



Truck scale quality and protection

There are a variety of options in the truck scale market today and, to the casual observer, initial acquisition price may be the only differentiator. However, manufacturers promising great bargains are able to do so only because they've cut corners at some stage of the process—design, materials, components, finish or all of the above. While the price may seem attractive now, the eventual failure of a lower quality truck scale could mean a higher total cost of ownership from extensive downtime, increased maintenance costs, lost revenue and premature replacement.

The many advantages of quality

A truck scale with a superior design and built-in protection features will save time and resources throughout its lifespan. A high-quality truck scale designed to last 25 years or more will require less repair and downtime due to maintenance or replacement. Your truck scale needs to meet the challenges of your application with long-term performance and accuracy.

Ask your scale supplier for information about various manufacturers and their design and testing procedures. Some manufacturers' designs incorporate only high-quality parts, components and construction materials. The design and engineering involved in producing a truck scale are two factors that can have the most significant impact on the quality of your truck scale.

The decision to buy

The decision to purchase a truck scale must be founded on long-range planning that takes into account all present and likely future uses of the scale system. Analyze your company's needs for today, and project what you may need in the future. Consulting with a qualified project engineer familiar with your industry can help you determine the engineering specifications your truck scale will need to accommodate your operation.



Keeping the foundation clean and well-drained will help ensure a more accurate and dependable vehicle scale.

Scheduled maintenance and protection features

A high-quality truck scale made with quality components and materials will help reduce scheduled and unscheduled scale maintenance. Many manufacturers incorporate features into their scales to help prevent component failure and damage to the scale or foundation, including transient bypass cables, diagnostic junction boxes, self-checking mounts, electrical component protection, single-point grounds and open-bottom designs on steel deck scales to allow moisture to evaporate.

Preventative Maintenance

A preventative maintenance program is a key element in maximizing the life, performance and accuracy of your truck scale. Maintenance frequency is directly related to the daily truck volume and axle loads of the vehicles being weighed. Typically, inspections are recommended at least one to two times per year, depending on equipment usage. However, maintenance may be needed much more frequently depending on your application and the material being weighed. A comprehensive maintenance program consists of inspecting the weighbridge, foundation, load cells, junction box and grounding, and performing routine calibration and testing. More detailed information about maintaining these areas can be found in section 11-Maintenance.

Weighbridge Design and Component Protection

When moisture or standing water seeps into the weighbridge, steel corrodes and the weighbridge can rust from the inside-out, often leading to accelerated corrosion, weakness and eventual failure. An open-bottom design on steel deck scales reduces internal corrosion. Steel decks with bottom plates trap moisture inside the weighbridge. An open bottom also allows maintenance crews to inspect the integrity of the weighbridge during scheduled maintenance, allowing you to plan scheduled downtime to repair, instead of making emergency service calls when the scale needs extensive repairs or component replacement.

Moisture and water can also wreak havoc on electrical components. A load cell and electronics pocket integrated into the weighbridge adds additional strength and protects electronics by keeping these sensitive components up off the ground and away from standing water. Quality component enclosures and environmental seals add extra assurance.

Lightning and Transient Protection

Protecting your truck scale from lightning and transient spikes is critical to prolonging its lifespan and reducing electrical component repairs and replacements. Many manufacturers provide lightning and transient protection packages that include the following features:

- DC transient protection boards in junction boxes
- Copper transient bypass cables for load cells
- DC transient protection in home run cable to the indicator
- Single-point grounding
- Bare ground conductor cable buried in the ground from the scale frame to the AC power ground lug
- Uninterrupted power supply/surge protector in the AC line before reaching the indicator
- Lightning and transient protection warranty

Proper lightning protection can mean the difference between emergency repairs and business as usual. Discuss with your scale supplier which manufacturers include the above protection features standard. Reputable manufacturers and suppliers will want to ensure your truck scale survives as long as possible, even in the harshest conditions.