

RICE LAKE®
WEIGHING SYSTEMS

Weight Indicator Guide





At Rice Lake Weighing Systems, our goal is to be the best by every measure. When all else is equal, three things will make your experience with us distinctly different:

Service. Selection. Speed.

Our roots are firmly planted in the principles of quality and customer service. Through three generations

of family ownership, these ideals remain unchanged. As an international leader in the manufacture and distribution of weight-related products and process-control equipment, our experts know digital weight indicators and are here to guide you to the right one.

Rice Lake's digital weight indicators are available as standard models or with custom programming and enclosures to handle everything from the most basic to the most complex of tasks. Rice Lake's durable and reliable indicators can handle any challenge.

**Rice Lake
Contact
Information**

Toll Free USA:
800-472-6703

Direct:
715-234-9171

Toll Free Canada/Mexico:
800-321-6703

Fax:
715-234-6967

Email:
prodinfo@ricelake.com

Website:
www.ricelake.com

**24/7 Emergency
Contact
Information**

Your service doesn't stop when the office is closed and neither does ours. Simply call 800-472-6703 and press 1 to reach on-call personnel outside of our normal business hours.

**Table of
Contents**

**PROGRAMMABLE
WEIGHT INDICATORS**

1280 Enterprise™ Series	4
920i® and 720i™	6
880 Performance™ Series	8

**GENERAL PURPOSE
WEIGHT INDICATORS**

682 Synergy Plus	10
680 Synergy Plus	11
680HE Synergy	12
381 Synergy Series	13

BASIC WEIGHING

380/380X Synergy Series	14
Counterpart® Counting Indicator	15

**SIGNAL CONDITIONING
TRANSMITTERS**

SCT Series SCT-1PX, SCT-1SX, SCT-2200, SCT-4X and SCT-1100	16
---	-----------

**SPECIALTY WEIGHT
INDICATORS**

SCT-4XD/1280 HMI Belt/Solid Flow Metering	18
882IS Performance™ Series Intrinsically Safe Indicators	19
882D Performance™ Series Belt Scale Integrator	19
CW-90X Over/Under Washdown Checkweighing	20
CW-90 Over/Under Checkweighing	21

**REMOTE DISPLAYS/
LARGE-DISPLAY WEIGHT
INDICATORS**

LaserLT-60/LaserLT-100	22
LaserLight3™	23

1280 Enterprise Series

Programmable with iRite®
Color Touchscreen



The 1280 Enterprise Series programmable indicator provides fast operation and easily expands to grow with your business. The 1280 has more than 150 built-in functions and custom applications can be created with Rice Lake's iRite® software. Multitasking is simple with the 1280's highly customizable graphical display, quad core processor and its ability to power up to eight scales.

The 1280 has a durable color touchscreen available as either a 7- or 12-inch LCD display that can be used even when the operator is wearing gloves. A built-in web server provides remote access, systems integration and data monitoring. The 1280 can communicate with handheld devices, printers, PLCs or PCs connected to the same network.

The 1280 is built with industrial-grade components and stainless steel enclosures. The universal mount features IP69K protection, the wall mount is rated for IP66 and the panel mount boasts IP69K with NEMA Type 4X and 12.



FEATURES

- Graphical color display adjusts for ambient light conditions
- Built-in web server for remote access, systems integration and data monitoring
- Five built-in applications with 150 functions for common processes and data tables: vehicle in/out, axle weighing, static checkweighing, counting, filling/dosing and recipe storage
- Customize applications and data collection with event-based programming using iRite™ software
- Customizable 7- or 12-inch touchscreen display
- Three different enclosure types: universal with tilt stand, panel mount and wall mount
- On-screen keyboard available during entry mode or use an external keyboard
- Multi-language operation and text entry
- Up to eight scales supporting analog load cell scales, total scales, serial scales, iQUBE2 scales and program scales
- Six option card slots for A/D scales, digital I/O, serial ports, analog input, analog output and fieldbus interfaces
- Multi-range/interval weighing functions
- Eight digital I/O for control and pulse count
- 100 setpoints, 18 configurable setpoint kinds
- 22 softkeys with 10 user-defined keys
- Two RS-232 and RS-485 serial ports
- Standard USB, Ethernet TCP/IP and Wi-Fi® Direct



**Built-in
Web Server**



i Series

Programmable



The i Series programmable digital weight indicators are designed to increase productivity in a wide variety of environments and applications. Functional and easy to use, i Series indicators can manage any weighing process and are expandable for seamless system integration.

FEATURES

- Configurable softkeys for an enhanced human machine interface
- Programmable display prompts guide operators through functions
- Backlit, graphical LCD display

Additional features include: programmability, local/remote, configurable print/stream formats, linear 5-point calibration, truck in/out modes and 16 x 350 ohm load cells per A/D card.

920i and 720i have batch and free-running setpoints.

920i®



The 920i programmable digital weight indicator automates complex industrial processes without sacrificing user-friendly operation. It features multiple scale channels and accommodates many scale types, including serial scale, total scale and digital diagnostic junction box.

- Custom programming can store ID numbers, transactions, formulas, label formats and PLUs
- Customizable display with 10 screens and softkeys
- Expandable with up to 14 option card slots, USB, Network Cards and Ethernet TCP/IP available.
- Serial communication standard

720i™



The 720i programmable digital weight indicator is built with high-end features at a mid-level price point. It is available with programmable or batching firmware, and features truck in/out selections and advanced truck weighing features.

- Standard truck in/out selections or advanced truck mode
- Store up to 1,000 truck in/out records
- Eight onboard digital I/O
- One option card slot with eight option cards to choose from

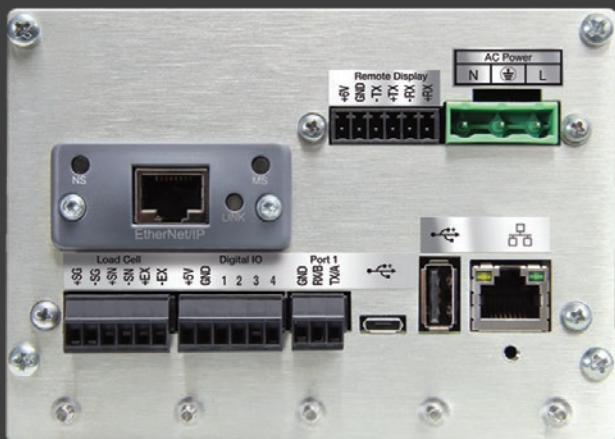
880 Performance[™] Series

Controller



The 880 Performance Series is built for enhanced communication. With two different enclosure types to choose from, Rice Lake's 880 Performance Series exceeds your expectations wherever you need it.

Additional features include: programmability and option slot for fieldbus communications or expansion with additional serial ports or digital I/O.



FEATURES

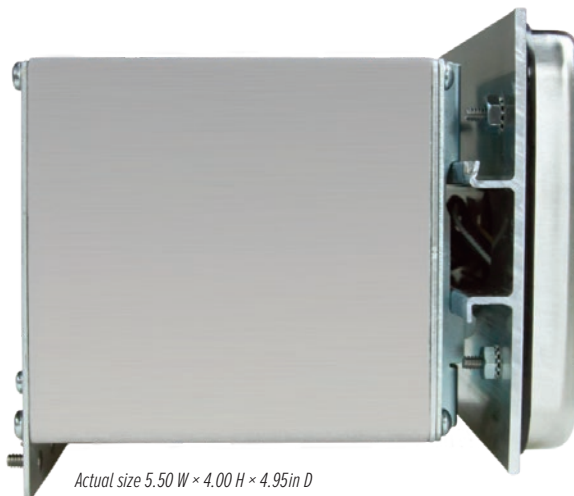
- Onboard USB (device), Ethernet TCP/IP (server and client) and RS-232 or RS-485
- NEMA Type 4X/IP69K enclosure
- Batch engine with 20 setpoints and 12 setpoint types
- Multi-range or multi-interval weighing
- LED display, 0.56 inch, 7-digit, 14-segment
- Four digital I/O channels
- Custom ticket and stream formatting
- Option cards and iRite programmability expand functionality for network protocols, analog output, relays, dual serial output or 24-channel digital I/O
- Panel mount DIN-rail mounted controller or door mounted display (880)
- Universal enclosure with numeric keypad (880 Plus)



Modular Controller Box

Option Slots

EtherNet/IP [™]	EtherCAT
ProfiNet [®]	Analog Output
ModBus TCP [®]	4-Channel Relay
DeviceNet [®]	24-Channel I/O
Profibus [®] DP	Dual Serial Ports



Actual size 5.50 W × 4.00 H × 4.95in D

682 Synergy Plus

General Purpose Weighing



The 682 Synergy Plus digital weight indicator pairs advanced features with the simple operation of a basic weight indicator.

A 304 stainless steel construction and IP69 rating ensure the 682 can withstand high pressure, high temperature washdown environments. Configurable softkeys and a bright LCD screen create a user-friendly interface.

Connections to external devices and networks are available through a variety of communication options while a built-in web server provides remote monitoring and process control. The 682 also has an integrated truck in/out mode for vehicle scales, alongside static and dynamic checkweighing for processing facilities.

FEATURES

- Graphical, LCD color display with configurable softkeys
- Numeric, tactile keypad for scale operations
- Formattable tickets
- Battery-backed time and date
- Multiple communication options
- Fieldbus communication using Rice Lake's SCT-2200 modules and RS-485 port
- Four onboard configurable digital I/O points, TTL logic
- Standard RS-232, RS-485, USB, wired/wireless Ethernet TCP/IP, fieldbus and wireless personal area network (WPAN)
- Built-in web server
- Built-in batch presets

680 Synergy Plus

General Purpose Weighing



The 680 Synergy Plus combines the powerful features of advanced instrumentation with the easy-to-use functions of basic indicators.

20 setpoints and four digital I/O allow the 680 to perform basic batching and filling operations. A configurable batch engine allows users to design a multi-step procedure and run it automatically from beginning to end.

With multiple onboard communication options, the 680 provides connection to several devices, including printers and computers.

FEATURES

- Bright seven-digit, seven-segment LED display
- Battery-backed time and date
- Full numeric keypad
- Three serial ports: two RS-232, one full duplex RS-485
- Formattable tickets
- Ethernet TCP/IP
- USB device
- Stainless steel IP69K enclosure
- Built-in batch presets

680HE Synergy

Hostile Environment



The 680HE hostile environment weight indicator is made to withstand the demands of corrosive environments. Ideal for applications with a high concentration of corrosive substances such as chlorine, the 680HE has an FRP enclosure and IP66 rating for reliable protection.

The large display size and local/remote capability give the 680HE the option to be used as a secondary display. Configure the display's color as red or green for clear visibility in any environment. The 680HE has multiple communication options to connect to devices such as printers and PCs.

FEATURES

- Bright six-digit, 2.5-in tall, seven-segment, two-color LED display
- Battery-backed time and date
- Full numeric keypad
- Three serial ports: two RS-232, one full duplex RS-485
- Numeric keyed entry allows for tare and setpoint entry
- Formattable tickets
- Ethernet TCP/IP
- USB device
- IP66 FRP enclosure
- Four onboard configurable digital I/O points, TTL logic

381 Synergy

Basic Weighing



A reliable and cost-effective solution, the 381 Synergy Series has an ABS plastic enclosure and is ideal for portable weighing with two battery models available.

The AA battery model provides up to 40 hours of operation and has an IP54 rating. Optional external power supply also available.

The nickel metal hydride (NiMH) battery model provides up to 80 hours of operation with an IP66 rating.

FEATURES

- LCD display provides clear visibility
- Battery powered operation
- Five tactile buttons
- Push-button and keyed tare
- Two communication ports
- Configurable print formats
- ABS enclosure

380X Synergy 380 Synergy

Basic Weighing



The 380X Synergy Series is designed for extreme environments and features a lithium-ion battery provides up to 45 hours of continuous use. Its stainless steel construction and IP69K rating allow it to withstand washdown procedures.

The 380 Synergy Series is ideal for straightforward weighing applications. It has a 304 stainless steel, IP66 rated enclosure. Easy to use, the 380 Synergy is powered by alkaline batteries that can provide up to 100 hours of continuous use.

FEATURES

- LCD display
- Two communication ports: RS-232 (three-wire) and USB 2.0
- Configurable print formats
- Five tactile buttons
- Push-button and keyed tare

380X

- Battery powered, internal charger
- IP69K, 304 stainless steel



Counterpart®

Counting



Counterpart is a configurable indicator with precise internal resolution. It counts any part, from tiny resistors to heavy engine parts, accurately, quickly and easily. Offered in a choice of dual scale or single scale, the Counterpart can be connected to analog scales or serial scale/balance inputs. Easy to transport throughout a plant and ideal for seasonal or permanent installations, the Counterpart is rugged, lightweight and portable.

FEATURES

- LCD graphical display, transmissive for indoor viewing
- Single or dual channel models with serial scale input
- Four setpoint outputs
- Onboard storage up to 150 IDs, expandable with WeighVault™ PC software option
- Two standard RS-232 ports
- Optional battery power

Shown with scale, printer and scanner.



SCT Series

Signal Conditioning Transmitter



Signal conditioning transmitters (SCTs) offer weight data control for PLCs and are more compact than traditional weight indicators. These systems allow for the direct reading and diagnosis of each individual load cell or all system load cells summed as a whole.

Functions are shown in real-time, allowing operators to quickly analyze load cell functions whether operators are viewing remotely or in the physical location. SCTs can manage multiple load cells and Rice Lake Tools software can be implemented. A wide range of fieldbus communications can be connected, along with wireless personal area network (WPAN), Wi-Fi and radio interfaces. Explore a quick menu for real and theoretical calibrations.

The integrated web server allows operators to remotely monitor, calibrate and configure the fieldbus models of SCT-1PX, SCT-4X, SCT-1SX and SCT-2200.

QUICK COMPARISON

	Analog Signal Sensitivity	A/D Sample Rate	Excitation Voltage	Communication / Serial Port	Supported Modules / Protocols*	Web Server Compatibility
SCT-1PX	Minimum: 0.01 μ V/graduation Recommended: 0.3 μ V/graduation	24-bit A/D Single channel up to 4,800 Hz	5 VDC, 230 mA 16 \times 350 ohm load cells	1 Micro USB RS-485	EtherNet/IP™, PROFINET IO, or Modbus/TCP (Fieldbus version)	Yes
SCT-1SX	Minimum: 0.01 μ V/graduation Recommended: 0.3 μ V/graduation	Up to 4,800 conv/sec.	5 VDC, 120 mA 16 \times 350 ohm load cells	1 Micro USB RS-485	EtherNet/IP™, Modbus/TCP, PROFINET	Yes
SCT-2200	Minimum: 0.03 μ V/graduation Recommended: 0.3 μ V/graduation	One channel A/D Up to 200 conv/sec. auto select	5 VDC, 120 mA 8 \times 350 ohm load cells	RS-485 RS-232	EtherNet/IP™, DeviceNet, PROFIBUS DP, Modbus/TCP, PROFINET, EtherCAT, CANopen, Ethernet TCP/IP, Wi-Fi	Yes
SCT-4X	Minimum: 0.01 μ V/graduation Recommended: 0.3 μ V/graduation	Up to 2,600 conv/sec. (single channel) Up to 100 conv/sec. (four channel)	5 VDC, 120 mA up to 16 \times 350 ohm load cells	1 Micro USB RS-485 RS-232	EtherNet/IP™, Modbus/TCP, PROFINET	Yes
SCT-1100	Minimum: 0.03 μ V/graduation Recommended: 0.3 μ V/graduation	Four channel A/D Up to 200 conv/sec. auto select	5 VDC, 120 mA 8 \times 350 ohm load cells	RS-485 RS-232	Modbus/TCP, Ethernet TCP/IP	No

*The following references: EtherNet/IP™, DeviceNet™, PROFIBUS® DP, Modbus™, PROFINET™, EtherCAT™, and CANopen™ are the property of their respective trademark holders.

SCT-4XD 1280 Enterprise™

*Belt Scale Integrator
Solid Flow Metering*

*SCT-4XD is shown
with optional
enclosure.*



The SCT-4XD is a high-speed integrator designed to manage up to four load cells, providing individual millivolt levels for each load cell.

Two operating modes, belt or solid flow metering, offer flexibility for different applications.

The SCT-4XD performs seamlessly with self-contained DIN rail integration when an operator HMI is not required.

It can also be paired with the 1280 terminal to enhance usability with a resistive touchscreen and intuitive interface for real-time diagnostics.

FEATURES

SCT-4XD

- Self-contained DIN rail integration when operator HMI is not required
- Manage up to four load cells (one scale)
- Dual encoders and outputs for automatic test weight application
- Remote calibration and configuration
- Micro-USB communication port for configuration, diagnostics and data backup (RL Tools software)
- Removable terminal blocks to simplify wiring in the electrical panel

1280 Enterprise

- Web server and system configuration menus
- Resistive touchscreen with real-time diagnostics
- Fieldbus: EtherNet/IP, PROFINET, Modbus TCP/IP
- Analog output

882IS Performance™

882D Performance™

*Intrinsically Safe Controller
Belt Scale Integrator*



*882IS is
available with a
numeric keypad*

The 882IS and 882D are specifically designed for harsh environments. With advanced programming capabilities and I/O options, product dosing and metering can be accurately managed.

FEATURES

882 Series

- LCD, 7-digit display
- Stainless steel IP66
- I/O modules
- Analog outputs

882D

- Polled or continuous EtherNet™ TCP/IP
- Speed inputs
- Audit trail tracking
- Option slots: ProfiNet®, DeviceNet®, ProfiBus® DP, ModBus TCP®, EtherCAT

882IS

- FM/cFM
- ATEX/IECEx
- Dual duplex fiber-optic interface
- Optional FM approved rechargeable battery

CW-90X

Over/Under Checkweighing
Piezo Keypad



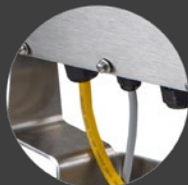
The CW-90 and CW-90X checkweighing indicators are designed to help speed up your weighing process and reduce production downtime. The configuration menus of the CW-90 and CW-90X are accessible through the front keypad, eliminating the need to open the back of the indicator and expose the device to moisture or contaminants.



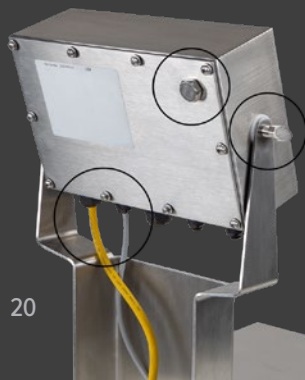
Gore™ PreVent® breather vent
(CW-90 and CW-90X)



Stainless steel tilt knobs
(CW-90X only)



Vibrant power cord for easy
cleaning (CW-90X only)



CW-90

Over/Under Checkweighing
Membrane Keypad



QUICK COMPARISON

	CW-90X	CW-90
IP rating (indicator)	IP69K	IP66
Keypad construction	Piezo (withstands knife point contact)	Membrane
Gore™ PreVent breather vent	Stainless steel	Plastic
Tilt knobs	Stainless steel	Plastic
LED display	0.8 in (20.3mm)	0.8 in (20.3mm)
Over/under light indicators	Yes	Yes
Digital I/O on CPU	4 configurable I/O	4 configurable I/O
Two full duplex serial ports	Yes	Yes
Storage for up to 50 IDs, expandable with WeighVault	Yes	Yes
Power cord	Yellow Power Cord	Black Power Cord
Washdown	NSF	No
WeighVault PC Software	Target Weight, Over/under weight, tare weight, unit of measure, ID number and description	

LaserLT-60 and LaserLT-100

*Remote Displays/
Large Display Weight Indicators*



The LaserLT-60 and LaserLT-100 clearly display weight data up to 150 feet away and can also be used as large-display weight indicators. The incoming data format can be interfaced through a set function or with a manual setup. The LaserLTs have adjustable display brightness, stainless steel enclosures and anti-condensation air valves to regulate humidity.

FEATURES

- Available as a 2.4 in (60 mm) or 4 in (100 mm) display
- Six-digit display with high-intensity LEDs
- Auto Learn identifies and interprets the source weight data string for maximum compatibility with a wide range of indicators
- Configuration for format length, weight location, termination character
- Integrated waterproof keypad
- The removable back wall mount bracket has a 15-degree viewing angle
- Anti-condensation air valve regulates humidity and pressure
- Power from 12 to 24VDC, comes with 110-240VAC internal power supply

LASERLIGHT 3™

*Remote Displays/
Large Display Weight Indicators*



LaserLight3 has a full-color display for weight, symbols and messages—available as either a remote display or large-display weight indicator.

The vibrant 128 by 32-pixel LED display features a non-glare lens, mirror mode for reverse images, and adjustable intensity for clear visibility day or night. Auto-learning mode enables the LaserLight3 to process communication protocols from a wide range of indicators. Mounting options include VESA, flange and pole configurations for application flexibility.

FEATURES

- High-intensity characters, up to 5-inch height, with color commands for background, foreground and text
- Software selectable time/date when the displayed weight is at zero
- Durable IP66 weathertight enclosure with Gore-Tex® breather vent to inhibit internal moisture
- Ethernet TCP/IP, RS-232, RS-485, 20 mA passive loop
- Versatile layout choices include 1-line, 2-line and 4-quadrant format
- Dynamic messaging views can scroll, slide or flash



RICE LAKE[®]

WEIGHING SYSTEMS

230 West Coleman Street
Rice Lake, Wisconsin 54868 - USA
Tel: (715) 234 9171 | Fax: (715) 234 6967
www.ricelake.com