



L-Cell®

Next generation bolt-on weight measurement with active temperature compensation for bulk material vessel inventories.

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TECHNICAL SPECIFICATIONS



The L-Cell is a bolt-on strain gage sensor that is uniquely designed, highly sensitive, thermally stable, dual axis strain gage sensor which is bolted directly to the vessel's support structure. The L-Cell® measures changes in stress in the vessel support member and provides a change in voltage output in direct proportion to the weight of material.

The L-Cell's exclusive Standardized Axial Strain Sensitivity (SASS®) provides active temperature compensation over a wide temperature range. Seasonal and transient environmental effects are minimized as the L-Cell® does not rely on typical passive resistor networks.

The L-Cell® is quickly and easily installed while the vessel is still in productive use. For use on existing vessels, the L-Cell® is a very cost-effective weighing solution when compared to modifying or lifting vessels if using other types of weighing sensors. In combination with your existing vessel's I-beam support legs, horizontal shear beams, or skirt supported silos, the versatility of the L-Cell® can supply a cost effective, industrial strength weighing system. The L-Cell® is also easy to install, easy to maintain, and highly reliable.

FEATURES AND BENEFITS

Bolt-on Technology

Creates a weighing system by mounting L-Cell®s on the structural support members of the vessels legs, shear beam supports, or structural skirt.

Simple Mounting

No specialized tools for installation.
No need to empty vessel or take out of production to install or service.
Uses Existing Vessel Structure.

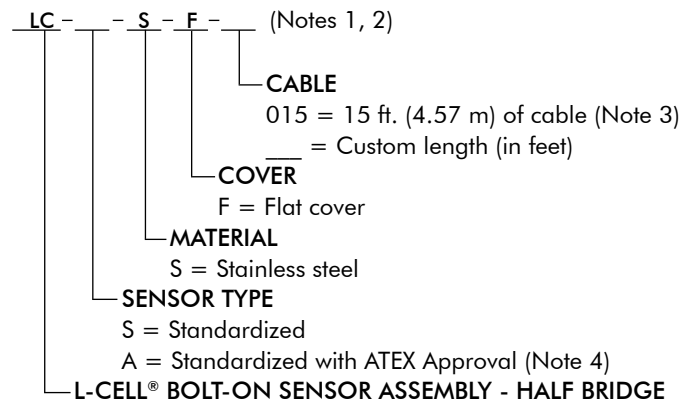
75 Years MTBF

Unprecedented long term reliability.

Unique Design

Continuous weighing that is immune to material characteristics.

HOW TO ORDER

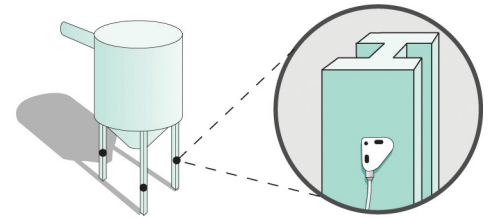


- Note 1. New installations require an installation kit.
- Note 2. Replacement installations require Sikaflex® sealant, silicone grease and cover.
- Note 3. Lengths available from 5 ft (1.52m) to 500 ft (152.4m).
- Note 4. ATEX approved Microcell® sensors must be ordered with ATEX approved stainless steel junction boxes.
- Note 5. Consult the manufacturing facility for special barriers when 24 or more L-Cell® sensors are installed on a single vessel.

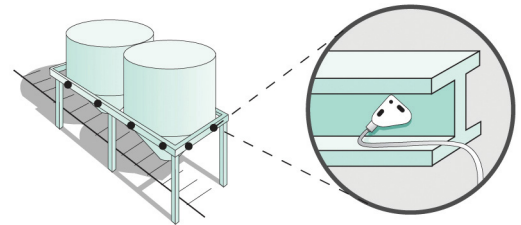
SPECIFICATIONS

FUNCTIONAL

Excitation Voltage	12 VDC ($\pm 5\%$)
Excitation Current	At 12V: 11.8 mA at 0° F (-18° C) to 8.4 mA at 100° F (38° C)
Insulation Resistance	2M ohms
Strain Gage to Sensor Frame Breakdown Voltage	> 250V
Stress Level	Carbon Applications: Maximum: $\pm 15,000$ psi (10.5 kg/mm ²) Recommended: 5,000 \pm 3,500 psi (3.5 \pm 2.5 kg/mm ²)
	Aluminum Applications: Maximum: $\pm 6,500$ psi (4.6 kg/mm ²) Recommended: 3,000 \pm 1,500 psi (2.1 \pm 1.1 kg/mm ²)
Fatigue Life	> 20 million cycles; load and unload at 0 to 7,500 psi (0 to 5.3 kg/mm ²)



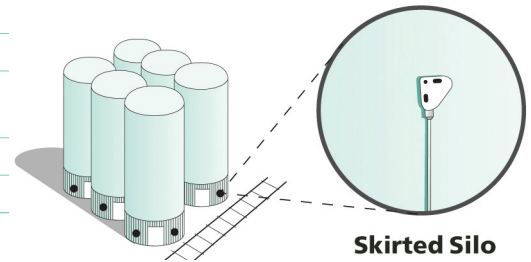
Vertical Column



Horizontal Beam

PERFORMANCE

Output for 12V Excitation	Sensitivity: Carbon Steel: 35 mV \pm 1%/1,000 psi (35 mV \pm 1%/0.7 kg/mm ²)
	Sensitivity: Aluminum: 80 mV \pm 1%/1,000 psi (80 mV \pm 1%/0.7 kg/mm ²)
	Zero Strain Output: 0 mV \pm 100 mV
Output Impedance	3.75K ohms ($\pm 1\%$)
Temperature Effects	Sensitivity Change: 0.02% per degree F (0.036% per degree C) over the compensated range Zero Shift: 2 mV between 0° & 100° F (-18° & 38° C)



Skirted Silo

PHYSICAL

Rating	Designed for rugged, outdoor applications, not for high-pressure wash-down
Temperature Range	Operational: -30° to 150°F (34° to 66°C)
	Storage: -30° to 150°F (34° to 66°C)
	Compensated: 0° to 100° F (-18° to 38°C)
Weight	1.4 ounces (40 grams)
Steel Base	17-4 PH Stainless Steel
Cable	3-conductor, 22 gage, un-shielded
Cable Length	15 feet (4.6 meters)

OPTIONS

Junction Box	Plastic or stainless steel version
Test Meter	To simplify sensor installation
Installation Hardware	

APPROVALS

	ATEX, CE
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