



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Indicating Element
Digital Electronic
Model: 680, 680 HE, 682
 $n_{\max}$: 10 000 (See note in standard features and options section)
Accuracy Class: III / III L

Submitted By: Contact Info Updated November 2022

Rice Lake Weighing Systems
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Standard Features and Options

- Semi-Automatic (push button) Zero Setting Mechanism
- Automatic Zero Tracking (AZT)
- Semi-Automatic (push button) Tare
- Initial Zero Setting Mechanism (IZSM)
- Keyboard Tare
- Gross/Net Display
- Voltage: 100 VAC to 240 VAC / 9 VDC to 36 VDC
- Unit Switching (kg, g, lb, oz, tonne, ton)
- Remote Printer Capability
- Weight Accumulation
- Multiple Calibration Points (5)
- Communication: RS485, USB, Ethernet, Wi-Fi, Bluetooth,
- Display: LED or LCD
- Housing Material: Plastic, Aluminum, Stainless Steel
- Category 2 sealing method (Wire Security Seal and Audit trail)
- Multiple Range (682 only)
- Multi-Interval
- Weigh-In/Weigh-Out

Note: Models 680, 680HE and 682 have a 10 000 $n_{\max}$

Model CLS 680 has a 5000 $n_{\max}$ and the CLS 680 has moved to its own certificate of conformance (NTEP CC: 21-092)

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.

Ivan Hankins
Chair, NCWM, Inc.

Hal Prince
Committee Chair, NTEP Committee
Issued: January 19, 2022

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Rice Lake Weighing Systems
Indicating Element / 680, 680 HE, 682

Application: General purpose indicating element for use with any NTEP certified and compatible weighing element.

Identification: The required information appears on a self-destructive label on the side of the indicator. The capacity x division statement is on a label adjacent to the weight display. On the Model 682 the capacity x division is part of the display.

Sealing: All models use a category 1 sealing method consisting of a wire security seal. The 680 and 682, use a wire seal threaded through three drilled head screw on the bottom and or back of the housing which prevents access to the calibration and configuration parameters switch. The 680HE uses a wire seal threaded thru drilled clevis pins that prevent the latches from being opened. All

models have an audit trail. Press  button audit displays, press  button Legally Relevant Version displays press  button calibration displays, press the  button the calibration number displays. Press  button configuration displays press the  button and configuration number displays. Press the  button two times to return to weighing operation.

Test Conditions: This certificate supersedes Certificate of Conformance 19-021A4 and is issued to add inbound / outbound vehicle weighing to all models. The model 682 Synergy Plus was submitted for evaluation. The emphasis of the evaluation was on the proper operation of the Weigh-In/Weigh-Out feature. The indicator was connected to a load cell simulator to perform weight transactions and tested against the checklist requirements found in the Weigh-In/Weigh-out section of NCWM Publication 14. A receipt printer was connected to the indicator to verify receipt accuracy in relation to gross, tare, and net weight values. Previous test conditions are listed below.

Certificate of Conformance 19-021A4: This certificate supersedes Certificate of Conformance 19-021A3 and is issued to remove the model CLS 680 from this certificate of Conformance and move it to its own certificate of conformance (NTEP CC 21-092) upon the issuance of this certificate. Previous test conditions are listed below.

Certificate of Conformance 19-021A3: This certificate supersedes Certificate of Conformance 19-021A2 and is issued to add a new model the 682, wireless communication to all models and change the A/D for all models. The emphasis of the evaluation was on the device design, operation, performance, and compliance with influence factors. A Rice Lake Model 682 (new Model) and a 680HE were interfaced with a load receiving element to verify compliance with zero, zone of uncertainty and motion detection requirements. A load cell simulator was interfaced to the devices and multiple increasing/decreasing tests were performed. The devices were tested over a temperature range of -10° C to 40° C (14° F to 104° F). Tests were conducted using 8.8 VDC 12 VDC and 39.6 VDC on the 682 voltage was tested previously on the 682HE. All applicable sections of the publication 14 checklist were evaluated. Previous test conditions are listed below

Certificate of Conformance 19-021A2: This certificate supersedes Certificate of Conformance 19-021A1 and is issued to add a new aluminum housing, DC power supply, main processor board and CLS software. The emphasis of the evaluation was on the device design, operation, performance, and compliance with influence factors. The indicator was interfaced with a load receiving element to verify compliance with zero, zone of uncertainty and motion detection requirements. A load cell simulator was interfaced to the device, multiple increasing/decreasing tests were performed. The device was tested over a temperature range of -10° C to 40° C (14° F to 104° F). Tests were conducted using 8.8 VDC 12 VDC and 39.6 VDC. Previous test conditions are listed below.

Certificate of Conformance 19-021A1: This certificate supersedes Certificate of Conformance 19-021 and is issued to add a new plastic housing, DC power supply, main processor board and additional Category 1 sealing method. The emphasis of the evaluation was on the device design, operation, performance, and compliance with influence factors. The indicator was interfaced with a load receiving element to verify compliance with zero, zone of uncertainty and motion detection requirements. A load cell simulator was interfaced to the device, multiple increasing/decreasing tests were performed. The device was tested over a temperature range of -10° C to 40° C (14° F to 104° F). Tests were conducted using 8.7 VDC 18 VDC and 39.6 VDC. Previous test conditions are listed below.

Certificate of Conformance 19-021: The emphasis of the evaluation was on the device design, operation, marking requirements, performance, and compliance with influence factors. The indicator was interfaced with a load receiving element to verify compliance with zero, zone of uncertainty and motion detection requirements. A load cell simulator was interfaced to the device, several increasing/decreasing tests were performed. The device was tested over a temperature range of -10° C to 40° C (14° F to 104° F). Tests were conducted using 85 VAC and 264 VAC.



Rice Lake Weighing Systems
Indicating Element / 680, 680 HE, 682

Evaluated By: M. Kelley (OH) 19-021; J. Gibson (OH) 19-021A1, 19-021A2, 19-021A3, 19-021A4; C. Boggs (OH) 19-021A5

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*, 2021 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) 19-021, D. Flocken (NCWM) 19-021A1, 19-021A2, 19-021A3, 19-021A4, 19-021A5

Examples of Device:

Model 680



Model 680 HE



Model 682

