

Avery Weigh-Tronix

ZT DIGITAL LOAD CELL



ZT DIGITAL
LOAD CELL

SMART - RUGGED - ACCURATE

**High performance
weighing solution
to increase your
profits**

High quality and accurate weighing solution to increase your profit!

Avery Weigh-Tronix

Its innovative design provides faster installation and advanced performance diagnostics.

The weighing system is the heart of the business and having an accurate and reliable weigh scale is vital to the success of your business. You need to consider the quality of the scale which will mean having reliable and accurate weighing componentry to ensure your business is protected from unexpected costs.

It ensures you are not giving product away or charging too much for product, reduces downtime when having to be repaired which can be expensive, and ensures you are complying with legislations that can also be costly if your business is fined.

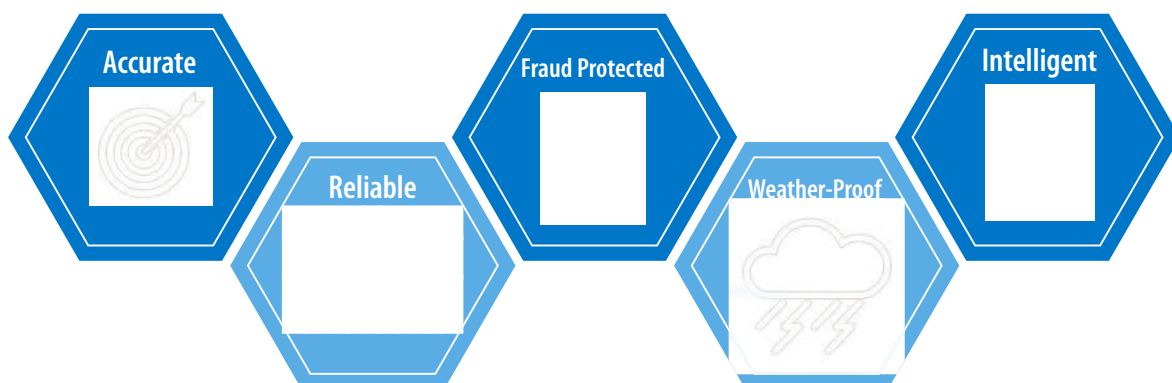
Avery Weigh-Tronix, with its established years of manufacturing, provides high-quality componentry for efficient weighing operations, whilst protecting your profits.

Buying a quick fix is not going to be beneficial to you in the long run, buying an innovative solution with a long-term return is going to protect your profits and give you peace of mind.



ZT Digital Load Cell Weighing System

The **ZT Digital Load Cell**, used in conjunction with the Avery Weigh-Tronix ZM510/615 Series Indicators, will provide a superior weighing system that is:



Heavy loads and daily high-volume weighing cycles can cause wear and tear to your weighing system with costly repairs.

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. Due to its rugged and industry-leading design, the **ZT Digital Load Cells** are used in a wide variety of applications around the world, from weighbridge, multi-platform scale and rail through to bin, hopper and tank weighing.

Ensuring these key areas are functioning 100% daily, with heavy loads and constant abuse is challenging.

We have designed our range of products with this in mind.

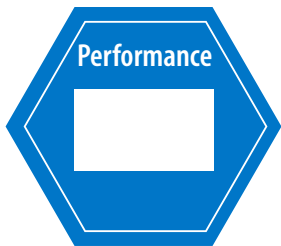


Tired of Having Constant Breakdowns due to poor quality?

Avery Weigh-Tronix

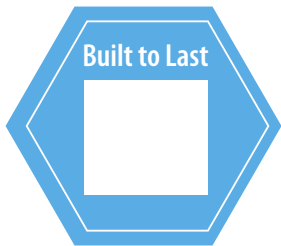
ZT Digital Load Cell Proven Design

With a proven track record with over 30 years of manufacturing load cells, Avery Weigh-Tronix prides itself on manufacturing the **ZT Digital Load Cell** to the highest industry and quality standards (ISO 9001 and ISO 14001). 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.

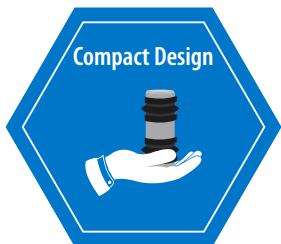


The specially designed weighing element is manufactured from a solid piece of aircraft-quality alloy stainless steel, that in combination with a 24-bit A/D converter provides outstanding weighing performance:

- › 150% safe load limit of the **ZT Digital Load Cell** rated capacity for maximum reliability
- › 6 million internal divisions for the highest accuracy



The 2.35mm thick stainless-steel outer wall is hermetically sealed to IP69K and designed to protect internal elements from accidental damage and prevents the ingress of water and dust (1 m - 21 days submersion, tested). Each **ZT Digital Load Cell** has integral two-stage lightning protection (Level 4 certified) and waterproof, corrosion and abrasion resistant industry-leading data cables and connectors.



The compact design, pre-assembled anti-rotation load buttons and intelligent connecting system simplify the service and installation operations. Due to its 200 mm industry-standard height, the **ZT Digital Load Cell** allows more application options than ever before. This specification also makes it an ideal replacement for other manufacturer's load cells using the optional conversion kits.



Our cannister load cell has been supplied into geographies around the world over the last 30 years.

Prevent inaccurate weight readings which damages your profits, unexpected stock shortages and weight disputes with customers.

ZT Digital Load Cell Weighing Performance

When choosing your weighing system, you need to take into consideration the quality of the load cell which is the major part of the weighing system. If the load cell chosen is not suitable for your system and business needs, this will result in inaccurate weight readings and lost revenue.

The **ZT Digital Load Cell** is NTEP and OIML R60, approved to 6000 verification intervals, with a capacity of 30 or 45 tonnes. Every cell is built and accurately precalibrated, temperature compensated and linearized in our company facility (ISO9001 certified).

The 24-bit A/D converter digitizes the signal generated by the 8 strain-gauges. This design offers outstanding weighing performance (6 million divisions, unaffected by off center load up to 3°) and signal protection from electromagnetic interferences and fraud attempts.

The **ZT Digital Load Cell** makes the installation, cornering and calibration a faster and simpler process and is ideal for critical weighing applications in extreme conditions such as lightning rich or monsoon areas.

Each load cell can be easily configured and monitored via an Avery Weigh-Tronix ZM510/615 Series Indicator, making it the trusted choice for high capacity applications in every environment and industrial operating conditions.

SPECIFICATIONS



METROLOGICAL APPROVALS

OIML	R60, Calls C6, 6000 intervals
NTEP	Class III L 10,000d
Combined Error	<150 ppm R.C.

TEMPERATURE RANGE

Compensated (OIML)	-10° C to +40° C
Operating	-40° C to +65° C

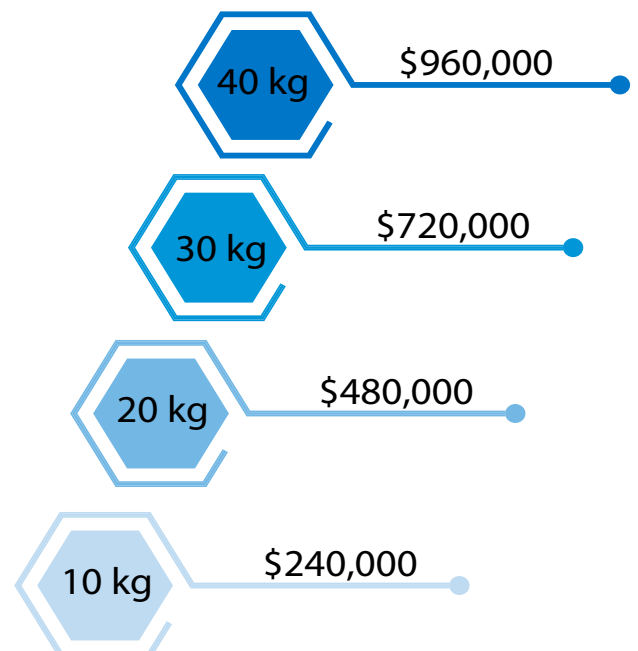
LOAD CELL

Safe Load	150% of the rated capacity
Breakage Load	230% of the 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

Extreme Weather Can Be Costly

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 and at risk of lightning strikes, dust storm or monsoon weather the Avery Weigh-Tronix **ZT Digital Load Cell**, used in conjunction with the Avery Weigh-Tronix ZM510/615 Series Indicator, will provide the extra protection you need for your weighing system.

It is important that the whole weighing system is protected to prevent your system from being inactive and waiting 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 fully submersible (1 m - 21 days) and is sealed 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 EIA364 and IEC 60529 for continuous immersion certified to ensure maximum protection against external agents. Due to a proven polyurethane sheath this data cable guarantees also excellent flexibility and maximum oil and abrasion resistance.
- › The ZM510/615 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

We provide lightning protection at each level.

- › ZT/ZM Interface Card with surge protection.
- › ZM510/615 Series Indicators with medical grade PSU.
- › ZT Digital Load Cells certified to IEC 61000-4-5, Level 4 EMC and Surge Immunity.
- › Amphenol LTW® Cables with dual screen system: metal braid and drain for electrical earthing and maximum EMI immunity.



ZT Digital Load Cell Environmental Performance

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

- › The IP69K, 2.35 mm 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 °C to +65 °C.
- › The ZM510/615 Series Indicator is IP69K certified and its 304 stainless steel casing featured a high contrast display and metal domed tactile keys for lifelong operability.
- › The Amphenol LTW® X-LOK cable and connectors guarantee superior abrasion resistance and immunity to EMI/RFI interferences. The submersible connectors comply also with EIA364 - Environmental Performance and meet the highest industry standard by using UL94V-0 and UL-f1 rated thermoplastic materials for flammability and UV exposure protection. An extra stainless steel braided outer cover can be supplied to order.

Protection Against All External Factors



Intelligent Connecting System - Just Plug and Weigh!

Avery Weigh-Tronix

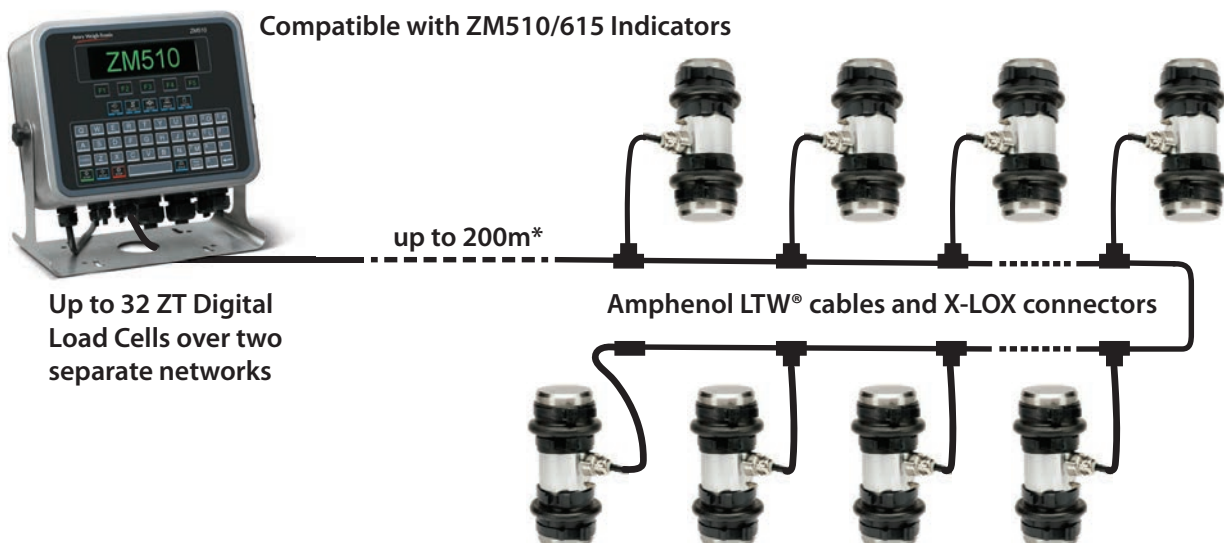
ZT Digital Load Cell Connectivity

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-LOX 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® 1 m digital cable 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 (e.g. flood and sand dust).

System Diagram



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

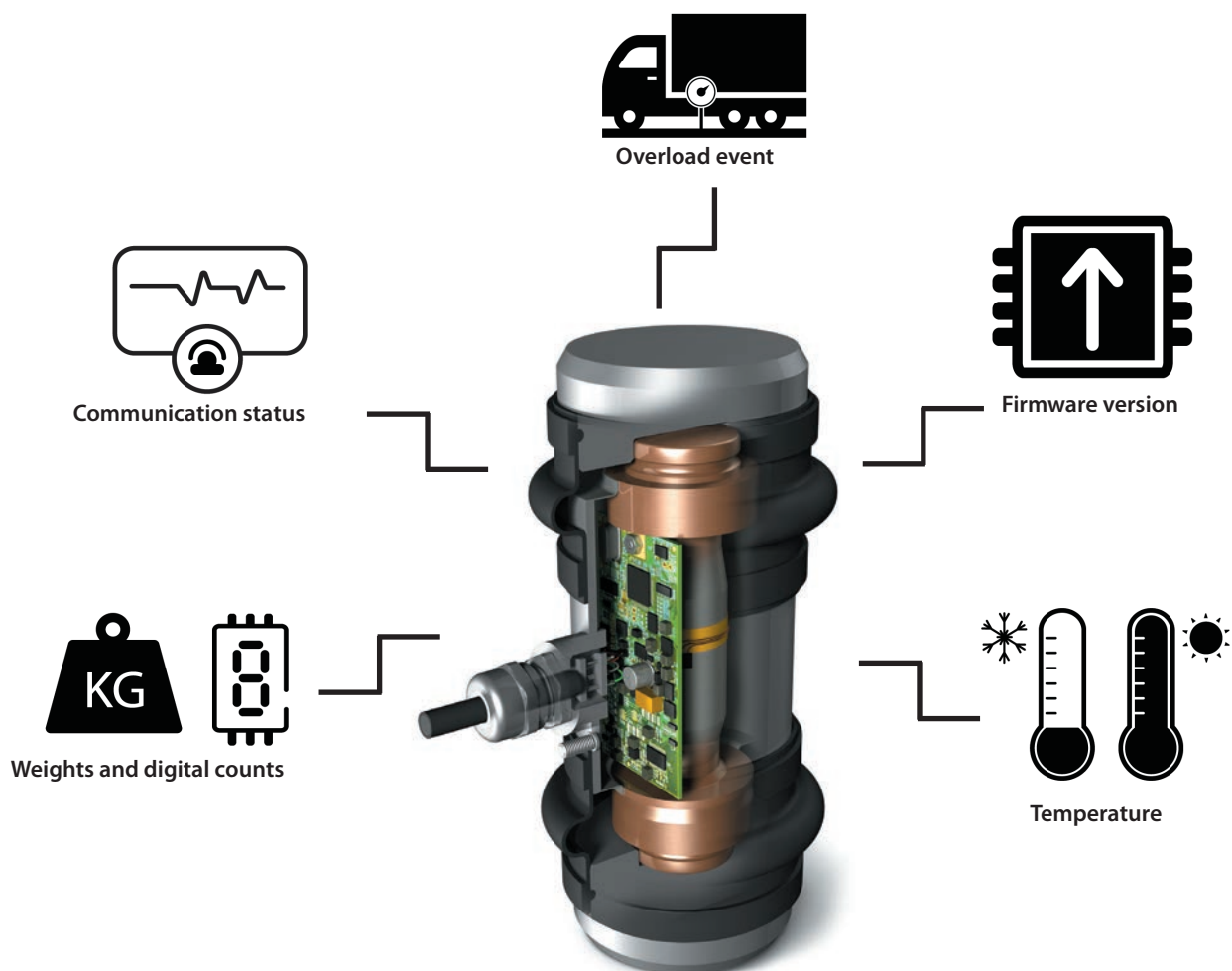
The Amphenol LTW® cable and X-LOX connectors are designed for simplified interconnection and superior electrical - mechanical - chemical performances. Due to the tough polyurethane sheath (optional stainless steel braided sleeving), this data cable guarantees excellent flexibility and maximum oil and abrasion resistance.



Continuous Self Diagnostic Feature Identifies a Fault in Realtime Allowing you to Contact your Service Provider Quickly to Resolve the Issue.

ZT Digital Load Cell Monitoring and Diagnostic Features

The **ZT Digital Load Cell's** continuous diagnostics monitor the status, performance and security integrity of each cell on the network for faster and traceable servicing. The active alarm messaging feature notifies the operator in real-time so that you can inform your service provider to enable a first-time fix. This can also be set up to send an email to the known service provider when not being manned.



Faster, Simplified, Installation and Service

Avery Weigh-Tronix

Pre-calibrated, Linearised 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.

All these factors combine to make the **ZT Digital Load Cell** an ideal choice for hard to reach locations like isolated quarry pits or tropical plantations.

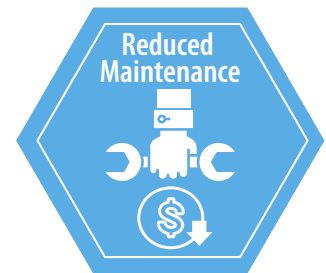


ZT Digital Load Cell is Provided with Factory Assembled Rubber Gaiter Bellows and Pre-Greased Buttons Designed to Reduce Rotation.

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 and greatly reduce the cell rotation that can cause damage.

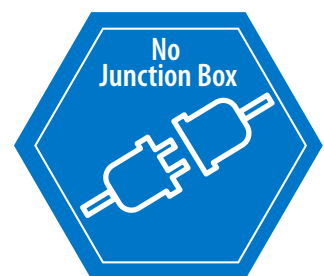
The optional conversion kits allow you to upgrade other manufacturer's load cells using the existing base plates.



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

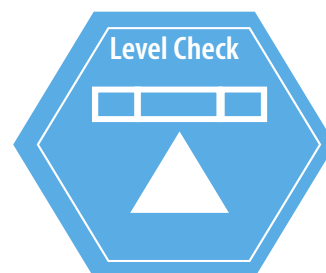
The Amphenol LTW® X-LOK connectors make the connection of the **ZT Digital Load Cells** to the bus network a faster and error-free (no hand wiring required) operation, without the use of a junction box or termination plug.

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 Maximises 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 maximise 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-trade mode only) until repairs can be made.

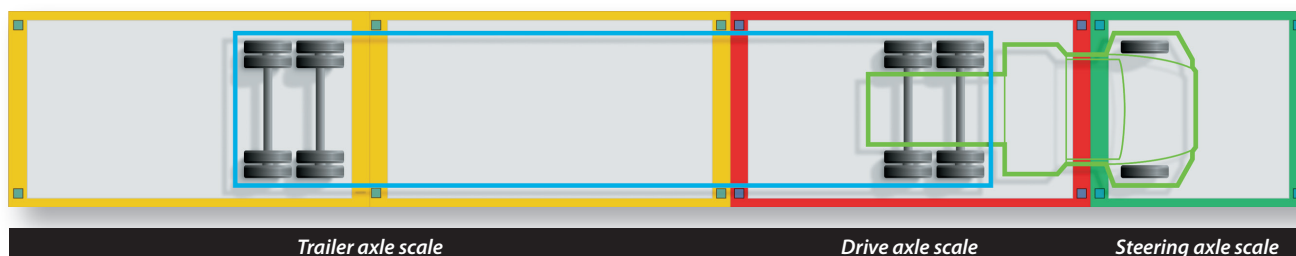


Multi-Platform Scale

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 ZM510/615 Series Indicator, making it the trusted choice for axle-weighing applications.

The Avery Weigh-Tronix ZM510 Indicator can support four scales and the 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 maximise continuous operation, keeping your equipment running smoothly and minimising 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, ISO 14001:2015 and ilac - MRA laboratory ISO 17025 accredited.
- › Global distributor support network approved to verify scales as legal for trade.

Approvals

Environmental Performance Certificates:

IEC 60529 - IP6X hermetic, IPX8 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

UKCA

OIML - R60, Accuracy Class C6

NTEP Class III L, 10,000d Approved



Avery Weigh-Tronix

www.averyweigh-tronix.com

Avery Weigh-Tronix is an ITW company



Avery Weigh-Tronix is a trademark of the Illinois Tool Works group of companies whose ultimate parent company is Illinois Tool Works Inc ("Illinois Tool Works"). Copyright © 2025 Illinois Tool Works. All rights reserved. This publication is issued to provide outline information only and may not be regarded as a representation relating to the products or services concerned. This publication was correct at the time of going to print, however Avery Weigh-Tronix reserves the right to alter without notice the specification, design, price or conditions of supply of any product or service at any time.

ZTDigitalLoadCell_L_UK_100042.indd
V4 AWT35-100042