



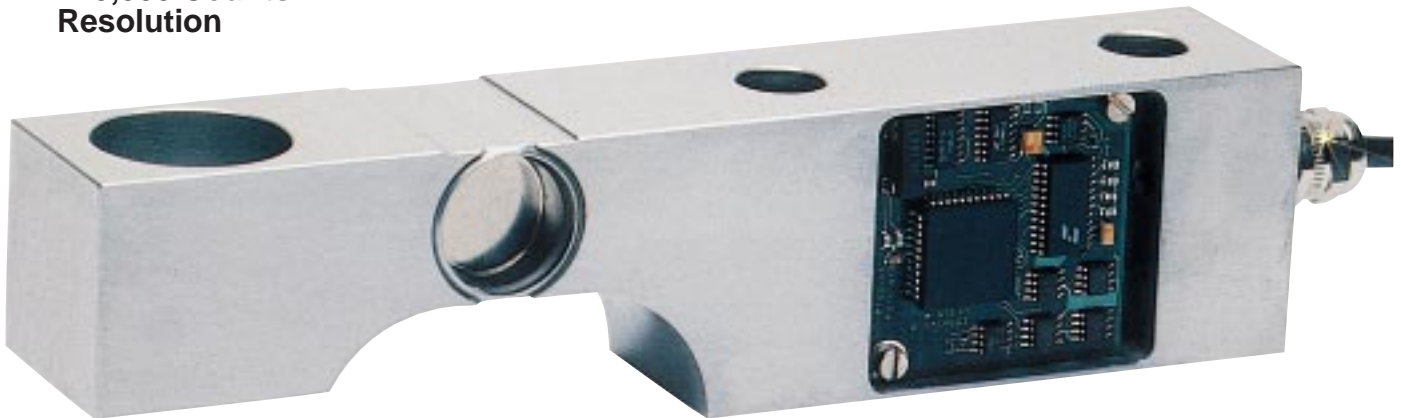
SMART BEAM LOAD CELLS

LCSB Series

- ✓ Digital Output Via RS-232 or RS-485 Interface
- ✓ Stainless Steel Construction with Waterblock Cable Entry
- ✓ Hermetically Sealed, IP66/68
- ✓ Certified to OIML R-60, 4000d 
- ✓ Internal Diagnostics
- ✓ 240,000 Counts Resolution

See Page F-81A For Complete Smart Accessories

BASIC UNIT
\$720



- ✓ NTEP Class III L, 3000 Division (pending) 

Shown smaller than actual size see next page for dimensions

SPECIFICATIONS

Standard Capacities (= Emax) (metric tons): 0.5, 1, 2, 5, 10
Accuracy Class: to OIML R-60 C4
Max Number of Verif. Intervals: 4000
Min Verification Intervals: Emax/10000
Minimum Utilization: 40%
Combined Error (% FS): $\leq +0.017$
Repeatability (% FS): $\leq +0.009$
Min. Dead Load Output Return: $\leq +0.0125$ % FS
Creep Error (30 min.): $\leq +0.025$ (% FS)
Temp Effect on Minimum Dead Load Output: $\leq +0.007$ (% FS/5°C)
Temp Effect on Sensitivity: $\leq +0.005$ (% FS/5°C)
Minimum Deadload: 0 (% Emax)
Maximum Safe Overload: 150 (% Emax)
Ultimate Overload: 300 (% Emax)
Maximum Safe Sideload:

100 (% Emax)
Deflection at Emax: 0.5 mm
Excitation Voltage: 11.6 to 17.0 Vdc
Recommended Excitation Voltage: 15 Vdc
Maximum Current Consumption: 80 mA
Maximum Current: 150 mA (internal short circuit)
Rated Output: 240,000 counts (=S)
Tolerance on Rated Output: $\leq \pm 200$ counts
Zero Balance: $\leq \pm 200$ counts
Insulation Resistance: ≥ 5000 M Ω
Element Material (DIN): Stainless Steel 1.4542
Sealing: IP 66/68 (DIN40.050/EN60.529/IEC 529)
Signal Update: 25 per second
Baud rate: 9600
Start Bits: 1

Data Bits: 7
Stop Bits: 1
Parity: Even
Maximum Transmission Cable Length: 1200 meters
Data Transmission Interface: RS-485/RS-422-Full Duplex
Compensated Temperature Range: -10 to 40°C (14 to 104°F)
Operating Temperature Range: -40 to 80°C (-40 to 176°F)
Storage Temperature Range: -40 to 90°C (-40 to 194°F)



SMART LOAD CELL OPERATION

Within the Smart Beam Cell is a multi-layer printed circuit board with a power regulator which supplies an excitation voltage to the Wheatstone bridge. The uncompensated output of the bridge is fed through an A/D converter and digital filter. A microprocessor controls the A/D converter, a temperature sensor and the digital output interface.

The SBC offers an extensive diagnostics structure which verifies the integrity and operation of the strain gauge circuit, power supply, EEPROM, A/D converter and temperature sensor.

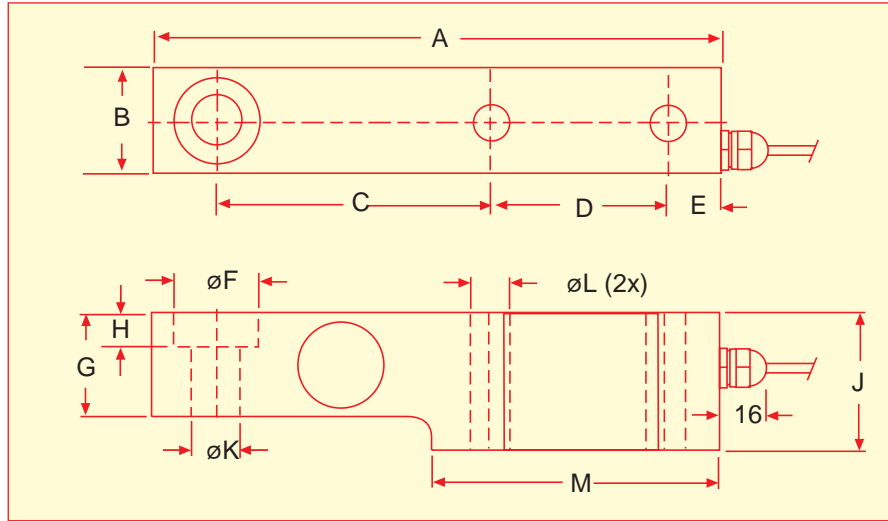
Smart Beam Cells produce a strong output signal, which is unaffected by electrical noise and temperature fluctuations on field cabling, thereby enabling the use of cable lengths up to 1200m.

SYSTEM OPERATION

In a Smart Load Cell system each load cell operates as a stand alone device. The user can, therefore, communicate directly with a particular load cell, by means of its' serial number or a user designated address. This characteristic enables corner correction to be performed more efficiently. Faults or overloads on individual load cells can also be detected.

The digital output from the SBCs can be processed by a computer, PLC or a dedicated indicator, e.g. the SLD (Smart Load Cell Display). Multiple systems containing up to 32 load cells may be connected to one control unit. Software drivers are available for the user to develop their own system software.

A rationalized output of 240,000 counts means that, within a system, any load cell can be replaced without the need for re-calibration. Low and medium accuracy systems can be automatically calibrated without the need for dead weights.



Attention: Dimensions: mm. All dimension tolerances according to DIN 7168; middle accuracy unless otherwise specified
All specifications subject to change without notice

Wiring:

Excitation+	Green
Excitation-	Black
Rx-	White
Rx+	Red
Tx-	Blue
Tx+	Yellow
Shield	Clear

Dimensions in mm (Inches)

CAPACITY	0.5-2 mt	5 mt	10 mt*
A	203.2 (8.00)	235.0 (9.25)	235.0 (9.25)
B	36.5 (1.44)	47.5 (1.87)	55.0 (2.16)
C	98.4 (3.87)	123.8 (4.87)	123.8 (4.87)
D	63.5 (2.50)	66.7 (2.62)	66.7 (2.62)
E	19.1 (0.75)	20.6 (0.81)	20.6 (0.81)
F	30.2 ^{+0.22} / ₀ (1.18)	41.3 ^{+0.22} / ₀ (1.62)	41.3 ^{+0.22} / ₀ (1.62)
G	36.5 (1.44)	47.6 (1.87)	56.0 (2.20)
H	11.9 (0.47)	15.8 (0.62)	15.8 (0.62)
J	47.6 (1.87)	69.9 (2.75)	69.9 (2.75)
K	17.5 H11 (0.69)	25.5 H11 (1.00)	25.5 (1.00)
L	14.0 (0.55)	22.0 (0.86)	25.0 (0.98)
M	101.6 (3.99)	117.5 (4.62)	111.2 (4.38)

* 10 MT range available on special order.

To Order (Specify Model Number)

MODEL NO.	CAPACITY	PRICE
LCSB-500KG	500 kg	\$720
LCSB-1MT	1 metric ton	720
LCSB-2MT	2 metric tons	720
LCSB-5MT	5 metric tons	800

Ordering Example: **LCSB-1MT** has a 1 metric ton range, (1000 kg), **\$720**.
See page F-81A for Smart Load Cell accessories



UNITED STATES

www.omega.com
1-800-TC-OMEGA
Stamford, CT.

CANADA

www.omega.ca
Laval(Quebec)
1-800-TC-OMEGA

GERMANY

www.omega.de
Deckenpfronn, Germany
0800-8266342

UNITED KINGDOM

www.omega.co.uk
Manchester, England
0800-488-488

FRANCE

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Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

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• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters