

Compact I/O End Caps/Terminators

Catalog Numbers 1769-ECL, 1769-ECLK, 1769-ECR, 1769-ECRK

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About the End Caps/Terminators



The 1769 Compact I/O™ controllers, such as the 1769-L32E, require end caps. A 1769-ECR right end cap, a 1769-ECRK right end cap, a 1769-ECLK left end cap, or a 1769-ECL left end cap terminates the end of the communication bus. Use this guide to install either end cap.

Summary of Changes

This publication contains new and updated information as indicated in the following table.

Topic	Page
Updated certification and warning information.	Throughout

North American Hazardous Location Approval

The following information applies when operating this equipment in hazardous locations.	Informations sur l'utilisation de cet équipement en environnements dangereux.
<p>Products marked "CL I, DIV 2, GP A, B, C, D" are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation.</p>	<p>Les produits marqués "CL I, DIV 2, GP A, B, C, D" ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation.</p>
<div style="display: flex; align-items: center;">  <div> <p>WARNING: Explosion Hazard –</p> <ul style="list-style-type: none"> Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous. Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product. Substitution of components may impair suitability for Class I, Division 2. If this product contains batteries, they must only be changed in an area known to be nonhazardous. </div> </div>	<div style="display: flex; align-items: center;">  <div> <p>AVERTISSEMENT: Risque d'Explosion –</p> <ul style="list-style-type: none"> Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement. Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit. La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I, Division 2. S'assurer que l'environnement est classé non dangereux avant de changer les piles. </div> </div>

Environment and Enclosure

**ATTENTION:**

This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC publication 60664-1), at altitudes up to 2000 meters (6562 ft) without derating.

This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR Publication 11. Without appropriate precautions, there may be potential difficulties ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbance.

This equipment is supplied as open-type equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to help prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to help prevent or minimize the spread of flame, complying with a flame spread rating of 5VA, V2, V1, V0 (or equivalent) if non-metallic. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see:

- Industrial Automation Wiring and Grounding Guidelines, for additional installation requirements, Allen-Bradley publication [1770-4.1](#).
 - NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.
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Prevent Electrostatic Discharge



ATTENTION: This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
 - Wear an approved grounding wriststrap.
 - Do not touch connectors or pins on component boards.
 - Do not touch circuit components inside the equipment.
 - Use a static-safe workstation, if available.
 - Store the equipment in appropriate static-safe packaging when not in use.
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European Hazardous Location Approval—1769-ECR and 1769-ECRK

The following applies to products marked  . Such modules:

- Are Equipment Group II, Equipment Category 3, and comply with the Essential Health and Safety Requirements relating to the design and construction of such equipment given in Annex II to Directive 2014/34/EU. See the EC Declaration of Conformity at <http://www.rockwellautomation.com/products/certification> for details.
 - The type of protection used is 'Ex nA IICT4 Gc' according to EN 60079-15.
 - Comply to Standards: EN 60079-0:2012+A11:2013, EN 60079-15:2010, reference certificate number DEMK012ATEX1116807X.
 - Modules are intended for use in areas in which explosive atmospheres caused by gases, vapors, mists, or air or dust mixtures are unlikely to occur, or are likely to occur only infrequently and for short periods. Such locations correspond to Zone 2 classification according to ATEX directive 2014/34/EU.
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IEC Hazardous Location Approval—1769-ECR and 1769-ECRK

The following applies to products with IECEx certification. Such modules:

- Are intended for use in areas in which explosive atmospheres caused by gases, vapors, mists, or air are unlikely to occur, or are likely to occur only infrequently and for short periods. Such locations correspond to Zone 2 classification to IEC 60079-0.
 - The type of protection is 'Ex nA IICT4 Gc' according to IEC 60079-15.
 - Comply to Standards: IEC 60079-0:6th edition, IEC-60079-15:4th Edition, reference IECEx certificate number IECEx UL 20.0078X.
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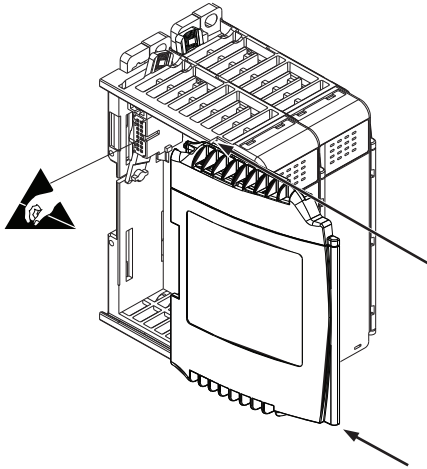


WARNING: Special Conditions for Safe Use

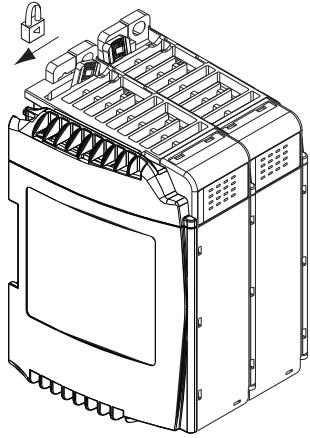
- Equipment is not resistant to sunlight or other sources of UV radiation.
 - Equipment shall be mounted in an ATEX/IECEx Zone 2 certified enclosure with a minimum ingress protection rating of at least IP54 (as defined in EN/IEC 60529) and used in an environment of not more than Pollution Degree 2 (as defined in EN/IEC 60664-1) when applied in Zone 2 environments. The enclosure must be accessible only by the use of a tool.
 - Equipment shall be used within its specified ratings defined by Rockwell Automation.
 - Provision shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 140% of the rated voltage when applied in Zone 2 environments.
 - Equipment must be used only with ATEX/IECEx certified Rockwell Automation backplanes.
 - Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.
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1769-ECL Left End Cap and 1769-ECLK Left End Cap

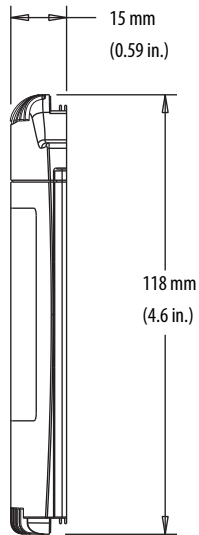
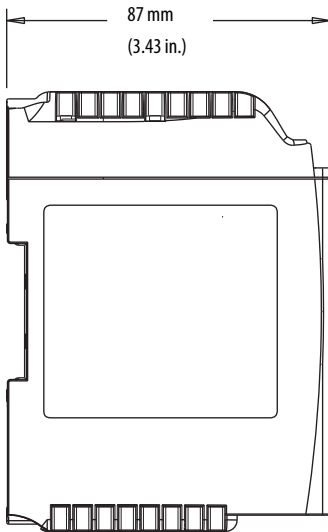
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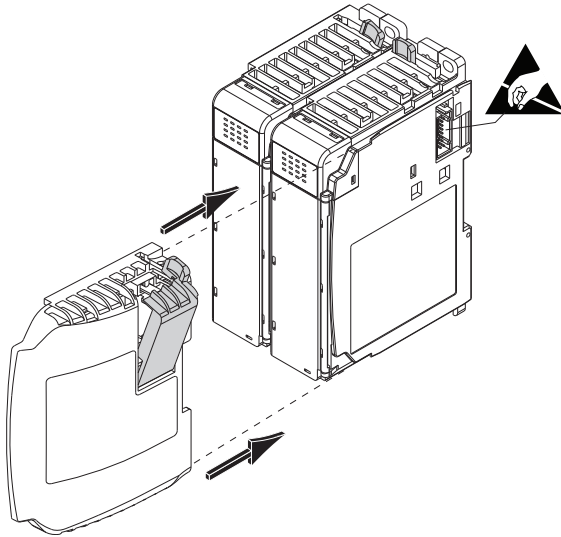


1769-ECL and 1769-ECLK Dimensions

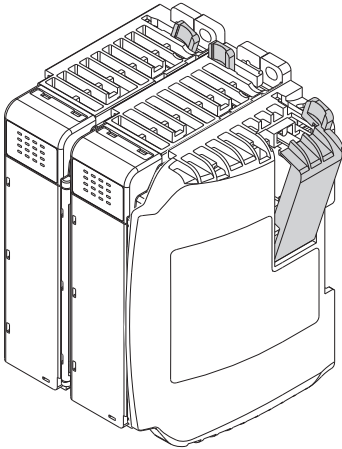


1769-ECR and 1769-ECRK Right End Cap

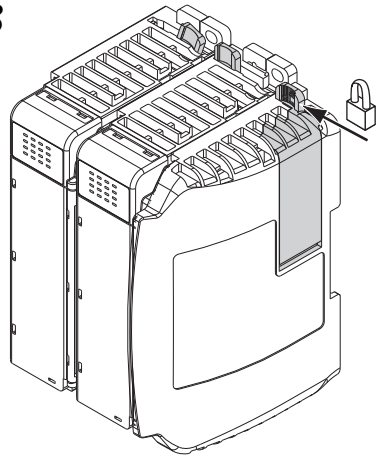
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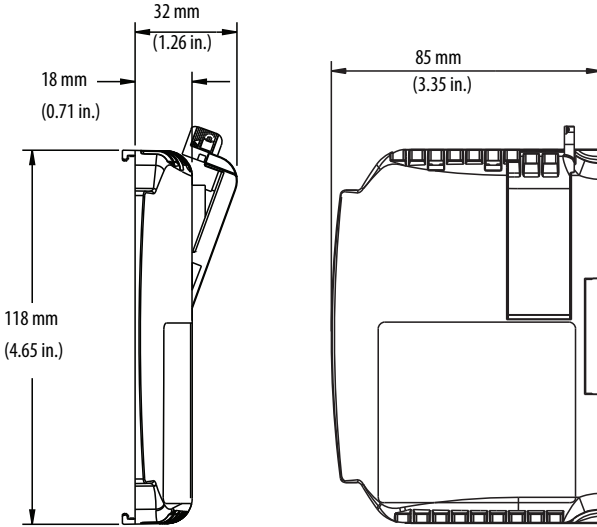
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3



1769-ECR and 1769-ECRK Dimensions



Specifications

Attribute	1769-ECL, 1769-ECLK	1769-ECR, 1769-ECRK
Current draw at 5.1V DC	5 mA	
Current draw at 24V DC	0 mA	
Operating altitude	2000 m (6562 ft)	
North American temp code	T3C	
IEC temp code	—	T4
Shipping weight, approx	130 g (0.286 lb)	
Enclosure type rating	None (open style)	

Environmental Specifications

Attribute	1769-ECL, 1769-ECLK	1769-ECR, 1769-ECRK
Operating temperature IEC 60068-2-1 (Test Ad, Operating Cold) IEC 60068-2-2 (Test Bd, Operating Dry Heat) IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	0 > Ta > 60 °C (32 > Ta > 140 °F)	
Nonoperating temperature IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold) IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat) IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40 > Ta > 85 °C (-40 > Ta > 185 °F)	
Relative humidity	5...95% noncondensing	
Vibration IEC 60068-2-6 (Test Fc, Operating)	5 g, 10...500 Hz	
Operating shock IEC 60068-2-27 (Test Ea, Unpackaged Shock)	DIN rail mount: 20 g; Panel mount: 30 g	
Nonoperating shock IEC 60068-2-27 (Test Ea, Unpackaged Shock)	DIN rail mount: 30 g; Panel mount: 40 g	
Emissions CISPR 11	Group 1, Class A	
ESD immunity IEC 61000-4-2	8 kV air discharges	
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80...2700 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 1890 MHz	

Certifications

Certifications ⁽¹⁾	1769-ECL, 1769-ECLK	1769-ECR, 1769-ECRK
c-UL-us	UL Listed for Class I, Division 2 Group A, B, C, D Hazardous Locations, certified for U.S. and Canada. See UL File E334470	
CE	European Union 2014/30/EU EMC Directive, compliant with: EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions	
RCM	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions	
Ex	—	European Union 2014/30/EU ATEX Directive, compliant with: EN 60079-15; Potentially Explosive Atmospheres, Protection 'n' (II 3 G Ex nA IIC T4 Gc) EN 60079-0; General Requirements (Zone 2) IECEx; Correspond to Zone 2 classification to IEC 60079-0. The type of protection is 'Ex nA IIC T4 Gc' according to IEC 60079-15. Reference IECEx certificate number IECEx UL.20.0078X.

(1) See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Compact I/O Modules, publication 1769-IN088A	Provides information on how to install any 1769 Compact I/O module.
1769 Compact I/O Modules Specifications, publication 1769-TD006	Provides technical data for 1769 Compact I/O modules.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.rockwellautomation.com/global/certification/overview.page	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/global/literature-library/overview.page>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Rockwell Automation Support

Use the following resources to access support information.

Technical Support Center	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	https://rockwellautomation.custhelp.com/
Local Technical Support Phone Numbers	Locate the phone number for your country.	http://www.rockwellautomation.com/global/support/get-support-now.page
Direct Dial Codes	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	http://www.rockwellautomation.com/global/support/direct-dial.page
Literature Library	Installation Instructions, Manuals, Brochures, and Technical Data.	http://www.rockwellautomation.com/global/literature-library/overview.page
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	http://www.rockwellautomation.com/global/support/pcdc.page

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete the How Are We Doing? form at http://literature.rockwellautomation.com/idc/groups/literature/documents/du/ra-du002_-en-e.pdf.

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 Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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