TEST CERTIFICATE

No. DK 0199.R60.1/2

Issued by DELTA Danish Electronics, Light & Acoustics,
EC - Notified Body No. 0199.

In accordance with EN 45501 (1992), paragraph 8.1 and 3.5.4
with fraction $p_{LC} = 0.7$.
OIML R60 (Edition 1991).

Issued to **Cardinal Scale Manufacturing Co.**
203 East Daugherty St.
Webb City, Missouri 64870
U.S.A.

In respect of A compression load cell made from stainless steel, hermetically sealed.

Type Model 50K-SCA, 100K-SCA and 120K-SCA

Manufacturer **Cardinal Scale Manufacturing Co.**
203 East Daugherty St.
Webb City, Missouri 64870
U.S.A.

Description and documentation The load cell is described and documented - including a summary of tests - in the Annex which forms part of this test certificate.

Characteristics

Accuracy class		**C**		
Maximum number of load cell intervals	n_{max}	≤ 3000		
Model / type		50K-SCA	100K-SCA	120K-SCA
Rated capacities	E_{max}	22680 kg 50000 lb	45360 kg 100000 lb	54430 kg 120000 lb
Minimum load cell verification interval	V_{min}	0.002% of E_{max}		
Minimum dead load output return	MDLOR	0.016% of E_{max}		
Temperature limits		-10 °C / +40 °C		

The ANNEX comprises 2 pages.

Issued on **1997-10-24** **Signatory :** **P. Bengtsen**

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NAME AND TYPE OF THE LOAD CELL

The load cell is designated Model 50K-SCA, 100K-SCA and 120K-SCA, which may be found in different capacities as follows:

Model Number	Capacity (lb)	Capacity (kg)
50K-SCA	50000	22680
100K-SCA	100000	45360
120K-SCA	120000	54430

1. Technical data

Table 1: Essential technical data

Rated output	C	2 ± 0,1%	mV/V
Maximum exitation voltage		25	VDC
Recommended exitation voltage		15	VDC
Zero balance		± 1	% of rated output
Input impedance	R_{LC}	about 1100	Ω
Safe overload, relative	E_{lim} / E_{max}	150	%

2. Tests

The tests listed in table 2 below have been carried out in accordance with OIML R60 / EN45501 at the laboratory: SP, Borås, Sweden.

Report no. 01-C93001 dated 1992-12-17 and no. 01-C97686 dated 1997-09-19.

Table 2: Tests carried out on load cell

Type: 50K-SCA
Serial no.: 321981 and A1754204
Class: C3
Emax: 22680 kg
n_{LC}: 3000

Tests	R 60 / R60A no.	Passed / Failed
Temperature test and repeatability (at 20, 40, -10 and 20 °C)	15.1 & 5.1 & 9 / A1, A2, A3	Passed
Temperature effect on minimum load output (at 20, 40, -10 and 20 °C)	15.1 & 10.1.3 / A1, A4	Passed
Creep during 30 minutes (at 20, 40, -10 and 20 °C)	15.2 & 7.1 / A5	Passed
Minimum dead load output return (at 20, 40, -10 and 20 °C)	15.3 & 7.2 / A5	Passed
Barometric pressure effects at room temp.	15.4 & 10.2 / A6	Passed
Humidity test	15.5 & 7.3 / A7	Passed

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3. Description of the load cell

Construction principle

The load cell is fabricated from stainless steel and constructed on the principle of compression and is provided with four strain gauges forming a full bridge circuit into a welded housing. It is designed for mounting vertically between two parallel surfaces using a support assembly.
The load cell is provided with a four conductor screened cable, 30 feet/9.1 m long.
The load cell is hermetically sealed and furnished with stainless load buttons on each end, and an integral cable secured by a strain relief seal.

Markings

The rating plate of the load cell contains the Cardinal name or mark, designation, Emax, serial number, accuracy class and classification symbol. The markings shall satisfy OIML R60. Additional information according to R60 point 4.6 will be supplied in an accompanying document.

Drawing of the construction

No. 2970-B013-0A, 3500-B089-0A (50K-SCA)
No. 2970-B027-0A, 3500-B094-0A (100K-SCA)
No. 2970-B115-OA, 3500-B112-OA (120K-SCA)

4. Documentation

The Test Report and the test results are held by the Notified Body.

5. Validity of this Test Certificate

Manufacturing process, material and sealings of the produced load cells have to be in accordance with that of the tested pattern; essential changings are only allowed with the permission of the Notified Body.

Note: This certificate is a substitute for No. DK 0199.R60.1 with the Addition No. DK 0199.R60.1/1. The reason is that subsequent tests for Barometric pressure effect and Humidity effect have been carried out.