TR4 Transceiver

Indoor Meter Reading and Wireless Transceiver

Operation and Installation Guide



1| Product Overview

The NextCentury TR4 Transceiver introduces the next generation of superior wireless performance. Featuring Meter+™ technology, this Transceiver offers broad meter compatibility in a single model.

Engineered for long maintenance-free operation, the TR4 provides hourly-read precision with a 10-year battery life.

Meter+™ Advanced Compatibility

The TR4 Transceiver utilizes Meter+™ technology, making this single model compatible with virtually all modern encoded and pulse-output utility meters, including water, electric, gas, run-time, and thermal meter models.

- Single model supports a pulse or encoded meter
- Easy configuration, external programmer is not required
- Visual LED indicators to verify meter connections

Intelligent Wireless

The TR4 Transceiver builds on the previous generation's longest in-class wireless range, and now boasts up to 3x more range.

Utilizing two-way **NextCentury RF Connect™** wireless, the TR4 has intelligent routing capabilities ensuring success in a variety of environments, from spread-out commercial properties to high-density apartment complexes in excess of 4,000 meter points.

The TR4 is a drop-in replacement for any previous generation NextCentury Transceiver. Wireless network operation is seamlessly compatible with all earlier generation Repeaters and Gateways.

A Superior Platform

Property setup, configuration, and usage data are managed on the **NextCentury Cloud Platform**. This robust management solution connects you to a wide range of features facilitating property setup and ongoing operation.

2| Technical Specifications

2.1 – Certifications

FCC: 2AB8I-TR4 *(pending)* **IC:** 20949-TR4 *(pending)*

2.2 – Wireless Communication

- Two-way NextCentury RF Connect™
- 902-928 MHz Unlicensed Band

2.3 – Meter Compatibility

- Pulse or encoded meter types *(see section 3)*
- Single model supports all configurations

2.4 – In-Field Configuration

- Simple meter configuration—no external programmer required

2.5 – Battery

- Preinstalled, field-replaceable CR18505
- Estimated 10-year battery life*

*Note: 10-year battery estimated with operating temperatures between 60°F-90°F, and 6-hr device check-in. Achieved battery life can be greater or less than 10 years depending on the meter type, system configuration, and lifetime operating temperature.

2.6 – Dimensions

- 3.3in x 1.8in x 1.3in (84mm x 46mm x 33mm)

2.7 – Operation Environment:

- -20°C to 60°C (-4°F to 140°F)
- Should be installed in an indoor, dry environment

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3| Meter Compatibility

3.1 – Pulse Output Meters

- Passive pulse sensing (including reed switch, solid-state relay, contact relay, open-drain types)
- Active voltage sensing (max. 16 VDC)
- Supports tamper circuit to detect disconnect from meter (optional)

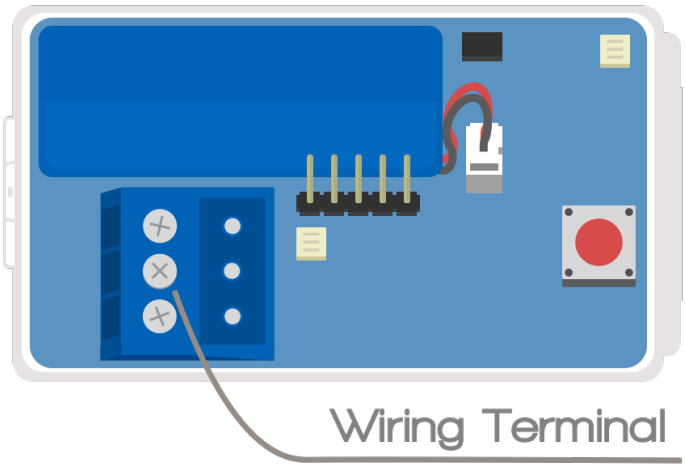
3.2 – Encoded Output Meters

- Neptune (Including ProRead, ECoder, and ProCoder register models)
- Sensus UI-1203 (Includes most meter models, from Sensus, Hersey, Mueller, Master Meter, Badger, Kamstrup, Elster, Metron-Farnier, and Zenner)
- GWF ECO (Includes all GWF encoder meters)
- Elster/AMCO K-Frame (Includes most meter models, from Elster, AMCO, ABB and Kent)

4| In-Field Installation

4.1 – Mounting Plate Installation

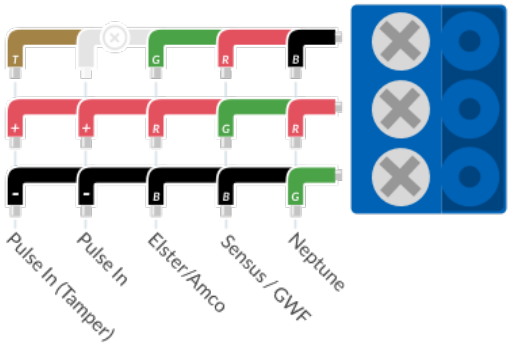
- Peel off backing on the included adhesive pad and mount onto the wall
- (Optional) For additional holding strength, the included screws and plastic anchors can be used. Pre-drill using a 7/32" (5.5mm) drill bit
- When used with the NextCentury M201 Water Meter, remove the TR4's mounting plate and slide onto the meter's included mounting adapter
- For third-party meters, the Zip Mount Adapter can be used



4.2 – Meter Wiring

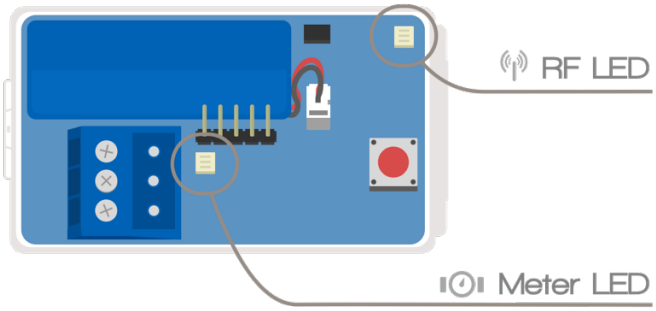
- Strip meter wire ends to 3/16" (5 mm)
- Insert stripped wire ends into the blue terminal connector and tighten securely using a Phillips (PH-1) screwdriver

4.3 – Meter Wiring Diagram



5| LED Indicators

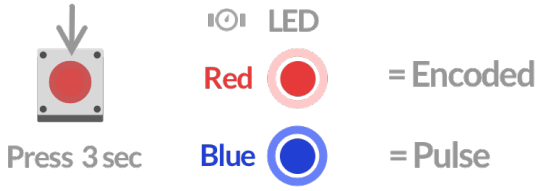
The TR4 features two separate LED indicators with simple color-coded feedback.



6| Configuring Meter Type

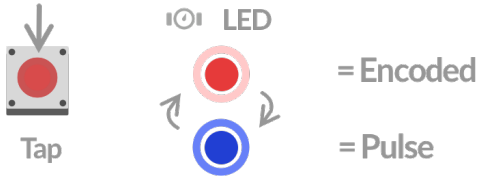
6.1 – Entering Configuration Mode

Note: The TR4 is configured for a pulse meter by default. No configuration change is necessary.



- Press and hold the Test Connect button for 5 seconds to enter Configuration Mode
- The Meter LED will display a solid color to show the current meter configuration

6.2 – Toggle Pulse or Encoded



- Tap the Test Connect button to toggle between Pulse Meter (red) and Encoded Meter (blue) configurations
- After 3 seconds, the meter type is accepted

7| Pulse Meter

7.1 – Configure for Pulse

- Enter configuration mode
- If the Meter LED is solid blue, the TR4 is configured for a pulse meter *(see previous section)*

7.2 – Verify Meter Connection

A pulse from the connected meter is indicated by a fast blue blink of the Meter LED



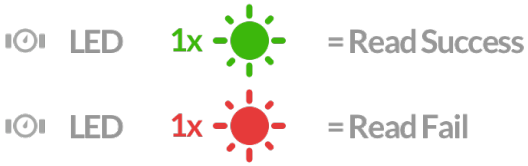
8| Encoded Meter

8.1 – Encoded Meter

- To verify which meter type is currently configured, enter configuration mode
- If the Meter LED is solid red, the TR4 is configured for an encoded meter *(see section 6)*

8.2 – Verify Meter Connection

- Press the Test Button
- The TR4 will try to read the connected meter
- A green blink indicates the TR4 can read the meter
- A red blink indicates the meter could not be read and wiring should be checked



9| Programming & Wireless Check-In

9.1 – Property Setup

The NextCentury website or NCSS mobile app can be used to set up and configure the property, units, and meters. Visit support.nextcenturymeters.com for additional property setup details.

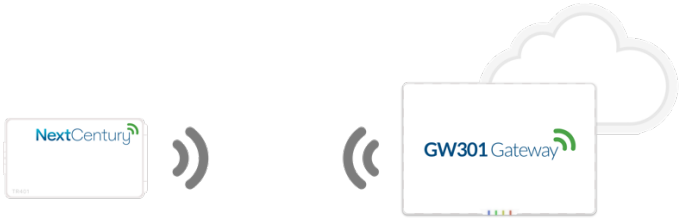
9.2 – Programming

Property programming is the process of associating Transceiver serial numbers to the meters they are reading. Scan the barcode to ensure the serial number is entered accurately.



9.3 – Gateway Device Management

After programming, the connected Gateway will automatically sync and communicate with the TR4.



9.4 – Wireless Connection LED Indicators

The RF LED indicator provides feedback to easily check that the TR4 is within range of the property's Gateway (either directly, or through Repeaters)

- Tap the Test Connect button
- The TR4 RF LED will rapidly blink red, indicating it is transmitting
- The RF LED will then blink 2x green if a response is received from the Gateway



9.5 – Wireless Troubleshooting

If the RF LED does not blink green after tapping the Test Connect button, then the TR4 is not receiving a response from the Gateway. The following steps can help identify the issue:

- If the TR4 does not blink green, even when close to the Gateway, make sure it has been programmed to the property and the Gateway is online
- Try multiple times—if eventually a response is received, then an additional Repeater may be needed to improve the wireless network
- Move the TR4 closer to the Gateway or nearest Repeater. If a response is received, then an additional Repeater may be needed

10| Advanced Features & Troubleshooting

Visit support.nextcenturymeters.com for additional guides and troubleshooting information.

11| Television and Radio Interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to

radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

12| FCC Part 15 & Industry Canada Compliance

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This portable equipment with its antenna complies with FCC's and IC's RF radiation exposure limits set forth for an uncontrolled environment. Users are advised to maintain a separation distance of 20cm to comply with FCC and IC RF exposure limits.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est

autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter

tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

13| Warranty/Disclaimer Scope of Warranty

NextCentury warrants that all communication equipment manufactured by NextCentury will be free from defects in materials and workmanship under normal use and in accordance with NextCentury's documented installation and operating procedures for a period of three (3) years from the date of manufacture.

Products not manufactured by NextCentury, including without limitation, accessories, attachments, meters, or batteries used in conjunction with NextCentury equipment are warranted, if at all, only by the original manufacturer. NextCentury's warranties do not include replacement of batteries used to power NextCentury products.

Limits of Liability

This warranty only applies to Read Management System components produced by NextCentury, and does not cover any products which have been damaged by misconduct, negligence, vandalism, acts of God, excessive operating conditions, or unauthorized attachments or modifications. This warranty will be null and void if products are placed in non-recommended installation application/fashion, or are converted, altered, or treated by other than NextCentury recommended procedures and instructions, or are read by equipment not approved by NextCentury.

NextCentury's liability and customer's exclusive remedy under this warranty is expressly limited to repair or replacement of the product at

NextCentury's option, and is conditioned upon the customer returning the product(s) to the location designated by NextCentury within the warranty periods or limits stated herein, and pre-paying the freight costs both to and from the specified location. In no event shall NextCentury be liable for costs or expenses associated with the removal or installation of products under this warranty.

NextCentury shall have no liability or responsibility to the purchaser or any third party for any loss, cost, expense, damage, or liability, whether direct or indirect, or for special, incidental, indirect, or consequential damages of any kind, regardless of whether such liability is based on breach of contract, tort, strict liability, breach of warranties, or otherwise, and even if advised of the likelihood of such damages. Incidental and consequential damages include, but are not limited to, lost revenue, loss of profits, data, business, or goodwill. In addition, damages resulting from negligence on the part of the customer, including, but not limited to, the care and maintenance of NextCentury products or damages resulting from negligence regarding periodic testing of the product's performance, are not covered under this guarantee.

CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY NEXTCENTURY MAY VOID THIS WARRANTY AND THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THE FOREGOING WARRANTY IS THE SOLE AND EXCLUSIVE REMEDY AVAILABLE TO THE PURCHASER AND IS IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, OR REMEDIES, WHETHER WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH NEXTCENTURY HEREBY EXPRESSLY DISCLAIMS.

14| Contact Information

For any questions or concerns, please contact NextCentury Submetering Solutions Product Support:

- Phone: (844) 538.8203
- Email: support@nextcenturymeters.com
