

WIRELESS WEIGHING FROM MSI



Certificate of Conformance 05-077A1



# MSI-9850 RF Digital Indicator

Network Solutions for Industrial Weighing and Process Control

**NEW!**  
FEATURES

**Available Now – Optional Ethernet Connectivity and Internal SetPoint Relays**

(See Options and Accessories for available configurations)

### Product Description

The MSI-9850 RF Digital Indicator is the latest addition to the CellScale product family. Combined with one or more CellScale devices, the MSI-9850 functions as a wireless remote terminal that provides complete control over scale and data functions. Each MSI-9850 can log on to 64 different networks allowing it to serve multiple CellScales and/or MSI Crane Scales with simple one-button network/channel (sensor/scale) changes. All CellScale features are supported, including Inter-Network Radio Messaging, Data Logging, Totalizing and Statistics.

The MSI-9850 features a large primary weight display that is easily read from a distance and an information display to provide network/channel detail. The information display also supports multiple CellScale channels allowing users to display up to 8 simultaneously. With a touch of a button, users can choose which channel to view on the primary weight display. Operation is straightforward through the alphanumeric keypad.

The MSI-9850 can remotely calibrate the CellScale and provides a simple user interface to the advanced features of the CellScale. All calibration data is stored in the CellScale allowing any MSI-9850 to be used with a CellScale based wireless weighing system without recalibration. Enhanced data acquisition, sophisticated data logging, and complete display of multiple sensors / scales can be initiated and managed with the MSI-9850.

Compact industrial packaging and flexible mounting allows the MSI-9850 to easily integrate with your existing equipment and provide outstanding performance in the most demanding applications. See also specification sheets for MSI-9000, MSI-9020, MSI-9750A, MSI-3750CS and MSI Crane Scales (MSI-6260CS, MSI-9300, MSI-9300HT and MSI-9260) for complete capabilities and networked wireless solutions.

### Specifications

#### Housing

Rugged milled aluminum, O-ring gasketed, NEMA 4, IP65 with standard antenna; NEMA 6, IP67 with optional long range antenna

#### Weight

2.8kg (5.0lb)

#### Temperature

Operating / Storage (Internal AC/DC Power):  
-20°C to +70°C (-4°F to 158°F)  
Operating / Storage (DC Power):  
-20°C to +85°C (-4°F to 185°F)

#### Approvals

NTEP; COC 05-077A1

#### Power Input

Internal AC/DC Power Supply: 85-265 VAC, 47-440Hz/130-300 VDC. Includes a separate, independent 7-25 VDC power input and remote switches (requires optional power/switch interface cable, MSI Part Number 13195)

#### Radio Link

Frequency Hopping Spread Spectrum @ 2.4 GHz providing 64 networks of scales and peripheral devices. Functions in the ISM band, license free. 10mW (low power), 63mW (medium power) or 250mW (high power) average output

#### Radio Link Effective Range

Typically 150m (500ft) indoors, 300m (1000ft) outdoors with standard antennas. The MSI-9850 operating range increases if Long Range Antennas are applied

#### Antenna

1/2 wave 2dBi, articulated standard antenna

#### RFI/EMI Shielding

Exceeds NIST HB44 and CE Standards

#### Keypad

33 keys – 12 key alphanumeric, 4 cursor keys, 7 control keys and 10 user programmable keys. Password protected lock features

#### Weight Display

- 6 digit, 30mm (1.2in) high numeric weight LED's
- 4 alphanumeric 13mm (0.5in) high data LED's
- 6 LED function select annunciators
- 10 backlit LED annunciators
- Low battery LED indicator
- Automatic brightness control

#### Information Display

- 36mm (1.4in) x 67mm (2.6in) backlit LCD; capable of 8 lines, 21 characters each
- Backlight selectable On, Off or Automatic

#### Connectors

RS-232: Turck compatible pico connector, 2m (6.5ft) adapter cable to IBM compatible DE-9 connector included

### Standard Features

#### Scale / Channel Monitoring

Monitors all scale channels, easy 1 button network and/or channel changes. Supports multiple display of CellScale Channels (up to 8 simultaneously)

#### Calibration

Remotely calibrates CellScale systems

#### Real Time Clock

Supports date/time stamping in U.S.A. and European formats

#### Internal Audible Alarm

4 unique tones available for both set and reset conditions

#### Data Logging

Captures weighment data automatically or manually

#### Bar Code Scanner Interface

Permits bar code scanners to connect directly to the MSI-9850

#### Inter-Network Radio Messaging

Receives and transmits RF messages to any virtual Comm Port (MSI-9020 CellModem) or directly to the master CellScale Comm Port 1

#### Data I/O

- 2 Comm Ports, baud rates 300 to 230.4K
- Comm Port 1 is RS-232, RS-422, RS-485 selectable
- Comm Port 2 is dedicated RS-232

#### Totalizing, Statistics and Product ID's

Stored in the CellScale, displayed on the MSI-9850 (Function Key or Automatic). Each ID code retains full statistics on totaled weighments. Up to 32 alphanumeric product ID's can be accessed and programmed

#### Set Point Outputs

5 relay driver outputs for 5V - 24V external relays. 4 relay driver outputs available when the 5V is provided by the MSI-9850

### Push-button Functions

#### Fixed keys:

**Power:** On/Off

**Zero:** Zeros weight on scale

**Net/Gross:** Switches display between Net and Gross weights

**Tare:** Tares applied load and displays the weight in Net mode

**Alpha:** Upper and lower case alpha character entry

**Enter:** Store parameters, enter menus, selects highlighted item, permits editing or selection of alternate functions

**Setup/Escape:** Setup functions or return to previous menus

**Clear:** Clears last entry

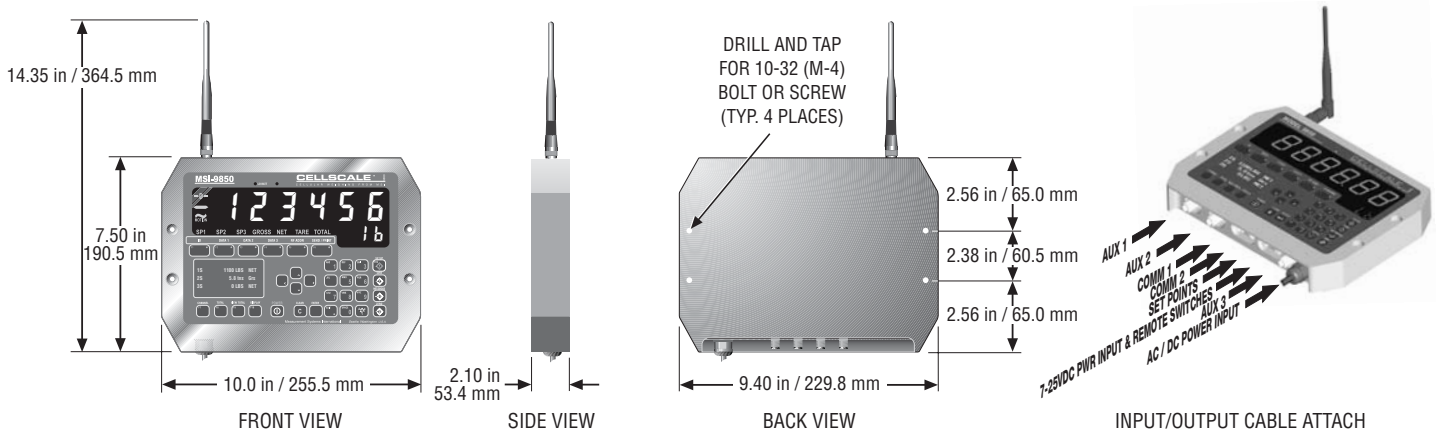
**Exit:** Exits menu mode

**0-9:** with Alpha characters

*Function Keys: 10 function keys are settable to any of the following functions:*

**Data String Entry:** Permits bar code or keypad entry of assignable data strings (up to four available)

## MSI-9850 Specifications and Dimensions



**Total:** Totalizes weighments

**Clear Last Total:** Removes last totalized weighment

**Show:** Next channel, last channel, next address, last address, next product ID, last product ID, totals, grand totals ( $\Sigma$ ) or statistics

**Date and Time:** Displays current date and time

**Enter/Edit:** Product ID print strings 1 and 2

**Send/Edit Print Strings:** Sends/edits print strings to selectable targets

**Change Units:** Changes units of measure  
**Set Points:** Controls and programs CellScale Set Points – 32 Set points with messaging capability

**Peak Hold:** Turns peak hold function “On” or “Off” – used for capturing maximum readings (for high speed capture rates, consult factory)

**Key Disabled:** Disables selected function key

**Signal Strength Test:** Tests for RF signal strength

**Display Test Characters:** Performs display test of all screens

**Data Logging:** Enables automatic or manual data logging

**Bar Code Scanner Interface:** Allows user access to bar code strings

**Inter-Network Radio Messaging:** Transmit messages to any virtual Comm Port (MSI-9020 CellModem) or directly to the master CellScale Comm Port 1

### Options and Accessories

#### NTEP Approved Version

Class III/IIIL certified. Units come preset in the NTEP operating mode

#### RF Remote Control

Features On/Off, Zero, Tare, Net/Gross, Total, View Sum and programmable function keys

#### Non Isolated DC/DC Input Power

7-25 VDC power input only. Note: Removes internal AC/DC Power Supply; Includes

underminated DC input cord

*Isolated DC/DC Input Power*

10-36 VDC or 20-72 VDC (specify), includes underminated DC input cord

#### Long Range Antennas

- Omni-directional antenna with 9dBi gain, up to 500m (1640ft) range typical (includes 3m (10ft) coaxial cable and pipe mounting hardware)
- Directional Yagi antenna with 15dBi gain, up to 6km (10 mile) range typical

#### Corner Reflector Antennas

Best choice when antenna placement is against a wall or other surfaces (includes wall bracket and pipe mounting hardware)

- 9dBi gain Corner Reflector, beamwidth of 75° elevation, 65° azimuth
- 14dBi gain Corner Reflector, beamwidth of 44° elevation, 35° azimuth

#### Vehicle/Cab Mount Whip Antenna

Rugged and waterproof 5dBi gain whip (includes 5.2m (17ft) coax cable)

#### Ethernet Connectivity

Wireless or hardwired Ethernet connectivity, provides Ethernet output connection for communication with computers and peripheral devices

Wireless –

- Standard: IEEE 802.11b
- Frequency: 2.4 GHz
- Wireless Security –
  - WEP (Wired Equivalent Privacy)
  - WPA/WPA2/802.11i

Hardwired –

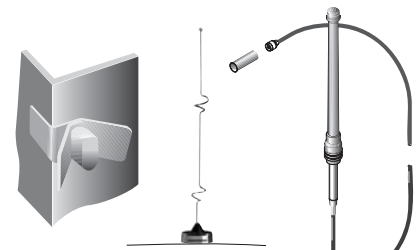
- Standard: IEEE 802.3
- Physical Layer: 10/100Base-T

#### 4-20mA Output

Provides a programmable current output for direct connection to PLC’s and other data acquisition equipment. Available in single, dual or quad configurations

#### Bar Code Scanner

Several options available (consult factory regarding requirements)



REFLECTOR, WHIP AND LONG RANGE OMNI-DIRECTIONAL ANTENNA OPTIONS

#### Internal Set Point Relays

Provides up to 8 set point relay outputs (internal to the MSI-9850) for direct interfacing to external devices, connections made through waterproof feed through connectors to terminal blocks. Both coil and solid-state relay types available in isolated and shared power modes in any combination. Alternate relay types available by special order, contact factory for further information.

Standard relay types –

- Coil: 250VAC@4A / 30VDC@4A / 110VDC@0.3A
- SSR: 250VAC@0.34A / 300VDC@0.34A
- SSR: 42VAC@2A / 60VDC@2A
- SSR: 140VAC@0.67A / 200VDC@0.67A

#### Control Kit

Provides a remote I/O relay board (uses standard industrial I/O modules) for interfacing to set points, I/O modules not included

#### Power/Switch Interface Cable

4m (13ft) for the 7-25 VDC source; includes leads for 4 remote switch inputs and 1 remote LED output (Sw 4 is a shared line with the LED output)

#### External Set Point Relay Output Cable

#### External Audible Alarm

Set point controlled, 95dBa at 1m (39in), requires Universal Mounting Bracket

#### Universal Mounting Bracket

Desktop or Wall/Bulkhead Mount Versions (specify type)



Specifications subject to change without notice.

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14240 Interurban Avenue South STE.200  
 Seattle, Washington 98168-4661 U.S.A.  
 Phone: 206-433-0199 • Fax: 206-244-8470  
 Web: www.msiscscales.com • Email: info@msiscscales.com

*“We weigh quality first”*