NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Load Cell
Tension, S - Type
Model: OP-312 & OP-312SSW
n_{max}: 10 000, Single/Multiple Cell
Class: III L
Capacity: 1000 lb to 10 000 lb

Submitted By:
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Standard Features and Options

SSW suffix denotes sealed version

Standard Features:

- Nominal Output: 3 mV/V
- Cable: 4-wire
- Nominal Output Impedance: 350 Ohms
- Counterforce Material: Stainless Steel

Load Cell Parameters:

Capacity	v_{min} Class III L Cell	Minimum Dead Load
1000 lb	0.10 lb	10 lb
1500 lb	0.15 lb	15 lb
2000 lb	0.20 lb	20 lb
2500 lb	0.25 lb	25 lb
3000 lb	0.30 lb	30 lb
5000 lb*	0.50 lb	50 lb
10 000 lb	1.00 lb	100 lb

*Two 5000 lb capacity load cells tested

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.

Craig VanBuren
Chairman, NCWM, Inc.

Stephen Benjamin
Committee Chair, NTEP Committee
Issued: October 21, 2019

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Optima Scale Manufacturing Inc.
Load Cell / OP-312 & OP-312SSW

Application: The load cells may be used in for the applicable Class III L scales for single and 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.

Identification: A pressure sensitive identification badge containing the manufacturer, model designation and serial number is located on the load cell. All other required information, if not marked on the load cell, must be on an accompanying document including the serial number of the load cell.

Test Conditions: This certificate supersedes Certificate of Conformance 17-107 and is issued to make a correction in the For: box changing Single Cell to Single/Multiple Cell to be consistent with application. No additional testing was deemed necessary. Previous test conditions are listed below for reference.

Certificate of Conformance Number 17-107: This certificate was issued based upon the following tests and upon information provided by the manufacturer. Two 5000 lb capacity load cells were tested using dead weights as the reference standard. The excitation voltage was 10 V dc. The data were analyzed for single load cell applications. The cells were tested over a temperature range of -10 to 40 °C. The temperature effect on zero was measured and time dependence (creep) tests were performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure. NCWM Pub 14 selection criteria was used to determine cells tested.

Evaluated By: K. Chesnutwood (NIST Force Group) 17-107; M. Manheim (NCWM) 17-107A1

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2017 Edition. *NCWM Publication 14 Measuring Devices*, 2017 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)17-107; D. Flocken (NCWM) 17-107A1

Example(s) of Device:

