

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

**For:**

Indicating Element  
Digital Electronic  
Models: 204/204S  
 $n_{max}$ : 5000

Accuracy Class: III/III L

**Submitted by:**

Cardinal Scale Manufacturing Co.  
203 East Daugherty St.  
Webb City, MO 64870  
Tel: (417) 673-4631  
Fax: (417) 673-5001  
Contact: Stephen Langford

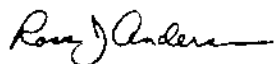
**Standard Features and Options**

Model 204 is a wall/desk mount IP55 enclosure  
Model 204S is a wall/desk mount IP66 waterproof/dustproof enclosure

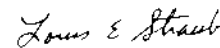
Semi-automatic (push button) zero setting mechanism  
Automatic zero setting (AZSM) mechanism  
Semi-automatic (push button) tare  
Remote printer capability  
Programmable print format  
AC power supply  
Battery power supply  
Battery saving (sleep mode) feature  
Battery saving (auto shut off) feature  
AC/DC adapter  
Gross/net display  
RS-232 communication port  
Center of zero annunciator  
Motion detection  
Units available (lb, kg, oz, g)

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.



Ross J. Andersen  
Chairman, NCWM, Inc.



Louis E. Straub  
Chairman, National Type Evaluation Program Committee  
Issue date: July 23, 2002

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.

**Cardinal Scale Mfg. Co.**  
**Indicating Element**  
**Models: 204/204S**

**Application:** General purpose indicating element when connected to an approved and compatible weighing/load receiving element.

**Identification:** The self-destructive identification label for the Model 204 is located on the back of the indicator.

**Sealing:** Model 204: Access to the set-up/calibration switch can be secured with a wire security seal threaded through three drilled head fillister screws, two located on the back of the indicator and the other on the right side of the device.

Model 204S: Access to the set-up/calibration switch can be secured with a wire security seal threaded through two drilled head screws on the rear panel, one in the upper left corner and the other adjacent to it.

**Test Conditions: Certificate of Conformance Number 02-016A1:** This Certificate of Conformance Number 02-016 and is issued to add the Model 204S which is metrologically equivalent to the Model 204. The Model 204S differs only in the enclosure. The Model 204S enclosure is rated for IP66 (water and dust proof) while the Model 204 enclosure is rated for IP55 (dust resistant). The manufacturer submitted pictures that the laboratory compared to the previous pictures from the earlier evaluation. No further testing was deemed necessary. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 02-016:** The Model 204 indicator was submitted for the purpose of this evaluation. The emphasis of the evaluation was on device design, marking requirements, operation, and compliance with influence factor requirements. The indicator was interfaced with a Cardinal Model 1250 LPAN (Certificate of Conformance 89-030A2) weighing element and a printer. The device was tested for discrimination, power interruption, zero tests, and print format. Also test were performed with a power supply of 100VAC to 130VAC and battery supply of 5.6VDC to 9VDC. The indicator was then interfaced with a load cell simulator, several increasing/return to zero test were performed, then tested for accuracy over a temperature range of -10 °C to 40 °C (14 °F to 104 °F).

The results of the evaluation indicate the device complies with the applicable requirements of NIST Handbook 44.

**Type Evaluation Criteria Used:** NIST Handbook 44, 2002 Edition

**Tested By:** A. McCoy (OH) 02-016A1 & 02-016

**Reviewed By:** S. Patoray (NCWM), L. Bernetich (NCWM) 02-016, 02-016A1