Installation Instructions

Allen-Bradley

POINT I/O One-piece Terminal Bases

Catalog Numbers 1734-TOP, 1734-TOPS, 1734-TOP3, 1734-TOP3S

Table of Contents

Important User Information

Solid-state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation, and Maintenance of Solid-State Controls (Publication SGI-1.1 available from your local Rockwell Automation Sales Office or online at http://www.rockwellautomation.com/literature/) describes some important differences between solid-state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid-state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

	**WARNING:** Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
	**ATTENTION:** Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequences.
	**SHOCK HAZARD:** Labels may be on or inside the equipment (for example, drive or motor) to alert people that dangerous voltage may be present.
	**BURN HAZARD:** Labels may be on or inside the equipment (for example, drive or motor) to alert people that surfaces may reach dangerous temperatures.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

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 EN/IEC 60664-1), at altitudes up to 2000 m (6562 ft) without derating.

This equipment is not intended for use in residential environments and may not provide adequate protection to radio communication services in such environments.

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

In addition to this publication, see the following:

- Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1, for more installation requirements.
- NEMA Standard 250 and EN/IEC 60529, as applicable, for explanations of the degrees of protection provided by enclosures.

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.

European Hazardous Location Approval

The following applies to products marked CE Ex II 3 G:

- Are intended for use in potentially explosive atmospheres as defined by European Union Directive 2014/34/EU and has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of Category 3 equipment intended for use in Zone 2 potentially explosive atmospheres, given in Annex II to this Directive.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-15 and EN 60079-0.
- 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/global/certification/overview.page for details.
- The type of protection is Ex nA IIC T4 Gc according to EN 60079-15.
- Comply to Standards EN 60079-0:2012+A11:2013, EN 60079-15:2010, reference certificate number DEMKO 04 ATEX 0330347X.
- 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 according to ATEX directive 2014/34/EU.

WARNING: Special Conditions for Safe Use:

- This equipment is not resistant to sunlight or other sources of UV radiation.
- This equipment shall be mounted in an ATEX/IECEx Zone 2 certified enclosure with a minimum ingress protection rating of at least IP54 (in accordance with EN/IEC 60079-15) 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.
- This 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 peak rated voltage when applied in Zone 2 environments.
- The instructions in the user manual shall be observed.
- This equipment must be used only with ATEX certified Rockwell Automation backplanes.
- Earthing is accomplished through mounting of modules on rail.
- Devices shall be used in an environment of not more than Pollution Degree 2.

ATTENTION: If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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.

ATTENTION: Installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.
In case of malfunction or damage, no attempts at repair should be made. The module should be returned to the manufacturer for repair. Do not dismantle the module.

ATTENTION: This equipment is certified for use only within the surrounding air temperature range of -20…+55 °C (-4…+131 °F). The equipment must not be used outside of this range.

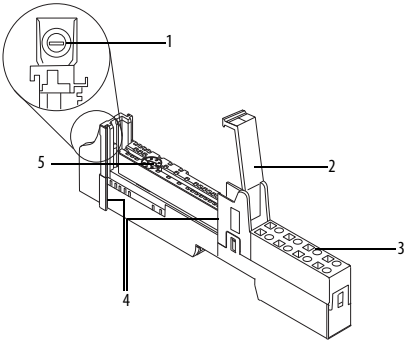
ATTENTION: Use only a soft dry anti-static cloth to wipe down equipment. Do not use any cleaning agents.

About the Terminal Base

Read this publication for information about these terminal bases.

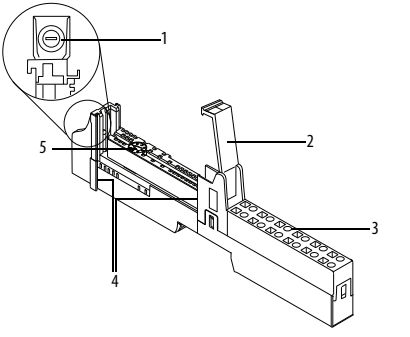
Catalog Number	Number of Terminations	Termination Type
1734-TOP	8	Screw-clamp
1734-TOPS	8	Spring-clamp
1734-TOP3	12	Screw-clamp
1734-TOP3S	12	Spring-clamp

1734-TOP and 1734-TOPS



	Description		Description
1	DIN rail locking screw (orange)	4	Interlocking side pieces
2	Handle	5	Mechanical keying (orange)
3	Wiring block		

1734-TOP3 and 1734-TOP3S



	Description		Description
1	DIN rail locking screw (orange)	4	Interlocking side pieces
2	Handle	5	Mechanical keying (orange)
3	Wiring block		

Install the Terminal Base

To install the terminal base on the DIN rail (Allen-Bradley® part number 199-DR1; 46277-3; EN50022), proceed as follows:

ATTENTION: This product is grounded through the DIN rail to chassis ground. Use zinc plated chromate-passivated steel DIN rail to assure proper grounding. The use of other DIN rail materials (for example, aluminum or plastic) that can corrode, oxidize, or are poor conductors, can result in improper or intermittent grounding. Secure DIN rail to mounting surface approximately every 200 mm (7.8 in.) and use end-anchors appropriately. Be sure to ground the DIN rail properly. Refer to Industrial Automation Wiring and Grounding Guidelines, Rockwell Automation publication 1770-4.1, for more information.

1. Position the mounting base vertically above the installed units (adapter, power supply, or existing module).
2. Slide the mounting base down allowing the interlocking side pieces to engage the adjacent module or adapter.
3. Press firmly to seat the base on the DIN rail until the base snaps into place.
4. Verify that the DIN-rail locking screw is in a horizontal, locked position before inserting an I/O module.

DIN-rail locking screw is in horizontal, locked position.

DIN-rail locking screw is in vertical, unlocked position.

ATTENTION: Do not wire more than 2 conductors on any single terminal.

Remove a Terminal Base

To remove a terminal base, you must remove any installed module and the module installed in the base to the right. Remove the removable terminal block, if wired.

ATTENTION: Do not remove or replace a Terminal Base unit while power is applied. Interruption of the backplane can result in unintentional operation or machine motion.

WARNING: Do not disconnect or replace component unless power is switched off or area is known to be nonhazardous. Do not pull on the installed wiring to remove a terminal base. A shock hazard exists if power is applied to the terminal base.

1. Squeeze the module locking mechanism of the module to the right of the base, pulling up to remove the module.
2. Turn the orange locking screw to a vertical position to unlock the base from the DIN rail.
3. Slide the base up to release it from its mating units.

Specifications

One-piece Terminal Bases – 1734-TOP, 1734-TOPS, 1734-TOP3, 1734-TOP3S

Attribute	Value
Dimensions (HxWxD), approx.	49 x 12 x 144 mm (1.93 x 0.47 x 5.67 in.) – 1734-TOP, 1734-TOPS 49 x 12 x 168 mm (1.93 x 0.47 x 6.61 in.) – 1734-TOP3, 1734-TOP3S
Weight, approx.	63.8 g (2.25 oz) – 1734-TOP; 79.2 g (2.79 oz) – 1734-TOP3 55.68 g (1.96 oz) – 1734-TOPS; 66.8 g (2.36 oz) – 1734-TOP3S
Wire size	0.25... 2.5 mm² (22...14 AWG) solid or stranded copper wire rated at 75 °C (167 °F), or greater, 1.2 mm (3/64 in.) insulation max
Wiring category[1] [2]	Dependent on I/O module installed in terminal base
Supply voltage	300V max terminal voltage
Supply power	8 A max terminal current
Isolation voltage	Capable of 240V (continuous), Reinforced Insulation Type, or the lesser of the installed module.

One-piece Terminal Bases – 1734-TOP, 1734-TOPS, 1734-TOP3, 1734-TOP3S

Attribute	Value
Enclosure type rating	None (open-style)
Field power bus supply voltage	28.8V DC, 120/240V AC
Terminal base screw torque	0.6 Nm (7 lb-in) – 1734-TOP and 1734-TOP3 only
Terminal block torque	0.4 Nm (3.5 lb-in) – 1734-TOP and 1734-TOP3 only
ATEX temp code	T4

(1) Use this conductor category information for planning conductor routing as described in Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

(2) Use this Conductor Category information for planning conductor routing as described in the appropriate System Level Installation Manual.

At the end of its life, this equipment should be collected separately from any unsorted municipal waste.

Environmental Specifications

Attribute	Value
Temperature, operating	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): -20…55 °C (-4…131 °F)
Temperature, surrounding air, max.	55 °C (131 °F)
Temperature, nonoperating	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…85 °C (-40…185 °F)
Relative humidity	IEC 60068-2-30 (Test Db, Unpackaged Damp Heat): 5…95% noncondensing
Vibration	IEC60068-2-6 (Test Fc, Operating): 5 g @ 10…500 Hz
Shock, operating	EC 60068-2-27 (Test Ea, Unpackaged Shock): 30 g
Shock, nonoperating	EC 60068-2-27 (Test Ea, Unpackaged Shock): 50 g

Certifications

Certification (when product is marked)[1]	Value
c-UL-us	UL Recognized Component Industrial Control Equipment, certified for US and Canada. See UL File E65584.
CE	European Union 2014/30/EU EMC Directive, compliant with: EN 61131-2; Programmable Controllers (Clause 8, Zone A & B) EN 61326-1; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions European Union 2014/35/EU LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11) European Union 2011/65/EU RoHS, compliant with: EN 50581; Technical Documentation
RCM	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions
Ex	European Union 2014/34/EU ATEX Directive, compliant with: EN 60079-0:2012 + A11:2013; General Requirements EN 60079-15:2010; Potentially Explosive Atmospheres, Protection "n" II 3 G Ex nA IIC T4 Gc DEMKO 04 ATEX 0330347X
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3
EAC	Russian Customs Union TR CU 020/2011 EMC Technical Regulation Russian Customs Union TR CU 004/2011 LV Technical Regulation

(1) See the Product Certification link at http://www.rockwellautomation.com/global/certification/overview.page for Declaration of Conformity, Certificates, and other certification details.

Notes:

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At http://www.rockwellautomation.com/support/, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit http://www.rockwellautomation.com/support/.

Installation Assistance

If you experience a problem within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/support/americas/phone_en.html, or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication RA-DU002, available at http://www.rockwellautomation.com/literature/.

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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