



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Indicating Element
Digital Electronic
Model: TI-1680
 $n_{\max}$: 10 000
Accuracy Class: III / III L

Submitted By: Contact Info. Updated November 2022

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Standard Features and Options**Standard Features:**

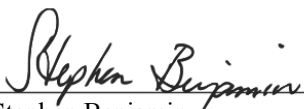
- Semi-Automatic (push-button) Zero
- Automatic Zero Tracking (AZT)
- Semi-Automatic (push-button) Tare
- Keyboard Tare
- Center of Zero Enunciator
- Gross/Net/Tare Display
- Weight Accumulation
- AC Power
- LED display
- Unit Selection Key (lb, kg)
- Programmable Print Format
- RS-232 Communication Port
- USB Communication Port
- Linearity Calibration Points (3)
- Four Set Points Capability
- Weigh In/ Weigh Out Feature with ID Numbers (Units conversion key must be *deactivated* to use this feature)

Options:

- RS-485 Communication
- Wireless Communication/Printing

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.


Stephen Benjamin
Chairman, NCWM, Inc.


Kurt Floren
Chairman, National Type Evaluation Program Committee
Issued: March 5, 2013

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**Transcell Technology Inc**

Indicating Element / TI-1680

Application: General purpose indicating element with a Weigh In / Weigh Out feature to be used with an approved and compatible weighing element.

Identification: The required identification information appears on an adhesive label applied to the top side of the indicator. The indicator has a swivel mount that allows the indicators to be rotated to view the identification information.

Sealing: This model requires two wire security seals. Calibration and configuration parameters are accessed by toggling an internal switch or jumper which allows access to the calibration mode. This switch is covered with a plate which is secured with two sealing screws. A second security seal is required through the sealing screws which secure the back cover, this prevent the disassembly of the case. The device will not return to its normal weighing mode unless the calibration switch is taken out of its calibration position.

Operation: When using the Weigh In/Weigh Out feature the **units key** must be **deactivated** and sealed only allowing one (1) unit of measure.

Truck In

1. With the truck on the scale, press the F1 key. "Ent Id" will be displayed.
2. Press the Enter key to automatically assign an ID number and then press Enter.
Alternately, you can use the 0-9 keys to key-in in the vehicle ID number (up to 999999) and then press Enter.
The indicator will display "In".
3. If a printer is connected, a ticket will automatically be printed.

Truck Out

1. With the truck on the scale, press the F1 key. "Ent Id" will be displayed.
2. Use the 0-9 keys to key-in in the vehicle ID number (up to 999999) and then press Enter.
The indicator will display "Out".
3. If a printer is connected, a ticket will automatically be printed.

Test Conditions: This certificate supersedes Certificate of Conformance 10-078 and was issued to add additional features. The emphasis of this evaluation was on device design and operation of the weigh in/ weigh out feature. The model TI-1680 was interfaced with a Transcell MP4212 weighing element and an Epson TM-4295 printer. Several weighing transactions were performed. The system was subjected to NTEP Publication 14 requirements for a Weigh-In/ Weigh-Out System. Previous test conditions are listed below for reference.

Certificate of Conformance Number 10-078: The emphasis of this evaluation was on device design, operation, performance, and compliance with influence factor requirements. The model TI-1680 was submitted for evaluation and interfaced with both a load cell simulator and a Digi Scale model DS-470SS weighing element. Several increasing/decreasing load tests were performed over a temperature range of -10°C to 40°C (14°F to 104°F) and line voltages of 100 VAC to 130 VAC. In addition the indicator was evaluated for tare, discrimination, center of zero and print formats tests. Several tests were performed to verify the wireless printing capabilities of the device.

Evaluated By: E. A. Payne Jr. (MD) 10-078, 10-078A1, Z. Tripoulas (MD) 10-078A1

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2013. NCWM, Publication 14: Weighing Devices, 2012.

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) 10-078, 10-078A1



Transcell Technology Inc
Indicating Element / TI-1680

Example of Device:

