



## NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Indicating Element  
Digital Electronic  
Model: 480 & 482 Series  
 $n_{max}$ : 10 000  
Accuracy Class: III / III L

**Submitted By:**

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**Standard Features and Options**

| Model      | Screen Type | Enhanced Features | Suffix XY (X = Enclosure Type and Y = Power Input) |
|------------|-------------|-------------------|--|
| 480-XY     | LED         | No, 7 keys        | X = 2 (Stainless Steel) Y = A (AC Voltage)         |
| 480Plus-XY | LED         | Yes, 19 keys      | X = 2 (Stainless Steel) Y = A (AC Voltage)         |
| 482-XY     | LCD         | No, 7 keys        | X = 2 (Stainless Steel) Y = A (AC Voltage)         |
| 482Plus-XY | LCD         | Yes, 19 keys      | X = 2 (Stainless Steel) Y = A (AC Voltage)         |

- Semi-Automatic (push-button) Zero (SAZSM)
- Automatic Zero Tracking (AZT)
- Initial Zero Setting Mechanism (IZSM)
- Semi-Automatic (push-button) Tare
- Keyboard Tare / Programmable Tare / Tare Save Key
- Gross/Net Display / LED Display
- LED Display (Model 480) / LCD Display (Model 482)
- Annunciators (Units, Gross, Net, Motion, Center of Zero, Tare, Present Tare)
- Printer Interface
- Unit Conversion (kg, g, lb,oz, Ton Metric, Short Ton)
- AC Power / DC Power
- Local/Remote Operation
- Category 2 Audit Trail / Remote Calibration / 2 Point Calibration
- 20 mA Current Loop / RS-232 Ports (2) / USB / Ethernet TCP/IP
- Wireless Communications
- Sleep Mode

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.

Ronald Hayes  
Chairman, NCWM, Inc.

John Gaccione  
Committee Chair, National Type Evaluation Program Committee  
Issued: April 9, 2015

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**Rice Lake Weighing Systems, Inc.**

Indicating Element / 480 &amp; 482 Series

**Application:** A general purpose indicating element to be interfaced with an approved and compatible weighing element.

**Identification:** The identification badge is located on the side of the indicator.

**Sealing:** The indicator can be sealed with a lead and wire seal threaded through three drill head screws in the left side of the indicator.

This unit includes a Category 2 Audit Trail. The device may still be sealed with a physical seal as described above or the inspector may record the audit trail event counters at the time of test. To view the Calibration and Configuration Counters press the [MENU] key, then press the Left Arrow [UNIT] key, then press the Down Arrow [GROSS/NET] key twice. This will display "CALib". To view the Calibration Counter press the Down Arrow [GROSS/NET] key twice. To view the Configuration Counter press the Up Arrow [ZERO] key twice, then press the Right Arrow [PRINT] key. This will display "ConFiG". To view the Configuration Counter press the Down Arrow [GROSS/NET] key twice. To exit, press the Up Arrow [ZERO] key four times then press the Right Arrow [PRINT] key, then press the UP Arrow [ZERO] key.

**Test Conditions:** This Certificate supersedes Certificate of Conformance Number 12-123A1 and is issued to correct omissions from the previous certificate and add the DC power and sleep mode features. Both the DC power and sleep mode features were evaluated by NTEP in the NTEP laboratory. Previous test conditions are listed below for reference

**Certificate of Conformance Number 12-123A1:** This Certificate supersedes Certificate of Conformance Number 12-123 and is issued to add models 480Plus-XY, 482-XY, and 482Plus-XY. For the purpose of this test, one 480Plus-2A, one 482-2A, and one 482Plus-2A were submitted for evaluation. The emphasis of this evaluation was on the device design, operation, performance, and compliance with influence factor requirements. The 482Plus-2A was interfaced with a load cell simulator and it was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Additionally, tests were conducted using power supplies of 115 and 230 VAC.

**Certificate of Conformance Number 12-123:** The emphasis of this evaluation was on the device design, operation, performance, and compliance with influence factor requirements. Two 480-2A indicators were submitted for evaluation. One was interfaced with a load cell simulator. The indicator was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Additionally, tests were conducted using power supplies of 115 and 230 VAC. A scale base was connected to the 480-2A to conduct the discrimination test. Local / Remote operation was tested with two 480-2A's using wireless communication. Two 720i were setup as a Local / Remote operation using wireless communication to test the wireless communication per Pub 14.

**Evaluated By:** C. Harris (OH) 12-123; J. Morrison (OH) 12-123A1, 12-123A2

**Type Evaluation Criteria Used:** *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2014 Edition. *NCWM Publication 14 Measuring Devices*, 2014 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) 12-123, 12-123A1, 12-123A2



**Rice Lake Weighing Systems, Inc.**  
Indicating Element / 480 & 482 Series

Examples of Device:

