

# iLoad TR Digital USB Integrated Load Cell

The iLoad TR Series load cell based on our patented *capacitive sensing technology* is designed for applications requiring reduced sensitivity to off-center loading. These 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!

## 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
- Aluminum 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 Adapters available

### Multiple Load Cell Capacities

- iLoad TR Digital 2 lb.
- iLoad TR Digital 5 lb.
- iLoad TR Digital 10 lb.
- iLoad TR Digital 50 lb.

Use in either compression or tension mode

## Overview

The iLoad TR Digital Series of load cells provide unprecedented integration of sensing and measurement electronics to offer Plug and Sense™ simplicity for load and force measurements.

### Load Sensing Made Easy!



#### Precise

Accuracies to 0.1% of full scale.



#### Rugged

Lightweight aluminum 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

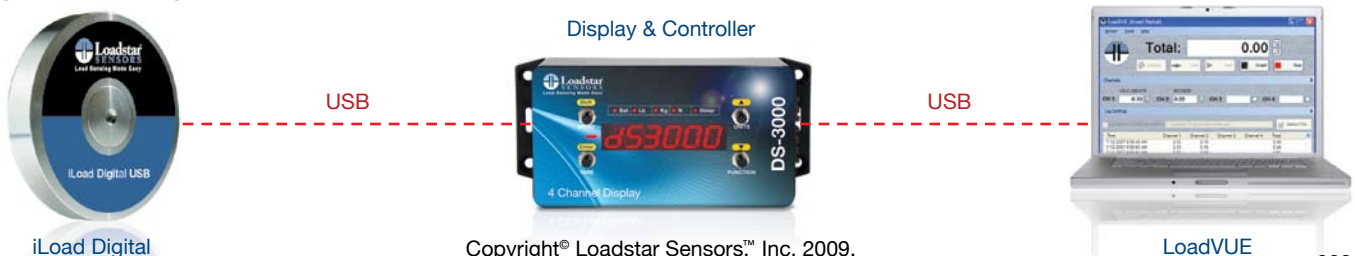
Threaded mounting holes for easy attachment using standard fixtures.

## Here's How It Works



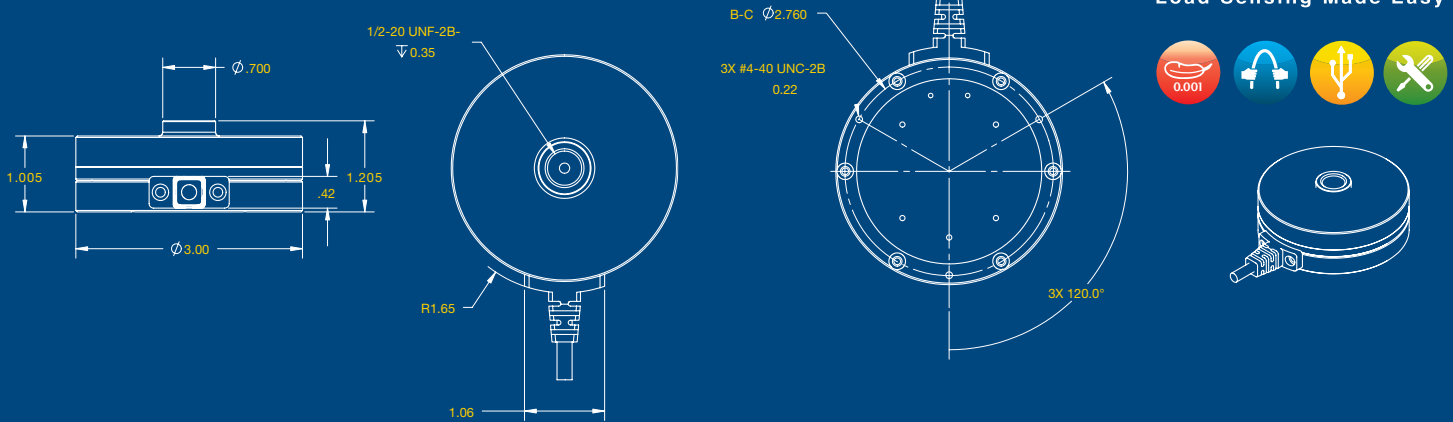
Simply connect the digital load cell to a PC via the USB port. The digital load cell appears on the PC as a virtual COM port. Using a standard terminal emulator, send commands to the sensor to directly display sensor outputs in pounds as ASCII text. You can query loads one reading at a time or get a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

## Dimensions



## Load Cell Specifications

| Accuracy w/tare (% of FS) | Non-linearity                         | Hysteresis | Non-repeatability |
|---------------------------|---------------------------------------|------------|-------------------|
| 2 lb.                     | ±1 %                                  | ±1 %       | ±1 %              |
| 5 lb.                     | ±1 %                                  | ±1 %       | ±1 %              |
| 10 lb.                    | ±0.25 %                               | ±0.25 %    | ±0.25 %           |
| 50 lb.                    | ±0.10 %                               | ±0.10 %    | ±0.10 %           |
| Off Center Loading        | ±1% or better @ 0.625 in. from center |            |                   |
| 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-in. OD, 1.2-in thick top-to-bottom |

### Electrical

|              |  |
|--------------|--|
| Input Power  | Input power from USB Digital Output - USB 2.0 (5V at 60mA)   |
| Mating Cable | USB 5-pin mini-B to male USB-A 6' long included<br>Optional 10' cable available<br>Optional 16' active extender cable available (UX-100) |

### 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) |

### Alternative Load Cell Configurations

With Inline Adapter (TX-300TA)



With Platform (FP-325)



With Rod End (RE-325)



With Tension Adapter (TX-300TA) & Rod Ends (RE-325)



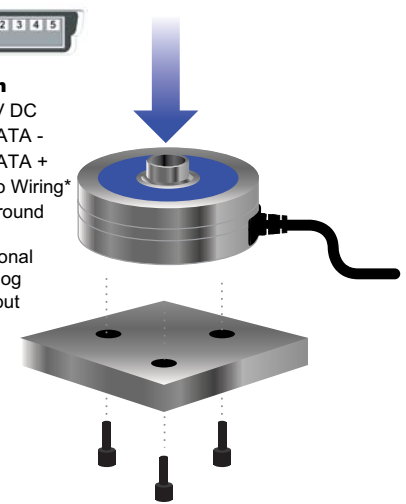
## Suggested Use



### 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 multiple stepped areas with tapped mounting holes. Mount the load cells on a flat surface and apply loads perpendicular to the sensor body. Avoid side loads and twisting loads. Use under steady temperature conditions for best results.

### Certifications



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