

# Upgrade to a Digital Truck Scale Using iQube

All electronic weighing systems perform an analog-to-digital conversion to display weight as a digital readout so that weight data can be processed. The primary difference between current digital truck scale designs is where that conversion takes place: at each load cell or a junction box.

Some truck scales use an analog-to-digital, or simply digital load cell. The digital conversion takes place at the load cell while the indicator makes estimates from the load cell's amplified digital signal.

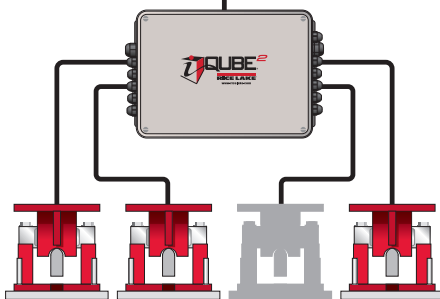
However, with analog load cells and an iQUBE<sup>2</sup>, diagnostic functions are performed in the junction box. iQUBE<sup>2</sup> performs both analog-to-digital conversion and diagnostic estimation, meaning sensitive electronic components are less susceptible to damage from vibration and moisture.

*iQUBE<sup>2</sup> delivers the same diagnostics as a digital load cell— at a fraction of the cost*

*With iQUBE<sup>2</sup>, analog to digital conversion happens at the junction box, meaning sensitive electronics are less likely to be damaged by vibration and moisture*

*iQUBE<sup>2</sup> can be used with non-Rice Lake load cells, giving you more options*

*Using cell emulation, iQUBE<sup>2</sup> ensures your scale can weigh temporarily even after a load cell failure*



## Superior Load Cell Diagnostics with iQUBE<sup>2</sup>

iQUBE<sup>2</sup> offers the same load cell diagnostics as a truck scale using a digital load cell, but for a fraction of the cost. This advanced junction box runs diagnostics for failed cells, weighing errors and system health.

If a load cell does not return to zero, it may be due to scale binding or damage to the load cell. Unfortunately, just one defective load cell can uproot the entire system. Rice Lake's iQUBE<sup>2</sup> junction box measures the signal of each individual load cell, enabling it to detect problems and pinpoint the area before it becomes a concern.

When load cell tolerance is exceeded and a scale is nonlinear, typically the operator won't notice until an inventory shortage has already occurred. However, with iQUBE<sup>2</sup>, linearity is verified by monitoring load cell tolerances, meaning inventory will be full and accurate.

Instability, or noise, is a common scale system problem triggered by deteriorating resistance to ground. Noise is often confused with environmental factors such as wind or vibration. Just one faulty load cell can cause system instability, which is why iQUBE<sup>2</sup> monitors individual load cells as well as overall system health.

## Cell Emulation

With cell emulation, iQUBE<sup>2</sup> is capable of calculating what the weight of a failed load cell should be based on comparisons to functioning load cells. iQUBE<sup>2</sup> ensures your scale can continue weighing temporarily even after a load cell failure. This can mean the difference between continuing an efficient process or having to shut down the plant.

Rice Lake's iQUBE<sup>2</sup> provides the same sophisticated diagnostics as a truck scale using a digital load cell. Because analog-to-digital conversion occurs at the junction box instead of the load cell, it is less likely to be damaged by normal wear and tear. Combined with routine testing for zero return, linearity, noise and drift, this makes iQUBE<sup>2</sup> a superior junction box.

**RICE LAKE**  
WEIGHING SYSTEMS

230 W. Coleman St. • Rice Lake, WI 54868 • USA  
TEL: 715-234-9171 • FAX: 715-234-6067 • [www.ricelake.com](http://www.ricelake.com)

An ISO 9001 registered company • Specifications subject to change without notice.