

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



With Load Button (LB-325)

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 mounting on top and bottom of sensor
- Self balancing multiple point support on base

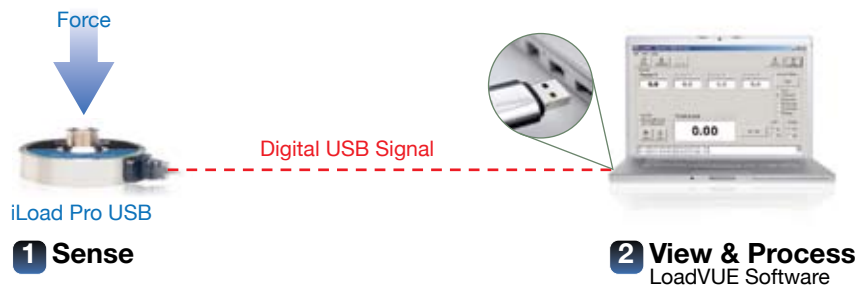
Ordering Information

| Multiple Load Cell Capacities COMPRESSION OR TENSION LOAD CELLS | |
|--|---------------|
| iLoad Digital | Part No. |
| 50 pounds | PUF-050-015-S |
| 100 pounds | PUF-100-015-S |
| 250 pounds | PUF-250-015-S |
| 500 pounds | PUF-500-015-S |
| 1,000 pounds | PUF-01K-025-S |
| 2,500 pounds | PUF-2HK-100-S |
| 5,000 pounds | PUF-05K-100-S |
| 10,000 pounds | PUF-10K-200-S |

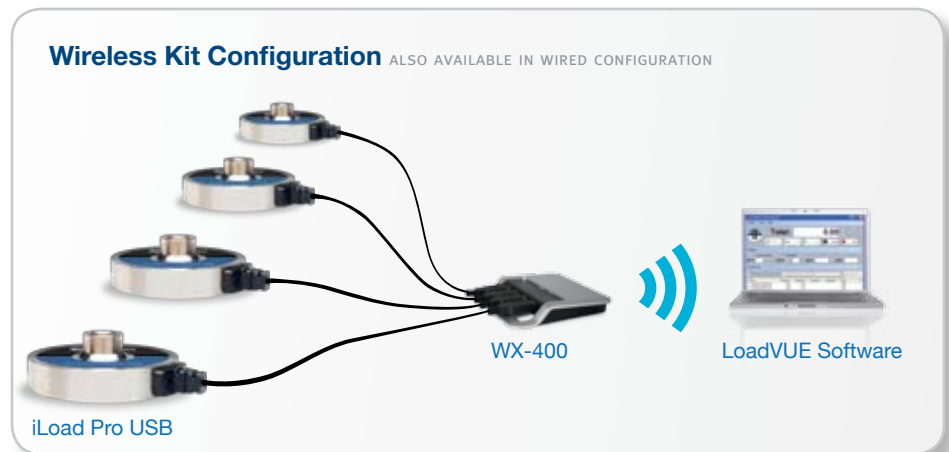
Overview

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

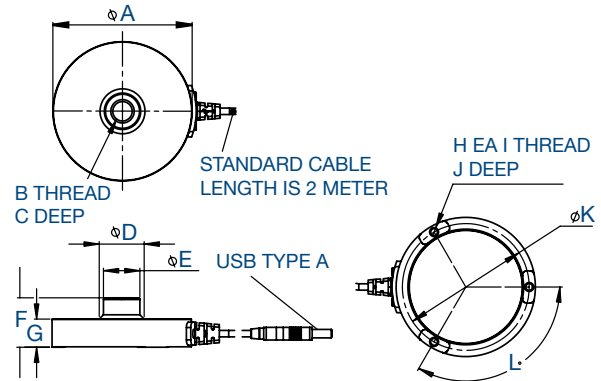


Simply connect the digital load cell to a PC via the USB port. The digital load cell appears on the PC as a virtual COM port. Using a standard terminal emulator, send commands to the sensor to directly display sensor outputs in pounds as ASCII text. You can query loads one reading at a time or get a 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.



Dimensions

| Capacity | lb/inches | | | | | | | |
|----------|----------------|----------|----------|----------|-----------|-----------|----------------|------------|
| | 50 lb. | 100 lb. | 250 lb. | 500 lb. | 1,000 lb. | 2,500 lb. | 5,000 lb. | 10,000 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. | 1.57 in. |
| E | 0.85 in. | 0.85 in. | 0.85 in. | 0.85 in. | 0.85 in. | 0.85 in. | 1.25 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. | 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. | 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° | |



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. | 10,000 lb. |
|--------------------------------|-----------------------|-----------|------------------|------------|
| 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 (LX-100) |

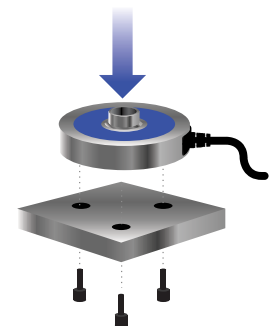
Suggested Mounting



5 Pin

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

*Optional Analog Output



The load cell is circular with a 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



Compatible Accessories

Digital Interfaces



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



HX-400
Wired USB Hub
(see page 30)



HX-700
Wireless 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-100
iLoad Hybrid Interface
(see page 35)

Hardware Accessories



TX-325/400
Inline Adaptors
(see page 69/70)



RE-325/400
Rod Ends
(see page 68)



FP-325
Foot Pedal
(see page 67)



Caster Wheels
(see page 72)



EB-325
Eye Bolt
(see page 67)



LB-325/400
Load Button
(see page 71)



LF-325
Leveling Foot
(see page 67)

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 |