



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Indicating Element
Digital Electronic
Models: 400 Series
 n_{\max} : 10 000
Accuracy Class: III / III L

Submitted By:

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Standard Features and Options

- Semi-Automatic (push button) Zero Setting Mechanism (SAZSM)
- Automatic Zero Tracking (AZT)
- Initial Zero Setting Mechanism (IZSM)
- Semi-Automatic (push button) Tare
- Keyboard Tare
- Multiple Tare Memories
- Gross/Net/Tare Display
- Alphanumeric Display
- Operator Prompted Display
- Units Selection (lb, kg, oz, g, t)
- Gross/Net Accumulation
- Multi-Point Linearity Calibration
- Liquid Crystal Display (LCD)
- AC or DC Power
- ABS Plastic Enclosure (R420)
- Stainless Steel Enclosure (R423, R427 & R457)
- Category II Audit Trail
- Silicon Rubber Keypad (R420)
- Membrane Keypad (R423, R427 & R457)
- Configurable Function Keys
- Password Protection
- Vehicle Weighing (Inbound / Outbound)
- Configurable Set Points
- Database Memory
- RS-232/485 Communications Port
- User Programmable for Non-metrological Functions
- Multiple Programmable Print Formats
- Rinstrum Viewer Configuration Software (PC)

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Craig VanBuren
Chairman, NCWM, Inc.

Stephen Benjamin
Committee Chair, NTEP Committee
Issued: February 25, 2020

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Rinstrum, Inc.
Indicating Element / 400 Series

Application: General-purpose indicator for use with certified and compatible weighing/load receiving elements.

Identification: An adhesive identification badge containing all required information is located on the front of the device. This badge repeats the word “VOID” when removed.

Sealing: These devices are equipped with non-resettable counters that increment every time the unit is calibrated or configured. To view the counters:

1. Press and hold the power key for 3 seconds to turn off the indicator.
2. Press the power key to turn the indicator back on.
3. The event counters will be displayed during the power up sequence for approximately two seconds.
 - a. The calibration counter will be identified by C.xxxxx (example: C.00005).
 - b. The setup configuration counter will be identified by F.xxxxx (example: F.00005).

The device's setup mode may be accessed via front panel keys protected with a 6-digit PIN code, by default. Alternatively, setup mode can be accessed via a button marked "setup" located on the rear of the indicator which can be protected using traditional physical seals in addition to the PIN code. Enable the rear "setup" button as follows:

The setup button is located on the rear of the unit, above the load cell connector on both the R420 and R423:

1. Press and release the setup button to access the setup mode and make changes or calibrate.
2. Press and release the [ZERO] key multiple times until “SCALE” is displayed.
3. Press and release the [TARE] key multiple times until “OPTION” is displayed.
4. Press and release the [SELECT] key multiple times until “R. ENTRY” is displayed.
5. Press and release the [UP ARROW] key one time until “R. ENTRY” is set to “ON”.
6. Press and release the [OK] key one time to accept the change.
7. Press and release the [POWER] key one time to save the changes and exit setup mode.
8. The setup mode cannot be accessed again without pressing the rear "setup" button, and is sealed by the following methods:
 - a. Standard ABS and Stainless Steel housed units are sealed by a physical seal in the form of a wire security seal placed through 2 of the drilled head screws holding the rear cover onto the main housing, or by placing a destructible label on the unit extending from the main housing onto the properly installed rear cover.
 - b. For panel mount applications place the physical seal plastic cover over the load cell connector and setup button and secure into position with the drilled head screws. Thread wire security seal through both drill head screws, or install destructible label from security cover to indicator housing, as required.

Test Conditions: This certificate supersedes Certificate of Conformance 14-051. The emphasis of this evaluation was to add two new model numbers, R427 & R457. Several increasing/decreasing load tests were performed. The device was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Previous test conditions are listed below for reference.

Certificate of Conformance Number 14-051: The emphasis of the evaluation was on the device design, operation, marking requirements, performance, and compliance with influence factors. Models R420 and R423 were submitted for evaluation and interfaced with a load cell simulator. Several increasing/decreasing load tests, and warm up tests were performed. The device was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Tests were also conducted using 90 VAC to 260 VAC, and 12 VDC to 24 VDC. The indicating element was also interfaced with a weighing/load receiving element to verify compliance with zero, zone of uncertainty, motion detection, and printer format requirements.

Evaluated By: T. Buck (OH) 14-051, M. Kelley (OH) 14-051A1

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2020 Edition. *NCWM Publication 14 Weighing Devices*, 2019 Edition.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: J. Truex (NCWM) 14-051; D. Flocken (NCWM) 14-051A1



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Indicating Element / 400 Series

Examples of Device:



Model: R420



Model: R423 R427 & R457