



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Load Cell
Double-Ended Shear Beam
Model: CG-5103
 n_{max} : Multiple Cells, 5 000, Class III
 n_{max} : Multiple Cells, 10 000, Class III L
Capacity: 5 000 lb to 250 000 lb (see page 2)
Accuracy Class: III / III L

Submitted By:

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Standard Features and Options

The specific load cell capacities, v_{min} values, and minimum dead loads covered by this Certificate are listed in the tables on page 2.

Standard Features:

- Nominal Output: 3 mV/V
- 4-wire Design

	X ₁	X ₂	YK	Z ₁	Z ₂	Z ₃	Z ₄
CG-5103	A = Class III B = Class III L	n_{max} in Thousands	Capacity in Thousands of Pounds	Electrical Cable Length or Connector		P = Analog D = Digital	Wiring and Private Label Variations

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 *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. *Editorial changes, not affecting the type or metrological content, corrected this certificate.

Ivan Hankins
Chairman, NCWM, Inc.

Hal Prince
Chair, NTEP Committee
Issued: September 1, 2021

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Coti Global Sensors, Inc.
Load Cell / CG-5103

Model	Capacity (lb)	v_{min} (lb) Class III	v_{min} (lb) Class III L	Minimum Dead Load (lb)
CG-5103	5000	0.33		200
CG-5103	10 000	0.66		200
CG-5103	20 000	1.32		200
CG-5103	25 000	1.65		500
CG-5103	30 000	1.98		500
CG-5103	40 000	2.64		500
* CG-5103	50 000	3.30		1000
CG-5103	60 000	3.96		1000
CG-5103	75 000	4.95		1500
CG-5103	100 000	6.60		2000
CG-5103	125 000	8.25		2000
CG-5103	150 000	9.90		3000
CG-5103	200 000	13.20		4000
CG-5103	250 000	16.50		5000
CG-5103	5000		0.16	200
* CG-5103	10 000		0.33	200
CG-5103	20 000		0.66	200
CG-5103	25 000		0.83	500
CG-5103	30 000		1.0	500
CG-5103	40 000		1.3	500
CG-5103	50 000		1.6	1000
CG-5103	60 000		2.0	1000
CG-5103	75 000		2.5	1500
CG-5103	100 000		3.3	2000
CG-5103	125 000		4.1	2000
CG-5103	150 000		5.0	3000
CG-5103	200 000		6.6	4000
CG-5103	250 000		8.3	5000

Application: The load cells may be used in Class III and III L scales for multiple cell applications consistent with the model designations, number of scale divisions, and parameters specified in this certificate. Load cells of a given accuracy class may be used in applications with lower accuracy class requirements provided the number of scale divisions, the v_{min} values, and temperature range are suitable for the application. The manufacturer may market the load cell with fewer divisions (n_{max}) and with larger v_{min} values than those listed on the certificate. However, the load cells must be marked with the appropriate n_{max} and v_{min} for which the load cell may be used.

Identification: A pressure sensitive identification badge containing the manufacturer, model designation, and serial number is located on the load cell. All other required information must be on an accompanying document including the serial number of the load cell.

Test Conditions: This Certificate supersedes Certificate of Conformance number 08-113 and is issued to add additional capacities. A 5000, 10 000 and 250 000 lb capacity Class III cells added per NTEP policy and manufacturers information. No additional testing was deemed necessary. Previous test conditions are listed below for reference.

Certificate of Conformance Number 18-113: This certificate supersedes Certificate of Conformance number 03-042 and is issued to indicate transfer of the NTEP Certificate of Conformance from Coti, Inc. to Coti Global Sensors, Inc. The NTEP Certificate of Conformance 03-042, though inactive, remains in effect to cover those devices previously sold and installed under the original name. Previous test information and documentation provided by the company was reviewed. The test conditions for the original type evaluation are listed below for reference.



Coti Global Sensors, Inc.
Load Cell / CG-5103

Certificate of Conformance Number 03-042: Two 50 000-lb and two 10 000-lb capacity load cells were tested at NIST using dead weights as the reference standard. The data were analyzed for multiple load cell applications. The cells were tested over a temperature range of $-10\text{ }^{\circ}\text{C}$ to $40\text{ }^{\circ}\text{C}$. Three tests were run on each cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure.

Evaluated By: NIST Force Group, NIST Office of Weights and Measures 03-042; M. Manheim (NTEP) 08-113A1

Type Evaluation Criteria Used: *Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 1999 Edition. *NCWM Publication 14: Weighing Devices*, 1999 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) 08-113; D. Flocken (NCWM) 08-113A1

Example(s) of Device:

