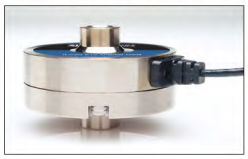
iLoad Pro Digital USB™ Integrated Load Cell

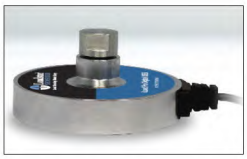
The iLoad Pro Digital USB load cells offer direct measurement of static loads via the USB port of a PC. No need for signal conditioners, data acquisition systems or special software. Just connect and start measuring! The iLoad Pro Series offers greater ruggedness, better mounting and cable strain relief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

Alternative Configurations



With Inline Adapter (TX-325)

With In-line Adapter (TX-325) & Rod Ends (RE-1220)



With Load Button (LB-1220)

Highlights

Capacitive Load Cell Technology

- 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 mounting on top and bottom of sensor

Ordering Information

Multiple Load Cell Capacities		
iLoad Digital	Part No.	Analog
50 pounds	PUF-050-025-S	PAF-050-025-S
100 pounds	PUF-100-025-S	PAF-100-025-S
250 pounds	PUF-250-025-S	PAF-250-025-S
500 pounds	PUF-500-025-S	PAF-500-025-S
1,000 pounds	PUF-01K-025-S	PAF-01K-025-S
2,500 pounds	PUF-2HK-100-S	PAF-2HK-100-S
5,000 pounds	PUF-05K-100-S	PAF-05K-100-S
10,000 pounds**	PUF-10K-200-S	PAF-10K-200-S

*Analog option available via HX-100 or as pigtail. Please Specify

** Special order

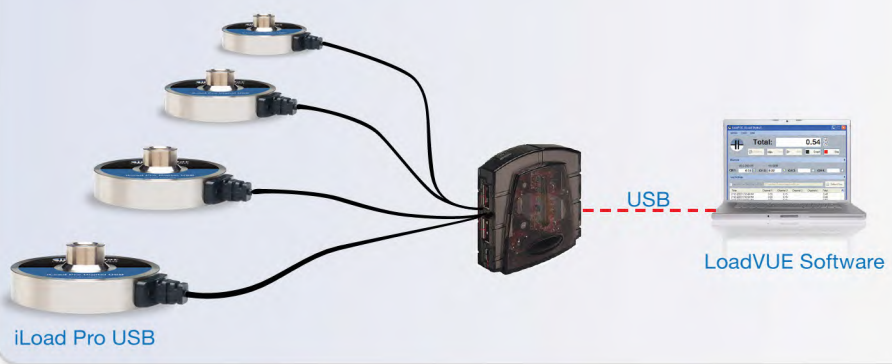
Overview

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.

Here's How It Works

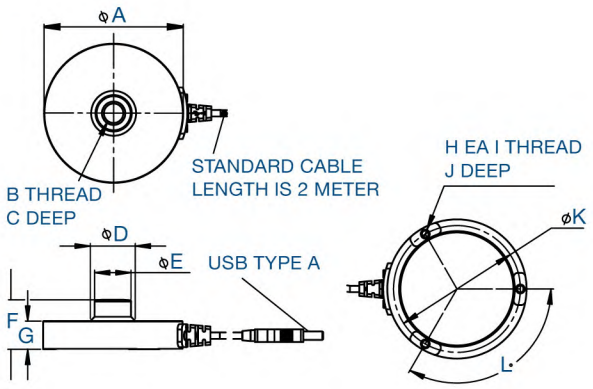
Simply connect the digital load cell to a PC via the USB port. The digital load cell appears on the PC as a virtual COM port. Using a standard terminal emulator, send commands to the sensor to directly display sensor outputs in pounds as ASCII text. You can query loads one reading at a time or get a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

Four Sensor Kit with USB output



Dimensions

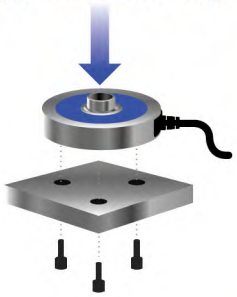
Capacity	lb						
	50 lb.	100 lb.	250 lb.	500 lb.	1,000 lb.	2,500 lb.	5,000 lb.
A	3.25 in.						4 in.
B	#1/2-20 UNF-2B						#7/8-14 UNF-2B
C	0.4 in.						0.75 in.
D	0.89 in.	0.94 in.	0.97 in.	1.05 in.	1.25 in.	1.25 in.	1.69 in.
E	0.85 in.	0.85 in.	0.85 in.	0.85 in.	0.85 in.	0.85 in.	1.25 in.
F	1.16 in.	1.16 in.	1.16 in.	1.16 in.	1.2 in.	1.2 in.	1.72 in.
G	0.66 in.	0.66 in.	0.66 in.	0.66 in.	0.7 in.	0.7 in.	0.90 in.
H	3						6
I	#10-32 UNF-2B						#1/4-20 UNC-2B
J	0.4 in.						0.5 in.
K	2.96 in.						3.44 in.
L	120°						60°



Pin Outs

1. 5V DC (Red)
2. D- (White)
3. D+ (Green)
4. Optional Analog (Yellow)
5. Ground (Black)

Suggested Mounting



Optional analog 0.5V-4.5V DC output can be obtained between pins 4 and 5 using HX-100 breakout board.

Accuracy Specifications At Room Temperature ~25°C

Accuracy • with tare (% of FS)	50, 100, 250, 500 lb.	1,000 lb.	2,500, 5,000 lb.	10,000lb.
Non-linearity	± 0.15%	± 0.25%	± 1%	± 2%
Hysteresis	± 0.15%	± 0.25%	± 1%	± 2%
Non-repeatability	± 0.15%	± 0.25%	± 1%	± 2%

Load Cell Specifications

Data Update Rate	150 Hz (500 Hz available)
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
Input Power	Input power from USB Digital Output - USB 2.0 (5V at 60mA)
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)
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)

The load cell is circular with a female threaded mounted surface at the top of the load cell. The flat bottom surface has three slightly stepped areas 120° apart 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 reduce accuracy. Avoid side loads and twisting loads. Use under steady temperature conditions for best results.

Certifications

CE FC RoHS 2002/95/EC

Compatible Accessories

Digital Interfaces


DS-3000U
Display & Controller

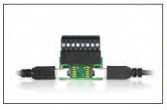

HX-400
Wired USB Hub


HX-700
Wired USB Hub


WX-100
Wireless USB Hub


EX-500
Ethernet Hub


SC-1200
Sensor Concentrator

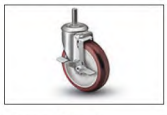

HX-100
iLoad Hybrid Interface

Hardware Accessories


TX-325/400
Inline Adaptors


RE-1220/7814
Rod Ends


FP-1220
Foot Pedal


Caster Wheels


EB-1220
Eye Bolt


LB-1220/7814
Load Button


LF-1220
Leveling Foot

Software