iLoad Pro Digital USB™ Integrated Load Cell

Loadstar SENSORS
Load Sensing Made Easy

The iLoad Pro Digital USB load cells offer direct measurement of static loads via the USB port of a PC. No need for signal conditioners, data acquisition systems or special software. Just connect and start measuring! The iLoad Pro Series offers greater ruggedness, better mounting and cable strain relief for more demanding applications.

Highlights

Capacitive Load Cell Technology

- Plug and Sense Simplicity
- Digital Integrated Electronics
- Standard USB output
- Power supplied via USB port
- Integrated power conditioning
- Stored calibration

Rugged Construction

- Compact design with low profile
- Stainless steel construction
- Mechanically robust
- Weather resistant packaging available

Easy Attachments

- Convenient, robust mounting on top and bottom of sensor
- Self balancing multiple point support on base
- Optional Tension Adapter available

Multiple Load Cell Capacities

- iLoad Pro Digital 50 lb.
- iLoad Pro Digital 100 lb.
- iLoad Pro Digital 250 lb.
- iLoad Pro Digital 500 lb.
- iLoad Pro Digital 1,000 lb.
- iLoad Pro Digital 2,500 lb.
- iLoad Pro Digital 5,000 lb.
- iLoad Pro Digital 10,000 lb.

Use in either compression or tension mode

Overview

Loadstar's iLoad Pro Digital USB Series provides unprecedented integration of sensing and measurement electronics to provide Plug and Sense™ simplicity for load and force measurements.

Load Sensing Made Easy!

Precise
Accuracies to 0.15% of full scale.

Rugged
Stainless steel construction.
Optional environmental protection.

True USB
No need for signal conditioning or data acquisition system.
Optional analog output (0.5 - 4.5 V DC).

Easy Mounting
Threaded mounting holes for easy attachment using standard fixtures.

Here's How It Works

1 Sense

2 View & Process
LoadVUE, LoadVUE Lite

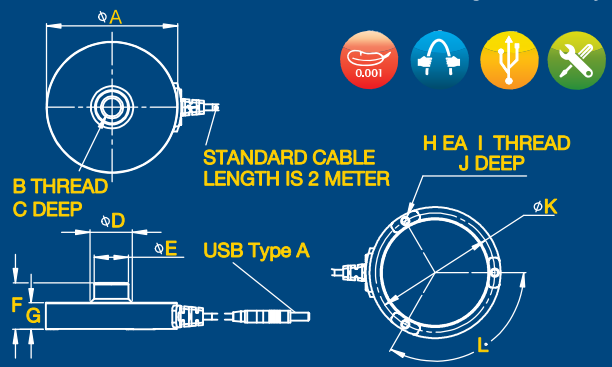
Simply connect the digital load cell to a PC via the USB port. The digital load cell appears on the PC as a virtual COM port. Using a standard terminal emulator, send commands to the sensor to directly display sensor outputs in pounds as ASCII text. You can query loads one reading at a time or get a continuous stream of readings. Alternatively, use our application (LoadVUE or LoadVUE Lite) to simplify load and force measurements. You can easily get load data into your custom application using our simple ASCII command set with real load information in ASCII format.

Suggested Configuration

iLoad Pro Digital USB Integrated Load Cell

Dimensions

Capacity	50lb.	100lb.	250lb.	500lb.	1,000lb.	2,500lb.	5,000lb.	10,000lb.
A	3.25 in.						4 in.	
B	#½-20 UNF-2B						#⅞-14 UNF-2B	
C	0.4 in.						0.75 in.	
D	0.89in.	0.94in.	0.97in.	1.05in.	1.25in.	1.25in.	1.69in.	1.57in.
E	0.85in.	0.85in.	0.85in.	0.85in.	0.85in.	0.85in.	1.25in.	1.25in.
F	1.16 in.	1.16 in.	1.16 in.	1.16 in.	1.2 in.	1.2 in.	1.72in.	1.72in.
G	0.66in.	0.66in.	0.66in.	0.66in.	0.7 in.	0.7 in.	0.90in.	0.90in.
H	3						6	
I	#10-32 UNF-2B						#¼-20 UNC-2B	
J	0.4 in.						0.5 in.	
K	2.96 in.						3.44 in.	
L	120°						60°	



Load Cell Specifications

Accuracy w/tare (% of FS)	Non-linearity	Hysteresis	Non-repeatability
50, 100, 250, 500 lb.	±0.15 %	±0.15 %	±0.15 %
1,000, 2,500 lb.	±0.25 %	±0.25 %	±0.25 %
5,000 lb.	±0.50 %	±0.50 %	±0.50 %
10,000 lb.	±1 %	±1 %	±1 %
Data Update Rate	150 Hz		
Response Rate	10 Hz (40 Hz available)		
Mechanical			
Safe Overload	to 150% of capacity		
Deflection	0.003-in typical at rated capacity		
Sensor Size	3.25 to 4-in. OD, 1.15 to 1.72-in thick top-to-bottom		
Electrical			
Input Power	Input power from USB Digital Output - USB 2.0 (5V at 60mA)		
Environmental			
Creep, in 20 min	±0.03 % of full scale		
Operating Temperature Range	10°C to 40°C, non-condensing		
Temperature Effect on Span	up to ±0.05 % full scale/°C (from calibration temperature)		
Connections			
Mating Cable	USB 5-pin mini-B to male USB-A 6' long included Optional 10' cable available Optional 16' active extender cable available (UX-100)		

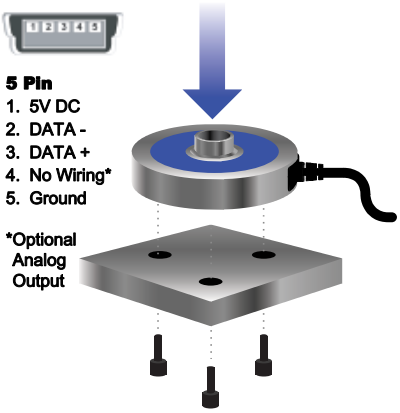
Alternative Load Cell Configurations

With Inline Adapter (TX-325)

With Inline Adapter (TX-325) & Rod Ends (RE-325)

With Load Button (LB-325)

Suggested Use



The load cell is circular with a female threaded mounted surface at the top of the load cell. The flat bottom **surface has multiple stepped areas** with tapped mounting holes. Mount the load cells on a flat surface and apply **loads perpendicular to the sensor body.** Off-center or laterally-applied loads **will greatly affect accuracy. Avoid side loads and twisting loads. Use under steady temperature conditions for best results.**

Certifications

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