Loadstar ®
S E N S O R S
Sensing Made Easy

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! *"*

Alternative Configurations

With Inline Adapter (TX-300TA)

With Rod End (RE-325)

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

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
* Aluminum or Stainless Steel construction
* Mechanically robust
* Weather-resistant packaging available.

Easy Attachments

* Convenient, robust mounting on top and bottom of sensor

Ordering Information

Multiple Load Cell Capacities Compression or Tension Load Cells		
iLoad TR Digital	Part No.	Analog
2 pounds	TUF-002-100-A	TAF-002-100-A
5 pounds	TUF-005-100-A	TAF-005-100-A
10 pounds	TUF-010-050-A	TAF-010-050-A
50 pounds	TUF-050-025-A	TAF-050-025-A
100 pounds	TUF-100-025-S	TAF-100-025-S

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

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.
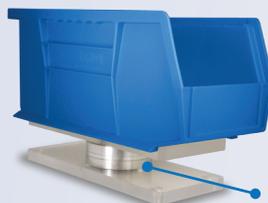
Here's How It Works

Force

Digital USB Signal

iLoad TR USB

1 Sense

2 View & Process
LoadVUE Software

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.
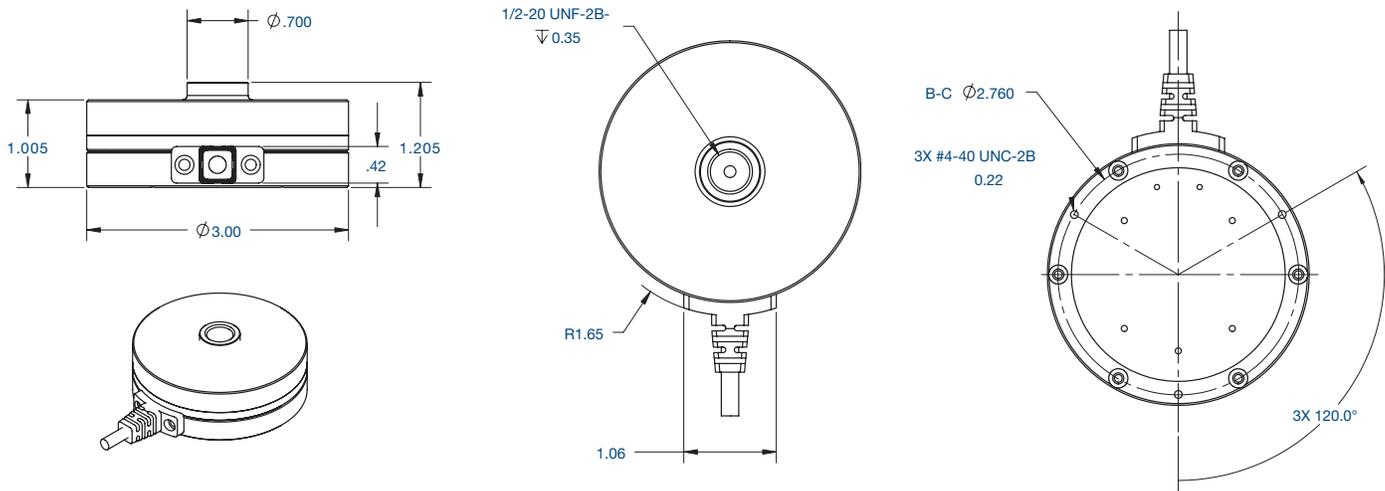
Additional Configurations

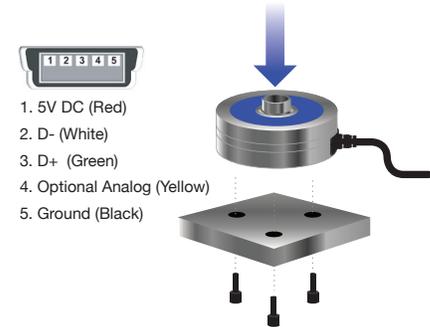# Inventory Management Scales
Rack & Louvre Scales

iLoad TR USB

iLoad TR USB

Accuracy Specifications At Room Temperature ~25°C

Accuracy · with tare (% of FS)	2 lb.	5 lb.	10 lb.	50 lb.	100 lb.
Non-linearity	± 1%	± 1%	± 0.5%	± 0.25%	± 0.25%
Hysteresis	± 1%	± 1%	± 0.5%	± 0.25%	± 0.25%
Non-repeatability	± 1%	± 1%	± 0.5%	± 0.25%	± 0.25%

Load Cell Specifications

Off Center Loading	± 1% or better @ 0.625 in. from center
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, 1.2-in thick top-to-bottom
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. Optional 10' cable available. Optional 16' active extender cable available (UX-100)
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)

Suggested Mounting

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

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

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

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-300TA Inline Adaptor | RE-325 Rod End | FP-325 Foot Pedal | Caster Wheels | EB-325 Eye Bolt | LB-325 Load Button | LF-325 Leveling Foot

Software	
LV-100	page 127
LV-400	page 128
LV-1000	page 127
LV-4000	page 128
LV-4000R	page 128
LV-4000HS	page 128
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SensorVUE	page 128