

Vehicle Scales



POWERCELL®

Load Cells

Highest Accuracy

Exceptional Reliability

Simplified Service

Proven Performance



Advanced Weighing Technology
Your Key to Greater Profits

METTLER TOLEDO

POWERCELL® Load Cells

Protect Your Profits

POWERCELL® load cells protect your profits by ensuring that your vehicle scale weighs accurately day in and day out. This revolutionary technology cuts your operating costs by minimizing errors, reducing downtime, and simplifying service.

Highest Accuracy



Weighing errors result in revenue losses that eat into your profits. Using advanced digital technology, POWERCELL® load cells deliver the weighing accuracy that your business needs for

- Accurate billing
- Inventory control
- Highway weight compliance

Exceptional Reliability



Every minute of downtime can cost you money and customers. POWERCELL® load cells protect your vehicle scale against lightning, water damage, and other environmental forces that can affect weighing accuracy or shut down a weighing operation.

Simplified Service



Troubleshooting an analog scale can be a slow and costly process. POWERCELL® load cells provide the predictive diagnostic tools you need to be proactive about vehicle scale maintenance. They replace time-consuming troubleshooting and parts swapping with effective prevention.



POWERCELL® Load Cell Family

Proven Performance for More than 25 Years

POWERCELL® load cells use advanced digital technology to deliver unequalled weighing performance. Choose the load cell that meets your vehicle-weighing needs.

- POWERCELL® PDX® load cells provide the highest level of accuracy and reliability.
- POWERCELL® GDD® load cells provide digital accuracy at an economical price.
- POWERCELL® MTX® load cells provide safe weighing in Division 1, Zone 1/21 hazardous areas.



**POWERCELL® PDX®
Load Cell**



**POWERCELL® GDD®
Load Cell**



**POWERCELL® MTX®
Load Cell**

	POWERCELL® PDX® Load Cell	POWERCELL® GDD® Load Cell	POWERCELL® MTX® Load Cell
Capacity	20t, 30t, 50t, 90t	20t, 30t, 50t	25t, 45t, 90t*
Accuracy	High	High	High
Communication	CAN	CAN	Bitbus
Network	No junction boxes	Junction boxes	Junction boxes
Cables	Quick-connect	Integral	Quick-connect
Active Compensation	Yes	Yes	Yes
Diagnostics	Yes	Yes	No
Lightning Protection	> 80,000 A	> 29,000 A	> 10,000 A
Breach Detection	Yes	No	No
Hazardous Area	Division 2, Zone 2/22	No	Division 1, Zone 1/21

*90t load cell is model 760

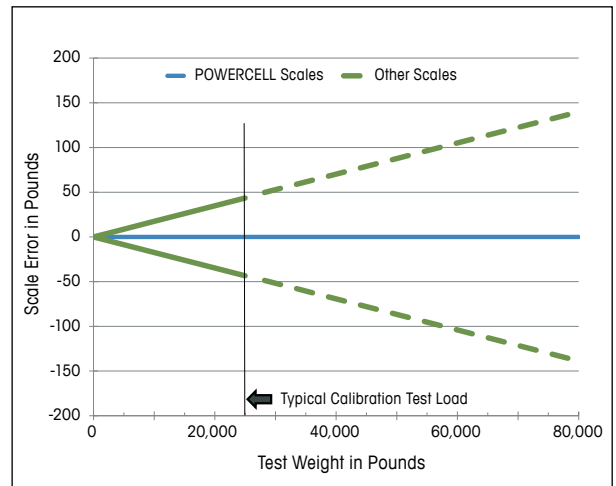
Highest Accuracy Savings with Every Load

POWERCELL® load cells have demonstrated their ability to weigh more accurately than all types of analog load cells. If you buy and sell bulk goods by weight, increased accuracy can be crucial to your profitability. To understand the full impact of POWERCELL® accuracy, multiply analog errors by the number of vehicles you weigh in a year.

Calibration tests from thousands of real-world truck scales prove that POWERCELL® load cells are significantly more accurate than analog load cells. What makes them more accurate?

- They are easy to calibrate to a high level of accuracy.
- They use digital compensation to maintain accuracy.

When you weigh fully loaded trucks, analog errors are even larger. The graph provided here shows how errors increased as heavier loads were applied to an actual analog truck scale while a POWERCELL® scale maintained its accuracy.



**Accuracy Comparison
POWERCELL® vs. Analog Load Scales**

Accuracy data from actual POWERCELL® and analog scales when test weights of 10 tons and 40 tons were applied.

The following table shows the big impact that those errors can have on a business. A scale that weighs 80 pounds (40 kilograms) under the actual weight will cost you plenty. The more trucks you weigh, the more you have to lose.

Cost of Product*	0.075 per lb	0.15 per kg
Scale Error	-80 lb	-40 kg
Trucks per Day	100	
Daily Loss*	600	
Annual Loss*	158,400 (264 days per year)	

*US Dollars, Euros, or other local currency.

Reliable Performance in Extreme Climates

Environmental forces can be relentless. They attack a vehicle scale every day, impairing its ability to weigh accurately. POWERCELL® load cells have demonstrated the ability to stand up to the world's toughest environments, from the frozen polar regions to the scorching heat of the desert and wet conditions of the tropics.

An analog load cell system is especially vulnerable. It can account for 76% of a vehicle scale's ongoing maintenance costs. When you factor in replacement parts, labor, and downtime, the cost of maintenance can strain your budget. POWERCELL® load cells use digital technology and a robust design to outperform and outlast analog load cells.



Antarctica



Deserts



Siberia



Tropics

Smart Technology Cuts Service Time and Costs

POWERCELL® load cells use a smart technology that constantly monitors your vehicle scale's performance. A built-in diagnostics system gives you real-time data about the condition of each load cell:

- Weighing errors
- Overloading
- Environmental conditions
- Network health
- Load cell voltages

Remote Diagnostics

POWERCELL® technology makes it possible to check a scale's performance from anywhere. Problems can be diagnosed and solved via web browser without the time and expense of driving long distances for an on-site inspection.



Real-time performance data



Email alerts



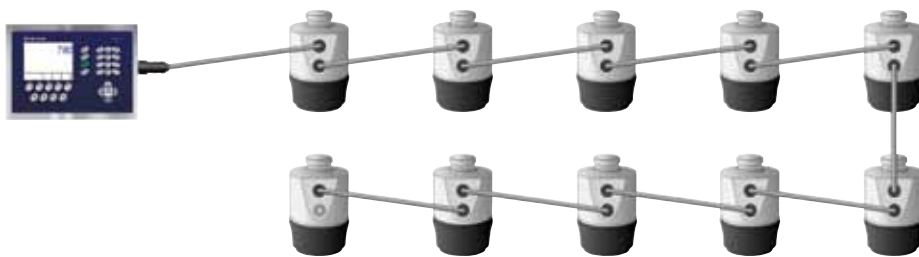
Faster and simpler service



Less downtime

Innovative Design Delivers a Clear Advantage

POWERCELL® PDX® load cells have revolutionized vehicle weighing. With their unique design, they eliminate the weak link in any vehicle scale: the junction box. This simple improvement pays off with lower maintenance bills and less downtime.

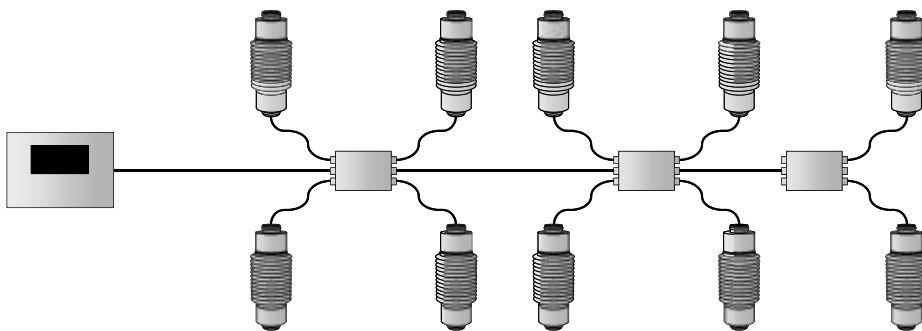


POWERCELL® PDX® Digital Load Cell Network (No Junction Boxes)

Load cells and cables are watertight

Simplified Network

POWERCELL® PDX® load cells connect to one another in a simple network that transmits individual load cell signals to the scale terminal. Compare them with conventional analog load cells. Each group of four analog load cells is wired to a junction box, which is then wired to the next junction box in the system and so on until all load cells are connected. The bigger the scale, the bigger the tangle of boxes and cables.



Conventional Load Cell Wiring (Junction Boxes Required)

Junction boxes are not rated for submersion in water

Whether manufacturers call them gathering boxes, totalizers, or sectional controllers, the problem is the same. These hard-to-seal boxes contain sensitive electronics that are easily damaged by water. POWERCELL® PDX® load cells eliminate the problem by eliminating junction boxes.

Active Digital Compensation

The microprocessors inside POWERCELL® PDX® load cells use proprietary algorithms to compensate for environmental forces, such as temperature changes and creep. They keep your scale weighing accurately, even when faced with the many environmental forces that decrease the accuracy of other weighing technologies.



Load Cell Receivers

Durable stainless steel upper and lower receivers.

100% Stainless Steel Components

Heavy-duty, corrosion-resistant construction.

Built-in Diagnostics

Monitors performance, detects problems, and simplifies service.

IP68/69K Enclosure

Watertight even when submersed.

Rubber Boot

Keeps debris from affecting weighing accuracy.

Rocker Column

Self-aligning suspension with durable 17-4 PH stainless steel construction.

Glass-to-Metal Connectors

Form submersible, watertight seals quickly and easily.

Strong Weight Signal

Resists electromagnetic and radio frequency interference.

Laser-Welded Enclosure

Hermetically sealed and vacuum tested to ensure long life.

Lower Receiver

Simple anti-rotation design keeps load cell in optimum position.



Environmental Protection Takes Reliability to a New Level

Your vehicle scale takes a beating. Constant exposure to environmental forces can cause conventional load cells to fail at an alarming rate. Keep maintenance costs under control with the potent environmental protection of POWERCELL® PDX® load cells.

Lightning Protection

Lightning damage can be costly, requiring the replacement of unprotected electronic equipment. Even if a warranty covers repairs, you still face the cost of the business you lose every day that your scale is not operating.

StrikeShield™ lightning protection is designed to be the main line of defense for your entire vehicle scale: load cells, cables, and termi-

nal. As an added safeguard, each POWERCELL® PDX® load cell has its own built-in lightning protection.

Demand real proof of lightning protection. The POWERCELL® PDX® load cell meets the toughest standards for protection against lightning. No other scale manufacturer has had its system as thoroughly tested by independent laboratories.



POWERCELL® PDX® load cells survived lightning strikes of up to 80,000 amperes in independent laboratory tests (IEC 62305-1 standards).



POWERCELL® PDX® load cells passed tests for high-pressure spraying and water submersion.

Water and Flood

Watertight cables and connectors effectively seal the entire network against moisture to IP68 standards (submersible). The connectors use the same reliable design found in military and medical applications where performance is a matter of life and death.

A POWERCELL® PDX® network can survive for extended periods underwater. Compare it to scales that use junction boxes. No junction box on the market is rated for submersion in water. Even a damp climate can be enough to damage the sensitive electronics inside a junction box.



Extreme Temperatures

Digital compensation maintains accuracy in all climates.



Snow and Ice

Rubber boot protects against errors caused by built-up material.



Rust and Corrosion

Heavy-duty stainless steel enclosure resists corrosion.



Rodents

Stainless steel cables protect against damage from rodents.



Radio Frequency Interference

Digital signal prevents interference that causes weighing errors.



Physical Damage

Breach-detection system alerts you if enclosure is damaged.

POWERCELL® PDX® Load Cells Outperform All Other Vehicle Scale Technologies

Technology

POWERCELL® PDX® Advantages

Analog Load Cell



- Strong digital signal resists electrical interference
- Digital compensation maintains weighing accuracy
- Predictive diagnostics system simplifies service and reduces downtime
- Watertight cables and connectors seal out moisture
- No failure-prone junction boxes

Digital Junction Box or Sectional Controller



- Strong digital signal throughout the entire scale network
- No signal interference to cause weighing errors
- No analog-to-digital converter boxes or gathering cards required
- Electronics protected in hermetically sealed load cell enclosure

Hydraulic Load Cell System



- Simpler and less expensive installation
- No hydraulic fluid to leak and cause weighing errors
- Instant weight updates for faster vehicle processing
- Predictive diagnostics system simplifies troubleshooting
- Maintenance and repairs are quick and easy

POWERCELL® Accuracy in an Economical Package

POWERCELL® GDD® load cells are ideal for weighing operations that require improved accuracy without the full benefits of POWERCELL® PDX® technology. They provide a balance between performance and cost.

Digital Accuracy

POWERCELL® GDD® load cells offer true digital weighing performance. They are easy to calibrate to a high level of accuracy. Each load cell has built-in digital compensation to maintain accuracy despite changing environmental conditions.

Diagnostic Capabilities

A powerful diagnostics package enables you to view individual load cell outputs on the scale terminal. It provides valuable information to identify problems so that they can be solved quickly and easily.



POWERCELL® GDD® load cells use advanced digital technology to provide accurate vehicle weighing at an economical price.

Safety and Accuracy in Hazardous Areas

POWERCELL® load cells are available for use in hazardous areas. They provide a vehicle-weighing solution that meets safety standards while delivering a high level of weighing accuracy. This technology is available for both new installations and upgrades.



Division 2, Zone 2/22

POWERCELL® PDX® load cells with an IND780 terminal are approved for Division 2, Zone 2/22 hazardous areas. Because no additional components are required, your installation is simple and easy to maintain.

- Approved in the United States and Canada for use in hazardous areas rated Class I, II, III, Division 2, Groups C, D, F, G.
- ATEX and IEC Ex approval for use in hazardous areas rated Zones 2 and 22.



Division 1, Zone 1/21

POWERCELL® MTX® load cells are approved for Division 1, Zone 1/21 hazardous areas. These load cells provide digital weighing performance without predictive diagnostics. Junction boxes and hazardous barriers are required.

- Approved in the United States for use in hazardous areas rated Class I, II, III, Division 1, Groups C, D, E, F, G.
- ATEX approval for use in hazardous areas rated Zones 1 and 21.

High Performance at a Lower Cost

If your existing scale is plagued by downtime and high maintenance costs, a conversion might be the answer. METTLER TOLEDO offers kits to give new life to old scales by replacing obsolete weighing systems with POWERCELL® PDX® technology.

You get a performance upgrade for much less than the cost of a new vehicle scale. Kits include load cells, mounting hardware, and scale terminal. They are available to upgrade older METTLER TOLEDO scales and to convert scales from other manufacturers.



Conversion kits make it easy to upgrade existing vehicle scales to the greater accuracy and reliability of POWERCELL® PDX® load cells.

www.mt.com/powercell

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Produced in a
facility that is

