NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance
## for Weighing and Measuring Devices

**For:**
Indicating Element
Digital Electronic
Model: MSI-8000HD
$n_{max}$: 10 000
Accuracy Class: III / III L

**Submitted By:**
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## Standard Features and Options

**Standard Features:**
- Semi-Automatic (push-button) Zero (SAZSM)
- Automatic Zero Tracking (AZT)
- Initial Zero Setting Mechanism (IZSM)
- Semi-Automatic (push-button) Tare
- LCD Display
- AC/DC Adapter or DC (battery) Power
- Dual RS-232 Communication Port
- Wireless Communication
- Linearity Calibration Points (5)
- Selectable Primary and Secondary Units
- Unit Conversion (lb / kg / t / T)
- Configurable Keys (F1 – F3)
- Category 1 Physical Seal
- Multi-deck (Multi-channel) Capability (4 Channels plus summing)

**Optional Features:**
- Wi-Fi / Ethernet Modules
- Set Point Relay Output Modules
- 4-20 mA Output Modules

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.

Jerry Buendel
Chairman, NCWM, Inc.

Ronald Hayes
Committee Chair, National Type Evaluation Program Committee
Issued: December 17, 2015

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**Rice Lake Weighing Systems**
Indicating Element / MSI-8000HD

**Application:** A general-purpose indicating element to be interfaced with an NTEP Certified and compatible weighing element(s).

**Identification:** The Multi-Interval / Multiple Range capacity by division statement and, where applicable, the CLC, will appear on an adhesive label on the front of the indicator. The display will also have a capacity by division statement directly beneath the weight display as well. The other required information appears on an adhesive label on the back the indicator.

**Sealing:** The device uses a category 1 physical seal. Seal the indicator by threading a wire through a predrilled screw head on the top and through two predrilled screw heads on the back which prevent access to an internal calibration/configuration momentary push button.

**Test Conditions:** The emphasis of this evaluation was on device design, marking requirements, performance, operation, and compliance with influence factor requirements. A Rice Lake MSI-8000HD interfaced to a load cell simulator was submitted for evaluation. Several increasing/decreasing and discrimination (zone of uncertainty) tests were performed. The indicator was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Additional test were conducted with variable voltages of 90 VAC to 264 VAC and 9 VDC to 36 VDC. Another Rice Lake MSI-8000HD was submitted and interfaced with 3 load cell simulators and 1 Rice Lake Weighing/Load Receiving Element to evaluate multi-deck (4) and summing capability, printing, unit conversion, wireless and other checklist requirements.

**Evaluated By:** J. Morrison (OH)

**Type Evaluation Criteria Used:** *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2015 Edition. *NCWM Publication 14 Weighing Devices*, 2015 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)

**Example of Device:**