



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Non-Computing Scale
Digital Electronic, Prescription, Jeweler's
Model: MG-S Series (See table on Page 2)
 n_{max} : 1800 to 120 000 (See table)
 e_{min} : (See table Page 2)
Capacity: (See table Page 2)
Platform: See "Pan Size: below
Accuracy Class: I /II & III (See table)

Submitted By:

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Standard Features and Options

Automatic Zero Tracking (AZT)	Auto Shut Off
Initial Zero Setting Mechanism (IZSM)	Alphanumeric Display
Semi-Automatic Zero (Push Button)	Liquid Crystal Display
Push Button Tare	RS232/USB
DC power (USB, battery)	percentage mode
Specific gravity mode (not legal for trade)	Gross/Tare/Net display
Units of Measure (g, oz, lb, gr, c, and PC (pieces in counting mode))	AC/DC Adapter

Optional Features:


Draft Shield (MG-S222,R thru MG-S1202, R)	Remote printer capability
Additional RS232 communication port	Bluetooth Wireless communication
Relay contact port	Ethernet port

Pan Size: MG-S222,R thru MG-S1202, R 118 mm Dia. MG-S1501,R thru MG-S15000,R 180 mm x 160 mm SS.

Temperature Range: 5°C to 35°C (41°F to 95°F) all class II devices and 10°C to 30°C (50°F to 86°F) for MG-S1202, R

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.


Brett Gurney
Chairman, NCWM, Inc.


James Cassidy
Committee Chair, National Type Evaluation Program Committee
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Star Micronics America, Inc.
Non-Computing Scale / MG-S Series

Application: Precision weighing, prescription, laboratory, precious metals and gems.

Model •	Capacity	e =d (g)	n _{max}	Temperature Range	Class
MG-S222.R	220 g	0.01 g	22 000	5 ⁰ C to 35 ⁰ C	II
	1 100 c	0.1 c	11 000		II
	0.48 lb	0.0001 lb	4 800		II
	7.7 oz	0.001 oz	7 700		II
	3 300 gr	1 gr	3 300		II
MG-S322.R	320 g	0.01 g	32 000	5 ⁰ C to 35 ⁰ C	II
	1 600 c	0.1 c	16 000		II
	0.7 lb	0.0001 lb	7 000		II
	11 oz	0.001 oz	11 000		II
	4 900 gr	1 gr	4 900		II
MG-S622.R	620 g	0.01 g	62 000	5 ⁰ C to 35 ⁰ C	II
	3 100 c	0.1 c	31 000		II
	1.3 lb	0.0001 lb	13 000		II
	21 oz	0.001 oz	21 000		II
	9 500 gr	1 gr	9 500		II
MG-S1202.R	1 200 g	0.01 g	120 000	10 ⁰ C to 30 ⁰ C	I
	6 000 c	0.1 c	60 000		I
	2.6 lb	0.0001 lb	26 000		II
	42 oz	0.001 oz	42 000		II
	18 000 gr	1 gr	18 000		II
MG-S1501.R	1 500 g	0.1 g	15 000	5 ⁰ C to 35 ⁰ C	II
	7 500 c	1 c	7 500		II
	3.3 lb	0.001 lb	3 300		III
	52 oz	0.01 oz	5 200		II
MG- S2201.R	2200 g	0.1 g	22 000	5 ⁰ C to 35 ⁰ C	II
	11 000 c	1 c	11 000		II
	4.8 lb	0.001 lb	4 800		III
	77 oz	0.01 oz	7 700		II
MG- S3201.R	3200 g	0.1 g	32 000	5 ⁰ C to 35 ⁰ C	II
	16 000 c	1 c	16 000		II
	7 lb	0.001 lb	7 000		II
	110 oz	0.01 oz	11 000		II
MG-S6201.R	6200 g	0.1 g	62 000	5 ⁰ C to 35 ⁰ C	II
	31 000 c	1 c	31 000		II
	13 lb	0.001 lb	13 000		II
	210 oz	0.01 oz	21 000		II
MG-S8200.R	8200 g	1 g	8 200	5 ⁰ C to 35 ⁰ C	II
	18 lb	0.01 lb	1 800		III
	280 oz	0.1 oz	2 800		III
MG-S15000.R	15 000 g	1 g	15 000	5 ⁰ C to 35 ⁰ C	II
	33 lb	0.01 lb	3 300		III
	520 oz	0.1 oz	5 200		II

Models with “R” are equipped with semi-automatic integral calibration weight.

Identification: The required information, the Minimum Piece Weight (MPW) and the Minimum Sample Size (MSS) is on a self-destructive label located on the back of the device. Other required information capacity x division and “The Counting Feature Not Legal for Trade” or “Counting Feature for Prescription Filling Only”, is located on the front of the unit above the display.



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Non-Computing Scale / MG-S Series

Sealing: The balance is physically sealed by applying a pressure sensitive, tamper proof seal over the enclosure screw located on the rear of the unit or with a lead and wire seal thru the u-shaped bracket covering the enclosure screw. There is also a hole on the bottom front of the balance that must be sealed with a pressure sensitive tamper evident security seal preventing access to the Legal/non-legal for trade switch.

Test Conditions: This Certificate is issued based upon the following tests and information provided by the manufacturer. The Certificate supersedes Certificate of Conformance 17-152 and was issued to add Class III to the Model: ALE 8201N, RN and expand the table indicating parameters in different units. All models now show e=d. A Shinko Denshi Model: ALE 8201RN was submitted for evaluation with the focus being on marking requirements and compliance with NIST Handbook 44 class III tolerances. Multiple increasing/decreasing and eccentricity tests were performed. Please refer to additional test data below for reference.

Certificate of Conformance 17-152: This Certificate is issued based upon the following tests and information provided by the manufacturer. The models MG-S222,R, MG-S622,R, MG-S1202,R, MG-S6201,R and MG-S15000,R were submitted for evaluation. The emphasis of the evaluation was on device design, performance, operation, marking requirements, compliance with influence factors and verifying that the indicated piece count value complies with the tolerances in NCWM Publication 14 Table T.N.3.10. Several increasing/decreasing, load and shift tests were conducted. The scales were tested over a temperature range of 5° C to 35° C (41° F to 95° F) for all class II devices and 10° C to 30° C (50° F to 86° F) for MG-S1202,R. A load of approximately one-half capacity was applied to the scales 100,000 times with the scales being tested periodically during this time. Tests were conducted using 102V AC and 264V AC and 3.55 VDC and 6.6 VDC power supplies. Peripheral USB supplied DC power was also tested at 3.47 VDC and 6.6 VDC.

Evaluated By: J. Gibson (OH)

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: J. Truex (NCWM)

Examples of Device:



MG-S222,R thru MG-S1202,R



MG-S1501,R thru MG-S15000,R