



NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Non-Computing Scale  
Digital Electronic  
Model: SW Series  
 $n_{max}$ : 4200 to 7500  
 $e_{min}$ : 0.001 kg (0.002 lb; 0.05 oz)  
Capacity: 6 to 150 kg (13 to 330 lb; 210 to 5200 oz)  
Platforms: KS-200 x 250 mm, KM- 300 x 380 mm  
                  KL - 390 x 530 mm  
Accuracy Class: III

**Submitted By:**

A&D Engineering  
1756 Automation Parkway  
San Jose, CA95131  
Tel: 408-518-5112  
Fax: 408-635-2312  
Contact: Adnan Alam  
Email: [alam@andonline.com](mailto:alam@andonline.com)  
Web site: [www.andonline.com](http://www.andonline.com)

**Standard Features and Options**


- SW is Super Washdown
- SW is Stainless Steel Construction, Plastic Indicator
- "N" is a Marketing Identifier with No Metrological Significance
- Automatic Zero Tracking (AZT)
- Initial Zero Setting Mechanism (IZSM)
- Semi-automatic Zero (push-button)
- Semi-automatic Tare (push-button)
- LED Display
- Counting Feature (not legal for trade)
- AC/DC Power
- Power Saving Feature (auto-shut off)
- Pound (lb)
- Kilogram (kg)
- Ounce (oz)
- Load Cells Used: A&D Model: 1LC181 (6KS/N & 15KS/N) non-NTEPA&D Model: 1LC173 (15KM/N, 30KM/N, 60KM/N, 60KL/N, 150KM/N, 150KL/N) non - NTEP

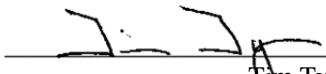
**Options:**

- SLA Battery
- RS-232C, RS-422/485 Interface
- Display Pole, Display Stand

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.

  
Kurt Floren  
Chairman, NCWM, Inc.

  
Tim Tyson  
Chairman, National Type Evaluation Program Committee  
Issued: August 19, 2011

1135 M Street, Suite 110 / Lincoln, Nebraska 68508

The National Conference on Weights and Measures (NCWM) 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.



## A&D Engineering

### Non-Computing / SW Series

Model	Capacity	d=e	n <sub>max</sub>
SW-6KS	6 kg, 13 lb, 210 oz	0.001kg, 0.002 lb, 0.05 oz	6000, 6500, 4200
SW-6KSN	6 kg, 13 lb, 210 oz	0.001kg, 0.002 lb, 0.05 oz	6000, 6500, 4200
SW-15KS	15 kg, 33 lb, 520 oz	0.002 kg, 0.005 lb, 0.1 oz	7500, 6600, 5200
SW-15KSN	15 kg, 33 lb, 520 oz	0.002 kg, 0.005 lb, 0.1 oz	7500, 6600, 5200
SW- 15KM	15 kg, 33 lb, 520 oz	0.002 kg, 0.005 lb, 0.1 oz	7500, 6600, 5200
SW- 15KMN	15 kg, 33 lb, 520 oz	0.002 kg, 0.005 lb, 0.1 oz	7500, 6600, 5200
SW-30KM	30 kg, 66 lb, 1050 oz	0.005 kg, 0.01 lb, 0.2 oz	6000, 6600, 5250
SW-30KMN	30 kg, 66 lb, 1050 oz	0.005 kg, 0.01 lb, 0.2 oz	6000, 6600, 5250
SW-60KM	60 kg, 130 lb, 2100 oz	0.01 kg, 0.02 lb, 0.5 oz	6000, 6500, 4200
SW-60KMN	60 kg, 130 lb, 2100 oz	0.01 kg, 0.02 lb, 0.5 oz	6000, 6500, 4200
SW-60KL	60 kg, 130 lb, 2100 oz	0.01 kg, 0.02 lb, 0.5 oz	6000, 6500, 4200
SW-60KLN	60 kg, 130 lb, 2100 oz	0.01 kg, 0.02 lb, 0.5 oz	6000, 6500, 4200
SW-150KM	150 kg, 330 lb, 5200 oz	0.02 kg, 0.05 lb, 1 oz	7500, 6600, 5200
SW-150KMN	150 kg, 330 lb, 5200 oz	0.02 kg, 0.05 lb, 1 oz	7500, 6600, 5200
SW-150KL	150 kg, 330 lb, 5200 oz	0.02 kg, 0.05 lb, 1 oz	7500, 6600, 5200
SW-150KLN	150 kg, 330 lb, 5200 oz	0.02 kg, 0.05 lb, 1 oz	7500, 6600, 5200

**Application:** Non-computing scale used for general purpose weighing applications.

**Identification:** The required information is on an adhesive badge affixed on the top or on the face-plate of the indicating element.

**Sealing:** The calibration switch is located at the bottom of the indicator. Access to the calibration switch can be prevented by a physical seal that runs a metal wire through a plastic lip on the body of the device and a through hole screw.

**Test Conditions:** The emphasis of the evaluation was on the device design, operation, marking requirements and compliance with influence factor requirements. For the purpose of this evaluation, a model SW-6KS and a model SW-15KM and SW-150KL were submitted. Several increasing/decreasing load and shift tests were conducted on each scale. The scales were tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). A load of approximately one-half scale capacity was applied to each scale over 100 000 times. The scales were tested periodically during this time. Tests were also conducted with a power supply of 84 to 264 VAC and 5.7 to 6.6 VDC.

**Evaluated By:** E. Matthews (OH)

**Type Evaluation Criteria Used:** NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2011. NCWM, Publication 14: Weighing Devices, 2011.

**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)



**A&D Engineering**  
Non-Computing / SW Series

**Example of Device:**



Model: SW-Series

