



NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Indicating Element  
Digital Electronic, ECR Interfaced with Scale, POS Controller  
Model: 825  
 $n_{max}$ : 10 000

Accuracy Class: III / III L

**\*Submitted By: Contact Info. Updated November 2019**

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**Standard Features and Options**

- LCD Displays in various sizes, integrated or remote
- Time and Date Display
- Gross/Tare/Net Display
- Touchscreen
- AC Power Supply
- Wireless Interface
- Printer Interface
- Ethernet TCP / IP Interface
- USB Interface(s)
- Remote Printer Capability
- Identification Capability
- Price Computation
- Semi-automatic Zero Setting Mechanism (SAZSM)
- Automatic Zero Tracking (AZT)
- CAN, and EIP Interface
- Semi-automatic (push-button) Tare
- Keyboard Tare
- Alphanumeric Keyboard, hard or on-screen
- Serial Data Ports (RS232, RS232/20mA, RS232/RS485)
- Multi-point Calibration
- Multi-interval
- Unit Conversion Key (lb / kg / T / t)
- Weigh In – Weigh Out Feature

**Options:**

- Digital I/O
- Multi-scale Select (for multiple scale interface with Summing Capability up to 10 scales)
- Can operate as a Point-Of-Sale controller
- Can operate as an Electronic Cash Register when interfaced with an NTEP certified and compatible scale.

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.

Gene Robertson  
Chair, NCWM, Inc.

Mahesh Albuquerque  
Chair, NTEP Committee  
Issued: February 19, 2024

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## Cardinal Scale Manufacturing Company

Indicating Element / 825

**Application:** A general purpose indicating element to be interfaced with an NTEP certified and compatible weighing/load receiving elements. May also be used as an Electronic Cash Register (when interfaced with an NTEP certified and compatible scale) as well as a Point-Of-Sale controller.

**Identification:** The self-destructive identification label for the Model 825 is located on the right-side panel of the enclosure.

**Sealing:** A Category 1 physical seal, or a Category 1 audit trail utilizing two event counters, may be used to seal the indicator. Selection of the sealing method is made by placing the “CAL” jumper (located inside the device on the main circuit board) in the desired position.

CAL Jumper	Sealing Method	Calibration Enabled?
Off	Event Counters	YES
On	Lead-Wire Seal	NO

With the CAL jumper in the On position, the physical security seal must be used. The physical seal is located on the rear panel of the indicator and the wire may be threaded through two drilled-head screws securing the rear panel. Note that with the CAL jumper in the On position and the lead-wire security seal installed, attempting to access the setup and calibration mode will display the message “HARDWARE CALIBRATION DISABLED” and calibration will not be permitted.

To use the event counter security seal:

1. Place the CAL jumper in the Off position.
2. To view the event counters, turn the instrument on.
3. After the self-test and startup screen is displayed, press the front panel Navigation down arrow key to the LEGAL METROLOGY INFORMATION / SETUP option.
4. Then press the ENTER key to enter the LEGAL METROLOGY INFORMATION / SETUP menu screen.
5. Pressing the “I” key or using the navigation keys, highlight the “VIEW EVENT COUNTERS” and press the ENTER key.
6. The display will show the contents of the event counters.
7. To print the information, press the “P” key.
8. Press any other key to return to the Setup Menu.

**Test Conditions:** This Certificate supersedes Certificate of Conformance Number 08-046A3 and is issued to add a new generation of this device. Three models of the device were evaluated. Desk top, stainless steel wall mount, and computer display. All models were tested at a temperature of -10 °C to 40 °C (14 °F to 104 °F). Several increasing and decreasing tests were performed along with discrimination and eccentricity tests. Devices were tested at a voltage range of 85 VAC to 264 VAC. Devices were tested for proper conversion of units in lb, kg, and ton. Devices weigh in and weigh out function was tested along with printing capabilities. RFI Test conducted to test interference from nearby electronics. Previous test conditions are below for reference.

**Certificate of Conformance Number 08-046A3:** This Certificate supersedes Certificate of Conformance Number 08-046A2 and is issued to add Electronic cash register / point of sale controller capabilities. A Cardinal Model 825 indicating element (CC 08-046) was submitted for evaluation. All relevant sections of Publication 14 Electronic Cash Registers interfaced with scales checklist was evaluated for compliance including price computation, printed receipt format and email receipt format. No other testing was deemed necessary. Previous test conditions are below for reference.

**Certificate of Conformance Number 08-046A2:** This Certificate supersedes Certificate of Conformance Number 08-046A1 and is issued to add a multi-scale legal for trade summing feature. The Model 825 multi-scale summing feature was tested to verify conformance with Publication 14 requirements. No other testing was deemed necessary. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 08-046A1:** This Certificate supersedes Certificate of Conformance Number 08-046 and is issued to add the Weigh In – Weigh Out feature and to add instructions on how to access the audit trail event counters. The Model 825 weight indicator Weigh In – Weigh Out feature was tested to verify conformance with Publication 14 requirements. No other testing was deemed necessary.



## Cardinal Scale Manufacturing Company

Indicating Element / 825

**Certificate of Conformance Number 08-046:** Two Model 825 indicators were submitted for the purpose of this evaluation. The emphasis of the evaluation was on device design, operation, marking requirements, performance, and compliance with influence factor requirements. One indicator was interfaced with a Cardinal Model 1250 LPAN (Certificate of Conformance 89-030A2) weighing element and a printer while the other was interfaced to a load cell simulator. The device was tested for warm up, power interruption, repeatability, print format, wireless communication, ID capability, and multiple interfaces. Wireless communication was tested using two Model 825 indicators both interfaced to load cell simulators. Several checklist tests were conducted to verify that the signal from the load cell simulator was sent to the correct indicator, which also verified indicator ID capability, and that there was no interference between the two radio signals using multiple interfaces. Time and date are displayed on the indicator as well as being printed on every receipt. Also, tests were performed with a power supply of 100 VAC to 130 VAC. The 825 indicator was then subjected to several increasing/decreasing/return to zero tests and then tested for accuracy over a temperature range of -10 °C to 40 °C (14 °F to 104 °F).

**Evaluated By:** J. Morrison (OH) 08-046, 08-046A1, 08-046A2, J.Gibson (OH) 08-046A3; J. Coffey (OH) 08-046A4 (CN 10952)

### Type Evaluation Criteria Used:

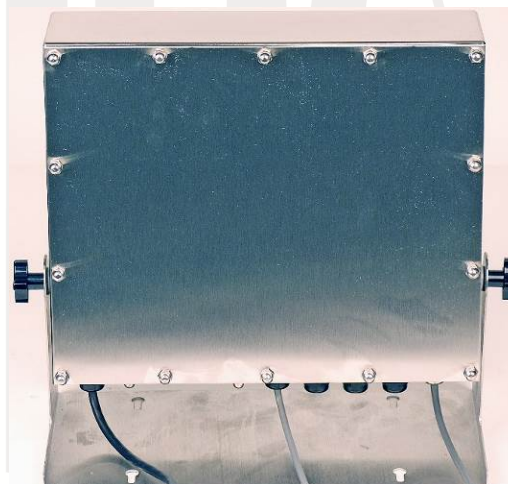
**Conclusion:** The results of the evaluation and information provided by the manufacture *Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2024 Edition. *NCWM Publication 14: Weighing Devices*, 2024 Edition.

**Information Reviewed By:** S. Patoray (NCWM), L. Bernetich (NCWM) 08-046; J. Truex (NCWM) 08-046A1, 08-046A2, D. Flocken (NCWM) 08-046A3, 08-046A4

### Examples of Device:



Front of Device



Back of Device



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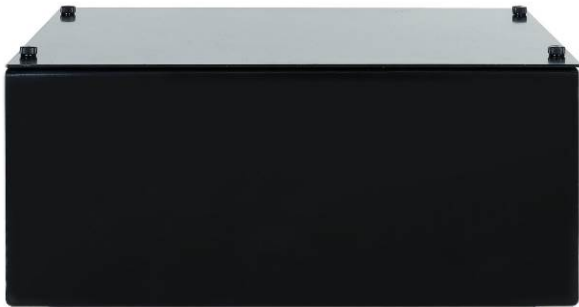
Indicating Element / 825



Front of Device



Back of Device



Front of Device



Back of Device



Front of Device



Back of Device