National Conference on Weights and Measures
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National Type Evaluation Program
Certificate of Conformance
for Weighing and Measuring Devices

For:
Indicating Element / Active Junction Box
Remote Addressable Analog to Digital Converter
Model: iQube-yx & iQube2-zxy
n_{max}: 10 000

Accuracy Class: III/III L

Submitted by:
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Standard Features and Options

Model: iQube-yx – where "y" will be an "A" for Analog or "D" for Digital. The "x" will be from 1-8 to indicate the number of channels.
Model: iQube2-zxy
Z = Number of A/D (Channels per Board) 1-3, No Number represents 4 channels

Both models:
X = Enclosure Type; A = FRP (Plastic)
B = Stainless Steel
C = Painted / Galvanized steel
Y = Power Input Voltage; A = 100-240 VAC
B = AC/DC Adapter 6-12 VDC
D = 9-36 VDC
E = 10-60 VDC

Example:	iQube2-AA	4 channels, FRP Enclosure, 100-240 VAC
	iQube2-2AE	2 channels, FRP Enclosure, 10-60 VDC

Wireless communication between iQube2 and a certified indicator.

Primary weight indication: See Application section page 2.

Temperature Range of –10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of 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.

Jack Kane
Chairman, NCWM, Inc.

Judith L. Cardin
Chairman, National Type Evaluation Program Committee

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Note: The National Conference on Weights and Measures does not "approve","recommend", or "endorse" any proprietary product or material, either as a single item or as a class or group. Results shall not be used in advertising or sales promotion to indicate explicit or implicit endorsement of the product or material by the NCWM.

Rice Lake Weighing System
Indicating Element/ Active Junction Box
Model: iQube-yx & iQube2-zxy

Application: The Model iQube provides Rice Lake proprietary digital output from an analog load cell weighing system to a compatible and certified indicating element. Applications include tank, hopper, floor, vehicle, and combination vehicle/rail scales.

Identification: The required information for the J-Box such as Manufacture, Model, Class, n_{max}, and serial number are on an adhesive self-destruct label placed on the side of the J-Box. The required marking information for the indicator is on the front panel of the device. Labels for capacity, division, concentrated load capacity (if required), and section capacity (if required) will be identified on an adhesive label. The label will self-destruct when removed.

Sealing: The J-Box can be sealed with two wire security seals at opposite corners threaded through a hole in the J-Box and then through a slot in the screws in the J-Box cover to prevent access to adjustable components inside the J-Box.

Test Conditions: This Certificate of Conformance supersedes Certificate of Conformance Number 03-032 and is issued to add wireless communication between the iQube models and an approved indicating element and to add the model iQube2, which has a different A/D and processor. The iQube2 can have up to 4 CPU boards consisting of up to 4 channels on each board. Each CPU board can sum all of its channels and all four CPU boards can be summed together. The emphasis of the evaluation was on device design, markings, performance, DC power supply and influence factor testing consisting of -10 ^{o}C to 40 ^{o}C (14 ^{o}F to 104 ^{o}F). The iQube2 models were evaluated. One plastic and one stainless steel. The evaluation included adding up to 4 CPU boards consisting of up to 4 load cells on each boards and adding DC power from 9 to 60 volts, including an AC/DC power adapter 6 to 12 volts DC. The AC power supply is the same as the iQube model state in 03-032 below. The previous test conditions are repeated below for reference.

Certificate of Conformance Number 03-032: The emphasis of the evaluation was on the device design, markings, operation and compliance with influence factor requirements. For the purpose of this evaluation, the device was attached to 8 load cell simulators and a Rice Lake Model 920i indicating element (Certificate of Conformance Number 01-088). Several increasing load and return to zero tests were conducted. Additionally, tests were conducted over a temperature range of -10 ^{o}C to 40 ^{o}C (14 ^{o}F to 104 ^{o}F). Tests were also conducted using 100 VAC / 230 VAC power supply.

Type Evaluation Criteria Used: NIST Handbook 44, 2008 Edition; NCWM Publication 14 2008 Edition

Tested By: A. McCoy (OH) 03-032; J. Morrison (OH) & T. Lucas (OH) (03-032A1)

Conclusion: The results of the evaluations and information provided by the manufacturer indicate the devices comply with applicable requirements.

Information Reviewed By: S. Patoray (NCWM), L. Bernetich (NCWM) 03-032; J. Truex (NCWM) 03-032A1

Examples of Device: