



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Indicating Element

Digital Electronic

Models: AD-4405, AD-4406, AD-4406A, AD-4407, AD-4407A

 $n_{\max}$: 10 000

Accuracy Class: III / III L

Submitted By:

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A label stating, "The counting feature is not legal for trade" is attached near the weight display for those models with this function

Automatic zero setting mechanism (AZSM)

Initial zero setting mechanism (IZSM)

Semi-automatic (push-button) zero

Semi-automatic (push-button) tare

Gross/net indication

Vacuum fluorescent display (Models AD-4405, AD-4407, AD-4407A)

Stainless steel enclosure (Model AD-4407, AD-4407A)

Liquid crystal display (Model AD-4406, AD-4406A)

RS-232 serial interface

Multi-interval capability

AC/DC adapter

Center of zero annunciator

Stable annunciator

Options:

DC power supply and DC battery operation (Model AD-4406, AD-4406A)

Printer

Integral printer (Model AD-4405)

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.

Marc Paquette
Chair, NCWM, Inc.

Gene Robertson
Chair, NTEP Committee
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A&D Engineering

Indicating Element / AD-4405, AD-4406, AD-4406A, AD-4407, AD-4407A

Application: For use as a general-purpose indicating element when interfaced with an approved and compatible weighing element.

Identification: A tamper-evident adhesive identification label is located on the side of the indicator or on the front.

Sealing: **Model AD-4406, AD-4406A:** The calibration and configuration push-button is located under a slotted front panel cover plate assembly. A permanent hinge is attached to the cover plate assembly that allows the hinge to swing freely and to apply a wire security seal.

Models AD-4405, AD-4407, AD-4407A: The calibration and configuration push-button can be accessed from the back of the case. A metal plate is secured by two drilled-headed screws. A wire security seal is applied through one of the drilled-headed screws, and a standoff is mounted to the case.

Test Conditions: This Certificate supersedes Certificate of Conformance Number 04-034A1 and was issued without additional testing to reactivate Certificate of Conformance 04-034A1 without lapse. Previous test conditions are listed below for reference.

Certificate of Conformance Number 04-034A1: This Certificate supersedes Certificate of Conformance Number 04-034 and was issued to add (2) models: AD-4406A and AD-4407A. These new models have a different A/D converter and CPU compared to the models that were originally evaluated. The emphasis of the evaluation was on device design, performance, marking requirements, and compliance with influence factor requirements. The two devices were interfaced with a load cell simulator. Several increasing/decreasing tests were performed. The indicators were tested at 100 VAC to 130 VAC. The devices were tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). The indicators were also interfaced and tested with a weighing load/receiving element and printer for zero, zone on uncertainty, discrimination, motion detection, and printing requirements. Previous test conditions are listed below for reference.

Certificate of Conformance Number 04-034: The emphasis of the evaluation was on device design, performance, marking requirements, and compliance with influence factor requirements. Models AD-4406 and AD-4407 were submitted for evaluation. Each model 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). Several increasing/decreasing load tests were performed and with line voltages of 100 VAC to 130 VAC and 5.3 to 10 VDC. The indicator was also interfaced with a weighing element and printer for zero, zone of uncertainty, discrimination, motion detection, and printing tests.

Evaluated By: Dan Parks (CA) 04-034; M Kelley (OH) 04-034A1; J. Gibson (NCWM) 04-034A2 (CN 11196)

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2018 Edition. *NCWM Publication 14 Weighing Devices*, 2018 Edition.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: S. Patoray (NCWM), L. Bernetich (NCWM) 04-034; J Truex (NCWM) 04-034A1; D. Flocken (NCWM) 04-034A2

Examples of Devices:

