

Installation Instructions

Original Instructions



Allen-Bradley

by ROCKWELL AUTOMATION

ASEM 6300 On-Machine Monitors and On-Machine Panel PCs

Catalog Numbers 6300MA, 6300PA

Topic	Page
Compliance	1
Product Overview	2
Approximate Dimensions	2
Installation Requirements	3
Prepare for Installation	4
Install the Optional Accessories	5
Connect the DC Power	5
Connect the Peripheral Cables	6
Mount the On-Machine Product	7
Complete the Installation	7
Additional Resources	8



ATTENTION: Read this document and the documents listed in the [Additional Resources](#) section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, safety, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice. If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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 information about adapter plates in Mounting Requirements section	3
Updated location of I/O ports in Location of I/O Ports table	6

Compliance



ATTENTION: If a SIL-3 E-stop button is used, familiarize yourself with the Safety section in the ASEM On-Machine User Manual, publication [6300-UM002](#).

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.

European Union Directive Compliance

This equipment 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.



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.

All I/O cables must be used only indoors.

IMPORTANT

To comply with EN 61326-1, be sure that the selected cables comply with the attribute listed in [Table 5 on page 6](#). All I/O cables must be used only indoors, and USB cables must be less than 3 m (9.84 ft) in length.



**Rockwell
Automation**

Product Overview

Designed for full IP65 protection grade industrial applications, ASEM™ On-Machine™ monitors and On-Machine panel PCs feature:

- Powder coated die-cast aluminum alloy chassis with anti-scratch treatment
- Aluminum or True Flat (TF) aluminum front panel
- Fully configurable button area with hard-wired connection mode which accommodates an SIL-3 emergency stop (E-stop) button
- Light emitting diode (LED) status indicators
- Resolution up to full high-definition (FHD)
- Bottom arm mount, top arm mount, or VESA ^(a) mounting

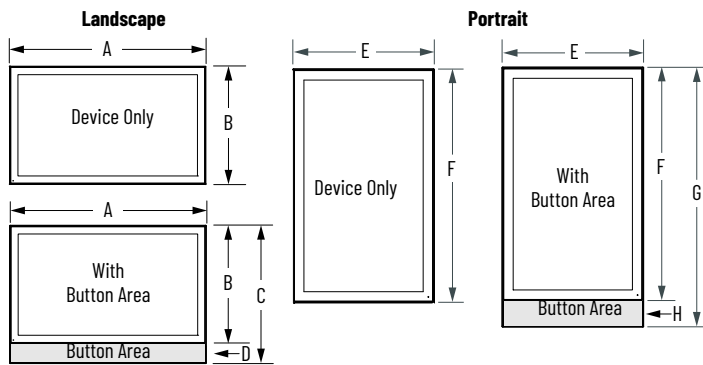
ASEM On-Machine Panel PCs feature:

- Microsoft® Windows® 10 IoT Enterprise 2016/2019 64-bit operating system (OS)
- Dual core Intel® Celeron® and Intel Core™ of 7th generation 15W Intel Kaby Lake Unit Level Traceability (ULT) platform

Approximate Dimensions

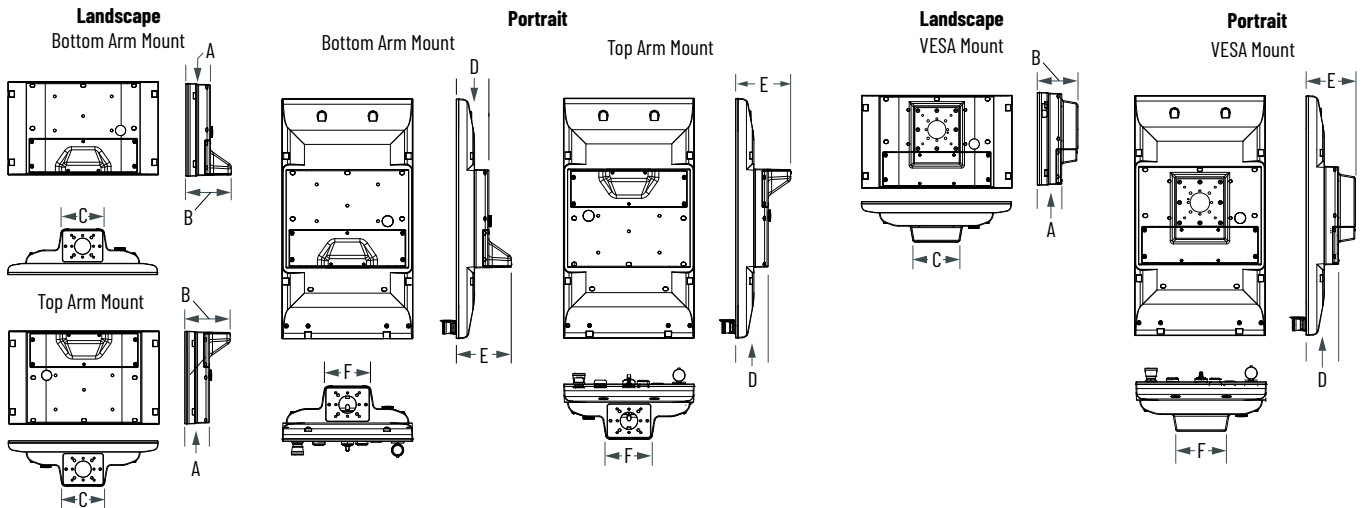
Approximate dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Table 1 - Front View by LCD Size [mm (in.)]



Style	Dimension	15.6 in.	18.5 in.	21.5 in.	24 in.
Landscape	A	396.30 (15.60)	461.80 (18.18)	528.80 (20.82)	585.20 (23.04)
	B	245.80 (9.68)	282.60 (11.13)	320.20 (12.61)	352.80 (13.89)
	C	304.30 (11.98)	341.10 (13.43)	378.70 (14.91)	411.30 (16.19)
	D	58.50 (2.30)	58.50 (2.30)	58.50 (2.30)	58.50 (2.30)
Portrait	E	—	—	320.20 (12.61)	352.80 (13.89)
	F	—	—	528.80 (20.82)	585.20 (23.04)
	G	—	—	587.30 (23.12)	643.90 (25.35)
	H	—	—	58.50 (2.30)	58.70 (2.31)

Table 2 - Back View by LCD Size [mm (in.)]



Bottom Arm Mount or Top Arm Mount				
Style	Dimension	15.6 in.	18.5 in.	21.5 in. and 24 in.
Landscape	A	65 (2.56)	71 (2.80)	75 (2.95)
	B	120 (4.72)	126 (4.96)	130 (5.12)
	C	113.40 (4.46)	113.40 (4.46)	123.90 (4.88)
Portrait	D	—	—	136 (5.35)
	E	—	—	80 (3.15)
	F	—	—	113.50 (4.47)

VESA Mount				
Style	Dimension	15.6 in.	18.5 in.	21.5 in. and 24 in.
Landscape	A	65 (2.56)	65 (2.56)	75 (2.95)
	B	107 (4.21)	113 (4.45)	117 (4.61)
	C	113.40 (4.46)	113.40 (4.46)	123.90 (4.88)
Portrait	D	—	—	121 (4.76)
	E	—	—	80 (3.15)
	F	—	—	124 (4.88)

(a) VESA (Video Electronics Standards Association) mount, also known as Flat Display Mounting Interface (FDMI), is a standardized mounting format that makes it easier to select the correct mount for your product and allows you to mount the product on a wall so that it takes up less space, or on a movable arm for better ergonomics.

Installation Requirements

Follow these installation requirements to make sure that your On-Machine product provides service with excellent reliability

Environment Requirements



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.

- Your installation site:
 - must have sufficient power,
 - must be indoors and non-hazardous,
 - must not expose your On-Machine product to direct sunlight, and
 - must be placed in an industrial or control room environment that uses some form of power isolation from the public, low voltage mains.
- The surrounding air temperature must not exceed the maximum temperature for your On-Machine product.
- The ambient air temperature range is: 0...+50 °C (32...122 °F) for all processors.
- The surrounding air temperature range for storage is: -10...+60 °C (-14...+140 °F).
- The relative humidity of the ambient air must be: 20...90% noncondensing at 0...40 °C (32...104 °F) and 20...80% noncondensing at 41...50 °C (105...122 °F).

Power Requirements

IMPORTANT If a non-sufficient power source is used, the initial boot process can be negatively effected and the OS can cause corruption.

- 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 cannot exceed a peak current of 10 A and a pulse width time of 400 µs.
- The On-Machine product must be connected to a 24V (18...32V) power supply that satisfies the requirements of safe extra low voltage (SELV) in accordance with IEC/EN/DIN EN/UL60950-1 and as defined in IEC-61010-2-201, power supply per UL.
- Use an isolated power supply with galvanic isolation to help prevent common mode noise at low/medium frequencies on the power supply line, ground loop noise, and overvoltage caused by lightning.

Mounting Requirements

Follow these mounting requirements to mount your On-Machine product:

Choose a suitable, ergonomic mounting height. See the approximate dimensions listing requirements to mount your On-Machine product:

- Choose a suitable, ergonomic mounting height. See the approximate dimensions listed in [Approximate Dimensions on page 2](#) to plan the mounting height.



If side handles, a perimeter handle, or keyboard tray will be installed, plan for a wider width at your installation site. See the applicable section in publication [6300-UM002](#) for approximate dimensions of these accessories.

- Choose a mounting arm suitable for your On-Machine product.
 - For bottom arm mount or top arm mount On-Machine products: An adapter plate is required to accommodate the bottom arm or top arm.



See the installation guide supplied by the manufacturer of your bottom arm mount kit or top arm mount kit and see publication [6300-UM002](#) to identify which adapter plate you need to order and for proper placement of the adapter plate.


- For VESA mount On-Machine products: An adapter plate is provided.

Prepare for Installation

Follow these steps to prepare for installation of your On-Machine product.

Required Tools and Optional Accessories

You need the following tools to install and connect your On-Machine product.

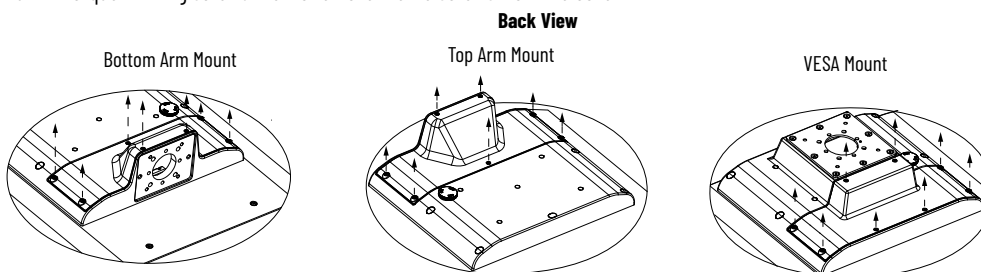
- DC power supply (see [Power Requirements on page 3](#))
 - Torque limiting screwdriver with 2.5 mm hex key bit
 - I/O cables, shielded and rated for indoor use
 - Wire stripper, cutter, and crimper tool
 - Clean, microfiber cloth
 - Mounting arm appropriate for your On-Machine product mount type
 - For bottom arm mount or top arm mount On-Machine products: An adapter plate to accommodate your selected mounting arm.
-  See the installation guide supplied by the manufacturer of your bottom arm mount kit or top arm mount kit and see publication [6300-UM002](#) to identify which adapter plate you need to order and for proper placement of the adapter plate.
- Optional accessories
 - For all On-Machine products: See publication [6300V-PC005](#) for available accessories and ordering information.
 - For On-Machine panel PCs: 6300V-CFASTT CFast solid state storage drives (SSDs) are available. See publication [6300V-IN006](#) for available storage sizes and ordering information.

Remove the Cover



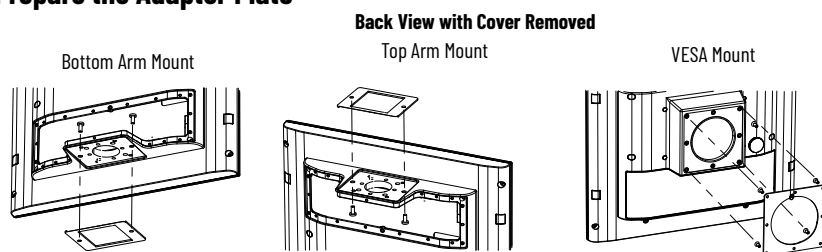
To help protect the LCD from inadvertent damage, set your On-Machine product on a clean, lint-free microfiber towel with the LCD facing downward throughout the installation process.

1. Set your On-Machine product with the LCD facing down on a clean surface.
2. Use a 2.5 mm torque-limiting screwdriver to remove the M3 screws from the cover.



3. Set the screws and cover aside.
The ground screw, terminal ports, I/O ports, and slots are now accessible.

Prepare the Adapter Plate



For a bottom arm mount or top arm mount On-Machine product:

1. Remove and discard the existing adapter plate and screws from your On-Machine product.
2. Follow the manufacturer's installation instructions provided from both your selected mounting plate (not provided) and selected mounting arm for proper attachment.

For a VESA mount On-Machine product:

1. Remove and retain the existing VESA adapter plate with screws from your On-Machine product.
2. Secure the VESA adapter plate to the VESA mounting kit (not provided) with the retained screws.
3. Torque the screws to a value of 1...1.2 N•m (8.85...10.62 ft•lb).

IMPORTANT Do not overtighten the screws. Overtightening can cause damage to the gasket attached to the cover.

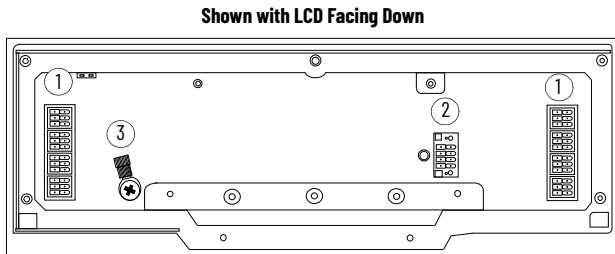
Install the Optional Accessories

Follow these steps to install your On-Machine product.

Connect Elements and Emergency Stop Push Button

Select On-Machine products feature a button area for elements (such as a selector switch, buzzer, or push button) and emergency stop (E-stop) button which allows for hard-wired integration where the commands are connected to rear terminal blocks and the interfaces are directly connected to the system.

Table 3 - Terminal Block Connections



Note No.	Description
1	Terminal Block for Elements
2	Terminal Block for Emergency Stop (E-stop) Button
3	Ground Earth Screw

These select On-Machine products can be ordered in one of two ways:

- without elements to allow for future element installation or
- factory installed element(s) with internally configured connection.

The quantity of elements that can be attached is depends on the physical size of your On-Machine product.

See the On-Machine User Manual, publication [6300-UM002](#), for detailed information to replace or install an element or E-stop button.



ATTENTION: If a SIL-3 E-stop button is used, familiarize yourself with the Safety section in the On-Machine User Manual, publication [6300-UM002](#).

Attach Other Optional Accessories

There are several optional accessories available for your On-Machine product. For a list of available accessories and for ordering information, see publication [6300V-PC005](#). Follow the steps in ASEM 6300 On-Machine Monitor and Panel PC User Manual, publication [6300-UM002](#) to attach these optional accessories.

Connect the DC Power

Follow these steps to connect the DC power to your On-Machine product.

Install the Ground Wire



Use a ground wire with an insulation color that is approved by your local inspection authority and a cross-section of 2.5 mm² (AWG 14) with copper conductor that is certified for operation at least 75 °C (167 °F).

1. Turn off the main power switch or breaker.
2. Locate the ground (earth) screw on the underside of your On-Machine product (see Note No. 3, [Table 3](#)).
3. Remove the ground (earth) screw, lock washer, washer, eyelet terminal, and toothed washer.
4. Insert the stripped end of the grounding wire into the open end of the lug and crimp it securely to the wire.
5. Install the ground wire to the ground (earth) screw according to the sequence shown below.



Sequence No.	Description
1	Toothed washer
2	Eyelet terminal
3	Washer
4	Lock washer
5	Ground (earth) screw

6. Tighten the ground (earth) screw.

Attach the DC Power Connector Assembly

The factory-supplied DC power connector assembly provides strain relief for the DC power wires by reducing their movement. Perform the following steps to assemble and attach the connector assembly.

Figure 1 - DC Terminal Power Connector Assembly

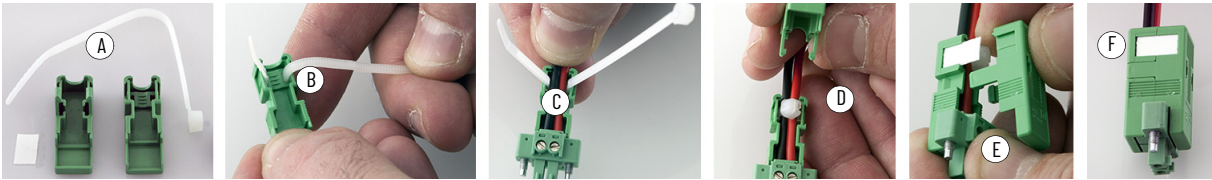
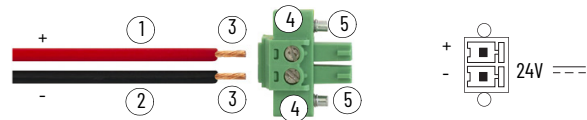


Table 4 - DC Terminal Block Connection Specifications

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



- 1. Remove the DC terminal block from your product.
- 2. Open the power connector assembly kit (supplied) (Step A, [Figure 1](#)).
- 3. Insert the cable tie through the slots of the appropriate connector clamp (Step B, [Figure 1](#)).
- 4. Strip 7 mm (0.275 in.) off of the end of each DC power wire (Note No. 3, [Table 4](#)).

IMPORTANT DC power wires must be constructed of stranded copper and sized according to Note No. 1 and Note No. 2, [Table 4](#).

- 5. Insert each stripped end into the DC terminal block (see [Table 4](#)).
- 6. Tighten the screws on top of the terminal block to secure the DC power wires to 0.22...0.25 N•m (0.16...0.18 ft•lb) (Note No. 4, [Table 4](#)).
- 7. Slide the connector half with the attached cable tie onto the end of the DC terminal block (Step C, [Figure 1](#)).
- 8. Tighten the cable tie so it is snug against the terminal wires.
- 9. Remove the excess end of the cable tie (Step D, [Figure 1](#)) with a wire cutter.
- 10. Install the white label supplied with the kit (Step E, [Figure 1](#)).

Use the white label for identification or other information.

- 11. Align and install the other connector clamp half to complete the assembly (Step F, [Figure 1](#)).

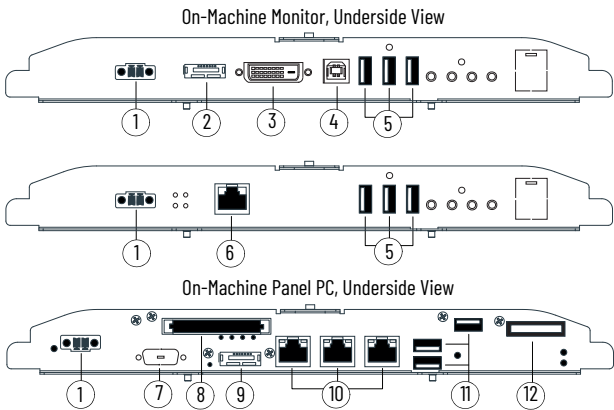
When installed correctly, both tabs of the clamp half lock into place.

- 12. Reconnect the DC terminal block with the connector assembly to the chassis.
- 13. Use the plastic screwdriver (supplied) to torque the DC terminal block flange screws to 0.3 N•m (0.22 ft•lb) (Note No. 5, [Table 4](#)).
- 14. Insert the DC power wires through the mounting area of your On-Machine product cover.

Connect the Peripheral Cables

Perform the following steps to connect peripheral cables to your On-Machine product.

Table 5 - Location of I/O Ports



Note No.	Description	Attribute
1	Power Input	Unshielded
2	DisplayPort	Shielded
3	DVI-D Dual Link	
4	USB Type B	
5	USB 2.0 Type A	
6	Remote Video Link (RVL) In	
7	COM Port <i>optional</i>	Shielded
8	CFast SSD Slot	
9	DisplayPort or RVL Out <i>optional</i>	
10	Ethernet – quantity of 3	
11	USB 3.0	
12	Battery Slot	–

IMPORTANT Do not power on your On-Machine product or connect the installed peripheral cables to another component until instructed to do so.

IMPORTANT Whenever two connected pieces of equipment are far apart, it is possible that their ground connections could be at another potential level. To overcome these 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 or #6 AWG) to connect the grounds between your On-Machine product and component(s).

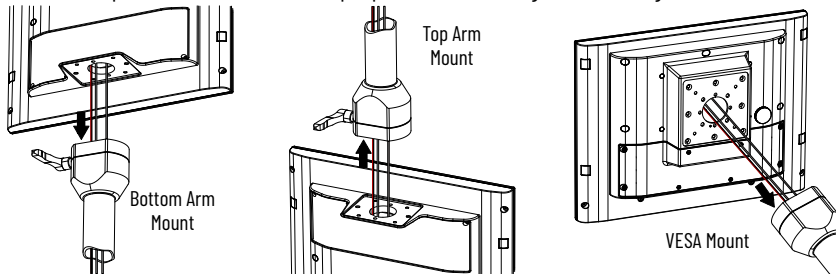
1. Connect shielded I/O cables to the appropriate I/O ports on your On-Machine product.
2. For On-Machine Panel PCs (optional): Insert a CFast SSD into the CFast card slot (see Note No. 8, [Table 5](#)).
3. Route the DC power cable and connected peripheral cables through the mounting hole of your On-Machine product.
4. Using a 2.5 mm torque limiting screwdriver, reinstall the rear cover with the eight M3 screws.
5. Torque the eight M3 screws to a value of 1...1.2 N•m (8.85...10.62 ft•lb).

IMPORTANT Do not overtighten the screws. Overtightening can cause damage to the gasket attached to the cover.

Mount the On-Machine Product

IMPORTANT Be sure all mounting requirements are followed before proceeding. See [Mounting Requirements on page 3](#).

1. Route the DC power cable and connected peripheral cables through the mounting arm.



2. Attach the mounting arm with installed adapter plate to your On-Machine product according to the mount kit manufacturer's installation instruction.

IMPORTANT Be sure that all cables are not pinched or kinked when tightening the screws of the mounting plate.

3. Attach the mount arm to the mounting surface according to the mount kit manufacturer's installation instruction.

Complete the Installation

1. Connect the free end of the peripheral cables to another component (such as a RVL receiver, a RVL transmitter, or an industrial PC).



See the installation instructions shipped with other components for proper power-on sequence.

2. Connect the free ends of the installed element(s), such as an E-stop or push button cables to Control Logix® I/O points or other selected endpoints.
3. Connect a required SELV DC power supply (not provided) to your On-Machine product and to the power outlet.

IMPORTANT To minimize ground loop currents and noise, it is recommend that DC powered models only use one grounded connection (see [Install the Ground Wire on page 5](#)). Follow all guidelines listed in [Power Requirements on page 3](#).

A LED status indicator illuminates on the lower left front bezel of your On-Machine product.



Additional Resources

This publication provides basic installation instructions. For more information, see the following publications from Rockwell Automation. You can view or download publications at rok.auto/literature.

Resource	Description
ASEM 6300 On-Machine Monitor and Panel PC User Manual, publication 6300-UM002	Provides details on how to install, configure, operate, and troubleshoot the 6300 On-Machine products and install accessories to include: terminal buttons, e-stop, side handle, perimeter handle, and keyboard tray. Safety is also included in this publication.
ASEM 6300V On-Machine Product Accessories, publication 6300V-PC005	Provides a list of accessories available for 6300 On-Machine products to include: terminal buttons, E-stop, side handle, perimeter handle, and keyboard tray.
ASEM 6300V Remote Video Link Receiver, publication 6300V-IN004	Provides details on how to install the 6300V RVL receiver.
ASEM 6300V Remote Video Link Transmitter, publication 6300V-IN005	Provides details on how to install the 6300V RVL transmitter.
CFast Solid-state Storage Drive Installation Instructions, publication 6300V-IN006	Provides installation instructions for a 6300V-CFASTT CFast solid state storage drive into an On-Machine panel PC.
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.

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.

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.

For technical support, visit rok.auto/support.

Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752, Çerenköy, 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, Fax: (1) 414.382.4444

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

ASIA PACIFIC: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

UNITED KINGDOM: Rockwell Automation Ltd. Pitfield, Kiln Farm Milton Keynes, MK11 3DR, United Kingdom, Tel: (44)(1908) 838-800, Fax: (44)(1908) 261-917

Allen-Bradley, ASEM, Control Logix, expanding human possibility, On-Machine, and Rockwell Automation are trademarks of Rockwell Automation, Inc.

Intel, Intel Core, Intel Celeron, and Intel Kirby Lake are trademarks of Intel Corporation.

Microsoft and Windows are trademarks of Microsoft Corporation.

Trademarks not belonging to Rockwell Automation are property of their respective companies.



PN-694258

Publication 6300-IN001B-EN-P - February 2024 | Supersedes Publication 6300-IN001A-EN-P - June 2023

Copyright © 2024 Rockwell Automation, Inc. All rights reserved. Printed in Italy.

Vendor Code: 80460192.01

DIR 10007264414 ver 01