

Installation Instructions

Original Instructions



Allen-Bradley

by ROCKWELL AUTOMATION

POINT I/O Wiring Base Assembly

Catalog Numbers 1734-TB3, 1734-TB3S

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
Updated the Prepare the Wires section	1
Added the Wire the RTB section	2
Updated Specifications	2
Added Additional Resources	2

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 60684-1), at altitudes up to 2000 m (6562 ft) without derating.

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 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 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 additional installation requirements.
- NEMA Standard 250 and EN/IEC 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.

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.

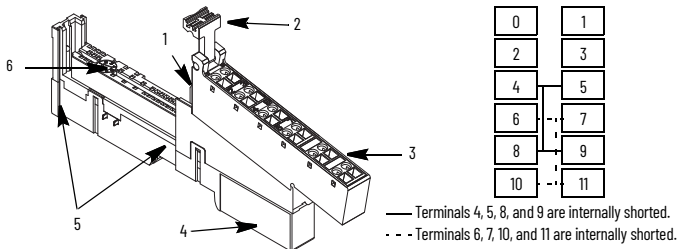


ATTENTION:

- If this equipment is used in a manner that is not specified by the manufacturer, the protection that is provided by the equipment may be impaired.
- 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.
- 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.
- 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.
- Use only a soft dry anti-static cloth to wipe down equipment. Do not use any cleaning agents.

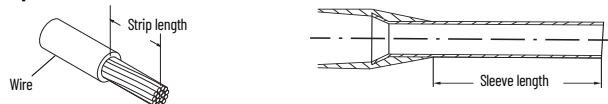
About the Assembly

The POINT I/O™ wiring base assembly consists of a mounting base (MB) and a removable terminal block (RTB). A 1734-TB3 assembly (1734-MB + 1734-RTB3) uses screw-clamp terminations; A 1734-TB3S assembly (1734-MB + 1734-RTB3S) uses spring-clamp terminations.



Description	Description
1 DIN rail locking screw (orange)	4 MB
2 RTB handle	5 Interlocking side pieces
3 RTB	6 Mechanical keying (orange)

Prepare the Wires



Wiring without Wire End Ferrule

Catalog Number	Wire Size Range	Number of Wires	Strip Length 12-position RTB
1734-RTB3	0.25...2.5 mm ² (24...14 AWG)	1	14 ± 1 mm (0.55 ± 0.03 in.)
1734-RTB3S	0.08...2.5 mm ² (28...14 AWG)		
1734-RTB3 1734-RTB3S	0.75 mm ² (18 AWG)	2 ⁽¹⁾	16 ± 1 mm (0.63 ± 0.03 in.)

(1) For two wires per cavity, only stranded wire can be used.

Wiring with Wire End Ferrule

Catalog Number	Wire Size Range ⁽¹⁾	Number of Wires	Strip Length ⁽²⁾ 12-position RTB	Sleeve Length ⁽³⁾⁽⁴⁾
1734-RTB3	0.50...1.0 mm ² (20...17 AWG)	1	12.5 ± 0.4 mm (0.49 ± 0.016 in.)	10 mm (0.393 in.)
1734-RTB3S	1.5 mm ² (16 AWG)		12.5 ± 0.4 mm (0.49 ± 0.016 in.)	
	0.50...1.0 mm ² (20...17 AWG)		10.5 ± 0.4 mm (0.413 ± 0.016 in.)	8 mm (0.315 in.)

- (1) Wire size ≤ 0.325 mm² (22 AWG) is not included in the DIN 46228-4 standard.
- (2) Ferrule stripping length: See the ferrule manufacturer's guidelines to determine the actual wire stripping length. Ensure that the tolerance does not exceed ± 0.4 mm (± 0.016 in.), or follow the manufacturer's specified range if it is smaller.
- (3) TWIN wire end ferrules are not recommended for wiring.
- (4) Recommended wire end Ferrule with insulating collar, in accordance with DIN 46228-4 and UL 486F.



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

Install the Mounting Base

To install the mounting 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. See Industrial Automation Wiring and Grounding Guidelines, Rockwell Automation publication [1770-4.1](#), for more information.

- Position the mounting base vertically above the installed units (adapter, power supply, or existing module).
- Slide the mounting base down allowing the interlocking side pieces to engage the adjacent module or adapter.
- Press firmly to seat the mounting base on the DIN rail. The mounting base snaps into place.

Install the Module

The module can be installed before or after base installation. Make sure that the mounting base is correctly keyed before installing the module into the mounting base. In addition, make sure that the mounting base locking screw is positioned horizontal referenced to the base.

1734-MB

Turn the keyswitch to align the number with the notch. Notch position 3 is shown.



Verify that the DIN rail locking screw is in the horizontal position.

- Use a bladed screwdriver to rotate the keyswitch on the mounting base clockwise until the number required for the type of module you are installing aligns with the notch in the base.
- Verify that the DIN rail locking screw is in the horizontal position. You cannot insert the module if the locking mechanism is unlocked.
- Insert the module straight down into the mounting base and press to secure. The module locks into place.

Install the Removable Terminal Block

An RTB is supplied with your wiring base assembly. To remove, pull up on the RTB handle. This allows the mounting base to be removed and replaced as necessary without removing any wiring. To insert the RTB, proceed as follows:

- Insert the end opposite the handle into the base unit. This end has a curved section that engages with the wiring base.
- Rotate the terminal block into the wiring base until it locks itself in place.
- If an I/O module is installed, snap the RTB handle into place on the module.

Wire the RTB

To insert a wire into the spring clamp RTB, proceed as follows:

1. Insert a bladed screwdriver (catalog number 1482-N90 – 3 mm [0.12 in.] diameter blade) into the access hole until it stops and push the screwdriver away from the wire cavity.
2. Insert the wire into the wire cavity and remove the screwdriver from the access hole.

To insert a wire into the screw clamp RTB, proceed as follows:

1. Insert a bladed screwdriver into the embedded screw and turn it counterclockwise to open the wire entry locator. Do not exceed the torque specification in [General Specifications](#).
2. Insert the wire into the RTB and turn the screwdriver clockwise to tighten the screw clamp.

Remove a Mounting Base

To remove a mounting base, you must remove any installed module, and the module installed in the base to the right. Remove the RTB (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. Unlatch the RTB handle on the I/O module.
2. Pull on the RTB handle to remove the RTB.
3. Press the module lock on the top of the module and pull on the I/O module to remove from the base.
4. Repeat steps 1...3 for the module to the right.
5. Use a small bladed screwdriver to rotate the orange base locking screw to a vertical position. This releases the locking mechanism.
6. Lift the mounting base straight up to remove.

Specifications

General Specifications

Attribute	Value
Dimensions (HxWxD), approx.	85 x 12 x 160 mm (2.56 x 0.47 x 6.25 in.)
Weight approx.	97.5 g (3.44 oz) – 1734-TB3 87.0 g (3.07 oz) – 1734-TB3S
Wire category ⁽¹⁾ (2)	Determined by the installed module
Wire size	See Wiring without Wire End Ferrule and Wiring with Wire End Ferrule tables for wire size. Use solid or stranded copper wire rated at 75 °C (167 °F) or higher, with 1.2 mm (3/64 in.) thickness insulation max.
Field power bus supply voltage	28.8V DC, 120/240V AC
Field power bus supply current max	10 A
Signal terminal voltage max	28.8V DC, 120/240V AC
Signal terminal current max	2 A
Isolation voltage	250V, Basic Insulation Type, field-side to system, Type tested at 1000V AC for 60 s
Enclosure type rating	None (open-style)

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

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](#).

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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General Specifications (Continued)

Attribute	Value
Terminal base screw torque	0.8 N•m (7 lb•in) – 1734-TB3 only

- (1) Use this conductor category information for planning conductor routing as described in Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.3](#).
- (2) Use this conductor category information for planning conductor routing as described in the appropriate System Level Installation Manual.

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 °C ≤ 1a ≤ +55 °C (-4 °F ≤ 1a ≤ +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	IEC 60068-2-6 (Test Fc, Operating): 5 g @ 10...500 Hz
Shock, operating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 30 g
Shock, nonoperating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 50 g

Certifications

Certifications (when the product is marked) ⁽¹⁾	Value
c-UR-us	UL Recognized Component Industrial Control Equipment, certified for US and Canada. See UL File E195367.
UK and CE	UK Statutory Instrument 2016 No. 1101 and European Union 2014/35/EU LVD, compliant with: EN 6131-2: Programmable Controllers (Clause 11) UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN IEC 63000: Technical documentation
Morocco	Arrêté ministériel n° 6404-15 du 1 er muharram 1437

- (1) See the Product Certifications link at [rok.auto/certifications](#) for Declarations of Conformity, Certificates, and other certification details.

Additional Resources

For more information on the products that are described in this publication, use these resources. You can view or download publications at [rok.auto/literature](#).

Resource	Description
POINT I/O Modules Selection Guide, publication 1734-S6001	Provides information on how to select POINT I/O adapters, terminal bases, I/O modules, and accessories.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	More information on proper wiring and grounding techniques.
Product Certifications website, rok.auto/certifications	Provides declarations of conformity, certificates, and other certification details.