

NEST

Network Enabled Scale Tool

NEST All-in-One Scale Diagnostic Toolkit

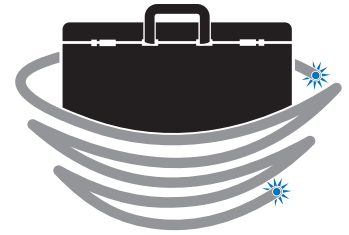
- Weatherproof, outdoor-grade rugged polycarbonate case.
- Fast and powerful diagnostic tool for Cardinal ARMOR[®] Digital Truck Scales with SmartCell[®] load cells and ARMOR[®] Truck Scales with analog load cells and junction boxes.
- Wi-Fi standard for connectivity with free NEST mobile app.
- Helpful for all technician levels from new hires to experienced veterans.
- Quick Start Guide decal inside the case.
- Technical support available.
- Free mobile app is available for Android[®] and Apple[®] devices.

ARMOR[®] Digital Truck Scales with SmartCells

- NEST will perform tests on the digital load cells, the load cell, and home run cables. It can be used to test, calibrate, adjust the span of the scale, perform section and/or cell trim, update the firmware in the load cells, and can be used to simulate the output of a digital load cell.

ARMOR[®] Truck Scales with Junction Boxes and Analog Load Cells

- NEST plugs directly into the trim board and displays millivolts or pounds reading for up to 12 load cells in addition to providing home run cable and weight indicator diagnostics.



NEST

Network Enabled Scale Tool

Fast and Powerful Truck Scale Diagnostics



Cardinal Scale's NEST provides fast, accurate, and ultra-portable truck scale diagnostics for both Cardinal ARMOR® Digital Truck Scales with SmartCell® load cells and ARMOR® Truck Scales with analog load cells and junction boxes. Operating on rechargeable battery power for easy portability, the NEST is menu driven allowing technicians of all levels to quickly view individual load cell readings, check digital load cell cables, and check the home run cable and weight indicator diagnostics.

Unique to the weighing industry, NEST provides a service technician the toolkit to see where a scale's potential issues may exist within seconds. Utilizing Cardinal's 225 indicator, you can view up to 8 digital load cells or 12 analog load cell readings onscreen simultaneously, which allows you to quickly and easily scan for anomalies that need further investigation.

On ARMOR® Digital Truck Scales, the NEST can be used to test and calibrate the scale (using Cardinal's SmartCal® calibration), adjust the span of the scale, and perform section and/or cell trim. Additionally, it can update the firmware in the load cells and can be used to simulate the output of a digital load cell.

When testing ARMOR® Truck Scales with junction boxes and analog load cells, the NEST plugs directly into the trim board and allows you to view the diagnostics in your choice of milli-volts or pounds. There are three display modes: signals display, minimum-maximum display, and signals minus zero reference display. At startup, the NEST will default to assume the load cells have a rated capacity of 75,000 pounds and a rated output of 2 mV/V.

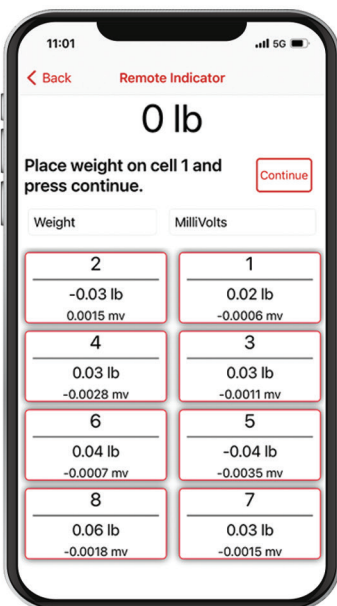
The beneficial functionality of NEST analog testing may be retrofitted to any competitor's analog truck scale by replacing the existing junction box with a new Cardinal section seal trim box, or the circuit board itself on older Cardinal trim boxes (replacement items listed on the back page).

FREE

MOBILE APP

The NEST toolkit includes Wi-Fi standard for wireless connectivity with the **FREE** NEST mobile app.

Download the app directly from Google Play for Android® and the App Store for Apple® devices.



Weight	MilliVolts
2 -0.03 lb 0.0015 mv	1 0.02 lb -0.0006 mv
4 0.03 lb -0.0028 mv	3 0.03 lb -0.0011 mv
6 0.04 lb -0.0007 mv	5 -0.04 lb -0.0035 mv
8 0.06 lb -0.0018 mv	7 0.03 lb -0.0015 mv

```

TESTER MENU
1. SMART SCALE TEST / CALIBRATE      15.16
2. CABLE / CELL TESTER
3. CELL UPDATER
4. CELL SIMULATOR
5. ANALOG TESTER
Enter Selections:                      0

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Tester Menu

The NEST is menu driven allowing technicians of all levels to easily select a test procedure.

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SMART SCALE TEST / CALIBRATE
SCALE 1
  200

SMART CAL ZERO CAL   SPAN ADJ

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Digital Single Scale Test Screen

The ZERO key on this screen can be used to the scale, saving the technician time.

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DISPLAY CELL - MILLIVOLTS
2: 8.629 mV      1: 9.964 mV
4: 9.277 mV      3: 8.580 mV
6: 9.725 mV      5: 9.484 mV
8: 8.049 mV      7: 8.635 mV

PREV             NEXT

```

Digital Load Cell Diagnostics Showing Individual Cell Millivolts

NEST provides millivolt readouts for all digital load cells to quickly visually scan for errant readings.

	NOM.	ACTUAL	PASS/FAIL	PWR
1	0.41V	0.42V	PASS	11.30 0.000
Pass:	314	Fail:	0	
MANUAL	START		EXIT	

Digital Automatic Load Cell Cable Test Results

The NEST automatic cable test will display a count of tests (Pass:) and a count of any failures (Fail:).

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CELL UPDATER
Cell image version 1.0.16      15.26
Blocks 8478 CRC 572DBD5C

APPLY VOLTAGE?
  YES                          NO

```

Digital Load Cell Firmware Updater Screen

The Cell Updater is used to update the load cell firmware to the latest version.

SG	mV	SG	mV	SG	mV	PWR
1	0.4352	6	0.6253	11	0.9650	15.21
2	0.5464	7	0.3256	12	0.7254	
3	-0.8235	8	0.7120	T	0.5631	
4	0.9156	9	0.4436	EX	9.99 V	
5	1.3606	10	0.5256			
	0.270					BOOST
DAC		MODE		CELLS		

Analog Load Cell Diagnostics Showing Individual Cell Millivolts

NEST provides millivolt readouts for all analog load cells to quickly visually scan for errant readings.



NEST Toolkit Includes:

- Outdoor-grade, rugged black carrying case
- 225NEST indicator with rechargeable battery power
- AC power cable to recharge the battery
- Cable test remote
- Two 15' digital load cell interconnect cables
- SmartCell® cable tool
- Four cable connectors for testing analog home run cable, weight indicator, and load cells 1-6 and 7-12
- Megohmmeter
- Wi-Fi antenna



MODELS

NEST	Network Enabled Scale Tool Complete Kit: Truck scale diagnostics toolkit with Wi-Fi and free mobile app for both Cardinal ARMOR® Digital Truck Scales with SmartCell® load cells and ARMOR® Truck Scales with analog load cells and junction boxes. View individual load cell readings and check the home run cable and weight indicator diagnostics.
MEGOHMMETER	Megohmmeter for analog load cell diagnostics.

REPLACEMENT TRUCK SCALE JUNCTION BOXES

3502-D596-1A	8 load cell replacement stainless steel truck scale junction box – universal section seal trim box. Compatible with NEST.
3502-D596-0A	12 load cell replacement stainless steel truck scale junction box – universal section seal trim box. Compatible with NEST.

REPLACEMENT CIRCUIT BOARDS

3502-D588-1A	8 load cell replacement section seal board. Compatible with NEST.
3502-D588-0A	12 load cell replacement section seal board. Compatible with NEST.

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