

# SMART CAN

DIGITAL SYSTEMS

## ANALOG-TO-DIGITAL CONVERSION SYSTEM



- Perfect for retrofitting existing analog scales or converting analog load cells to a digital system
- Fail-Safe mode keeps your scale running in the event of a failed cell (coming soon)
- Enables usage of SmartCal and digital calibration adjustments
- Remote troubleshooting and scale monitoring through iSite cloud-based software



SMARTCAN10



SMARTCAN4

7 different SmartCan boxes available for a wide range of configurations



# FAST AND POWERFUL SCALE DIAGNOSTICS



- Analog-to-digital load cell conversion system
- Receive text and/or e-mail alerts from iSite for any load cell issues
- Troubleshooting of scale issues with the NEST diagnostic tool
- All components housed in a rugged IP66 / NEMA 4 rated enclosure
- Universal mounting brackets for easy field installation
- No power is required in most applications (SmartCan is also available with AC power)
- May be used with Guardian® hydraulic load cells
- Load cell troubleshooting through the Cardinal Scale 225D or 825D indicators
- Compact enclosure size only requires minimal space
- Real-time load cell failure and fault diagnostics
- Lightning/surge protection
- Ideal for troubleshooting multi-platform truck scales
- OIML certified



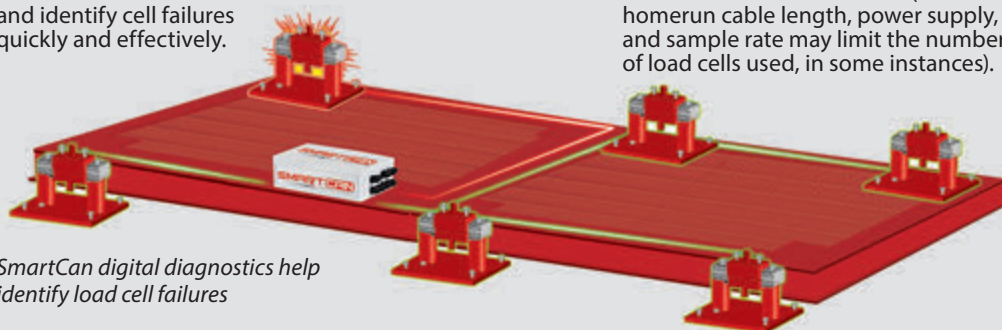
*Cardinal*  
www.CardinalScale.com

## DIGITISE YOUR SCALE WITH SMARTCAN

You can now digitise any existing analog scale using Cardinal Scale's SmartCan analog-to-digital conversion system. SmartCan allows users to digitally monitor each individual load cell and identify cell failures quickly and effectively.

The SmartCan system utilises the advanced, internationally-standardised CAN (Controller Area Network) serial bus system to digitise the analog output signals from two or more independent load cells and send the data to the indicator.

SmartCan is housed in a compact, rugged weatherproof IP66 / NEMA 4 enclosure and doesn't require cumbersome external power supplies, in many cases. The indicator software permits a maximum of 32 load cells that could be used in any combination with SmartCan (the homerun cable length, power supply, and sample rate may limit the number of load cells used, in some instances).



SmartCan digital diagnostics help identify load cell failures

## ONBOARD DIAGNOSTICS

The SmartCan system has onboard diagnostics that can be used by a technician to alert them of critical errors due to setup issues and hardware problems. The following diagnostics data is available and will be shown to the technician on the main weight screen of the 225D or 825D indicator:

- Live (real time) Load Cell Weights
- Minimum and Maximum Load Cell Weights
- Deadload Shift (from original calibrated deadload)
- Individual Load Cell Signal in Millivolts
- DLC Controller Card Communication Error Count
- iSite Status of Last Connection

# SMARTCAN

## DIGITAL CONVERSION SYSTEM

### TROUBLESHOOT THROUGH THE INDICATOR

The 225D Navigator and 825D Spectrum weight indicators easily interface with the SmartCan digital conversion system and provide onscreen diagnostics for load cell performance in near real-time. The 825D makes corner and section trimming easier with its graphical, full-colour display.

LOAD CELL WEIGHTS			
1. 38764	5. 37876		
2. 36492	6. 13649		
3. 37467	7. 36746		
4. 39004	8. 38904		



225  
NAVIGATOR



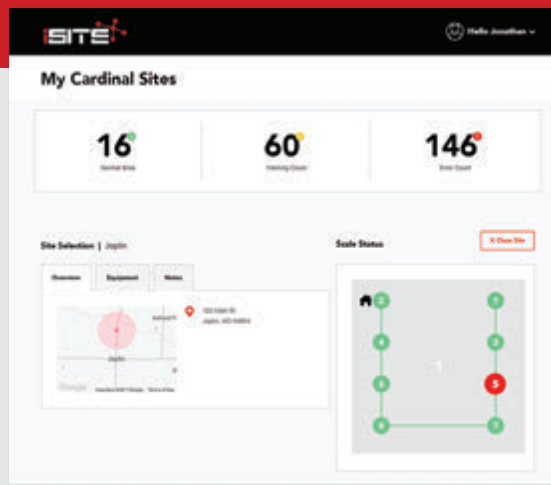
Digital Load Cell Diagnostics Load Cell Weights			
1 5565	3 5527	5 5693	7 5120
2 5499	4 5286	6 2805	8 5697

Zero Next

Press 'W' to jump to this from other diagnostics screens

### ISITE REMOTE MONITORING

Cardinal Scale's iSite is a cloud-based remote monitoring system for load cells connected to the SmartCan conversion box. Text and/or e-mail auto alerts can be sent for errors and warning events. Through secure online dealer access, scale diagnostics may be looked up remotely to quickly identify problems before they interrupt weighing operations.



### FAIL-SAFE (COMING SOON)

Cardinal Scale's Fail-Safe feature with SmartCan allows the system to compensate for a failed load cell by mirroring the estimated value of the remaining cells to offset the failed cell. The Fail-Safe feature uses an algorithm to calculate an estimated value from the data of the remaining cells and creates a virtual load cell to replace the data from the down cell.



### SMARTCAL®

The SmartCan system uses Cardinal Scale's patented software algorithm called SmartCal® method of calibrating a scale. SmartCal® allows a quick calibration with no manual adjustments while the diagnostic software identifies real and potential system problems before they interrupt your weighing operations.



### NEST TOOLKIT COMPATIBLE

Authorized Cardinal Scale dealers may plug a NEST toolkit directly into the SmartCan box for additional onsite diagnostics. NEST allows you to view the diagnostics in your choice of millivolts or pounds. There are three display modes: signals display, minimum-maximum display, and signals minus zero reference display.



### VERSATILE APPLICATIONS

SmartCan may be used in a variety of different applications with new and existing truck scales, railroad scales, floor scales, bench scales, and batching systems.







Includes universal mounting brackets and self-tapping screws for field installation.

## Options:

- 225D Navigator weight indicator
- 825D Spectrum weight indicator
- Media box for glass fiber optic cable (Model MB-G)
- Media box with SnapStream wireless (Model SNAP-DLC)

<sup>1</sup> The maximum number of load cells is dependent upon the homerun cable length, indicator sample rate, and power supply (voltage provided by 225D, 825D, or external power supply).

<sup>2</sup> Power to the SmartCAN6, SmartCAN8, or SmartCAN10 can be supplied from the 225D or 825D if the CAN interface cable (HomeRun Cable) is "less" than 61m long.

## SPECIFICATIONS

<b>Accuracy Class</b>	III and IIIL
<b>Weighing Range</b>	Single-interval
<b>Maximum Number of Verification Scale Intervals</b>	10,000 (CLASS III), 1,000 (CLASS IIIL)
<b>Internal Resolution</b>	1 part in 16,777,216
<b>Minimum Input-Voltage per Verification Scale Intervals</b>	0.5 $\mu$ V
<b>Excitation Voltage</b>	10 VDC
<b>Maximum Analog Range</b>	1 to 30 mV
<b>Minimum Input-Impedance</b>	350 ohms
<b>Maximum Input-Impedance</b>	1100 ohms
<b>Maximum Number of Load Cells<sup>1</sup></b>	Multiple 4-cell, 6-cell, 8-cell or 10-cell enclosures can be daisy-chained together for a total of 32 load cells
<b>Power Requirements</b>	
<b>SmartCAN 4</b>	15 VDC from the 225D or 12 VDC from the 825D
<b>SmartCAN 6, 8, 10</b>	15 VDC from the 225D or 12 VDC from the 825D <sup>2</sup>
<b>SmartCAN6, 8, 10-AC</b>	100 to 240 VAC (50/60 Hz) @ 0.1A
<b>Operating Environment</b>	Temperature: +14°F to +140°F / -10°C to +60°C (OIML certified up to +104°F / +40°C)  Humidity: 90% non-condensing (maximum)
<b>Junction Box Construction</b>	
<b>SmartCAN 4</b>	IP66 / NEMA 4 rated Stainless Steel Enclosure
<b>SmartCAN6, 8, 10</b>	IP66 / NEMA 4 rated Polycarbonate Enclosure
<b>SmartCAN6-AC, 8-AC, 10-AC</b>	Polycarbonate Enclosure
<b>Junction Box Dimensions</b>	
<b>SmartCAN 4</b>	216 L x 119 W x 33 H (mm) (Dimensions include the mounting strap)
<b>SmartCAN6, 8, 10</b>	254 L x 249 W x 102 H (mm)
<b>SmartCAN6-AC, 8-AC, 10-AC</b>	(Dimensions include the mounting brackets)

	SMARTCAN4	SMARTCAN6	SMARTCAN6-AC	SMARTCAN8	SMARTCAN8-AC	SMARTCAN10	SMARTCAN10-AC
<b>Load Cell Capacity</b>	4	6	6	8	8	10	10
<b>Enclosure Type</b>	Stainless steel	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
<b>Power Supply</b>	From indicator	From indicator	Internal	From indicator	Internal	From indicator	Internal

Cardinal Scale reserves the right to improve, enhance, or modify features and specifications without prior notice.

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