

510 INDICATOR

Flexible weight indicator for advanced applications.

Technical Specification



*IP69K Stainless Steel Enclosure
Graphic Display
IP69K*

*IP66 Stainless Steel Enclosure
Graphic Display*



ETHERNET



USB



SERIAL

DESCRIPTION

This high performance, multi-function indicator provides the flexibility to adapt for your applications. A dot matrix 320 x 80 display can be used to create personalized messages such as user prompts, images and status annunciators. A large QWERTY keypad offers input flexibility where adding an external keyboard would be difficult, such as panel-mount applications.

Suitable for the office, dusty, wet or high pressure and heavy washdown environments, these indicators can display, analyze, store, and transmit data across a range of technology methods to meet your specific installation.

SPECIFICATIONS

GENERAL

Unit of Measure	Four active choices (Kilograms, Ounce, Gram, Pounds, Pound/Ounce, Ton, Tonne, Custom)
Capacity Selections	9,999,999 with decimal located zero to five places
Incremental Selections	Multiples and sub-multiples of 1, 2, 5
Multi-Range/Multi-Interval	Up to three independent weight ranges and divisions
Programmable Selections	Zero range, motion detection, automatic zero tracking, eight point linearization
Time and Date	Battery backed up time/date/year (12 hour AM/PM or 24 hour format)
Calibration	Two to ten points
Analog to Digital Measurement Rate	100 Hz
Internal Resolution	67,108,864 counts per mV/V per second
Digital Filtering	Harmonizer™ filtering with adaptable constant and threshold
Self Diagnostics	Display, keys, inputs, outputs, serial port, scale A to D, USB port and option cards
Dynamic Weighing	Minimum nominal weigh time 100 milliseconds, recommended minimum three hundred milliseconds
Programming Language	Avery Weigh-Tronix Lua, WT Basic, GSE Macro

USER INTERFACE

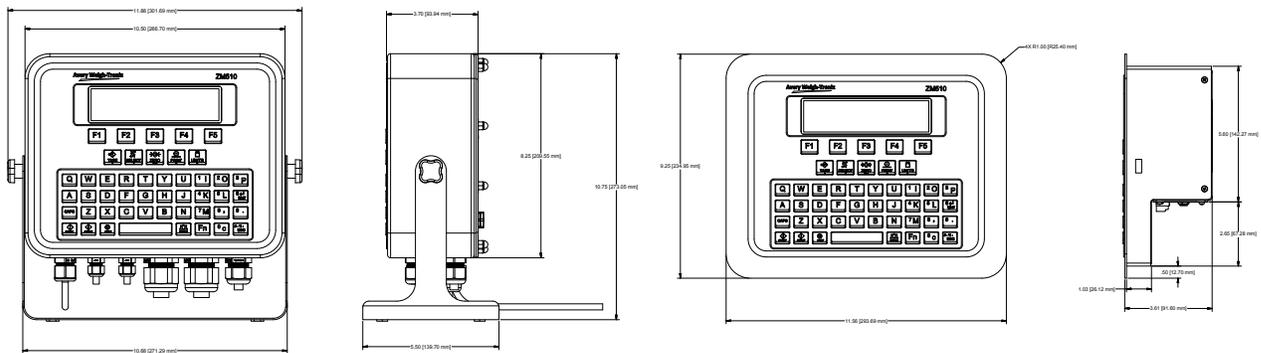
Keypad	ZM510 has a 48 key chemical resistant keypad with metal domed tactile feedback and audio confirmation when pressed
Operational Keys	Zero, Print, Units, Tare, Select, Setup, Scale, Start, Stop, 0-9, Individual Alpha, CAPS, Number Lock, Enter, Five Function Keys (F1-F5), Space Bar
Status Annunciators	Center of Zero, Motion, Battery status, Preset Tare, Active Ethernet Connection, Unit of Measure and more are shown on the dot matrix display
Display	Improved Super Twisted Nematic (ISTN) Graphic Display: the green illuminated with black background 320 x 80 pixel display provides wide viewing angles and high brightness. Pixels can be organized on the display to create personalized Human Machine Interface messages and images. A mode selection allows the image to be displayed in reverse image for applications that would benefit from dark characters with a clear/light contrasted background.
Display Rate	Selectable (1, 2, 5, 10, 20) times per second

Dot Graphic Display Adapts to Meet the Solution



PHYSICAL

Enclosure	Stainless steel desktop: 304 brushed stainless steel (IP69K certified) with GORE® Vent ventilation and tilt stand with provisions for desk, wall and column mounting Stainless steel panel mount: Stainless steel with easy access to interface connections
Operating Temperature	14° F to 104° F / -10° C to 40° C (Compliance with legal for trade requirements) -4° F to 140° F / -20° C to 60° C (Industrial) 10 to 90% humidity non condensing
Shipping Weight	Stainless steel desktop: 12.4 lb (5.62 kg) Stainless steel panel mount: 11 lb (5 kg)
Dimensions (L x W x H)	Stainless steel desktop: 11.88" x 5.5" x 10.75" (301.69 mm x 139.70 mm x 273.05 mm) Stainless steel panel mount: 11.56" x 3.61" x 9.25" (293.69 mm x 91.60 mm x 234.95 mm)



INPUT/OUTPUT

Remote Inputs	Three TTL or voltage free logic level inputs can be received for basic key functions or application program events
Standard Outputs	Three outputs can be used for system variable setpoints or in combination with application program events
Serial Ports (3)	Three serial ports: - Comm 1 RS232 full duplex - Comm 2 RS232 full duplex - Comm 3 RS232 full duplex Or - Comm 1 RS232 Full duplex with handshaking - Comm 2 RS232 Not available - Comm 3 RS232 Full duplex with handshaking Manual and Autoprint function Supports SMA, ENQ and NCI command response protocols and broadcast Supports BSQ digital bench base
USB Host (2)	Two USB Host ports for: ▶ Printer ▶ USB flash memory ▶ Remote USB keyboard
Ethernet	The Ethernet port can be configured to support ten independent devices. It supports DHCP, UDP Sockets, TCP/IP (client or server), embedded web server, email, SMA, NCI, FTP, ENQ and Broadcast.
Fieldbus	Ethernet/IP™ and Modbus-TCP

ELECTRICAL

Power Requirements	Line voltage: 90-264 VAC (110-240 VAC nominal), frequency 50 or 60 Hz, 12 to 36 VDC Power consumption: estimated at 300mA at 12VDC for one 350 ohm weight sensor and 650mA at 12VDC for fourteen 350 ohm weight sensors
Excitation	10 VDC (+/-5 VDC), short circuit protected Supports up to twenty four 350 ohm weight sensors (four scales) 4 or 6 conductors with sense leads Detachable plug connectors
Analog Signal Input Range	-1 mV/V to 5 mV/V
Analog Signal Sensitivity	0.1 μV/V/divisions minimum 0.5 μV/V/divisions recommended
Circuitry Protection	RFI, EMI and ESD protection (10 V/m minimum RFI noise immunity)

OPTIONS

Option Kits (maximum four internal options)

✓ = choose up to two per option expansion RS232

✗ = one per option expansion

- Analog output kit: 0-5 VDC, 0-10 VDC and 4-20 mA ✓
- Current loop kit: Current loop and RS232/RS422 ✓
- USB device kit: Provides USB interface to PC (virtual comm Port) ✓
- Device Net™
- Profibus®
- Wireless (Ethernet) internal kit: 802.11b/g wireless data communications kit with antenna
- Internal 120 VAC Relay module for IP69K model
- Scale Input 5 VDC excitation
- Scale Input 10 VDC excitation with STVS kit
- External I/O interface kit ✗
- DC Output, 4 relays 3-60VDC at 2A Kit ✓
- DC Input, 4 Inputs 4-30VDC kit ✓
- AC Output, 4 relays 20-240VAC at 1A kit (IP69K models) ✓
- AC Input, 4 Inputs 120-240VAC kit (IP69K models) ✓
- Severe Transient Voltage Suppressor (STVS)

External Option

- ZM OPTO
- Option Expansion - RS232
- USB watertight gland
- Ethernet watertight gland

APPROVALS

Patent

US Patent 672,262

Agencies

NTEP (US) Class III/IIIL 10,000d (CC# 14-039)
 Measurement Canada class III/III HD (AM-5955C)
 UL/cUL
 IP69K
 EC (Europe) Class III and IIII UK 3042
 OIML R76 Class III and IIII UK/0126/0197
 MID R61/2006-GBI-16.03



Measurement
Canada Approved



Ministry of Business,
Innovation & Employment

Avery Weigh-Tronix

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