Installation Instructions

Original Instructions

Allen-Bradley by ROCKWELL AUTOMATION

OptixEdge Standard

Catalog Numbers 2800E-ANA-S, 2800E-ANB-S

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).

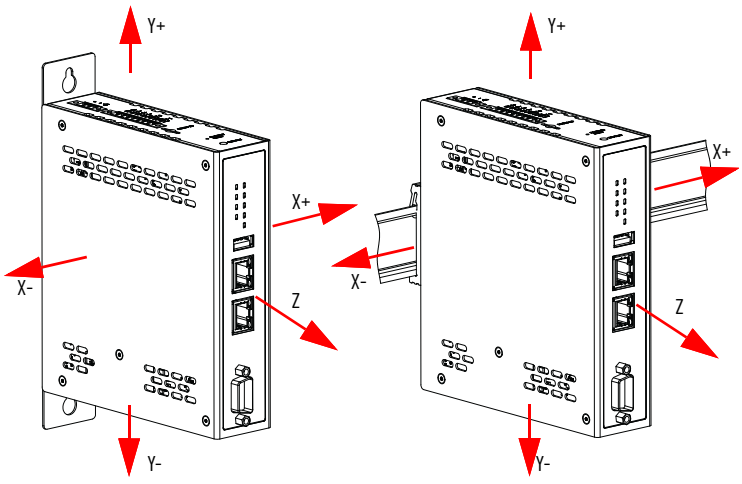
Operating/storage relative humidity (RH) non condensing: 20...90%.

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



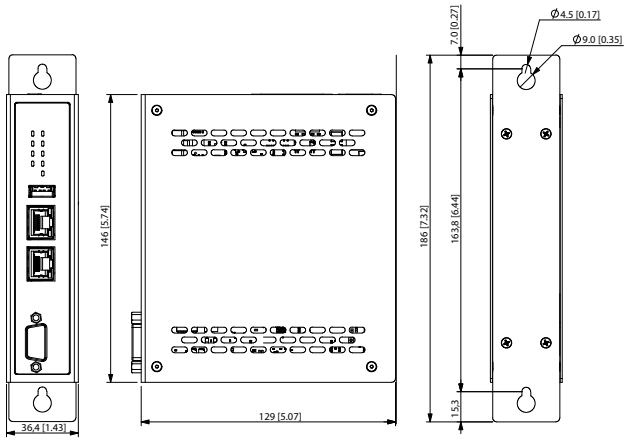
IMPORTANT Because of self-heating, do not operate the appliance in an enclosure by using the minimum clearances unless adequate ventilation or other methods are used to lower the temperature within the enclosure.

Rockwell Automation

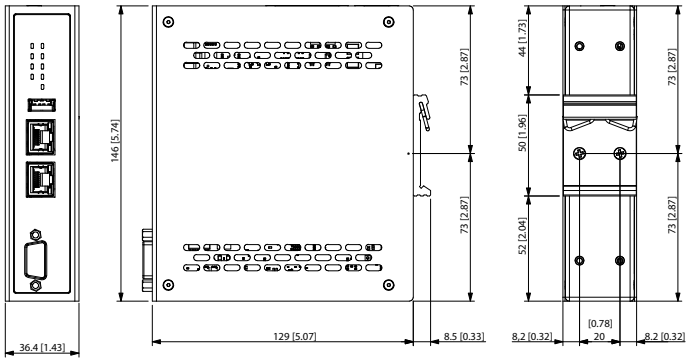
Approximate Dimensions

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

2800E dimensions (Book installation)



2800E dimensions (DIN Rail installation)



Book Mount Installation

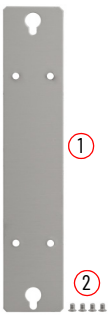
WARNING: Failure to follow these guidelines can result in personal injury or damage to the panel components.
AVERTISSEMENT: Le non-respect de ces directives peut entraîner des blessures corporelles ou des dommages aux composants du panneau.

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

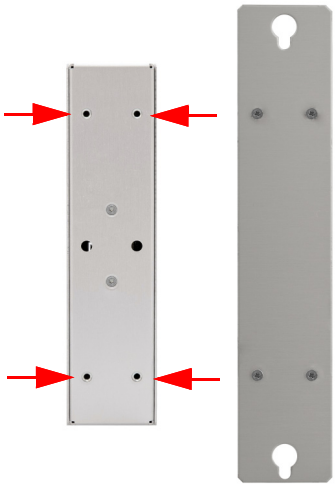
Installation

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 M3x4 screws with a torque of 0.7...0.8 N•m (0.51...0.59 ft•lb).

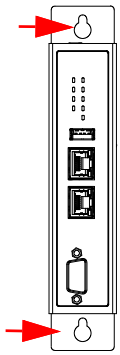


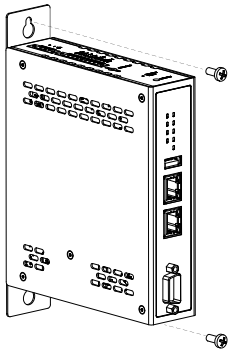
Sequence No.	Description
1	Book mount bracket
2	4 M3x4 screws



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.



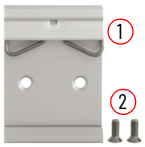


DIN Rail Installation

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.

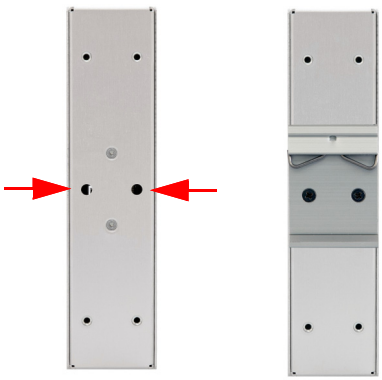
Installation



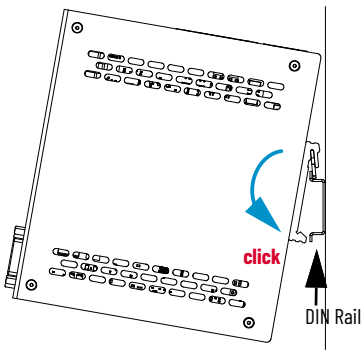
Sequence No.	Description
1	DIN Rail hook
2	2 M3x8 screws

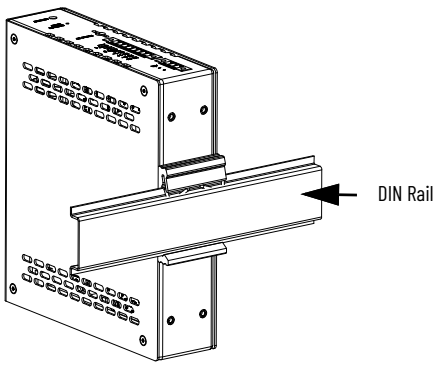
To execute the DIN Rail installation, perform the following steps:

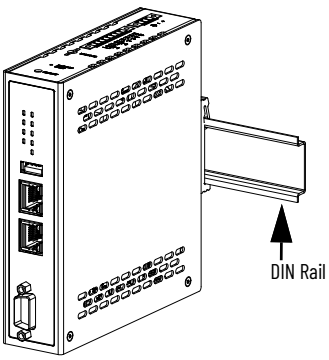
1. Install the DIN rail hook to the appliance:
   a. Place the DIN Rail hook on the rear of the appliance.
   b. Secure it with the two provided M3x8 screws with a a torque of 0.7..0.8 N•m (0.51...0.59 ft•lb).



2. 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.

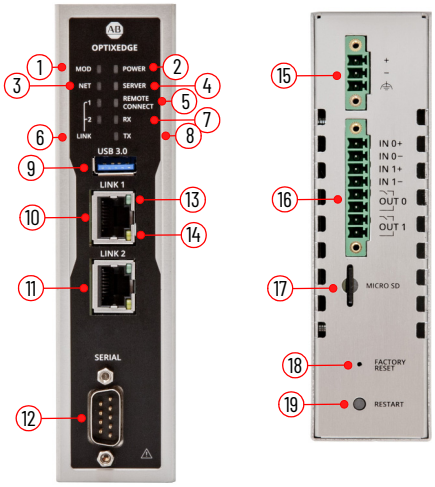


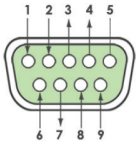




Connectors/LEDs/Buttons

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.





Pin No.	RS232	RS422	RS485
1	Isolated +5V max 100 mA DC OUT		
2	RX	RX+	-
3	TX	TX-	RTX-
4	—	—	—
5	Isolated GND		
6	—	—	—
7	RTS	TX+	RTX+
8	CTS	RX-	—
9	—	—	—

Table 1 - Connectors / LEDs / Buttons (continued)

No.	Description	Required Cable	LED Color	Status /Function
1	MOD LED	—	Off	No power is being applied to the device.
			Steady Green	The boot phase is completed and the device is operating normally.
			Steady Red	The device has a major nonrecoverable fault.
			Flashing Green	The device is booting.
			Flashing Red	The device has a recoverable fault or the device firmware is being updated or Factory Reset is in progress.
			Railroad flashing Green/Red	The device is powering up and performing its power-up self-test.
2	POWER LED	—	Off	No power is being applied to the device.
			Steady Green	Appropriate power is being applied to the device.
			Steady Red	The device is not receiving appropriate power.
3	NET LED	—	Off	The device is powered off or is powered on but no IP address configured.
			Steady Green	An IP address is configured and at least one CIP™ connection (any transport class) is established, and an Exclusive Owner connection has not timed out.
			Steady Red	For devices that support duplicate IP address detection, the device has detected that its IP address is already in use.
			Flashing Green	An IP address is configured, but no CIP connections are established, and an Exclusive Owner connection has not timed out.
			Flashing Red	An IP address is configured, and an Exclusive Owner connection for which this device is the target has timed out. The indicator returns to steady green only when an Exclusive Owner connection is reestablished. NOTE: An incorrect or inconsistent configuration would be considered a major recoverable fault.
			Railroad flashing Green/Red	The device is performing its power-up self-test.
4	SERVER LED	—	Off	No power is being applied to the device.
			Steady Green	Device connected to FTRA servers.
			Steady Red	The device started and did not connect to FTRA servers.
			Flashing Green	The device started and is connecting to FTRA servers.
			Flashing Red	The device started but is not connecting to FTRA servers because: • it is not associated to a domain. • it is already associated with a different domain than the one it is trying to connect to. • (future implementation) the ID and password for accessing the domain are invalid.
5	REMOTE CONNECT LED	—	Off	No remote connections are active to the device.
			Steady Green	At least one remote connection is active to the device.
6	LINK 1 LED LINK 2 LED	—	Off	The device is not connected to a network. The port is administratively disabled.
			Steady Green	The device is connected to a network, but is not actively communicating.
			Flashing Green	The device is actively communicating on a network.
7	RX LED	—	Off	The device is not receiving data.
			Flashing Green	The device is receiving data.

Table 1 - Connectors / LEDs / Buttons (continued)

No.	Description	Required Cable	LED Color	Status /Function
8	TX LED	—	Off	The device is not transmitting data.
			Flashing Green	The device is transmitting data.
9	USB	Shielded, Length: max 3 m (9.84 ft)		USB 3.0 connector (Type-A / host).
10	LINK 1	Shielded		1 Gigabit Ethernet, RJ45 connector.
11	LINK 2			
12	1 x COM	Shielded Length: max 30 m (98.42 ft)		RS232/422/485 isolated (DB9M).
13	Data activity (all LAN ports LED)	—	No color	No Activity is present.
			Flashing Green	Activity is present.
14	Data link (all LAN ports LED)		No color	No link is present.
			Yellow	10/100/1000 Mbps.
15	DC power	Unshielded		Power connector.
16	I/O	Unshielded		I/O connector.
17	Micro SD	—	—	Micro SD slot.
18	Factory Reset			Factory Reset pushbutton to reset the firmware to factory settings (including application data and all other configurations).
19	Restart			Restart pushbutton for software reboot of the system (NO power cut).

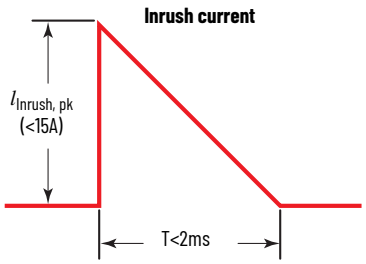
The appliance has the following features:

- 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 be powered with a voltage of 24V DC (18...32V DC) SELV isolated, max current 0.65 A.
- 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	Max. Ambient temperature
2800E	16 W	8 W	60 °C (140 °F)



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

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 OptixEdge User Manual, 2800E-UM001. 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

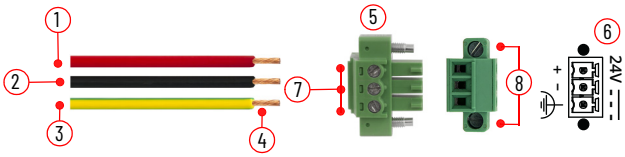
Tools required: Adjustable torque screwdriver with M2 and M3 flat-blade screw bits, Wire stripper, cutter, and crimper tool, Cutting pliers.

Terminal block cabling procedure

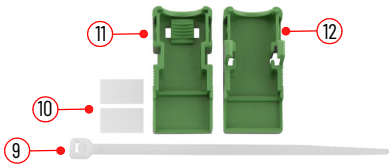
Table 2 - Terminal Block Connection Specifications

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	Ground wire	
4	Stripped wire length	7 mm (0.275 in.)
5	Terminal block	–
6	Polarity symbol	–
7	Torque range to secure DC power wires	0.22...0.25 N•m (0.16...0.18 ft•lb)
8	Torque value to reinstall DC terminal block to computer	0.3 N•m (0.22 lb•in)
9	Cable tie (qty: 1)	–
10	Labels (qty: 2)	–
11	Half cover with cable tie slot	–
12	Half closing cover	–

DC power connector assembly



Terminal block cover kit

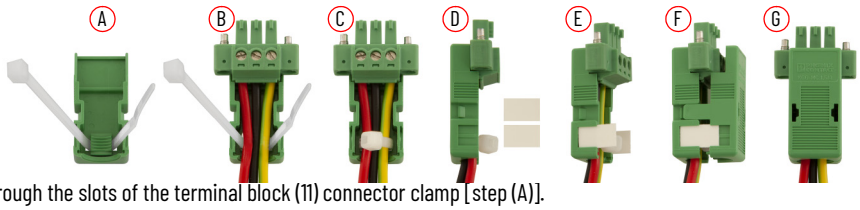


1. Remove the DC terminal block (5) from the computer.
2. Use wires (not included), (1) (2) (3) with 1.5 mm^2 (16 AWG) cross section with copper conductor certified for operation at least 75 °C (167°F).

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 (9) through the slots of the terminal block (11) 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 (9) and remove the excess part [step (C)] and install the white labels (10) supplied with the terminal block cover kit [steps (D) (E)].

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

8. Align and install the other connector (12) clamp half [step (F)] to complete the assembly [step (G)].

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

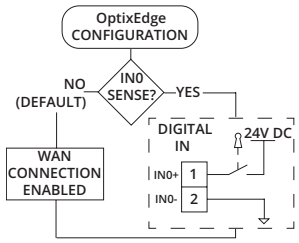
9. Connect the DC terminal block (with cables and cover) to the computer chassis and fix it with the corresponding screws (5) with 0.3 N•m (2.66 lb•in) torque.

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 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 appliance. See Table 1 for details of these LED status indicators.

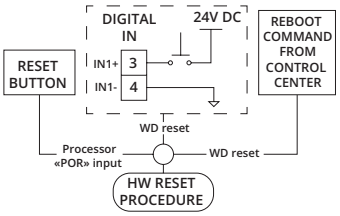
Digital I/O connection

IN0 - WAN connection enabling security key



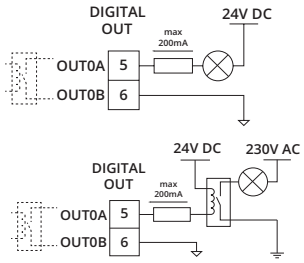
Feature to be enabled by ASM.

IN1 - Reset input

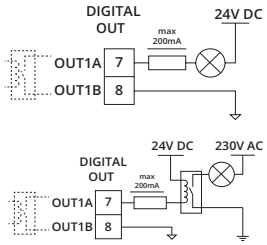


Keep the contact closed at least 5 sec. to perform reboot.

OUT0 - WAN connection enabled signalling



OUT1 - Remote assistance service running



Commissioning

Factory Settings

Devices feature two Ethernet interfaces, whose factory settings is shown in the following table.

Device Type	Interface	IP Address	Mask
OptixEdge	Link1 (WAN)	assigned by DHCP	assigned by DHCP
	Link2 (LAN)	192.168.0.1	255.255.255.0

Access to device configuration is protected with a combination of username and password:

The default **username** is **admin**.
The default **password** is **admin**.

When accessing the device for the first time, you are prompted to change its password. Once you have changed the device password, you are required to restart the device.

Access to ASEM System Manager

You can remotely access System Manager through the Ethernet connection, by typing the device IP address into a web browsing bar.

Access from a Browser

See the factory settings of the device Ethernet interface for more information about Ethernet connections.

1. Enter the device IP address into a web browsing bar. Each device comes pre-configured with a default IP address, which may vary depending on the specific Ethernet interface to which the device is connected.

You will be warned that the connection is not private and the security certificate is not trusted. In this case, select **Advanced** and proceed.

2. If you access System Manager for the first time, enter the default credentials:
   a. username: **admin**
   b. password: **admin**
3. Once you sign in, you will be prompted to change your password. From the second sign in on, you can access System Manager by using **admin** as a username and the newly set up password, or through the user's account if activated by an **Admin** user.

Create a strong password to reduce cybersecurity risk. Your password must:

- Be at least 8 characters long
- Include at least three of the following requirements:
  - at least one uppercase character
  - at least one lowercase character
  - at least one numeric character
  - at least one symbolic character

Use passphrases longer than 8 characters to enhance password strength. Strong passwords increase the time needed to guess them.

IMPORTANT Make sure to save your password. You must sign in as an **Admin** to transfer a FactoryTalk Optix application through FactoryTalk Optix Studio. If you lose your password, you must restore the device factory default settings. This operation causes the deletion of any FactoryTalk Optix Applications and system updates.

When you restart a device through the browser, the web page shows a countdown widget that you can interrupt by selecting **Cancel**.

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
OptixEdge User Manual, 2800E-UM001	Provides details on how to install, configure, operate, and troubleshoot OptixEdge.
OptixEdge Technical Data, 2800E-TD001	Provides technical specifications about OptixEdge.
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

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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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