blessures corporelles ou des dommages aux composants du panneau.

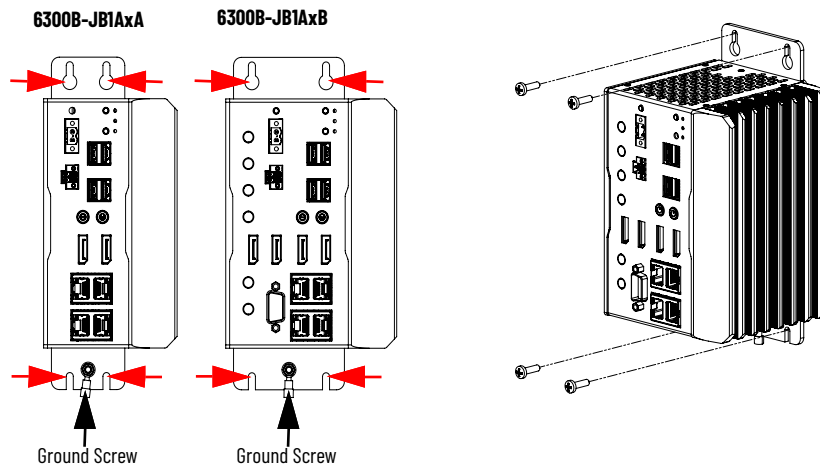


Tools required: Drill and drill bit, Level, Ruler, Pencil, Philips screwdriver, Safety glasses, N4. Stainless steel screws (not provided).

Installation

To execute the book mount installation, perform the following steps:

- Place your PC against the mounting surface with the ground screw facing downward. See [Approximate dimensions on page 2](#).



- Level, measure, then mark the top of the two keyhole slots on the top and the two slots on the bottom of the book mount bracket.
- Set your IPC 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 Box PC with the top two screws.
- Align the slots on the bottom bracket with the bottom two screws.
- Slide your 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.

DIN Rail Installation



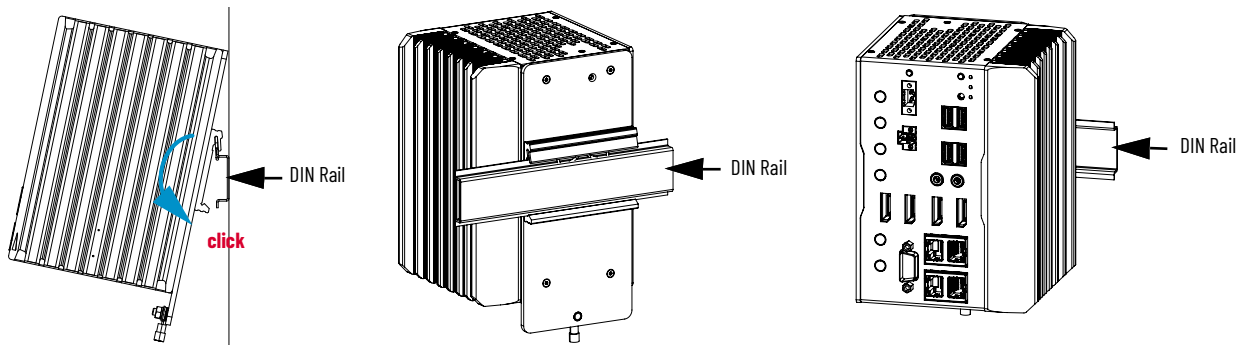
WARNING: Failure to follow these guidelines can result in personal injury or damage to the panel components.
AVERTISSEMENT: Le non-respect de ces directives peut entraîner des blessures corporelles ou des dommages aux composants du panneau.

Install the DIN Rail (not supplied) in your desired location. See the installation instructions packed with your DIN Rail, [Installation Requirements on page 1](#), and [Approximate dimensions on page 2](#) for proper planning and installation.

Installation

Install your Box PC onto the DIN Rail (previously installed according to its installation instructions).

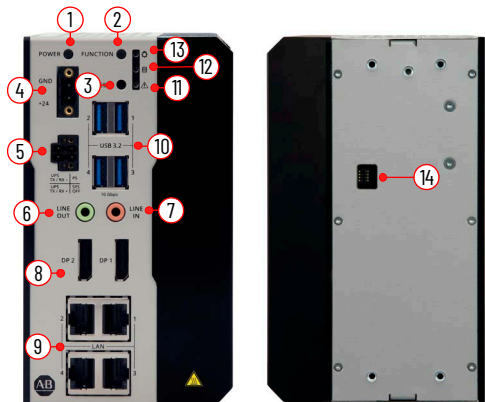
- Hang the Box PC to the DIN Rail.
- Turn down until you hear the click.



Connectors/LEDs/Buttons

Connect peripheral cables to the appropriate I/O ports on the computer. To comply with EN 61326-1, use the following cable types. All I/O cables must be used only indoors.

6300B-JB1xxA



6300B-JB1xxB

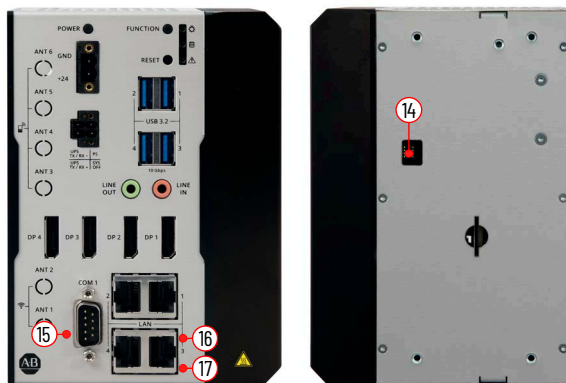


Table 1 - Connectors / LEDs / Buttons (continued)

No.	Description	Required Cable	Sys. Power State	LED color	Status /Function	Catalog numbers
1	Power ON button (ATX function)				Power Button turns the computer on or off without fully disconnecting power supply. This button acts as the common power button available on all ATX PC's. It invokes the operating system to do a previously specified action, like power down or sleep. If the operating system has been put in shut down mode and the main power has not been removed, then this button can be used to power up again the device.	All
2	Function button				User defined. To program the function button and associated LED, please refer to the dedicated user guide.	
3	Reset				Reset button. Forces an internal reset, as if power was lost temporarily and then returned. IMPORTANT: Use this button only if there are no better options, like keyboard or mouse commands, or if the resumed DC power does not restart the computer. System reset can cause data loss and possible corruption to the operating system.	
4	DC power	Unshielded			Power connector	
5	UPS TX/RX - PS/Sys Off	Unshielded Length: max 15 m (49.21 ft)			UPS TX/RX - PS/Sys Off connector	

Table 1 - Connectors / LEDs / Buttons (continued)

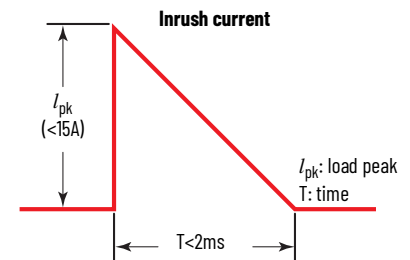
No.	Description	Required Cable	Sys. Power State	LED color	Status /Function	Catalog numbers
6	1 x Line-Out	Unshielded Length: max 3 m (9.84 ft)			1 x Line-Out Audio Stereo connector	All
7	1 x Line-In				1 x Mic-In connector	
8	Display port	Shielded Length: max 5 m (16.40 ft)			2 x Display port++ V1.4	6300B-JB1xxA
					4 x Display port++ V1.4	6300B-JB1xxB
9	4 x LAN	Shielded			2.5 Gigabit Ethernet, RJ45 connector	
10	4 x USB	Unshielded, Length: max 3 m (9.84 ft)			USB 3.2 Gen 2x1 connectors	
11	LED Thermal alarm / Low Battery	-	-	Red Flashing	If the LED is blinking red, then the CR2032 battery voltage is below 2.5V and the battery should be replaced with a new one. In such case replace the RTC battery before going down to 2V because at such voltage there could be loss of date and time.	All
		-	-	Red	If the LED is turned on solid red, please shut off the system and check its cooling and power consumption. The measuring point is close to CPU and the Thermal limit is set to 100 °C (212 °F)	
		-	-	Blue	User defined. For programming the function button and associated LED, please refer to the dedicated user guide.	
12	LED Mass Storage	-	-	No color	No access to mass storage	All
		-	-	Green Flashing	Access to mass storage is taking place.	
13	LED Power On	-	OFF	No color	The system is not powered	All
		-	Power supply only ON	Green fading slow	It is safe to turn off power supply. Operating system shutdown procedure is terminated	
		-	Full ON	Green	Power is drawing from the input power supply. System core is full-on	
14	DIP switch access				Allow to set DIP switch. See ASEM 6300B-JB1 Compact Box PC User Manual, 6300B-UM004A	
15	1 x COM	Shielded Length: max 30 m (98.42 ft)			RS232/422/485 isolated (DB9M)	6300B-JB1xxB
16	Datalink (all LAN ports LED)	-	-	No color	No Datalink is present	All
		-	-	Green	Datalink is established	
		-	-	Flashing Green	Datalink is established and there is data transfer	
17	Data speed (all LAN ports LED)	-	-	No color	10/100 Mbps	All
		-	-	Yellow	1 Gbps	
		-	-	Green	2.5 Gbps	

All computers have the following features:

- The internal power supply of the computer has a galvanically isolated DC-DC converter board for increased electrical noise immunity.
- Reverse polarity circuitry, temporary overvoltage, and a 8 A soldered fuse provide input power protection.

Follow these guidelines to select the DC power to supply the computer.

- The computer must be powered with a voltage of 24V DC (18...32V DC SELV input voltage range).
- The nominal output power should be 25% larger than the drained power.
- The output voltage raise time has to be less than 100 ms.



Catalog Number	Max. Power Consumption	Typ. Power Consumption	Ambient temperature
6300B-JB1xAA	110 W	70 W	50 °C (122 °F)
6300B-JB1xAB	115 W	75 W	

Connect DC Power



ATTENTION: The system has to be powered with a 24 VDC (18...32V) power supply which satisfies the requirements of safe extra low voltage (SELV) in accordance with IEC/EN/DIN EN/UL61010-1 and UL61010-2-201. The power supply has to fulfill the requirements NEC Class 2 or LPS in accordance with IEC/EN/DIN EN/UL61010-1 and UL61010-2-201.

To minimize ground loop currents and noise, we recommend that DC-powered models use only one grounded connection.

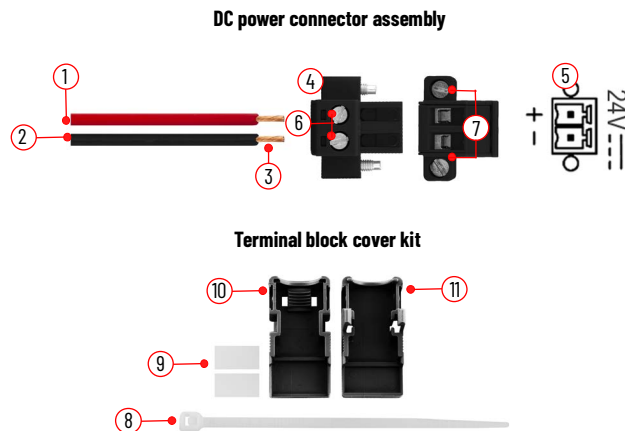
Install the Factory-supplied DC Power Connector Assembly

Tools required: Adjustable torque screwdriver with M2 and M3 flat-blade screw bits, Wire stripper, cutter, and crimper tool, Cutting pliers.

Terminal block cabling procedure

Table 2 - Terminal Block Connection Specifications

Item No.	Description	Value
1	DC+ (24V DC nominal)	A wire (not included) with a cross-section of 1.5 mm ² (16 AWG) with copper conductor, certified for operation at least 75 °C (167 °F).
2	DC- (0V DC nominal)	
3	Stripped wire length	7 mm (0.275 in)
4	Terminal block	—
5	Polarity symbol	—
6	Torque range to secure DC power wires	0.22...0.25 N•m (0.16...0.18 ft•lb)
7	Torque value to reinstall DC terminal block to computer	0.3 N•m (0.22 lb•in)
8	Cable tie (qty: 1)	—
9	Labels (qty: 2)	—
10	Half cover with cable tie slot	—
11	Half closing cover	—

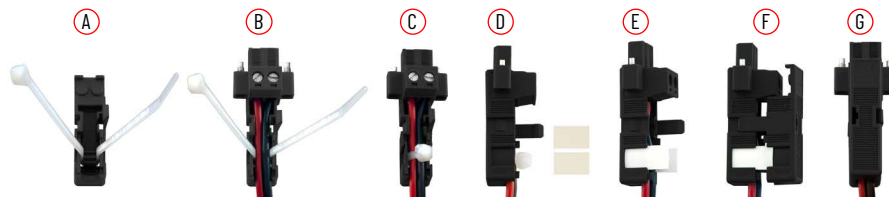


- Remove the DC terminal block (4) from the computer.
- Use wires (not included), (1)(2) with 1.5 mm² (16 AWG) cross section with copper conductor certified for operation at least 75 °C (167°F).

The colors of wires should follow regulations applicable where the system will be used.

- Strip 7 mm (0.276 in.) from the end of each power wire (3).
- Insert each stripped end into the DC terminal block and fix it with the corresponding screws (6) with 0.22...0.25 N•m (1.94...2.21 lb•in) torque.

Terminal block cover assembly



- Insert the cable tie (8) through the slots of the terminal block (10) connector clamp [step (A)].
- Slide the connector half with the attached tie onto the end of the DC terminal block (4) [step (B)].
- Tighten cable tie (8) and remove the excess part [step (C)] and install the white labels (9) supplied with the terminal block cover kit [steps (D) (E)].

The white label can be used for identification or other information.

- Align and install the other connector (11) clamp half [step (F)] to complete the assembly [step (G)].

When installed correctly, both tabs of the clamp lock into place.

- Connect the DC terminal block (with cables and cover) to the computer chassis and fix it with the corresponding screws (7) with 0.3 N•m (2.66 lb•in) torque.

Grounding and bonding

Whenever two connected pieces of equipment are far apart, it is possible that their ground connections could be at a different potential level.

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 connecting the cable to the interfaces.
- Method 2: Use an Equipotential bonding cable 16 mm² (5 AWG) to connect the grounds between the monitor and the ASEM 6300B computer.

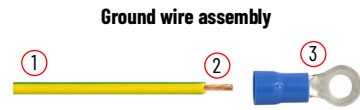
For further information, see Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).



Tools required: Wire (not included), Philips screwdriver, Crimp lug tool, Wire stripper, Safety glasses.

Ground wire cabling procedure

- Turn off the main power switch or breaker and remove the supplied nut, eyelet terminal, and washers from the ground screw.
- For earth ground, fasten a 2.5 mm² (14 AWG) external wire with copper conductor, certified for operation at least 75 °C (167 °F) to the eyelet terminal.
- Use a ground wire with an insulation color that is approved by local inspection authority.
- Strip 5 mm the covering from the end of the grounding wire.
- Insert the stripped end (2) of the grounding wire (1) into the open end of the Eyelet terminal (3) and crimp it securely to the wire.
- Install the ground wire to the chassis' ground screw.
- Tighten the nut to the system.



Ground screw installation sequence



Sequence No.	Description
1	Wire (not provided)
2	5 mm (0.20 in.) stripped covering
3	Lug

Sequence No.	Description
4	Nut
5	Lock washer
6	Washer
7	Eyelet terminal with cable crimped
8	Toothed washer
9	Chassis' ground screw

Start the computer

- Make sure that all necessary peripheral devices are connected to the corresponding I/O ports on the computer.
- Make sure any connected components with separate power supplies (such as an external display) are turned on first (all ASEM I/O are isolated, be sure third part I/O are isolated before to be turned on).
- Apply power to the main power switch or breaker.
- Once power is applied, various light-emitting diode (LED) status indicators illuminate to display the state of your PC. See [Table 1](#) for details of these LED status indicators.

Battery removal



This computer contains a sealed lithium battery that could need replacement during the life of the computer. For instructions to remove and replace the battery, refer to publication ASEM 6300B-JB1 Compact Box PC User Manual, [6300B-UM004A](#). At the end of its life, collect the battery contained in this computer separately from any unsorted municipal waste.

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at rok.auto/literature.

Resource	Description
ASEM 6300B-JB1 Compact Box PC User Manual, 6300B-UM004A	Provides details on how to install, configure, operate, and troubleshoot the ASEM 6300-JB1 Compact Box PCs.
ASEM 6300 Industrial PCs, Thin Clients, and Monitors Specifications 6300-TD001	Provides technical specifications about the ASEM 6300-JB1 Compact Box PCs.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines to install a Rockwell Automation industrial system.
Product Certifications Website, rok.auto/certifications	Provides declarations of conformity, certificates, and other certification details.

Rockwell Automation Support

Use these resources to access support information.

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

Documentation Feedback

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.





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.

Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

Connect with us.    

rockwellautomation.com — expanding **human possibility**[®]

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2663 0600

ASIA PACIFIC: Rockwell Automation SEA Pte Ltd, 2 Corporation Road, #04-05, Main Lobby, Corporation Place, Singapore 618494, Tel: (65) 6510 6608

UNITED KINGDOM: Rockwell Automation Ltd., Pitfield, Kiln Farm, Milton Keynes, MK11 3DR, United Kingdom, Tel: (44)(1908) 838-800

Allen-Bradley, ASEM, expanding human possibility, and Rockwell Automation are trademarks of Rockwell Automation, Inc.
Trademarks not belonging to Rockwell Automation are property of their respective companies.

Publication 6300B-IN004A-EN-P - January 2024 | -
Copyright © 2024 Rockwell Automation, Inc. All rights reserved. Printed in the U.S.A.



PN-706634

PN-706634
DIR 10007581237 (Version 00)
Vendor Code: 80460212.00