



QTLTSC Class III forklift scale system

Technical Specification



FLI 425



FLI 225

DESCRIPTION

General

The Avery Weigh-Tronix QTLTSC Forklift Scale System is a patented, legal-for-trade weighing solution. The system includes a durable, front-mounted digital scale carriage with Weigh Bar® electronic weight sensors and viewing ports, as well as a choice of two in-cab instruments. The system allows operators to easily and quickly capture legal-for-trade weight data en route, without extra steps.

Seamless Compatibility

Simply attach the QTLTSC scale carriage to an existing Class III cleat-type forklift carriage and mount the FLI 225/425 instrument 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
- Overload with no damage of 300%

The instrumentation is designed exclusively for the forklift vehicle. It incorporates design technologies to withstand the environmental and warehouse jolts common in forklift applications.

Patented Accuracy

The patented Avery Weigh-Tronix QTLTSC system monitors the orientation of the scale and maintains accurate weight readings even if the forklift is on uneven 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 QTLTSC has been validated by NCWM (National Conference on Weights and Measures) to weigh legal-for-trade even when tilted:

- 3 degrees side to side (5% grade)
- 8 degrees forward to back

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

Data Management

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

The FLI 425 instrument simultaneously displays multiple fields of data, assisting the operator with a visual reference. Data can be stored on-board or instantly transmitted wirelessly to a local or global network.



QTLTSC Class III Forklift Scale System

SPECIFICATIONS

Scale Carriage

Front and back plates yield strength: 670 N/mm² (100,000 psi)
Weigh Bar® fasteners yield strength: 1100 N/mm² (160,000 psi)
Weigh Bar tensioners yield strength: 900 N/mm² (130,000 psi)
Mounting hooks yield strength: 400 N/mm² (59,000 psi)
Scale centering pin yield strength: 600 N/mm² (89,000 psi)
Safety factors: 29.5:1 front loading, 7.5:1 normal loading, 300% no damage overloading
Weight sensors: Four Avery Weigh-Tronix 2500 LB or 6000 LB Weigh Bars direct coupled, no flexures
Weight summing: Digital assembly encapsulated
Cover plates: Weigh Bar cabling protection
Wired interface: Coiled cable extending to 6.1 m (20')
Finish: High grade powder paint

Avery Weigh-Tronix Weigh Bar

Type: LTT 2.5k weight sensors (4) NTEP CC# 95-093, 5,000 LB
 LTT 6k weight sensors (4) NTEP CC# 95-093, 10,000 LB
Metal properties: AISI 4340 steel yield strength 965 N/mm² (140,000 psi)
Zero balance: ± 0.10 mv/v
Non-linearity maximum: 0.3% of rated output
Hysteresis maximum: 0.03% of rated output
Temperature effect on output: ± 0.0025% °C of rated output (-10 to +40° C)
Temperature effect on zero balance: ± 1.70 x 10⁻⁷ volts per volt 5° C (-10 to +40° C)
Safe overload rating: 150% of capacity

Digital Weight Summing and Angle Detection Assembly

Enclosure: Metal enclosure, circuitry encapsulated
Environment: EU legal-for-trade -10° to +40° C (14° to 104° F), Non-legal -40° to +65° C
Angle sensors: 0.1 degree accuracy from 0-10 degrees
Angle sensor temperature coefficient: 0.008°/° C

System

Lifting capacity reduced 12-16%
Patents: 4,421,186; 5,837,946; 6,002,090
Listings: EU Trade Type Approval Certificate No. UK2862
 Accuracy Class III 2500 kg x 2 kg (Non-Approved 2500 kg x 1 kg) or 5000 kg x 10 kg (Non-Approved 5000 kg x 2 kg)
 CE Marked

FLI 225 Instrument

Type: FLI 225 instrument NTEP CC# 07-091, category 3
Power input: 9 to 36 vdc, 3.5 Amp, Inactive stand by mode
Display: High contrast backlit transreflective LCD dot matrix Custom designed font ¾" high digits Classic and Expanded Operational Modes
Operational keys: On/Off, Zero, Print, Select, Tare, F1-F4
Operational images: Weight, kg/lb, Motion, Centre of Zero, Weigh mode, Wireless carriage communication status, Operator status messages and Battery status of FLW 100
Angle compensation: Detects and automatically compensates for out of level accurate weighing
Communication ports: Two RS 232 serial ports
Operating environment: EU legal-for-trade -10° to +40° C (14° to 104° F), Non-legal -34° to +65° C
Enclosure: Composite with tilt and swivel brackets, designed to IP67
Dimensions: W 207 mm x H 132 mm x D 102 mm includes mounting bracket
Weight: 1.8 kg / 4 lb
Options: FLP 100 power conditioner 24 to 72 vdc, FLW 100 wireless instrument to scale, FLR 100 remote display, barcode scanner, RF/WiFi Module, RM 100 Bluetooth®, Data management software, printer

FLI 425 Instrument

Type: FLI 425 instrument NTEP CC# 07-025, category 3
Power input: 9 to 36 vdc, 3.5 Amp, Inactive stand by mode
Display: 7" backlit multi colored touch screen TFT LCD display, 800 x 480 resolution 1" high custom font weight values, adjustable contrast
Operational keys: Hard keys On/Off, F1, Store, Zero, many touch activated keys
Operational: Weight, kg/lb, Weigh mode, Motion, Centre of Zero, Date/Time, Number of stored records, Pro Number, Actual Pieces, Accumulated Pieces, Employee ID, Accumulated Weight, Abort, Complete, Alpha Numeric entry screen, WiFi data radio link status, WiFi wireless carriage status, wireless scale carriage battery status, multiple user messages including diagnostic management with predictive alerts and internal 32,000 transaction record including audit viewer.
Design platform: Windows CE.NET®
Angle compensation: Detects and automatically compensates for out of level accurate weighing
Communication ports: RS 232 serial, USB, Ethernet, Compact flash memory, Compact flash WiFi
Audio: Internal speaker
Operating environment: EU legal-for-trade -10° to +40° C (14° to 104° F), Non-legal -34° to +65° C
Enclosure: Cast aluminum with high grade powder paint Soft surround wrap provides operator head protection Tilt and swivel brackets, with vibration isolation
Dimensions: W 273 mm x H 189 mm x D 114 mm includes mounting bracket
Weight: 3.2 kg / 7 lb
Options: FLP 100 power conditioner 24 to 72 vdc, FLW 100 wireless instrument to scale, FLR 100 remote display, barcode scanner, RF/WiFi module, RM 100 Bluetooth, Compact flash WiFi 2.4GHz, Compact memory, Data management software

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