General
The Avery Weigh-Tronix FLSC Forklift Scale System is a legal-for-trade weighing solution. The system includes a durable, front-mounted digital scale carriage with Weigh Bar® electronic weight sensors and "clear-view" open center area. The system allows operators to easily and quickly capture legal-for-trade weight data en route, without extra steps.

Seamless Compatibility
Simply attach the FLSC 5000 lb scale carriage to an existing Class II cleat-type forklift carriage and mount the FLI 225 or ZM710 indicator in a convenient driver location. This system allows seamless integration of weighing and data management into your operations without adding any extra steps or route changes.

Robust Design
The forklift scale carriage is comprised of two metal plates coupled together by four high capacity Weigh Bars.
- Front loading safety factor of 29.5:1
- Normal load safety factor of 7.5:1
- 300% overload protection with no damage
The instrumentation is designed exclusively for the forklift vehicle. It incorporates design technologies to withstand the environmental and warehouse jolts common in forklift applications.

Highly Accurate
The Avery Weigh-Tronix FLSC system monitors the orientation of the scale and maintains accurate weight readings even if the forklift is on unlevel ground, the mast is tilted, or the pallet load is off-center. The forklift drivers are not required to jockey the mast or the position of the load on the scale.

The accurate weighing performance of the FLSC has been validated by NCWM (National Conference on Weights and Measures) to weigh legal for trade with max 72" forks even when tilted:
- 3 degrees side to side (5% grade)
- 5 degrees back (8% grade)
- 7 degrees forward (12% grade)

This electronic scale design has no mechanical flexures or springs to influence the weighing performance.

Data Management
The FLI 225 Indicator provides a simple, no-nonsense solution through classic or enhanced operation for capturing weight and supplying it to a peripheral device.

The ZM710 instrument simultaneously displays multiple fields of data, assisting the operator with a visual reference. Data can be stored on board up to 10,000 records instantly transmitted wirelessly to a local or global network.
### SCALE CARRIAGE

<table>
<thead>
<tr>
<th>Description</th>
<th>Yield Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front and Back Plates</td>
<td>43,500 psi</td>
</tr>
<tr>
<td>Weigh Bar® Fasteners</td>
<td>160,000 psi</td>
</tr>
<tr>
<td>Weigh Bar Tensioners</td>
<td>150,000 psi</td>
</tr>
<tr>
<td>Mounting Hooks</td>
<td>43,500 psi</td>
</tr>
<tr>
<td>Scale Spring Loaded Centering Pin</td>
<td>89,000 psi</td>
</tr>
</tbody>
</table>

### Safety Factors
- 29.5:1 front loading, 7.5:1 normal loading, 300% no damage overloading

### View Port
- Continuous 6" x 20 3/4" nominal

### Weight Sensors
- Four Avery Weigh-Tronix 2500 LB Weigh Bars direct coupled, no flexures

### Weight Summing
- Digital assembly encapsulated

### Cover Plates
- Weigh Bar cabling protection

### Wired Interface
- Coiled cable extending to 20'

### Wireless Cable Interface
- Optional

### Finish
- High grade powder paint

### WEIGH BAR

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>L IT 2.5k weight sensors (4) NTEP CC# 99-093</td>
</tr>
<tr>
<td>Metal Properties</td>
<td>AISI 4340 steel yield strength 140,000 psi</td>
</tr>
<tr>
<td>Zero Balance</td>
<td>± 0.10 mv/v</td>
</tr>
<tr>
<td>Non-Linearity Maximum</td>
<td>± 0.3% of rated output</td>
</tr>
<tr>
<td>Hysteresis Maximum</td>
<td>± 0.03% of rated output</td>
</tr>
<tr>
<td>Temperature Effect on Output</td>
<td>± 0.0025% ° C of rated output (-10 to +40°C)</td>
</tr>
<tr>
<td>Temperature Effect on Zero Balance</td>
<td>± 1.70 x 10^-7 volts per volt 5°C (-10 to +40°C)</td>
</tr>
<tr>
<td>Safe Overload Rating</td>
<td>150% of capacity</td>
</tr>
</tbody>
</table>

### DIGITAL WEIGHT SUMMING AND ANGLE DETECTION ASSEMBLY

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approvals</td>
<td>FLJ 100 digital junction box NTEP CC# 06-096</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Class III</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Metal enclosure, circuitry encapsulated</td>
</tr>
<tr>
<td>Environment</td>
<td>Legal 14° to 104° F (-10° to +40° C), industrial -40° to +65° C</td>
</tr>
<tr>
<td>Angle Sensors</td>
<td>0.1 degree accuracy from 0-10 degrees</td>
</tr>
<tr>
<td>Angle Sensor Temperature Coefficient</td>
<td>0.008°/° C</td>
</tr>
</tbody>
</table>

### Option
- FLW 100 wireless communications with scale carriage, battery and instrument receiver, (battery life: continuously active 80 hours, active 8 hours/day 10 days before recharging, only 6.5 hours for total recharge, external battery charger)

### SYSTEM

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifting Capacity</td>
<td>Reduced 12-14%</td>
</tr>
</tbody>
</table>

### FLSC APPROVALS

- NCVIM Certificate of Conformance 07-028
- FCC part 15B CE
- NCWM Certificate of Conformance 07-028
- Accuracy Class III, 5000 x 5 LB
- Legal for Trade, fork length 72" max
- Compatible with ITA Class II, 16" high cleat type carriage
FLI 225 AND ZM710 INSTRUMENTS

Approvals
- FLI 225 - NTEP CC# 07-091, category 3
- ZM710 - NTEP CC# 20-033, category 3

Power Input
- FLI 225 - 9 to 36 vdc, 3.5 Amp, inactive stand by mode
- ZM710 - M12 connector, 12 to 36 vdc, 2.5 Amp, inactive stand by mode

Display
- FLI 225 - High contrast backlit transflective LCD dot matrix. Custom designed font ¾" high digits. Classic, Classic with Accumulation and Expanded Modes
- ZM710 - 7" backlit multi colored touch screen TFT LCD display, 800 x 480 resolution.

Operational Keys
- FLI 225 - On/Off, Zero, Print, Select, Tare, F1-F4
- ZM710 - Hard keys F1, Select, Zero, Print, Units, Tare, On/Off, many onscreen touch activated keys

Operational Images
- FLI 225 - Weight, LB/KG, Motion, Center of Zero, Weigh mode, Wireless carriage communication status, Operator status messages and Battery status of FLW 100
- ZM710 - Weight, LB/KG, Weigh mode, Motion, Center of Zero, Date/Time, Number of stored records, Pro Number, Actual Pieces, Accumulated Pieces, Employee ID, Accumulated Weight, Abort, Complete, Alpha Numeric entry screen, wireless cargo status, wireless scale cargo battery status, and multiple user messages including diagnostic management with predictive alerts

Operating System
- ZM710 - Microsoft Windows® 10 IoT Enterprise 2019

Angle Compensation
- Detects and automatically compensates for out of level weighing conditions

Communication Ports
- FLI 225 - Two RS232 serial ports
- ZM710 - Four M12 Connections - Two RS232 (one is used as scale port), Ethernet, USB. Wireless Network (802.11b/g/n 2.4GHz).

Operating Environment
- FLI 225 - Legal 14° to 104° F (-10° to +40° C), industrial -20° to +60° C
- ZM710 - Legal 14° to 104° F (-10° to +40° C), industrial -20° to +60° C

Audio
- ZM710 - Internal speaker

Enclosure
- FLI 225 - Composite with tilt and swivel brackets, designed to IP65
- ZM710 - Aluminum front bezel and plastic back cover with aluminum heat sink. Designed to IP65.

Dimension
- FLI 225 - 8.14" W x 5.19" H x 4.03" D includes mounting bracket
- ZM710 - 9.44" W x 7.08" H x 2.32" D, not including mounting

ZM710 Mounting
- ZM710 - VESA mount 75 mm x 75 mm or 100 mm x 100 mm

Weight
- FLI 225 - 4 LB / 1.8 KG
- ZM710 - 4.62 LB/ 2.1 KG

Options
- FLI 225 - FLP 100 power conditioner 24 to 72 vdc, FLW 100 wireless instrument to scale, barcode scanner, RM 100 bt (2.0), RM-310 wireless networking (802.11 a/b/g/n)
- ZM710 - FLF-100 power conditioner 24 to 72 vdc, FW 100 wireless instrument to scale, barcode scanner, forklift RAM mount kit