

# ARMOR® SMARTCELL® VS. ANALOG TRUCK SCALES

## INSTALLATION AND SERVICE COST COMPARISON



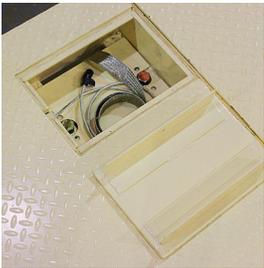
### INSTALLATION

The ARMOR® SmartCell® truck scale arrives pre-assembled and pre-calibrated from the factory greatly reducing overall installation time. The truck scale can be installed in as little as half the time of the competition with many installations being completed by two technicians in the span of 4 hours.

#### Installation Example:

**ARMOR® SmartCell®:**  
Two technicians @  
\$95/hr. for four hours = \$760

**Competitors:**  
Two technicians @  
\$95/hr. for eight hours = \$1,520



### ISITE REMOTE MONITORING



iSite remote diagnostics identifies faults and failures quickly and relays the problems to the service company. This allows the service company to arrive on site knowing what and where the problem is and what parts are required to be replaced to remedy the issue. SmartCells can be replaced and have the scale up and running in under 15 minutes.

Troubleshooting an old analog scale requires opening the junction box, unwiring the load cells and testing them individually. This is not only very time consuming, but can be problematic in inclement weather since exposing internal electronics to the elements can create more problems. Taking readings from all-analog load cells can take hours.

#### Troubleshooting Example:

**ARMOR® SmartCell®:** One technician @  
\$95/hr. for 30 minutes = \$47.50

**Competitors:** One technician @  
\$95/hr. for four hours = \$380.00



### NEST (NETWORK ENABLED SCALE TOOL)

The NEST allows the service company to quickly and precisely diagnose intermittent issues with ease. The NEST can test all cables and all load cells for intermittent issues in under an hour if problems arise.

Troubleshooting intermittent issues on an analog truck scale can take many hours and in some cases many trips, since environmental factors can cause issues to manifest and disappear day-by-day.

#### NEST Troubleshooting Example:

**ARMOR® SmartCell®:**  
One technician @  
\$95/hr. for one hour = \$95.00

**Competitors:**  
One technician @  
\$95/hr. for ??? hours = \$???



### SMARTCELL® DIGITAL LOAD CELLS

### SCBD DIGITAL LOAD CELL

Cardinal SmartCell® replacement requires the removal of two bolts, two connectors, and minimal lifting of the scale. There is no junction box that needs to be wired since ARMOR® truck scales communicate on a CAN Bus loop. When a new SmartCell® is introduced into the scale, the weight indicator will recognize the new load cell and automatically emulate the previous load cell; which gets the scale back into service with very little downtime. Again, the SmartCell® can be replaced in under 15 minutes by one technician. Note: The ARMOR® truck scale will still need to be calibrated as a metrological change to the scale has occurred.

Replacement of analog load cells requires the old cell and cable to be removed, the new cell installed and cable pulled to the junction box, and termination of the wires in the box. Once the analog load cell is installed, the scale must have a full recalibration to function. If the service company does not have their test equipment available the same day, downtime can get very costly very quickly.

#### Load Cell Replacement Example:

**ARMOR® SmartCell®:**  
One technician @ \$95/hr. for 30 minutes = \$47.50

**Competitors:**  
One technician @ \$95/hr. for two hours = \$190.00  
Downtime = BIG \$\$\$

## 225D DIGITAL WEIGHT INDICATOR NAVIGATOR



The calibration information is stored non-volatilely on both the main board and the digital load cell card in the 225D weight indicator. In the event of damage to either board, once replaced, the 225D will recognize the new board and automatically write the calibration data to the replaced board. Downtime is kept to a minimum since the indicator does not need to be recalibrated to the scale.

Historically, if a weight indicator had a board damaged the board would have to be replaced, which lost all calibration information. This requires a test truck to be on site and the scale will require an in-depth and costly full recalibration.

### Indicator Board Replacement Example:

**ARMOR® SmartCell®:**  
One technician @ \$95/hr. for 1 hour = \$95.00

**Competitors:**  
One technician @ \$95/hr. for three hours = \$285.00 +  
Test Truck @ \$3.00/mile traveled = \$Unknown

## SMARTCAL



The ARMOR® SmartCell® truck scale features SmartCal. SmartCal allows the truck scale to be calibrated using known weight with no need to individually adjust load cells. In addition, SmartCal eliminates the commonly-needed second technician to complete calibration. SmartCal allows one technician to calibrate the truck scale with ease.

Analog truck scales commonly require two technicians to complete a calibration. This is because one technician needs to be at the weight indicator taking scale readings while the second runs the test truck and adjusts each individual load cell into tolerance.

### Truck Scale Calibration Example:

**ARMOR® SmartCell®:**  
One technician @ \$95/hr. for 1 hour = \$95.00

**Competitors:**  
Two technicians @ \$95/hr. for two hours = \$380.00

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

 **Cardinal®**  
Cardinal Scale Manufacturing Co.  
102 E. Daugherty, Webb City, MO 64870 USA  
Ph: 417-673-4631 or 800-441-4237 • Fax: 417-673-2153  
[www.CardinalScale.com](http://www.CardinalScale.com)