

iLoad Digital USB™ INTEGRATED LOAD CELL



“ THE ILOAD 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! ”

Alternative Configurations



With Inline Female Adapter (IX-300)

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 dome on top and mounting holes on bottom of sensor
- Self balancing three point support on base

Ordering Information

Multiple Load Cell Capacities USED IN COMPRESSION ONLY	
iLoad Digital	Part No.
10 pounds	LUD-010-100-S
50 pounds	LUD-050-015-S
100 pounds	LUD-100-015-S
250 pounds	LUD-250-015-S
500 pounds	LUD-500-025-S

Overview

Loadstar's iLoad Digital USB load cells provide unprecedented integration of sensing and measurement electronics to provide Plug and Sense™ simplicity for compressive 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.

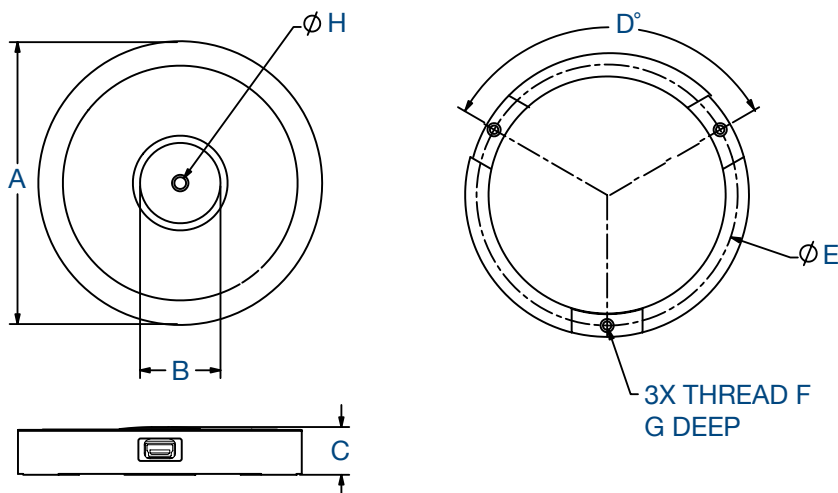
Wireless Kit Configuration ALSO AVAILABLE IN WIRED CONFIGURATION

iLoad Digital USB WX-400 LoadVUE Software

Dimensions

Capacity	lb/inches
	10, 50, 100, 250 & 500 lb.
A	3.000 in./ 76.20 mm
B	0.850 in./ 21.59 mm
C	0.505 in./ 12.83 mm
D	3 x 120.0°
E	2.760 in./ 70.11 mm
F	#4-40 UNC
G	0.250 in./ 06.35 mm
H*	∠ø 0.23 in./ 05.84 mm x 90°

* For alignment only, not a usable thread.
 † Hardness: 40-47 (Rockwell C)



Accuracy Specifications AT ROOM TEMPERATURE ~25°C

Accuracy • WITH TARE (% OF FS)	10 lb	50, 100, 250 lb	500 lb.
Non-linearity	± 1%	± 0.15%	± 0.25%
Hysteresis	± 1%	± 0.15%	± 0.25%
Non-repeatability	± 1%	± 0.15%	± 0.25%

Load Cell Specifications

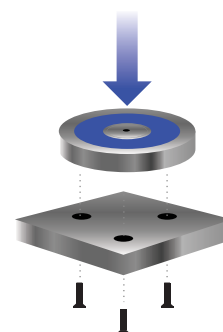
Data Update Rate	150 Hz (500 Hz available)
Safe Overload	to 150% of capacity
Deflection	0.003-in typical at rated capacity
Sensor Size	3-in. OD, 0.505-in thick top-to-bottom
Input Power	input power from USB Digital Output - USB 2.0 (5V at 60mA)
Creep, in 20 min	±0.03% of full scale
Operating Temperature Range	10°C to 40°C, non-condensing
Temperature Effect on Span	up to ±0.05% full scale/°C (from calibration temperature)
Connector Information	Standard female 5-pin USB mini-B connector
Mating Table	USB 5-pin mini-B to male USB-A 6' long included Optional 10' cable available Optional 16' active extender cable available (LX-100)

Suggested Mounting



- 5 Pin**
1. 5V DC
 2. DATA -
 3. DATA +
 4. No Wiring*
 5. Ground

*Optional Analog Output



The load cell is circular with a gentle dome (3-in. radius) on its upper surface. The flat bottom surface has three slightly stepped areas 120° apart with mounting holes tapped to accept #4-40 screws. 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



Compatible Accessories

Digital Interfaces



DS-3000U
 Display & Controller
 (see page 28)



HX-100
 iLoad Hybrid Interface
 (see page 35)



HX-700
 Wired USB Hub
 (see page 31)



WX-100
 Wireless USB Hub
 (see page 32)



EX-500
 Ethernet Hub
 (see page 34)



SC-1200
 Sensor Concentrator
 (see page 29)



HX-400
 Wired USB Hub
 (see page 30)

Hardware Accessories



IX-300
 Inline Adaptor
 (see page 70)

Software

LV-100	page 63
LV-400	page 63
LV-1000	page 63
LV-4000	page 63
LV-4000R	page 63
LV-4000HS	page 63
LV-4000CG	page 63
LV-7000	page 63