



Scale Carriage
Exploded View

FLSC 05 forklift scale system

Technical Specification



FLI 425



FLI 225

DESCRIPTION

General

The Avery Weigh-Tronix FLSC 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 "clear-view" open center area, 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 FLSC 5000 lb scale carriage to an existing Class II 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 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 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 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.



SPECIFICATIONS

Scale Carriage

Front and back plates yield strength: 43,500 psi
Weigh Bar® fasteners yield strength: 160,000 psi
Weigh Bar tensioners yield strength: 150,000 psi
Mounting hooks yield strength: 43,500 psi
Scale spring loaded centering pin yield strength: 89,000 psi
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

Avery Weigh-Tronix Weigh Bar

Type: LTT 2.5k weight sensors (4) NTEP CC# 95-093
Metal properties: AISI 4340 steel yield strength 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

Type: FLJ 100 digital junction box NTEP CC# 06-096
Enclosure: Metal enclosure, circuitry encapsulated
Environment: legal 14° to 104° F (-10° to +40° C), industrial -40° to +65° C
Angle sensors: 0.1 degree accuracy from 0-10 degrees
Angle sensor temperature coefficient: 0.008°/°C
Option: FLW 100 wireless communications with scale carriage battery and instrument receiver, (battery life: continuously active 168 hours, active 8 hours/day 21 days before recharging, only eight hours for total recharge, external battery charger), legal 14° to 104° F (-10° to +40° C), industrial -20° to +65° C

System

Lifting capacity reduced 12-14%

Patents: 4,421,186; 5,837,946; 6,002,090

Listings: NCWM Certificate of Conformance 07-028
 Accuracy Class III, 5000 x 5 LB
 Compatible with ITA Class II, 16" high cleat type carriage
 FCC part 15B

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 transfective LCD dot matrix
 Custom designed font 3/4" high digits
 Classic and Expanded Operational Modes
Operational keys: On/Off, Zero, Print, Select, Tare, F1-F4
Operational images: Weight, LB/KG, Motion, Center 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: Legal 14° to 104° F (-10° to +40° C), industrial -34° to +65° C
Enclosure: Composite with tilt and swivel brackets, designed to IP65
Dimensions: 8.14"W x 5.19"H x 4.03" D includes mounting bracket
Weight: 4 LB / 1.8 KG
Options: FLP 100 power conditioner 24 to 72 vdc, FLW 100 wireless instrument to scale, FLR 100 remote display, barcode scanner, RM 200 WiFi data 802.11b/g, RM 100 Bluetooth®, Data management software

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, 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, WiFi data radio link status, WiFi wireless carriage status, wireless scale carriage battery status, and multiple user messages including diagnostic management with predictive alerts
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: Legal 14° to 104° F (-10° to +40° C), industrial -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: 10.75"W x 7.44" H x 4.5" D includes mounting bracket
Weight: 7 LB / 3.2 KG
Options: FLP 100 power conditioner 24 to 72 vdc, FLW 100 wireless instrument to scale, FLR 100 remote display, barcode scanner, RM 200 WiFi data 802.11b/g, RM 100 Bluetooth, Compact flash WiFi 802.11b/g, Compact memory, Data management software

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