

QUBE³

DIGITAL DIAGNOSTIC JUNCTION BOX
DESIGNED FOR 1280 ENTERPRISE™ SYSTEMS



RICE LAKE[®]
WEIGHING SYSTEMS

800-472-6703

www.ricelake.com



Update Your Analog Systems with Digital Diagnostics



Upgrade analog weighing systems without converting to digital load cells



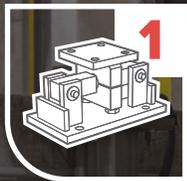
Increase confidence in system accuracy with performance notifications
from the 1280 Enterprise Series indicator



Simplify installation, maintenance and calibration to maximize uptime



Support up to 24 load cells in more complex weighing systems



Maximize Uptime

Any analog load cell can take advantage of a less noisy, more stable weight readings the iQUBE³ digital signal provides. Load cell emulation and built-in reporting of load cell status, voltages and error conditions maximize your scale's uptime.

Because each load cell is individually monitored, operators receive immediate visibility into issues including drift, instability or a failing load cell. The iQUBE³ also provides cleaner digital signal transmission, better noise immunity and simple plug-and-play configuration, making scale maintenance quicker and more accurate overall.

Transform Any Analog System with Improved Diagnostics



Rice Lake Weighing Systems' iQUBE³ digital diagnostic junction box sets a higher standard for precision, speed and ease of operation in modern weighing systems. Engineered with built-in wired Ethernet, convenient USB connectivity and a redesigned service kickstand for easier access during setup, the iQUBE³ transforms scale performance and troubleshooting efficiency.

Whether upgrading an existing system or installing a new weighing solution, the iQUBE³ delivers smarter diagnostics, faster installations and improved digital reliability—helping operations maximize uptime and get the most from every weighing.

Kickstand provides easy access for wiring and system setup.



Simple, Fast Setup

Choose from the intuitive setup wizard or Revolution[®] software to easily connect up to 24 analog load cells. The built-in kickstand provides quick access to the ports, load cell connectors and option board, ensuring a quick and smooth installation.

The iQUBE³ junction box offers built-in Ethernet and USB-C connectivity to the iQUBE³ CPU board, ensuring reliable communication. Diagnostics, including load cell health LED indication and Cal-Match[®] auto-trim calibration, not only make setup simple, but also help technicians quickly troubleshoot systems.

iQUBE3 Live Diagnostics NOT Legal for Trade

Normal Emulation Failed

Port 1 - Scale 1 Total: 10020

LC1 C:0.0 D:0.0	LC2 C:1460 D:0.0030	LC3 C:0.0 D:0.0230	LC4 C:1480 D:-0.0120	LC5 C:1440 D:0.0008	LC6 C:1460 D:0.0088	LC7 C:1480 D:-0.0002	LC8 C:1440 D:-0.0120
LC16 C:1460 D:0.0041	LC15 C:1460 D:0.0058	LC14 C:1460 D:-0.0253	LC13 C:1440 D:0.0001	LC12 C:1460 D:0.1125	LC11 C:1480 D:-0.0024	LC10	LC9



Load Cell error: Cell Range error 3: 1(13.19)



Scale #1 Notification

To Weigh Master Group

SCALE 1 Load Cell error: Cell Range error 3: Disconnected



1280 Enterprise

Alert History

5:13 PM 09/02/2026
SCALE 2 Error cleared: CELL

5:13 PM 09/02/2026
SCALE 2 Scale Cell error: Cell Range error 1: 1(-1.988)

5:16 PM 09/02/2026
SCALE 3 Error cleared: COMM

3:11 PM 09/02/2026
System Comm error PORT 2

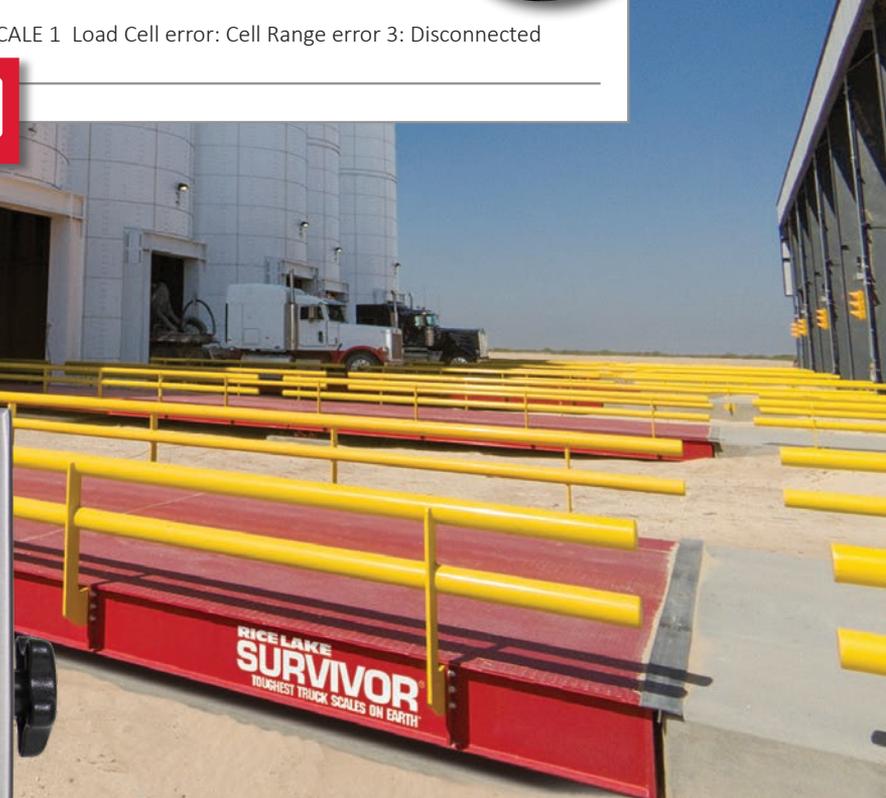
3:09 PM 09/02/2026
SCALE 1 Error cleared: COMM

Records: 1-5 of 8

RICE LAKE WEIGHING SYSTEMS

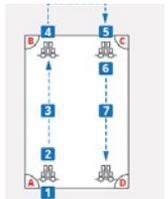
ENTER UNITS ZERO TARE PRINT TARE

1 2 3 4 5 6 7 8 9 0 CLEAR



iQUBE3 Scale Calibration

3. Slowly move cart to corner "B".
4. "Pause" sampling.
5. Move cart to corner "C".
6. Press "Resume" to continue sampling.
7. Slowly move cart to corner "D".



Pause



Back

Next >

Finish

Pair with the 1280 Enterprise™ Series Indicator

The iQUBE3 junction box is designed to work with the 1280 Enterprise indicator and any analog load cells. The 1280 indicator can be configured to send automated messages regarding load cell diagnostics, ensuring technicians are able to address errors quickly, minimizing downtime and increasing confidence in weighing system accuracy.



DIGITAL DIAGNOSTIC JUNCTION BOX
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“Adding the bridge resistance option has increased our confidence in the system’s long-term reliability and operational life”

Resistance Test Results

Resistance : Load Cells

1	Exc: 409.9 Ω	Sig: 349.7 Ω	All Readings
2	Exc: 398.7 Ω	Sig: 349.8 Ω	All Readings
3	Exc: 397.5 Ω	Sig: 349.7 Ω	All Readings
4	Exc: 399.4 Ω	Sig: 350.0 Ω	All Readings
5	Exc: 395.8 Ω	Sig: 348.6 Ω	All Readings

Bridge Resistance Option

Optional bridge resistance boards may be added to the iQUBE³ to analyze load cells without disconnecting them at the scale platform. Using the 1280 Enterprise interface, the iQUBE³ can quickly test load cell status and bridge resistance.

Fiber Optic Protection

Fiber optic option instead of the standard serial communication provides complete electrical isolation between the 1280 and the iQUBE³. By eliminating any conductive path, fiber optics protect both devices, and other connected equipment, from ground loops, electrical noise, lightning-induced surges and differences in ground potential. This results in a more stable and accurate signal transmission and improved system reliability - especially in electrically noisy and high-risk industrial environments.

iQUBE³ STANDARD FEATURES

- Designed for weighing systems using the 1280 Enterprise™ Series indicator
- iQUBE³ CPU board: Four A/D channels, SD Slot, RS232/485, four DI/Os, Ethernet TCP/IP (wired), USB-C
- iQUBE³ CPU board supports networking up to four iQUBE³ four-channel boards (four A/D channels each), for a total of 24 A/D channels; connection can be up to four separate scales and a system total
- Diagnostic routines for weighing errors and system health
- Additional diagnostics for overloaded, underloaded, zero reference, drift, noise and unbalanced conditions
- Onboard status LEDs for communication and visual bi-color indication of load cell health
- Load cell emulator compensates for a failed load cell
- Cal-Match[®] algorithm automatically trims and calibrates the scale in one pass of test weights (stopping over each load cell)
- Two Option Slots available

OPTIONS/ACCESSORIES

- Fiber optic
- Analog output: 16-bit resolution, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA
- Relay or Serial (two RS-232 or RS-422/485)
- Bridge resistance board

iQUBE³ SPECIFICATIONS

VOLTAGE INPUT:	AC voltage: 100 to 240 VAC; 50/60 Hz DC voltage: 9 to 36 VDC
ANALOG SIGNAL INPUT RANGE:	-51 to +51 mV
ANALOG SIGNAL SENSITIVITY:	0.3 uV/grad at 30 Hz 0.5 uV/grad at 100 Hz 1.2 uV/grad at 500 Hz
A/D SAMPLING RATE:	2.5 to 500 Hz (selectable)
DIGITAL I/O:	Four per card, for push-button operation, setpoint control or cell status 24 mA per DIO at 5 V
COMMUNICATION PORTS:	RS-232/RS-422/485 USB-C Ethernet TCP/IP, wired standard Ethernet TCP/IP, optional wireless
LOAD CELL INPUTS:	Connect up to 24 load cells (four, per board)
LOAD CELL EXCITATION:	3.3 VDC, 38 mA maximum per channel Up to 24 × 350 ohm load cells
RATING/MATERIAL:	Polycarbonate (NEMA Type 4X) enclosure Stainless steel (NEMA Type 4X) enclosure with hinged cover
TEMPERATURE:	Certified: 14 °F to 104 °F (-10 °C to 40 °C) Operating: -40 °F to 140 °F (-40 °C to 60 °C) Storage: -40 °F to 158 °F (-40 °C to 70 °C)
WARRANTY:	Two-year limited

APPROVALS



Measurement
Canada
Approved
Pending

