



ZM223 Checkweigher System

Avery Weigh-Tronix

Specifications

Certified by NSF to NSF/ANSI Standard 3-A and with IP69K approval, the Avery Weigh-Tronix ZM223 Checkweigher System is a fast and easy solution for food environments and beyond.

Fully stainless steel construction with minimal food trap areas for ease of cleaning. High and low capacity base designs automatically transfer shock loads and overloads away from the load cell.

From straightforward checkweighing with large color changing backlight display to show when the weight is in the ACCEPT window to complete visibility of weighing data and statistics, the ZM223 Checkweigher System provides the information needed through a web browser, Bluetooth™ Mobile App, USB or Ethernet to maximize performance and profitability.

Operating Applications

Quick Check Application

One key target setup mode with clear backlight color operator UNDER, OVER, ACCEPT visuals and a 13-segment ACCEPT bar graph

Gross/Net Checkweighing Application

Gross/net checkweighing mode with adjustable window tolerances segmented. Built-in transaction counter. Pack run. Configurable standard deviation and Xbar R.

Advanced Checkweighing Application

500 PLU storage, gross/net checkweighing settings with fully adjustable segmented red under, orange over and green accept. Full range of built-in statistical packages, transaction counter, pack run, custom and standard deviation data capture, Xbar R, negative checkweighing and auto tare.

Percentage Weight Gain Checkweighing Application

A fast and simple way to monitor and record percentage weight gain seen in meats when brine water injection machines are used

Grading Application

Up to 10 easy-to-set grading bands, with positive or negative grading options and running band transaction totals

Dedicate Software Applications

Checkweighing (Simple-Mid-Advanced programs) Percentage Weight Gain, Grading, Batching, Accumulation, Counting, Check-Count, General, Remote



General

Unit of Measure	Three independently configurable (Pounds, Kilograms, Ounce, Gram, Pound/Ounce, Custom)
Capacity Selections	Base capacities 5 lb to 500 lb (3 kg to 200 kg) configurable 999,999 with decimal located zero to five places
Incremental Selections	Multiples and sub-multiples of 1, 2, 5
Programmable Selections	Zero range, motion detection, automatic zero tracking, ten point linearization
Time and Date	Battery backed up time/date/year (12 hour or 24 hour format)
Calibration	Two to ten points stored
Analog to Digital Measurement Rate	80 Hz
Internal Resolution	53,687,100 counts per mV/V per second
Digital Filtering	Harmonizer filtering with adaptable constant and threshold
Self Diagnostics	Display, keys, inputs, outputs, serial port, installed options, and last 10 Error messages

User Interface

Keypad	19 robust, flat, easy-to-clean keys & chemical resistant keypad with audio beep feedback
Operational Keys	Tare, Select, Zero, Print, Units, F1, Enter, 0-9, Decimal, Clear
RPN Function	Provides a secondary function for each key via configuration. Configurable Keys: Select, Print, Units, F1, and Enter (Target WT, Tol Low, Tol High, PLU)
Status Annunciators	Zero, Motion, Gross, Net, Tare, Count, Print, Over/Under/Accept bar graph, lb, kg, gram, oz, Preset Tare, Active Ethernet connection
Display	Sunlight readable transfective HTN display, seven fourteen-segment, 1.5" (38 mm) high alphanumeric characters, illuminated with color changing backlight (Green, Red, Orange & Yellow)
Display Rate Selectable	(1, 2, 5, 10) times per second



Electrical

Power Requirements	Line voltage: 90-264 VAC (110-240 VAC nominal), frequency 50 or 60Hz, 12 to 24VDC Power consumption: estimated at 200mA at 12VDC for one 350-ohm weight sensor and 250mA at 12VDC for eight 350-ohm weight sensors
Excitation	5VDC, short circuit protected; supports up to eight 350-ohm weight sensors; four or six conductors with sense leads
Analog Signal Input Range	-1 mV/V to 5 mV/V
Circuitry Protection	RFI, EMI and ESD protection bases

Physical Housing

Enclosures	Certified by NSF to NSF/ANSI Standard 3-A 14159-1 -2010, food-grade 304 brushed stainless steel enclosure (IP69K certified) with GORE® Vent ventilation and column-mounted to a range of stainless steel pickled and electropolished IP69K bases.
Operating Temperature	14° F to 104° F / -10° C to 40° C (Approvals) at 10 to 90% humidity -4° F to 140° F / -20° C to 60° C (industrial) at 10 to 90% humidity
Humidity	10% to 90% relative, non-condensing
Basic Construction	Easy to clean, certified by NSF to NSF/ANSI Standard 3-A, fully stainless steel food-grade 304 brushed base construction with pickle and polish weigh pan and column suitable for food contact areas. Designed with breakaway load transfer system to help fully protect the load cells from unwanted overloads and shock loads.
Overload Protection	Torsion base: 500% Diamond base: 150%
Corner Loading	100%
IP Protection	Torsion BSG 3000d base: IP69K Torsion BSF 5000d base: IP69K Diamond 5000d BS base: IP69K
Approved Accuracy	Torsion Base BSG: 3000d NTEP (3000d UK/EC/OIML) Torsion Base BSF: 5000d NTEP and Measurement Canada (3000d UK/EC/OIML) Diamond Base BS: 5000d NTEP and Measurement Canada (5000d UK/EC/OIML)

Input-outputs

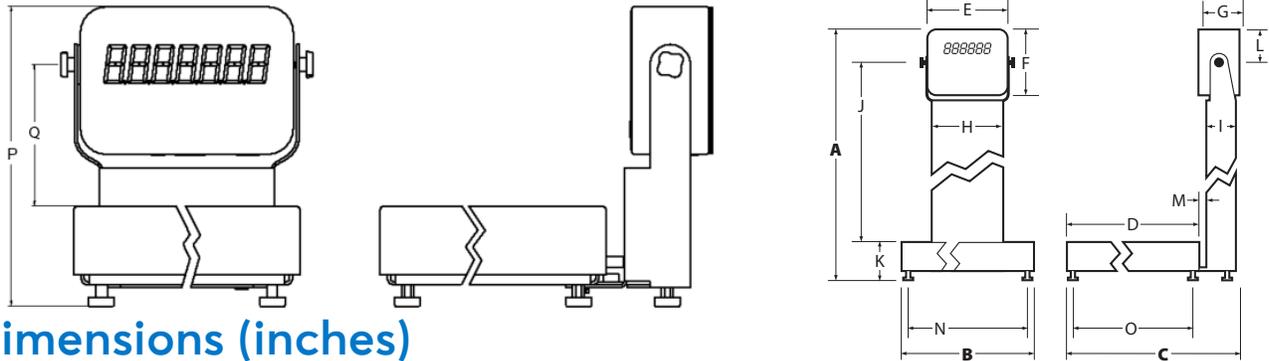
Remote Inputs	Three logic level inputs for Zero, Print, Tare, Units or F1
Standard Outputs	Three set point outputs, open collector design (Grading app has six outputs and no inputs)
Serial Ports	Two serial ports: - Comm 1 RS232 full duplex - Comm 2 RS232 full duplex Programmable serial response to ASCII input SMA protocol, broadcast, enquire
USB Host	Printer input or USB flash memory
Micro-SD (Standard)	Fitted as standard with a 16GB micro-SD ideal for storing spot check weight data, standard deviation transaction or up to 100,000 Alibi weight data transaction records
Ethernet	The Ethernet port can be configured to support ten independent devices. It supports DHCP, UDP Sockets, TCP/IP (client or server), SMTP (email), SMA, NCI, FTP, ENQ (Enquire Mode) and Broadcast. Fieldbus Ethernet/IP™ and Modbus-TCP, HTTPS, MQTT for secure cloud web browser connections
Wireless	Optional internal 802.11b/g
Bluetooth Mobile App	Can pair to free Remote Assist™ Mobile App allowing you to view live data and control scale parameters from a remote tablet paired with the scale

Options

Bluetooth Mobile App	Can pair to free Remote Assist™ Mobile App allowing you to view live and control scales parameters from a remote tablet paired up to the scale
PC Card (choose one)	USB device card: Provides USB interface to PC Wireless internal card: 802.11b/g wireless data communications, 200 ft (60 m) distance between receivers subject to working environments RS485/RS422
Watertight Gland	Choose one: USB or Ethernet gland with seal cap to protect it when cleaning. This allows a USB or Ethernet cable to be plugged in or out externally
Light Stack (column mounted)	Light stack quickly connects to side of indicator enclosure to enhance the under over accept visibility

Base Capacity/Resolution

	Base Size	Resolution (US)	Resolution (Europe)
BSG 3000d Torsion Base IP69K	8.75" x 8.75" (220 mm x 220 mm)	6 x 0.002 lb (3 x 0.001 kg) 12 x 0.005 lb (6 x 0.002 kg)	3 x 0.001 kg 6 x 0.002 kg
	12" x 14" (310 mm x 350 mm)	30 x 0.01 lb (15 x 0.005 kg) 60 x 0.02 lb (30 x 0.01 kg) 100 x 0.05 lb (50 x 0.02 kg)	15 x 0.005 kg 30 x 0.01 kg
BSF 5000d Torsion Base IP69K	8.75" x 8.75" (220 mm x 220 mm)	5 x 0.001 lb (2.5 x 0.0005 kg) 10 x 0.002 lb (5 x 0.001 kg)	
	12" x 14" (310 mm x 350 mm)	25 x 0.005 lb (12.5 x 0.002 kg) 50 x 0.01 lb (25 x 0.005 kg) 100 x 0.02 lb (50 x 0.01 kg)	
BS 5000d Diamond Base IP69K	20" x 20" (510 mm x 510 mm)	100 x 0.02 lb (50 x 0.01 kg) 200 x 0.05 lb (100 x 0.02 kg)	45 x 0.01 kg N/A
	24" x 24" (610 mm x 610 mm)	200 x 0.05 lb (100 x 0.02 kg) 500 x 0.1 lb (220 x 0.05 kg)	90 x 0.02 kg 200 x 0.05 kg



Dimensions (inches)

Base Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
8.75" x 8.75"	18.4	8.75	11.83	8.75	8.25	6.5	3.72	6.77	2.58	11.58	3.70	3.00	0.72	6.63	6.67	11.67	5.52
12" x 14"	18.4	13.75	15.33	12.25	8.25	6.5	3.72	6.77	2.58	10.96	4.31	3.00	0.78	11.50	10.00	11.67	5.52
20" x 20"	35.59	19.85	26.97	19.85	8.25	6.5	3.72	6.77	3.15	29.25	5.00	3.00	3.94	18.73	18.75		
24" x 24"	35.59	23.85	30.90	23.85	8.25	6.5	3.72	6.77	3.15	29.25	5.00	3.00	2.76	22.25	22.50		

Dimensions (mm)

Base Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
220mm x 220mm	468	208	301	223	210	165	95	172	66	294	94	76	20	168	170	296	140
310mm x 350mm	468	349	389	311	210	165	95	172	66	279	110	76	20	292	254	296	140
510mm x 510mm	904	504	685	504	210	165	95	172	80	743	125	76	100	476	476		
610mm x 610mm	904	606	785	606	210	165	95	172	80	743	125	76	70	572	572		

Approvals

NTEP (US) Class III/IIIL 3000 & 5000 d (CC#24-075, CC#88-104, CC#12-035, CC#03-067)
 OIML / EC Class III 3,000 d
 Measurement Canada (AM0200-NAWI-19072, AM5846, S.WA3094)
 India (I-21/177/2025-W&M)
 Certified by NSF to NSF/ANSI Standard 3-A 14159-1 -2010

CE (European and UK)
 cUL North America / Canada
 IP69K
 NSF
 NOM



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Avery Weigh-Tronix

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