NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Indicating Element
Digital Electronic
Models: HI 2151/20WC-XX* and HI 2151/30WC-XX*
n_{max}: 10 000

Accuracy Class: III/III L

***Submitted By: Contact Info. Updated October 2022**
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Standard Features and Options

*XX suffixes to the model designation denote input ranging and excitation options.

Internally selectable legal/non-legal for trade operating modes (see Page 2 for operation verification).

Pound/kilogram unit conversion
Automatic zero setting mechanism (AZSM)
Keyboard tare
Gross/tare/net weight display
8 digit (7 segment) light emitting diode display (LED)
Printing capability
Semi-automatic (push-button) zero
Semi-automatic (push-button) tare
AC power supply
Preset weight visual alarm
RS-232 communication port

Options: 0519-0464 (remote display element with keyboard)
0519-0465 (indicator electronics)

Model HI 2151/30WC-XX:
Security memory module
8 digit (14 segment) light emitting diode display (LED)
Bar graph message display

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.

Brett Gurney
Chairman, NCWM, Inc.

James Cassidy
Committee Chair, NTEP Committee
Issued: November 12, 1998

Hardy Instruments, Inc.

Indicating Element / HI 2151/20WC-XX and HI 2151/30WC-XX

Application: General purpose indicator for Class III or III L installations.

Identification: The primary and remote indicators are designed for panel mounted installations. The identification badge on the indicator is on the back of the indicator with duplicate information located on a template that can be security sealed to the indicator and panel. The remote display information is located above the display. On the indicator electronics, the information is on the front panel.

Sealing: The indicator and indicator electronics have an internal switch that disables the calibration and configuration switch on the back of the indicator. Access to the internal "NBS Mode" (legal for trade) and "Calibration Mode" switches can be security sealed. The Model HI 2151/30WC-XX has a security memory module attached to the back of the device. Removal of the module will terminate and erase all of the indicators' metrological functions.

Operation: To verify that the "NBS Mode" is in use, depress the push-button tare while the indicator or remote display is displaying a zero gross weight. The display should read "Err 17" if the indicator is in the "NBS Mode."

Test Conditions: This Certificate supersedes Certificate of Conformance Number 91-135A1 and is issued to include the Model HI 2151/30WC-XX with the security memory module, an 8 digit (14 segment) LED weight display, and an analog bar graph display. The Model HI 2151/30WC electronic indicator was submitted for evaluation. The emphasis of the evaluation was on device design, operation, performance, and compliance with influence factor requirements. The indicator was interfaced with a load cell simulator and then tested for accuracy over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Tests were also conducted over a voltage range of 100 VAC to 130 VAC. Additionally, the indicator was interfaced to a weighing element and printer to verify compliance with motion detection, momentary power loss, and zero function requirements.

The previous test conditions are listed below for reference

Certificate of Conformance Number 91-135A1: This Certificate superseded Certificate of Conformance Number 91-135 and was issued to include the remote display and the indicator electronics. These separable units are an extension of the Model HI 2151/20WC.

The Model 0519-0464 remote display and the Model 0519-0465 electronic indicators were submitted for evaluation. The units were interfaced to a load cell simulator and checked for motion detection, sealing and marking requirements.

The emphasis of this evaluation was on device design, operation, and compliance with influence factor requirements. The Model HI 2151/20WC was interfaced to a load cell simulator and tested for accuracy over a temperature range of -10 °C to 40 °C and a voltage range of 100 VAC to 130 VAC. Additionally, the indicator was interfaced to a weighing element to verify compliance with zero, zone of uncertainty, and motion detection requirements.

Certificate of Conformance Number 91-135: The emphasis of this evaluation was on device design, operation, and compliance with influence factor requirements. The Model HI 2151/20WC was interfaced to a load cell simulator and tested for accuracy over a temperature range of -10 °C to 40 °C and a voltage range of 100 VAC to 130 VAC. Additionally, the indicator was interfaced to a weighing element to verify compliance with zero, zone of uncertainty, and motion detection requirements.

The results of the evaluations indicate the devices comply with the applicable requirements.

Type Evaluation Criteria Used: NIST Handbook 44, 1998 Edition

Tested By: G. Castro (CA)91-135 & 91-135A1

Update Tested By: S. Chan (CA) 91-135A2