Installation Instructions

ControlNet Ex Coax Taps

Catalog Number 1797-TPR, 1797 -TPS, 1797-TPYR, 1797 -TPYS

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About This Publication

This publication contains procedures and specifications for the installation of ControlNet coaxial taps.

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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://literature.rockwellautomation.com) 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.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.
ATTENTION	Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you to identify a hazard, avoid a hazard, and recognize the consequences.
SHOCK HAZARD	Labels may be located on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.
BURN HAZARD	Labels may be located on or inside the equipment, for example, a drive or motor, to alert people that surfaces may be dangerous temperatures.

Environments and Enclosures

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 (1.24 miles) without derating.

Besides this publication, see:

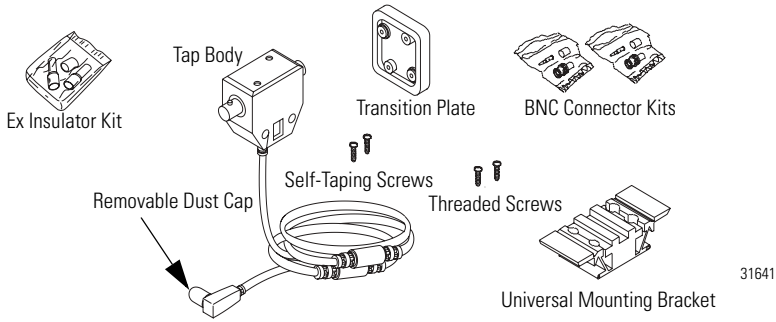
Industrial Automation Wiring and Grounding Guidelines, Allen-Bradley publication 1770-4.1.

NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.

Parts List

Before you discard the tap kit packaging, verify that you have all of the parts.

The following parts are included in each ControlNet Coaxial Tap Kit.



Your ControlNet Coax Tap Kit should contain all of these parts.

- One tap (1786-TPR, 1786-TPS, 1786-TPYR, or 1786-TPYS)
- One universal mounting bracket
- One transition plate
- Two BNC connector kits
- Two self-taping screws
- Two threaded screws
- One Ex insulator kit containing instrinsically safe sheaths and dust caps

IMPORTANT Use of the light-blue intrinsically safe sheaths and dust caps included in the Ex insulator kit is required for instrinsically-safe system certification by certification agencies.

If you are missing any part, contact your Rockwell Automation Sales Representative.

Additional Parts (Not Included)

Depending on the type of tap mount and installation you choose, you may require additional parts not included with this tap kit. The list below describes additional parts that may be required for your tap installation.

- DIN rail, 35 x 7.5 mm (EN50022 - 35 x 7.5)
- DIN rail, 35 x 15 mm (EN 50022 - 35 x 15)
- screws of various lengths
- tie wrap

Before You Begin

Consider the following information before you begin installing the ControlNet coax tap.

- Choose a tap mount location that is convenient for cable routing.
- Route all cables according to intrinsically-safe cable-routing specifications.
- Use the 1797-EXMK Cable Marking kit to clearly mark intrinsically-safe drop and trunk cables.
- Do not mount the tap in a location that requires the drop cable to lay over ac power terminals or nearby modules.

Required Tools

You will need a small Phillips-head screwdriver for most types of installation.

Install the Coax Tap

Because the coax taps are designed to be versatile, several types of installation are available. You may choose to install the coax tap by using the following mount types.

- Mount to DIN rail vertically or horizontally.
- Mount to fixture or surface.
- Mount through holes in tap by using a tie wrap or screws.

IMPORTANT Use the light-blue intrinsically safe sheaths and dust caps provided to cover any exposed metal parts once installation is complete. Use of the sheaths and caps is required for instrinsically-safe system certification by local agencies.

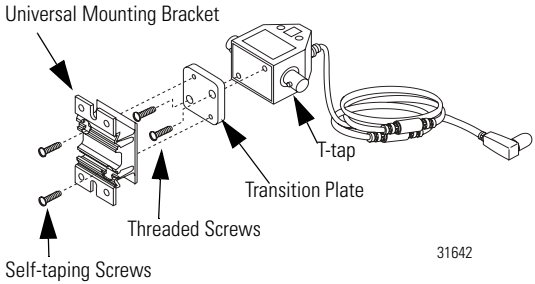
Mount to DIN Rail

Use the following procedure to mount a Y-tap or T-tap to a DIN rail.

1. If you need to mount the tap horizontally on the DIN rail, align the holes of the transition plate and tap body.

   If you choose to mount the tap vertically, proceed to step three.

T-tap Assembly, with Transition Plate

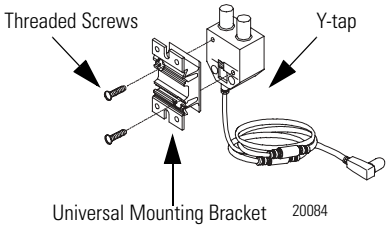


IMPORTANT Do not over-tighten screws as tap body damage may result. Applied screw torque should not exceed 0.2...0.4 Nm (1...2 lb-ft).

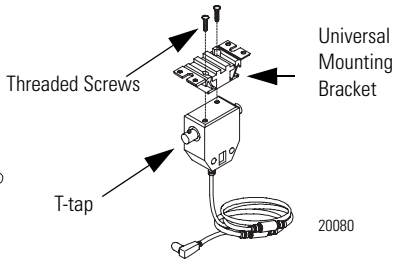
2. Insert the **threaded screws** into holes of the transition plate and tighten.

3. Position the universal mounting bracket against the back of the tap or the transition plate so the screw holes are aligned.

Y-tap to Mount Assembly
Transition plate not used.



T-tap to Mount Assembly
Transition plate not used.



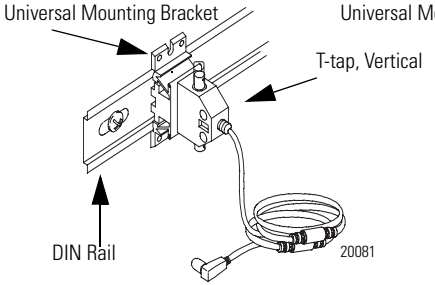
4. If you mount the tap by using the transition plate, insert the **self-taping screws** into the holes of the universal mounting bracket and tighten.

   If you mount the tap without using the transition plate, insert the **threaded screws** into the holes of the universal mounting bracket and tighten.

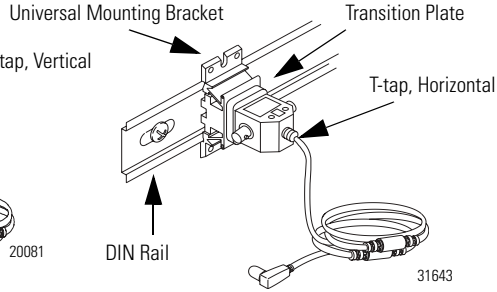
   The tap is now ready to be mounted on a DIN rail.

5. Attach the tap to the DIN rail by snapping the universal mounting bracket onto the DIN rail.

T-tap, Vertical Mount
Transition plate not used.



T-tap, Horizontal Mount
Transition plate used.



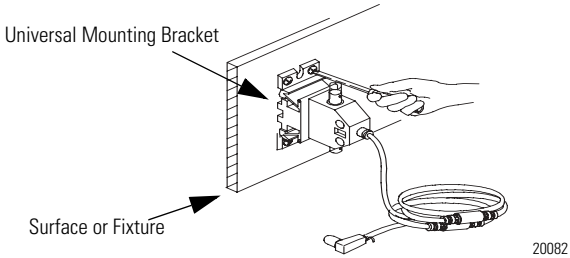
Mount to Surface or Fixture

Mount the tap to a surface or fixture by completing steps one through four in Mount to DIN Rail as well as steps one and two below.

IMPORTANT The surface or fixture used for mounting can be conductive or grounded. Electrical isolation is provided by the body holes in the tap.

1. If needed, pre-drill holes into the surface that align with holes in the outer corners of the universal mounting bracket.

2. Place the universal mounting bracket against the surface and insert four screws (not included) into the holes of the universal mounting bracket.



Mount Through Holes in Tap

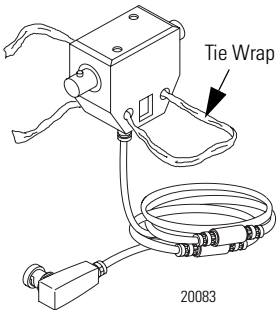
To mount the tap using the holes in the tap body, choose one of the following mounting methods.

- Thread tie wrap through the holes in the tap and fasten to a fixture.

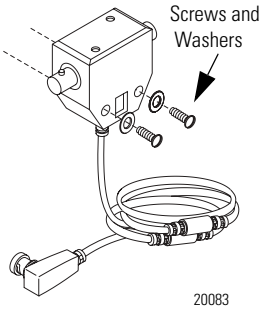
IMPORTANT Do not over-tighten screws as tap body damage may result. Applied screw torque should not exceed 0.2...0.4 Nm (1...2 lb-ft).

- Insert two #8 or smaller screws with washers (not included) through the holes and tighten into the surface behind the tap.

Tie Wrap Through Holes



Screws Through Holes



Connect Taps

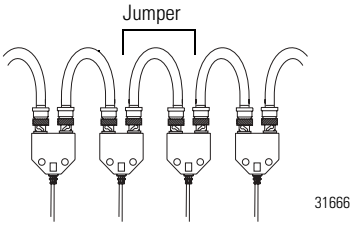
After you have completed mounting your taps, you need to connect the taps. Choose the tap connection procedure that best suits your installation requirements.

IMPORTANT When connecting taps with 1786-BNCP barrel connectors, use an intrinsically-safe sheath or 500V insulation-rated tape to cover the metal connector. Use of the intrinsically-safe sheath or insulated tape is required for intrinsically safe certification.

Connect Taps with a Jumper

You can connect Y-tap and T-tap bodies with a plug-to-plug jumper (1786-TJPR, not included).

T-tap Jumper Connections



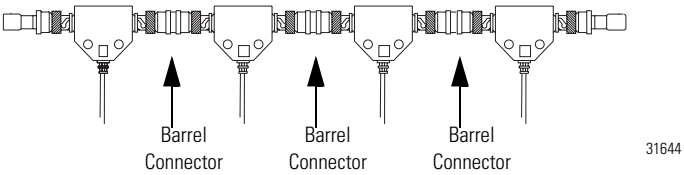
Connect Taps with Trunk Cable

You can increase the distance between Y-taps and T-taps by using sections of trunk cable between taps. Connecting taps by this method requires use of the BNC connectors (included) and cable (not included) with the tap kit.

Connect Taps with Barrel Connectors

You can connect T-taps installed on one DIN rail with barrel (plug-to-plug) connectors. T-taps connected using barrel connectors (1786-BNCP) requires that taps be mounted using the transition plate and on one DIN rail.

T-tap Barrel Connections



IMPORTANT **Do not** use barrel connectors to connect taps on separate DIN rails. Barrel connectors should be used only if taps are securely mounted. Insecure mounts or use of barrel connectors between multiple DIN rails may result in loose connections and tap failure.

Specifications

Environmental Specifications

Attribute	Value
Intrinsically Safe	Yes
Relative Humidity	IEC 60068-2-30 (Test Db, Unpackaged Damp Heat): 5...95% noncondensing
Shock, Nonoperating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 50 g
Shock, Operating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 30 g
Temperature, Operating	IEC 60068-2-1(Test Ad, Operating Cold) IEC 60068-2-2 (Test Ad, Operating Dry Heat) IEC 60068-2-14 (Test Nb, Operating Thermal Shock): -20...70 °C (-4...158 °F)
Temperature, Storage	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)
Vibration, Operating	IEC 60068-2-6 (Test Fc, Operating): 2.5 g @ 10...500 Hz

Additional Resources

For Information About	See Publication Title	See Publication Number
ControlNet Ex components, plans, and installation instructions	ControlNet Ex Coax Media System	1797-6.2.1

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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://support.rockwellautomation.com.

Installation Assistance

If you experience a problem with a hardware module 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 module up and running.

United States	1.440.646.3223 Monday – Friday, 8am – 5pm EST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

New Product Satisfaction Return

Rockwell 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, it may need to be returned.

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

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