

ZT DIGITAL LOAD CELL

**Avery Weigh-Tronix**



Avery Weigh-Tronix MOD-T30Tx-300  
Ser No: 22123244  
ZT DIGITAL LOADCELL  
E<sub>max</sub> 30t E<sub>min</sub> 40.0t Class: C6  
V<sub>min</sub> 1.5kg E<sub>min</sub> 0 kg Year: 2012  
NTEP CC 21-086 Class III L M  
E<sub>max</sub> = 10,000 V<sub>min</sub> 1.5kg

ZT DIGITAL  
LOAD CELL

SMART - RUGGED - ACCURATE

Efficiency starts  
with high-precision,  
reliable weighing

# Precision and reliability - where it matters most

**Avery Weigh-Tronix**

## The foundation of efficiency

Your weighing system sits at the core of your operation, directly impacting accuracy, productivity, and overall efficiency. Every measurement matters - whether you're managing high throughput processes or ensuring compliance in regulated environments.

That's why reliability and precision are not optional; they are essential to consistent performance.

High-quality weighing components deliver stable, repeatable results you can trust. By maintaining accuracy over time, they help you reduce costly product giveaway, avoid overcharging, and minimize the risk of non-compliance. At the same time, robust design and dependable performance reduce downtime, keeping your operations running smoothly and efficiently.

Backed by decades of manufacturing expertise, Avery Weigh-Tronix designs and delivers precision-engineered solutions built for long-term reliability. The result is a weighing system that not only supports efficient day-to-day operations but also gives you complete confidence in every measurement.



## ZT Digital Load Cell Weighing System

The **ZT Digital Load Cell**, when used in conjunction with the Avery Weigh-Tronix ZM605/615 Series Indicators, delivers a high-performance weighing solution designed to maximize accuracy, uptime, and operational control. Together, they provide a superior system that is:



# Expand capability across demanding applications with smart integration

## ZT Digital Load Cell Weighing Applications

The **ZT Digital Load Cells** are a high accuracy, hermetically sealed with integral lightning protection, rocker-column digital compression cell designed to survive the world's most extreme operating conditions. Its robust, industry-proven design enables use across a wide range of applications, from weighbridges and rail systems to bin, hopper and tank weighing.

Designed to perform under continuous load and harsh operating conditions, it ensures consistent accuracy and uptime where it matters most.



# Maximize reliability with trusted technology

**Avery Weigh-Tronix**

## ZT Digital Load Cell Proven Design

With a proven track record with over 35 years of manufacturing the canister load cell, Avery Weigh-Tronix prides itself on manufacturing the **ZT Digital Load Cell** to the highest industry and quality standards (ISO 9001). Using the latest state-of-the-art load cell manufacturing and testing equipment, the Avery Weigh-Tronix load cells and components are designed to improve accuracy and performance.



Designed for accuracy and high-performance digital weighing, combining advanced materials and precision digital processing:

- › Solid aircraft-grade stainless steel weighing element
- › Designed for 1,000,000 load cycles at full capacity
- › Factory-calibrated, trade-approved for full traceability
- › Active digital compensation to OIML C6 / NTEP Class III accuracy



Engineered for protection and durability in the most demanding environments, combining robust mechanical design with advanced environmental and electrical protection:

- › IP69K hermetically sealed stainless steel enclosure
- › Best-in-class industrial lighting protection (IEC 61000-4-5 Level 4 Tested)
- › Specially designed marine-grade, heavy-duty cables and connectors



Optimized for efficient, operation-ready installation and flexible integration:

- › Pre-assembled anti-rotation load buttons
- › Intelligent connection system (no junction box required)
- › Retrofit-ready with optional conversion kits



**Our canister load cell has been supplied into geographies around the world over the last 35 years.**

# Turn weighing accuracy into profit

## ZT Digital Load Cell Weighing Revenue Performance

When selecting a weighing system, it is critical to consider the quality and accuracy class of the load cell - the core component of the system. Choosing a lower-accuracy solution (e.g. C3 or C4) can lead to measurement errors, resulting in product give-away or profit loss over time, as well as non-compliance with regulations - both of which can represent significant and costly risks.

The **ZT Digital Load Cell** is NTEP Class III, 10,000d approved with a capacity of 66,000 lb. Every cell is built and accurately precalibrated, temperature compensated and linearized in our company facility (ISO9001 certified).

A 24-bit A/D converter digitizes the signal from the eight strain gauges, enabling precise active digital compensation. This high-performance design achieves a combined error of just 150 ppm (0.015%), delivers up to 6 million divisions, maintains accuracy under off-center loading (up to 3°), and provides robust protection against electromagnetic interference and fraud.

Each load cell can be easily configured and monitored via an Avery Weigh-Tronix ZM605/ZM615 Series Indicator, delivering exceptional repeatability and linearity for consistent, reliable weighing performance in every transaction.

## SPECIFICATIONS

### METROLOGICAL APPROVALS



- NTEP** Class III L 10,000d
- OIML** R60, Class C6, 6000 intervals
- Combined Error** <150 ppm @ rated capacity

### TEMPERATURE RANGE

- Compensated (NTEP/OIML)** +14° F to +104° F / -10° C to +40° C
- Operating** -40° F to +149° F / -40° C to +65° C

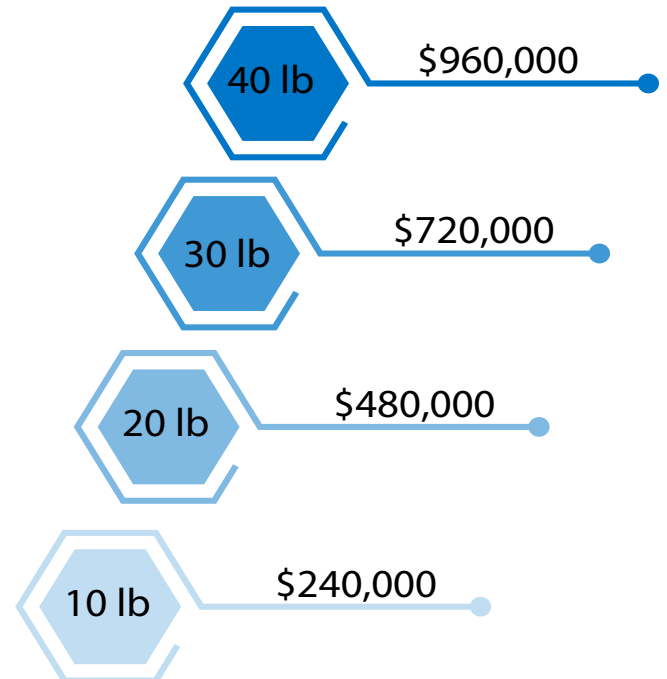
### LOAD CELL

- Safe Load** 150% of rated capacity
- Breakage Load** 230% of rated capacity

### FULLY ASSEMBLED AND PRE-CALIBRATED

## Potential Annual Misprofit Error per Transaction

Assuming 24,000 trucks per year and product cost \$1/lb



### How the transactions are calculated

Transactions/day	100
Transactions/week	500
Transactions/month	2000
Transactions/year	24,000

# Keep operations running in extreme weather

**Avery Weigh-Tronix**

## System Protection in all Environments

The **ZT Digital Load Cell** is designed to handle every environmental factor - wind, vibrations, temperature changes, and marine corrosion. These, along with tough industrial applications and atmospheres, can all impact how well your weighing system performs.

If your location is in a harsh environment or exposed to extreme conditions, the Avery Weigh-Tronix **ZT Digital Load Cell**, used in conjunction with the Avery Weigh-Tronix ZM605/ZM615 Series Indicator, will provide the extra protection you need for your vehicle weighing system.

It is important that the whole weighing system is protected to prevent your system from being inactive while awaiting repair, as any downtime of key equipment can be very costly to your business.

## IP Rating

All the components are designed for long service in extreme conditions, including corrosive environments and frequent heavy washdown.

- › The **ZT Digital Load Cell** is hermetically sealed to IP68 (3.28 ft (1m) - 7 days submersion) and is fixed with a Glass-to-Metal header, hermetic to IP69K certified cable entry, providing outstanding reliability in a wide range of environments.
- › Amphenol LTW® X-Lok Cable and Connectors are designed to exceed IP68 (IEC 60529). Due to a proven polyurethane sheath this data cable guarantees also excellent flexibility and maximum oil and abrasion resistance.
- › The ZM605/ZM615 Series Indicators are IP69K certified and enclosed in 304 brushed stainless steel fitted with a GORE® Vent, a membrane which makes it ideal for use in heavy washdown (food) or dusty environments.

**IP69K**

## Lightning Protection

Built to comply with IEC 61000-4-5, the recognized benchmark for surge immunity in industrial electronic systems, the ZT surge protection circuit delivers coordinated, multi-level lightning and surge protection across the entire weighing system:

- › ZT/ZM interface card with integrated surge protection
- › ZM605/615 series indicators with medical-grade power supply for stable operation
- › ZT digital load cells with integrated two-stage surge protection on all signal lines
- › Amphenol LTW® cables with dual-screen construction (metal braid and drain wire) for superior earthing and EMI protection.

**The ZT Digital Weighing System is certified to the highest level of immunity to lightning and industrial switching surges, up to 4 kV (line-to-ground) and 2 kV (line-to-line), in accordance with International Electrotechnical Commission (IEC) 61000-4-5 Level 4.**

**The result is a highly resilient weighing system, engineered to maintain accuracy and uptime in the most demanding industrial conditions.**



## ZT Digital Load Cell Environmental Performance

To maximize protection and reliability, Avery Weigh-Tronix has developed and adopted the latest state of the art, industry-leading solutions.

- › The IP68/69K thick stainless steel **ZT Digital Load Cell** enclosure, offers anti corrosive properties and performs exceptionally well in damp, wet and humid environments, as well as industrial atmospheres in operating temperature range  $-40^{\circ}\text{F}$  to  $+149^{\circ}\text{F}$  /  $-40^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$ .
- › The ZM605/ZM615 Series Indicator is IP69K certified and its 304 stainless steel casing featured a high contrast display and metal domed tactile keys - engineered for long-term operability and an optimised human-machine interface.
- › Specially designed for Avery Weigh-Tronix, the Amphenol LTW® X-LOK cable and connectors provide high resistance to abrasion and rodent damage, along with EMI/RFI immunity. The submersible, marine-grade connectors comply with EIA-364 and use UL94V-0 and UL-f1 rated materials for flammability and UV protection. Supplied as standard with a stainless steel braided outer cover for added protection.

## Protection Against All External Factors



# Intelligent Connecting System - Just Plug and Weigh!

**Avery Weigh-Tronix**

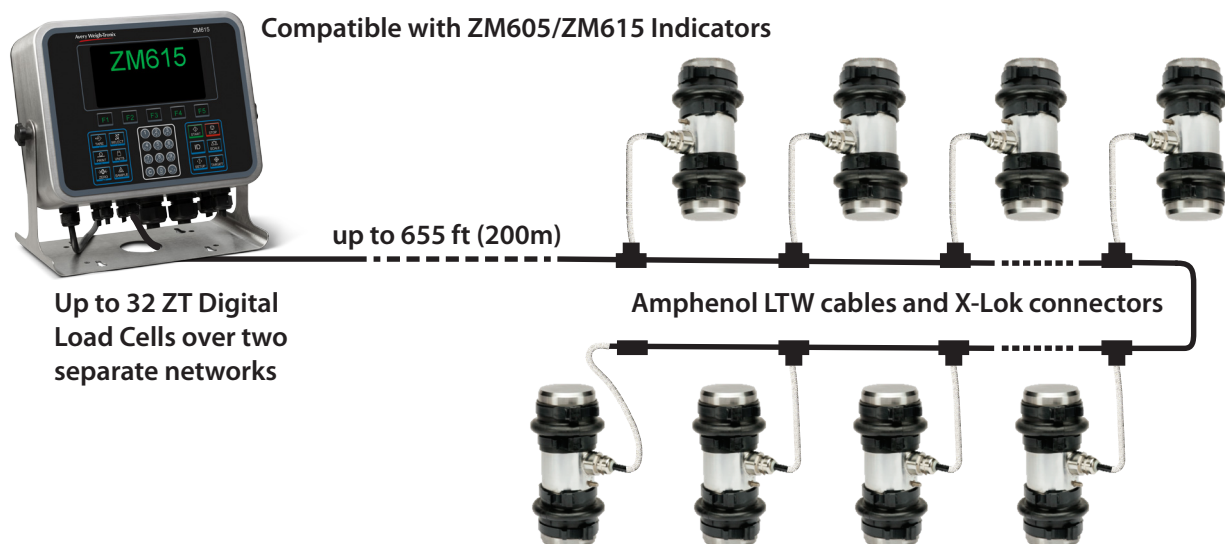
## ZT Digital Load Cell Connectivity

The **ZT Digital Load Cell** is connected to a Bus Network without the need of a junction box or termination plug, providing fast, flexible, and simple interconnections using the Amphenol LTW X-Lok push lock system – you just plug-and-play! This simplifies the connection process and reduces time terminating wiring connections when using a junction box.

In addition to the pre-assembled load buttons, each **ZT Digital Load Cell** comes as standard with Amphenol LTW® 8.2 ft (2.5 m) digital cable with SST overbraiding and single connector. This design increases the overall system robustness in two ways:

- › It allows each cell to be easily isolated for rapid cell-specific servicing without interrupting the network.
- › It protects the connections from undesired mechanical stress and adverse environmental conditions.

## System Diagram

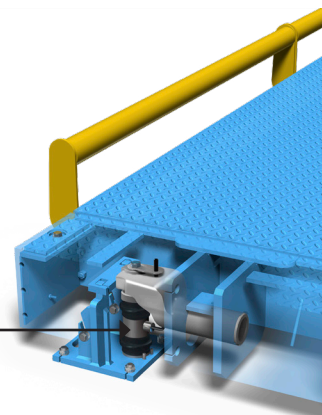


\*Maximum length of the home run cable is subject to the number of cells connected.

Specially designed for Avery Weigh-Tronix, the Amphenol LTW® cable and X-LOK connectors enable simplified interconnection with high electrical, mechanical, and chemical performance, including in harsh marine environments. The durable polyurethane sheath, combined with stainless steel braided sleeving, provides excellent flexibility along with strong resistance to oil and abrasion.



ZT Digital Load Cell



# Maximize uptime and system security with guided diagnostics

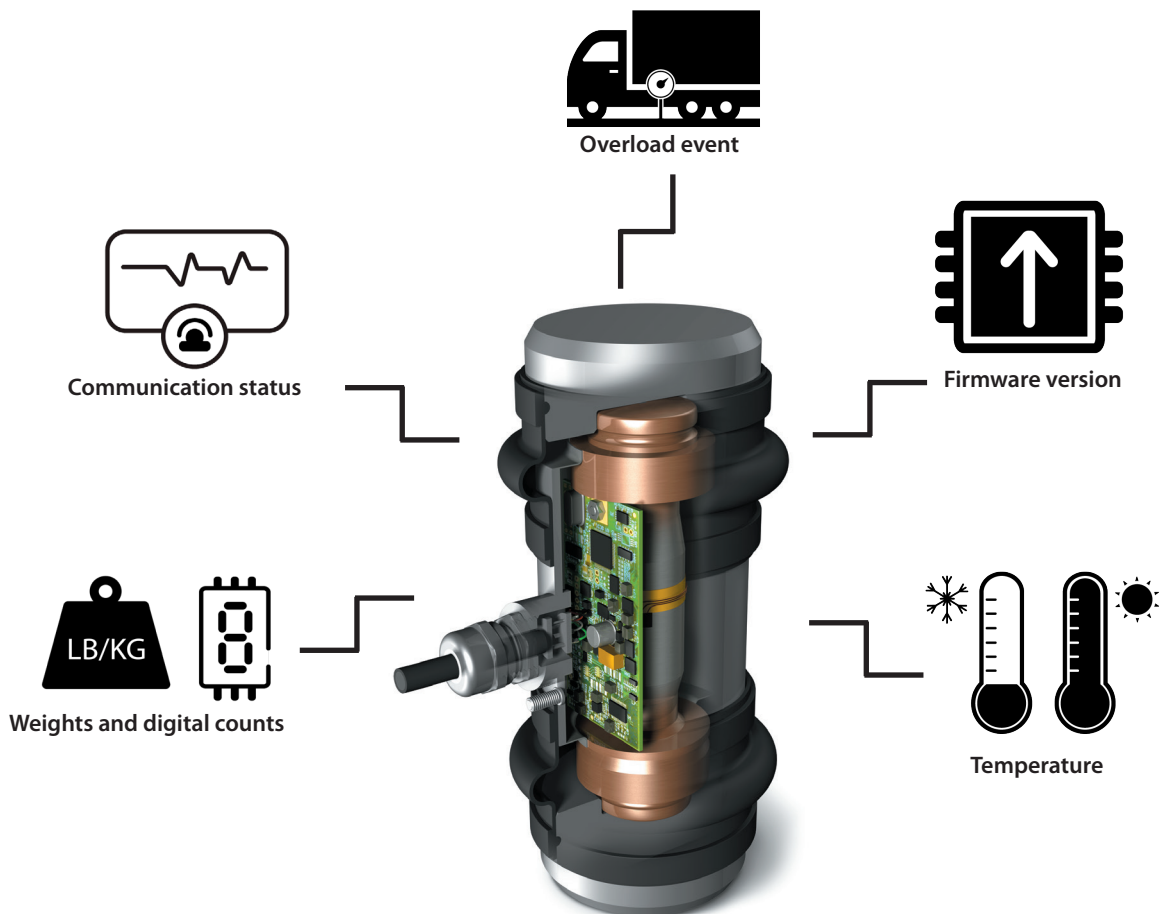
## ZT Digital Load Cell Monitoring and Diagnostic Features

The **ZT Digital Load Cell's** continuous diagnostics, when connected to ZM605/615 indicators, expand the indicator's diagnostic capabilities - monitoring the status, performance, data integrity (including anti-fraud and breach detection), and authenticity of each cell. This enables faster, traceable servicing and supports timely corrective actions.

Active alarm messaging provides real-time alerts to the operator, facilitating rapid response and improved first-time fix rates. The system can also be configured to automatically notify the designated service provider via email when unattended.

### Smart Diagnostics with Predictive Capabilities

- › Stay in control: Continuous monitoring of cell authenticity, communication status, load and temperature
- › Respond faster: Real-time alerts and programmable notifications support predictive diagnostics via ZM605/615 indicators
- › Fix with confidence: Built-in tools for balance checks, cornering validation, and faster commissioning



# Fast, installation and simplified service

## Avery Weigh-Tronix

### **Pre-calibrated, Linearized and Temperature Compensated ZT Digital Load Cells Saves Installation Time On-Site.**

Using the **ZT Digital Load Cell** makes the installation, cornering and calibration a lot faster and a simpler process because each **ZT Digital Load Cell** comes as standard pre-calibrated from our factory, resulting in quick & simple load cell replacement with minimum downtime.



### **ZT Digital Load Cell is Provided with Factory Assembled Rubber Gaiter Bellows and Pre-Greased Buttons Designed to Reduce Rotation.**

The sealed rubber gaiter protects the load cell from harsh wet & dusty environments while the factory pre-greased load buttons ensure the correct type and amount of grease is applied and keep it free of any contamination.

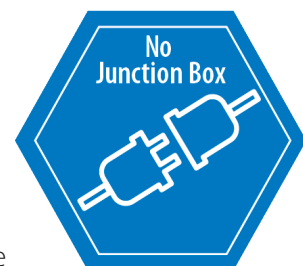
The top and bottom rocker-column suspension load buttons are designed to improve point loading contact and accuracy while minimizing cell rotation.



### **The Amphenol® Push Lock Connector System Simplifies the Cabling and Allows Each Load Cell to be Easily Isolated for Inspection.**

The Amphenol LTW® X-Lok connectors make the connection of the **ZT Digital Load Cells** to the bus network a faster and error-free (no hand wiring required) operation, without the use of a junction box or termination plug.

This network topology allows the whole weighing system to be continuously monitored to prevent misuse or fraud attempts and makes each cell always accessible without having to interrupt the network.



## The Platform Balancing Check Feature Maximizes the Weighing Performance of Your Weighing System.

When installed to the manufacturer's specifications, the **ZT Digital Load Cells** are fitted on level decks. To make sure that the decks are also standing on their static balance point correctly, this feature displays the dead load percentage on each cell before performing the calibration and ensures that the weighbridge has been installed level to maximize the weighing performance and accuracy.



## The Ghosting Feature Helps to Keep Your Weighing System Functioning if a Load Cell is Faulty – Preventing Expensive Downtime.

The Ghosting feature detects a faulty weight sensor output, isolates the weight sensor, and replaces the faulty sensor output with a simulated replacement. It will allow the system to keep functioning in a limited capacity (non-legal-for-trade mode only) until repairs can be made.

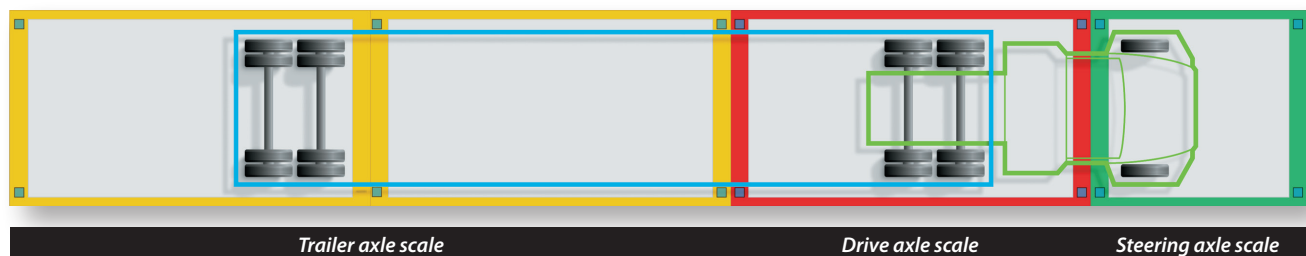


## Multi-Platform Scale

The multi-platform scale feature allows each of the 32 **ZT Digital Load Cells** to be grouped on the network into independent platforms for a faster axle-vehicle weighing application.

Each scale can be easily configured and monitored via an Avery Weigh-Tronix ZM605/ZM615 Series Indicator, making it the trusted choice for axle-weighing applications.

The Avery Weigh-Tronix ZM605/ZM615 Indicator can support up to eight scales.



## Delivering Service Excellence Globally

- › At Avery Weigh-Tronix, we strive to deliver cost effective service options that fit your specific requirements.
- › Our solutions help you to maximize continuous operation, keeping your equipment running smoothly and minimizing costly disruption to your business.
- › We have more than 250 years of experience, backed by worldwide investment in research and development.
- › Advanced reporting systems to give you visibility and control.
- › ISO9001: 2015 and the AWTX UK Force and Metrology Lab is ilac - MRA laboratory ISO 17025 accredited (UK Force and Metrology Lab).
- › Our authorized distributor network provides localized support to install and maintain your equipment, including regular calibration, servicing and repair.

## Approvals

### Environmental Performance Certificates:

IEC 60529 - IP68 hermetic, submersible

DIN 40050-9 and IEC 60529 - IP69K high pressure and temperature washdown

IEC 61000-4-5 - Level 4 EMC and surge immunity: for severe environments

EIA 364-09/26B/31B/21C/23C/20D electrical connectors

### Metrological Certificates:

CE - EU DoC

NTEP Class III L, 10,000d Approved

OIML - R60, Accuracy Class C6



# Avery Weigh-Tronix

[www.averyweigh-tronix.com](http://www.averyweigh-tronix.com)

**Avery Weigh-Tronix is an ITW company**