

**RICE LAKE**<sup>®</sup>  
WEIGHING SYSTEMS

# Sea Port Load Monitoring Solutions

Weighing Tool Kit

*Featuring Rice Lake's Measurement Systems  
International (MSI) brand of load monitoring  
solutions for sea port crane operations.*

800-472-6703  
[www.ricelake.com](http://www.ricelake.com)

# Sea Port Load Monitoring Solutions

Load protection systems for container and cargo boom cranes are integral components of safe and efficient port operations. Rice Lake's MSI load monitoring solutions are easily integrated into existing crane control systems, and specifically designed for your requirements.

MSI container and cargo boom crane solutions are engineered to integrate load pin and link sensors to provide overload and slack line data, as well as other valuable information. MSI load monitoring solutions are customized for your specific objectives and crane design, ensuring accurate and instantaneous load information for safe crane operation.

## Integrated Load Monitoring Solutions

### Crane Integrated Components

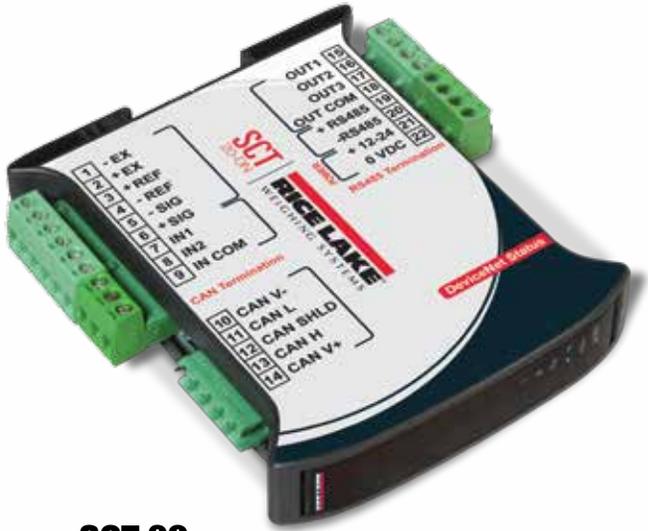
#### 920i® Indicator/Controller

The 920i programmable indicator can be cab-mounted for crane operator control or wall mounted to interface load data with the system control PLC.

#### 920i Programmable Indicator Specifications

- Display: 4.6 x 3.4 in (W x H), 320 x 240 pixel back-lit LCD graphical display
- Six onboard digital I/O
- 100 configurable setpoints
- Optional Fieldbus protocols: DeviceNet, EtherNet/IP, ControlNet, Profibus DP
- Approvals: NTEP CC 01-088





## SCT-20

The SCT-20 signal conditioning transmitter supplies a 4-20 mA signal to the crane control PLC. The SCT-20 is DIN-rail mounted in an optional protective enclosure for use in harsh, sea port environments.

### SCT-20 Specifications

- A/D sample rate: 300Hz (adjustable with filter settings 0-9)
- Digital inputs/outputs: Two inputs 5-24 VDC, three outputs 115 VAC/150 mA, N.O. or N.C. (dry contact)
- Display: 0.3 in (8 mm), six-digit, seven-segment LED display
- SCT converter dimensions (W x H x D): 0.98 x 4.52 x 4.72 in (25 x 115 x 120 mm)
- RS-485 or RS-232 serial output, supports ASCII and Modbus RTU
- Analog outputs for displayed weight of 0-20 mA, 4-20 mA, 0-10V, 0-5V or  $\pm 10V$  and  $\pm 5V$ ; selected as voltage or current; can track positive or negative weight values
- Optional field bus protocols: Device Net, EtherNet/IP, Profibus, Modbus/TCP

## TranSend™

TranSend RF wireless weighing system components transmit load data from the load sensor to virtually any location for control interlock or PLC interface.

### TranSend Specifications

- Accuracy:  $\pm 0.05\%$
- Power input: 90-264 VAC, 5-6 VDC, 120-300 VDC
- Service counters: Counts the number of loads applied over 25% of capacity and loads applied over capacity
- Event counter: Counts the number of loads applied over a user-defined threshold. Outputs to setpoints and a text string.
- Radio link: Direct sequence spread spectrum at 2.4 GHz, license free 802.15.4
- Data I/O: RS-232



## Load Pin, Link and Clamp-on Sensors

MSI load sensors are custom-engineered and fabricated to offer the very best in performance under the harshest environments.



# Below-the-Hook RF Crane Scale

## MSI-9300HT

The MSI-9300HT high-torque, below-the-hook crane scale has a unique and robust load train for power rotating applications. The crane scale system wirelessly sends load data to an MSI-9000CS attached to the main boom.

### MSI-9300HT Specifications

- Accuracy:  $\pm(0.1\% + 1 \text{ d})$
- Enclosure: NEMA 4 IP66, marine grade 356 alloy anodized cast aluminum
- Design overload: 200% safe/500% ultimate
- Power: 12 volt rechargeable battery, 115-230 VAC battery charger included
- Radio link: FHSS at 2.4 GHz (up to 64 network selections)

## MSI-9000CS

When interfaced with a load sensor, the MSI-9000CS CellScale wireless weighing system offers the most robust, RF wireless weighing communications available. When considering the scope of its unique and flexible feature set, the MSI-9000CS is the ultimate wireless crane load monitoring solution.

### MSI-9000CS Specifications

- Power input: 9-30 VDC (internal 85-265 VAC power supply optional)
- Scale inputs: Two sensor inputs and six terminal connections
- Radio link: FHSS at 2.4 GHz (up to 64 network selections)
- Internal setpoints: Three 60 V at 350 mA internal programmable solid state relay contacts
- Approvals: NTEP CC 05-077



## MSI-9850

An MSI-9850 CellScale™ RF digital weight indicator is ideal for remote crane scale operation. The indicator receives the load data from an MSI-9000CS for data-logging applications and operator control.



Receive more information about Rice Lake Weighing Systems' MSI sea port industry solutions for integrated container and cargo boom cranes by visiting [www.msiscalcs.com/SeaPort](http://www.msiscalcs.com/SeaPort).

Your Rice Lake Weighing Systems distributor is:

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