

Installation Instructions

Original Instructions

ASEM 6300B-AB1 Box PCs and 6300T-AB1 Thin Clients

Catalog Numbers 6300B-AB1, 6300T-AB1

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 appliance 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 appliance 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 appliance 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 appliance 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 appliance to direct sunlight.
- The appliance can operate in the following environmental conditions:
 - Operating temperature: 0...+50 °C (32...122 °F).
 - Storage temperature: -20...+60 °C (-4...+140 °F).

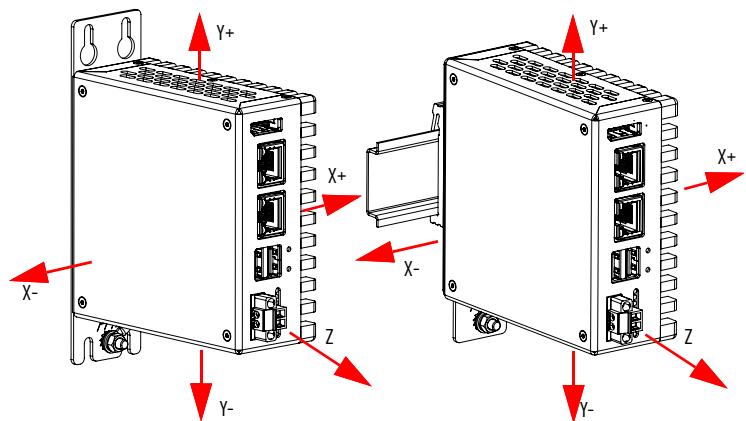
Operating/storage relative humidity (RH) non condensing: 20...90%.

Follow these requirements to mount the appliance.

- I/O ports must face forward.
- To help prevent overheating and to provide access to the I/O ports for cable connections, mount the appliance with the following minimum clearances from all sides of the outer frame of the appliance chassis:

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

Book / DIN Rail mount installation min. clearance



IMPORTANT

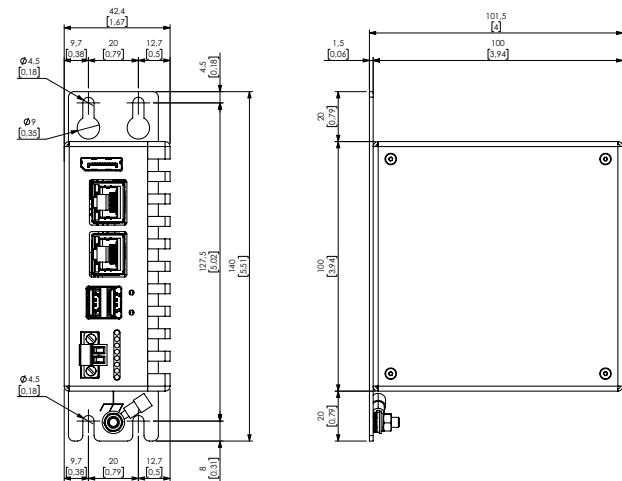
Because of self-heating, do not operate the appliance in an enclosure by using the minimum clearances unless adequate ventilation or other methods are used to lower the temperature within the enclosure.

Approximate Dimensions

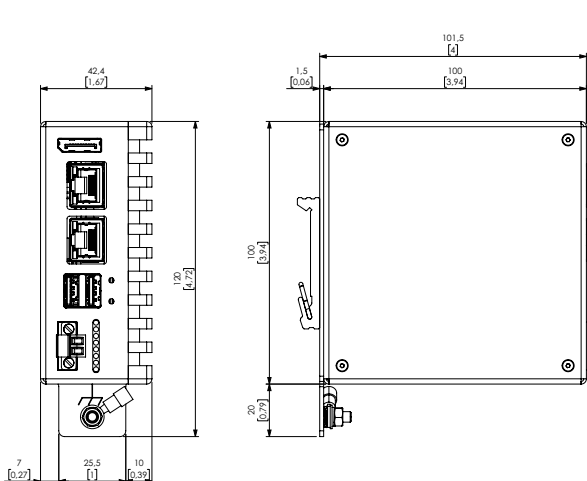
Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

IMPORTANT The dimensions of ASEM 6300B-AB1*M-* are equivalent to those of ASEM 6300B-AB1*A-*

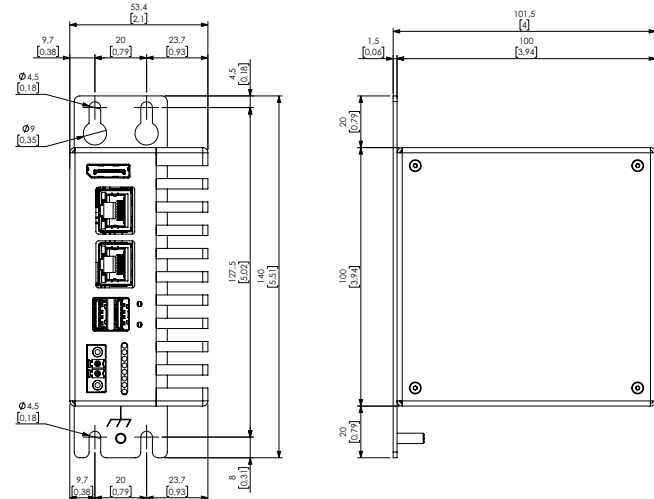
6300B-AB1BA-A*, 6300B-AB1BA-B*, 6300B-AB1BA-C* dimensions (Book installation)



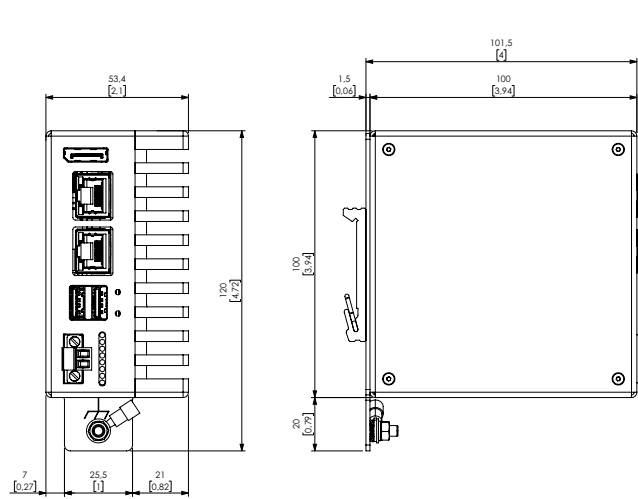
6300B-AB1DA-A*, 6300B-AB1DA-B*, 6300B-AB1DA-C* dimensions (DIN Rail installation)



6300B-AB1BA-D*, 6300B-AB1BA-E*, 6300T-AB1BA* dimensions (Book installation)



6300B-AB1DA-D*, 6300B-AB1DA-E*, 6300T-AB1DA* 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.

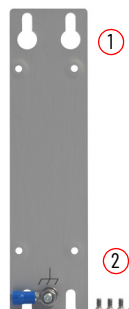


Tools required: drill and drill bit, level, ruler, pencil, Philips screwdriver, safety glasses, N4. stainless steel screws (not provided).

Installation

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

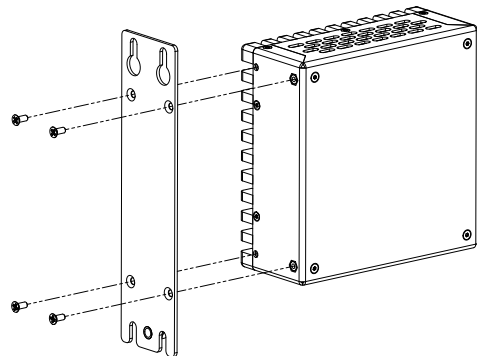
1. Install the book mount bracket to the appliance:
 - a. Place the book mount bracket on the rear of the appliance.
 - b. Secure it to the appliance with the four M2.5x4 screws with a torque of 0.7...0.8 N•m (0.51...0.59 ft•lb).



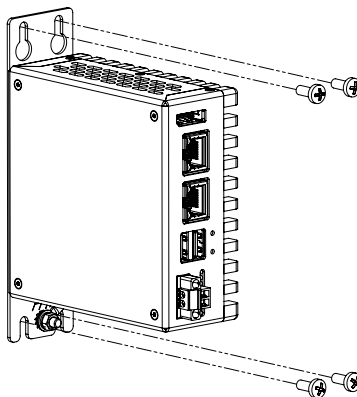
Sequence No.	Description
1	Book mount bracket
2	4 pcs M2.5x4 flared screws



ATTENTION: Install the bracket as shown in the examples (ground screw always facing the front of the appliance). An installation other than that indicated may damage the operation of the system.



2. Place your appliance against the mounting surface. See [Approximate Dimensions on page 2](#).
3. Level, measure, then mark the top of the keyhole slot on the top and the slot on the bottom of the book mount bracket.
4. Set your appliance aside.
5. Drill holes in your mounting surface to accommodate for the two M4x20 stainless steel screws (not supplied).
6. Partially tighten the two M4x20 stainless steel screws into the mounting surface, leaving a gap equivalent to the bracket thickness.
7. Lift and align the top set of mounting hole of the bracket on your appliance with the top screw.
8. Align the slot on the bottom bracket with the bottom screw.
9. Slide your appliance downward until all two M4x20 stainless steel screws are at the top of each bracket slot.
10. Fully tighten the two 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

To execute the DIN Rail installation, perform the following steps:

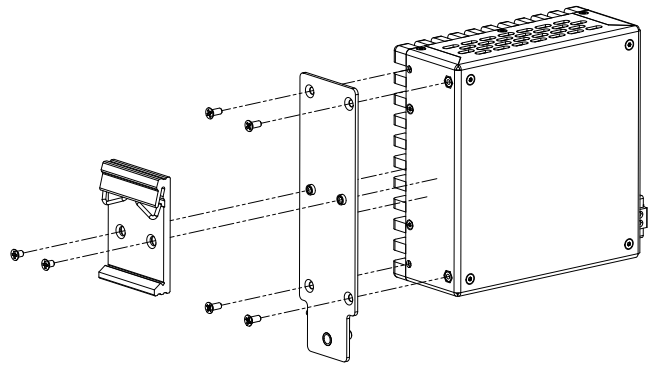
1. Install the DIN rail hook (3) to the DIN Rail bracket (1):
 - a. Place the DIN Rail hook (3) on the rear of the DIN Rail bracket (1).
 - b. Secure it with the two provided M2.5x4 (4) screws with a torque of 0.7...0.8 N•m (0.51...0.59 ft•lb).
2. Install the DIN Rail bracket (1) on the appliance:
 - a. Place the DIN Rail bracket (1) on the appliance.
 - b. Secure it with the four provided M2.5x4 (2) screws with a torque of 0.7...0.8 N•m (0.51...0.59 ft•lb).



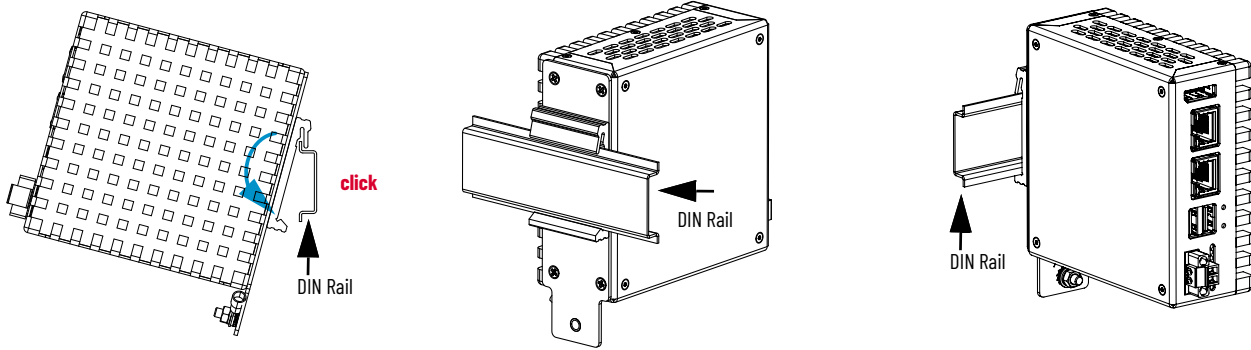
Sequence No.	Description
1	DIN Rail bracket
2	4 pcs M2.5x6 flared screws
3	DIN Rail hook
4	2 pcs M2.5x4 flared screws



ATTENTION: Install the bracket as shown in the examples (ground screw always facing the front of the appliance). An installation other than that indicated may damage the operation of the system.



3. Install your appliance onto the DIN Rail (previously installed according to its installation instructions).
 - a. Hang the appliance to the DIN Rail.
 - b. Turn down until you hear the click.



Connectors/LEDs/Buttons

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

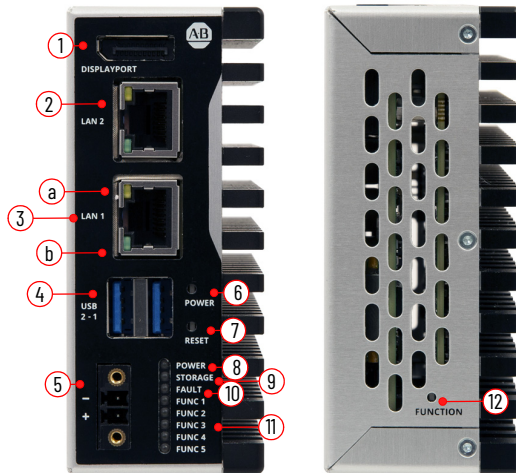


Table 1 - Connectors / LEDs / Buttons (continued)

No.	Description	Required Cable	LED Color	Status /Function
1	Display Port	Shielded Length: max 5 m (16.40 ft)	—	1 x Display port++ V1.2a
2	LAN	Shielded	—	2.5 Gigabit Ethernet, RJ45 connector.
3	LAN	Shielded	—	2.5 Gigabit Ethernet, RJ45 connector.
a	Data link (all LAN ports LED)	—	No color Yellow	10/100/1000 Mbps. 2500 Mbps

Table 1 - Connectors / LEDs / Buttons (continued)

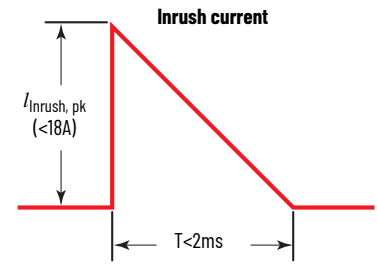
No.	Description	Required Cable	LED Color	Status /Function
b	Data link (all LAN ports LED)	—	No color	No link is present.
			Solid green	Link is present.
			Flashing green	Link and activity are present.
4	2 x USB	Shielded, Length: max 3 m (9.84 ft)	—	USB 3.2 Gen 2x1 connectors.
5	DC power	Unshielded	—	Power connector.
6	Power ON button (ATX function)	—	—	Power Button turns the system 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.
7	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. System reset can cause data loss and possible corruption to the operating system.
8	LED Power On	—	No color	The system is not powered.
		—	Green fading slow	It is safe to turn off power supply. Operating system shutdown procedure is terminated.
		—	Green	Power is drawing from the input power supply. System core is full-on.
9	LED Storage	—	No color	No access to mass storage.
		—	Green Flashing	Access to mass storage is taking place.
10	LED Fault	—	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 and other useful information needed by OS.
		—	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).
11	Func 1...5	—	—	Reserved.
12	Function	—	—	Reserved.

All systems have the following features:

- The internal power supply of the appliance has a galvanically isolated DC-DC converter for increased electrical noise immunity.
- Reverse polarity circuitry, temporary overvoltage, and a 5 A soldered fuse provide input power protection.

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

- The appliance must only be connected to a 24V DC SELV (— — —) isolated [maximum admissible operating voltage range 18...32V DC (— — —)].
- The nominal output power should be 25% larger than the drained power.
- The output voltage raise time has to be less than 100 ms.



$I_{Inrush, pk}$: Inrush Peak Current
T: time

Catalog Number	Max. Power Consumption	Typ. Power Consumption	Max. Ambient temperature
6300B-AB1	38 W	31 W	50 °C (122 °F)
6300T-AB1	37 W	30 W	50 °C (122 °F)

Connect DC Power



ATTENTION: The appliance has to be powered with a 24V DC (18...32V) power supply which satisfies the requirements of safe extra low voltage (SELV) in accordance with IEC/EN/DIN EN/UL60950-1 and UL61010-2-201. The power supply has to fulfill the requirements NEC Class 2 or LPS in accordance with IEC/EN/DIN EN/UL60950-1.

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

Battery removal



This appliance 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 6300B-AB1 Box PCs and 6300T-AB1 Thin Clients UM User Manual, [6300B-UM005](#). At the end of its life, collect the battery contained in this computer separately from any unsorted municipal waste.

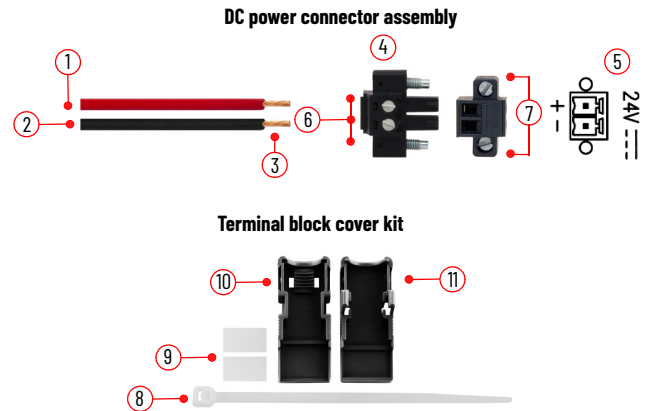
Install the Factory-supplied DC Power Connector Assembly

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	—

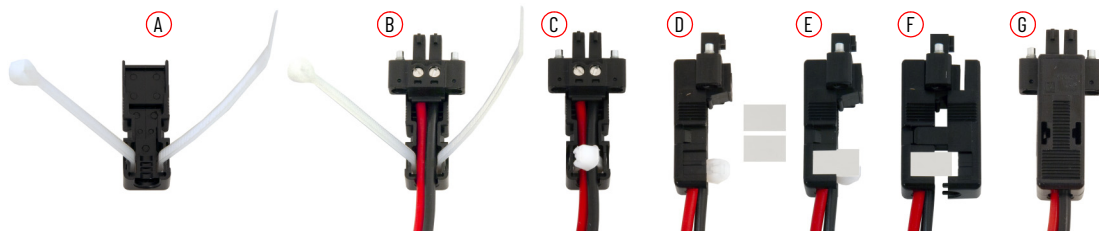


1. Remove the DC terminal block (5) from the computer.
2. Use wires (not included), (1) (2) with 1.5 mm² (16 AWG) cross section with copper conductor certified for operation at least 75 °C (167°F).

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

3. Strip 7 mm (0.276 in.) from the end of each power wire (3).
4. 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



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

The white label (9) can be used for identification or other information.

9. 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.

10. 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 6300x system.

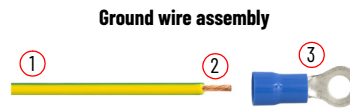
For further information, see Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).



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 appliance

- Make sure that all necessary peripheral devices are connected to the corresponding I/O ports on the appliance.
- 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 system. See [Table 1](#) for details of these LED status indicators.

Battery removal



This system contains a sealed lithium battery that could need replacement during the life of the system. For instructions to remove and replace the battery, refer to publication ASEM 6300B-AB1 Box PCs and 6300T-AB1 Thin Client User Manual, [6300B-UM005](#). At the end of its life, collect the battery contained in this system 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
6300B-AB1 Box PCs and 6300T-AB1 Thin Clients User Manual, 6300B-UM005	Provides details on how to install, configure, operate, and troubleshoot 6300B-AB1 Box PCs and 6300T-AB1 Thin Clients.
6300B-AB1 Box PCs and 6300T-AB1 Thin Clients Technical Data, 6300B-TD001	Provides technical specifications about 6300B-AB1 Box PCs and 6300T-AB1 Thin Clients.
ThinManager® User Guide, publication TM-UM001	Provides instructions to define sources, deploy content, configure devices, and user access between a server and Thin Clients.
Industrial Automation Wiring and Grounding Guidelines, publication I770-4.1	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

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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.

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