

***National Type Evaluation Program  
Certificate of Conformance  
for Weighing and Measuring Devices***

**For:**

Indicating Element  
Digital Electronic  
Model: AD-5100  
 $n_{\max}$ : 10,000

Accuracy Class: III/III L

**Submitted by:**

A and D Engineering  
1555 McCandless Drive  
Milipitas, CA 95035  
Tel: (408) 263-5333  
Fax: (408) 263-0119  
Contact: Jerry Wang

**Standard Features and Options**

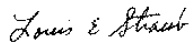
Automatic zero setting mechanism (AZSM)	Gross/net weight display
Semi-automatic zero (push-button)	Keyboard tare
Semi-automatic tare (push-button)	Category 1 event counters and physical seal
Liquid crystal display (LCD) alphanumeric display	Total and subtotal printing capability
Set-points for over/under checkweigh and bulk weighing application	Stainless steel enclosure

**Options:** Time/date clock  
Desktop, wall mount or column mount

Temperature Range: -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.

Effective Date: August 18, 1999



Louis E. Straub  
Chairman, NCWM, Inc.



G. Weston Diggs  
Chairman, National Type Evaluation Program Committee

Issue date: August 26, 1999

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.

This is a reissuance by the NCWM of a Certificate of Conformance already issued by the National Institute of Standards and Technology.

**A and D Engineering  
Indicating Element  
Model: AD-5100**

**Application:** General purpose indicating element for use with compatible certified weighing elements.

**Identification:** The manufacturer's identification, model number, and serial number are located on the back of the indicator. The indicator is designed so it can be rotated on the desk-top stand or wall mount cradle to view the identification information. Capacity and division size are entered on the front marking label by the installer.

The Model Tin Box identification information is marked on the opposite side of the mounting surface. Capacity and division size are entered on the front panel marking label installed on the primary weight display by the installer.

**Sealing:** Security is provided through Category 1 event counters or a physical seal for the internal calibration switch.

The front panel audit trail is accessed by holding the "GROSS/NET" key and then pressing the "UNITS" key. The indicator display will read "CFG XXX." Enter the number 59 and press the "ENTER" key. The indicator will display "A XXX." This is the calibration audit trail number. Press the "ENTER" key and the next display will be "C XXX." This is the configuration audit trail number. Pressing the "CLEAR" key twice will return the display to the normal weighing mode.

The position of the internal calibration switch may be verified by holding the "CLEAR" key and then pressing the "ENTER" key. The indicator display will read "CFG XXX." Enter the number 60 and press "ENTER." If the indicator displays "LoC ON", the internal calibration switch is turned off and calibration from the front panel is not possible. Should the indicator display "PASS 2", the internal calibration switch is on and front panel calibration is possible with the correct password. Pressing the "CLEAR" key twice will return the display to the weighing mode.

In applications or jurisdictions in which wire seals are appropriate, the internal calibration switch must be in the off position and can be sealed by passing a wire security seal through three drilled head screws located on the rear of the device.

**Test Conditions:** This Certificate is issued based on the following tests and upon information provided by the manufacturer. The Model AD-5100, which has a stainless steel enclosure, was submitted for evaluation. The indicator was interfaced with a load cell weighing element for discrimination, power interruption, and zero tests. The emphasis of the evaluation was on device design, operation, marking requirements, 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) and a voltage range of 100 VAC to 130 VAC.

Results of the evaluations and information provided by the manufacturer indicate the devices comply with applicable requirements.

**Type Evaluation Criteria Used:** NIST Handbook 44, 1999 Edition

**Tested By:** Gary Castro (CA), Samuel Chan (CA)

**Information Reviewed By:** L. T. Sebring (NIST)