

Upgrading an Existing Vehicle Scale Frequently Asked Questions

What are load cells?

Load cells are the heart of any vehicle scale. They are the sensors that determine the weight of an object on a scale. Most load cell systems use a sensor gauge inside each cell to measure the load on the scale. Hydraulic load cells react to the load by pressurizing hydraulic fluid and then use a traditional load cell to measure weight as a change in pressure. Typical truck scales include 6-10 load cells, which are either connected to one another or to a series of junction boxes before they are linked to the scale terminal.



What causes load cells to fail?

Load cells are mounted under a weighbridge, where they are exposed to rain water, snow, ice, temperature extremes, chewing rodents, lightning, and radio interference. Hydraulic systems face additional problems, such as leaking hydraulic fluid lines. These environmental factors affect the performance of a scale's load cells. In the long run, they can cause the load cells to deteriorate and eventually fail. Problems with load cells result in scale breakdowns that require lengthy service calls, extensive troubleshooting, expensive repairs, and complex recalibrations.

What can I do if my load cells are failing?

Replacing the scale is an expensive solution that might not be necessary. When a scale, especially a relatively new one, experiences frequent downtime and repairs, the problem can often be traced to the load cells or their cables, connectors, and junction boxes. Upgrading these components with a state-of-the-art POWERCELL® PDX® load cell system is a cost-effective way to turn a troublesome scale into one that performs better than it did when it was new.



Outdated and vulnerable load cell systems can be the cause of many reoccurring vehicle scale problems.

Why is a POWERCELL® PDX® system the ideal upgrade for an existing scale?

A POWERCELL PDX upgrade equips an existing scale with the most modern weighing technology. The POWERCELL PDX load cell system eliminates failure-prone junction boxes, maintains accuracy in extreme environments, and offers unprecedented reliability.

Without replacing your existing weighbridge, you can enjoy dramatic savings by reducing repair and maintenance bills, reducing product and profit losses from weighing errors, and reducing productivity losses due to downtime. A weighing operation typically sees an immediate return on its investment once a scale has been upgraded with POWERCELL PDX load cells.



Are there other load cells that match the performance of POWERCELL PDX load cells?

No. Because weights and measures authorities set minimum accuracy requirements for commercial load cells, some people assume that all load cells are the same. Many manufacturers design their systems just to meet the minimum requirements. METTLER TOLEDO designed POWERCELL PDX load cells to provide a level of accuracy that far exceeds weights and measures requirements. The superior performance of

POWERCELL load cells is documented by more than 20 years of field service records.

Many other manufacturers have tried and failed to duplicate the advanced features of POWERCELL PDX load cells: digital environmental compensation, enclosure breach detection, and predictive diagnostics. POWERCELL PDX load cells operate on the stable CAN bus protocol, which is widely used in the automotive industry. They have also been fully tested in lightning laboratories used to evaluate critical aircraft components. These independent tests have proven the POWERCELL PDX system's ability to withstand direct lightning strikes. No other manufacturer offers this combination of powerful features and a proven, stable network.



POWERCELL PDX Upgrade Kit

Are POWERCELL PDX systems available only from METTLER TOLEDO?

Yes. Many vehicle scale companies use load cells that are provided by a third party. METTLER TOLEDO designs and manufactures its own products, ensuring that they meet the highest quality and performance standards. POWERCELL PDX load cell systems are available directly from METTLER TOLEDO and authorized distributors. Service is provided by trained technicians to maintain the superior accuracy delivered by POWERCELL PDX systems.

Will the new load cells fit in my scale even if it is not a METTLER TOLEDO scale?

METTLER TOLEDO has designed special mounting hardware to ensure that POWERCELL PDX load cells fit easily into many makes and models of vehicle scales. This hardware includes baseplates and receivers that fit the existing weighbridge structure.

How long does an upgrade take to complete?

Thanks to the specially designed mounting hardware, an upgrade can often be completed in just one day. During installation, the service team will mount the load cells, route and secure the load cell cables, and install the new terminal. A site assessment can determine a detailed installation timeline, allowing you to schedule the work conveniently.

What is included in a POWERCELL PDX upgrade kit?

METTLER TOLEDO offers kits that include everything required to upgrade a truck scale:

- POWERCELL PDX load cells
- Stainless steel cables with waterproof connections
- Stainless steel receivers
- Cell-to-cell network that eliminates junction boxes
- Heavy-duty mounting plates (where applicable)
- Quality shims, bolts, and lubrication
- Optional surface blasting and repainting of the weighbridge

Installation of a powerful IND560 or IND780 scale terminal is also part of the upgrade. All systems and components include an industry-leading warranty supported by a global network of expert METTLER TOLEDO weighing professionals.

POWERCELL PDX Conversion Kit



How do I know if my scale is a good candidate for an upgrade?

Ask a METTLER TOLEDO representative or authorized distributor to evaluate your scale. The foundation and weighbridge must be structurally sound. As an option, the upgrade can include surface blasting and repainting the weighbridge to further extend its life. The correct mounting hardware will need to be selected. Chances are that METTLER TOLEDO has ready-made hardware for upgrading your scale with POWERCELL PDX load cells. If not, the engineers at METTLER TOLEDO can design mounting hardware especially for your application.

www.mt.com/UpgradetoPDX

For more information

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