



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Load Cell
Digital, Single Point
Model: SPSX and SPSX-Ex
 n_{max} : 5000, Single and Multiple Cell, Class III
Capacity: See table below

Submitted By:

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Standard Features and Options

Standard Features:

- Digital Communications
- Maximum Excitation – 24VDC
- High overload tolerance (>300% Emax)
- RS485 – 2-wire
- Stainless Steel Construction
- Hermetically sealed (IP68)

Model and Capacity Description:

Model	Capacity	Minimum Load Cell Interval (v_{min})		Minimum Dead Load
		Single Cell	Multiple Cell	
SPSX	20 kg	4 g	4 g	0
SPSX	30 kg	6 g	6 g	0
SPSX	40 kg	8 g	8 g	0
SPSX	50 kg	10 g	10 g	0
SPSX	80 kg	16 g	16 g	0
SPSX	100 kg	20 g	20 g	0
SPSX-Ex	20 kg	4 g	4 g	0
SPSX-Ex	30 kg	6 g	6 g	0
SPSX-Ex	40 kg	8 g	8 g	0
SPSX-Ex	50 kg	10 g	10 g	0
SPSX-Ex	80 kg	16 g	16 g	0
SPSX-Ex	100 kg	20 g	20 g	0

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
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EILERSEN ELECTRIC DIGITAL SYSTEMS A/S
Load Cell / SPSX and SPSX-Ex

Application: The load cells may be used in Class III scales for single cell 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} value, and temperature range are suitable for the application. The manufacturer may market the load cell with fewer divisions (n_{\max}) and with greater 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 label located on the cell, states the manufacturer name, model number, the load cells serial number, rated capacity, Accuracy Class, and NTEP CC number. Other pertinent information will be specified on the Calibration Certificate accompanying the cell.

Test Conditions: A Model SPSX, 20 kg capacity load cell was tested, in part, by FORCE Technology at their facility in Denmark and by the PTB at their facility in Germany. Testing was conducted in accordance with the OIML-CS arrangement, signed by the NCWM as a utilizing participant for load cell testing. Testing was conducted using deadweights as the reference standard. The load cell was tested over a temperature range of -10 °C to 40 °C with tests run at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test to determine sensitivity of the load cell design to changes in barometric pressure was conducted. The data was analyzed for single and multiple load cell applications. OIML R60 selection criteria was used to determine which load cell capacities were tested.

Evaluated By: J. H. Jensen (FORCE Technology, Denmark)

Type Evaluation Criteria Used: *Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2022 Edition. *NCWM Publication 14: Weighing Devices*, 2022 Edition.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: D. Flocken (NCWM)

Example(s) of Device:



Photo represents both SPSX and SPSX-Ex models