

Installation Instructions

Original Instructions



Allen-Bradley

by ROCKWELL AUTOMATION

POINT I/O Wiring Base Assembly

Catalog Numbers 1734-TB, 1734-TBS

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 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.

European Hazardous Location Approval



The following applies to products marked **CE**, **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 [rok.auto/certifications](#) 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.

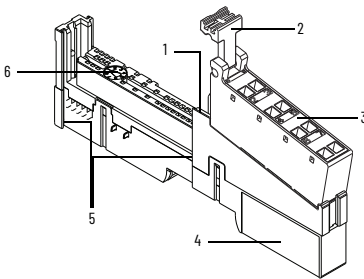
In case of malfunction or damage, no attempts at repair should be made. The module should be returned to the manufacturer for repair. Do not dismantle the module.

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 Assembly

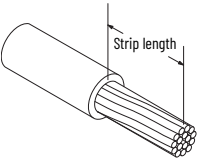
The POINT I/O™ wiring base assembly consists of a mounting base (4) and a removable terminal block (RTB)(3). 1734-TB3 uses screw-clamp termination; 1734-TB3S uses spring-clamp terminations.



0	CH 0	CH 1	1
2	CH 2	CH 3	3
4	C	C	5
6	V	V	7

Description	Description
1 DIN rail locking screw (orange)	4 Mounting base
2 Removable Terminal Block (RTB) handle	5 Interlocking side pieces
3 Removable Terminal Block	6 Mechanical keying (orange)

Prepare the Wires



Wiring Without Wire End Ferrule

Wire Size Range	Number of Wires	Strip Length	
		8-position RTB	12-position RTB
0.25...2.5 mm ² (22...14 AWG)	1	16±1 mm (0.63±0.03 in)	14±1 mm (0.55±0.03 in)
	2	18±1 mm (0.71±0.03 in)	16±1 mm (0.63±0.03 in)

Wiring With Wire End Ferrule

Wire Size Range	Number of Wires	Strip Length		Recommended Wire End Ferrule ⁽¹⁾
		8-position RTB	12-position RTB	
0.75 mm ² (18 AWG)	1	16±1 mm (0.63±0.03 in)	14±1 mm (0.55±0.03 in)	Ferrule with insulating collar, in accordance with DIN 46228-4 and UL 486F. Sleeve length: 12 mm (0.47 in)
		18±1 mm (0.71±0.03 in)	16±1 mm (0.63±0.03 in)	

(1) TWIN wire end ferrules are not recommended for wiring.



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.



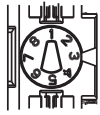
ATTENTION: This product is grounded through the DIN rail to chassis ground. Use zinc-plated chromate-passivated steel DIN rail to assure proper grounding. The use of other DIN rail materials (for example, aluminum or plastic) that can corrode, oxidize, or are poor conductors, can result in improper or 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.

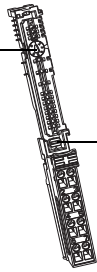
Install the Module

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.

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



Be sure the DIN rail locking screw is in the horizontal position.



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1. 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.
2. Verify the DIN rail locking screw is in the horizontal position. You cannot insert the module if the locking mechanism is unlocked.
3. Insert the module straight down into the mounting base and press to secure. The module locks into place.

Install the Removable Terminal Block

A Removable Terminal Block (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 reinsert the removable terminal block, proceed as follows.

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



WARNING: For 1734-RTBS and 1734-RTBS3, to latch and unlatch the wire, insert a bladed screwdriver (catalog number 1432-N90 – 3 mm diameter blade) into the opening at approximately 73° (blade surface is parallel with top surface of the opening) and push up gently.

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 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. Unlatch the RTB handle on the I/O module.
2. Pull on the RTB handle to remove the removable terminal block.
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

Attribute	Value
Field power bus supply voltage	28.8V DC, 120/240V AC
Field power bus supply current max	10 A
Dimensions (HxWxD) approx.	65 x 12 x 133.4 mm (2.56 x 0.47 x 5.25 in.)
Weight, approx.	83.8 g (2.94 oz) – 1734-TB 73.3g (2.57 oz) – 1734-TBS
Wire category ⁽¹⁾⁽²⁾	2
Wire size	0.25...2.5 mm ² (22...14 AWG) solid or stranded copper wire that is rated at 75 °C (167 °F), or greater, 12 mm (3/64 in.) insulation max
Enclosure type rating	None (open-style)
Terminal base screw torque	0.8 N·m (7 lb·in) – 1734-TB only
ATEX temp code	T4 – 1734-TB only

- (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.

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	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

Certification (when the product is marked) ⁽¹⁾	Value
c-UL-us	UL Recognized Component Industrial Control Equipment, certified for US and Canada. See UL File E195367.
CE	European Union 2014/30/EU EMC Directive, compliant with: EN 6131-2: 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: ⁽²⁾ EN 6131-2: Programmable Controllers (Clause 11) European Union 2011/65/EU RoHS, compliant with: EN 50581: Technical Documentation
Ex	European Union 2014/30/EU ATEX Directive, compliant with: EN 60079-0:2012 + A1:2013; General Requirements EN 60079-15:2010: Potentially Explosive Atmospheres, Protection "n" II 3G Ex nA IIC T4 Gc DEMKO 04 ATEX 0330347X
RCM	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11: Industrial Emissions
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 [rok.auto/certifications](#) for Declarations of Conformity, Certificates, and other certification details.
- (2) Low Voltage (LV) certification applies to 1734-TB only.

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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