Avery Weigh-Tronix

ZM
510 INDICATOR

Flexible weight indicator for advanced applications.

Technical Specification

ETHERNET

USB

SERIAL

ZM510
IP69K Stainless Steel Enclosure
Graphic Display

IP69K

DESCRIPTION

This high performance, multi-function indicator provides the flexibility to adapt for your applications.

Suitable for the office, dusty, wet or high pressure and heavy washdown environments, the ZM510 can display, analyse, store and transmit data across a range of technology methods to meet your specific installation.
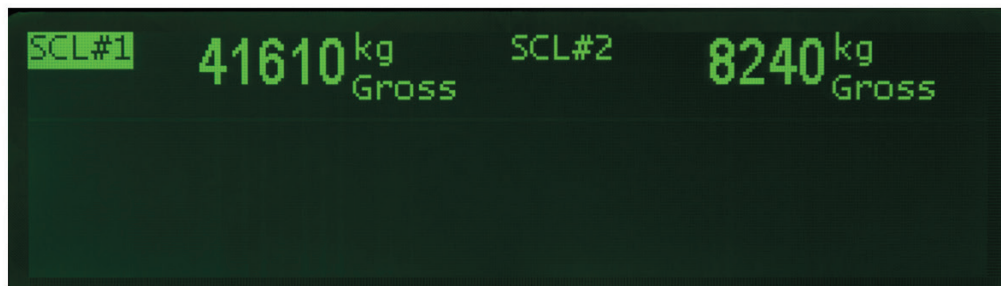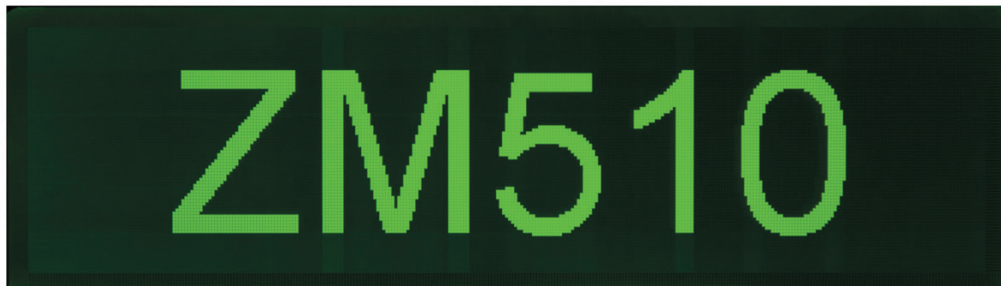
SPECIFICATIONS

GENERAL

Unit of Measure	Four active choices (Kilograms, Ounce, Gram, Pounds, Pound/Ounce, 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 linearisation
Time and Date	Battery backed up time/date/year (12 hour AM/PM or 24 hour format)
Calibration	Two to ten points
Analogue 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

USER INTERFACE

Keypad	ZM510 has a QWERTY 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 and Navigation Scroll Arrows
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. The pixels can be organised to display Numeric, Alpha and images for Operator HMI (Human Machine Interface) visual aids. 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

ZM510 Dot Graphic Display adapts to meet the solution

PHYSICAL

Enclosure	Stainless steel: 304 brushed stainless steel (IP69K certified) with GORE® Vent ventilation and tilt stand with provisions for desk, wall and column mounting
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: 5.62 kg (12.4 lb)
Dimensions (L x W x H)	Stainless steel: 301.5 mm x 139.7 mm x 273.1 mm (11.87" x 5.5" x 10.75")

INPUT/OUTPUT

Remote Inputs	Three TTL or voltage free logic level inputs can be received for basic key functions or application programme events
Standard Outputs	Three outputs can be used for system variable setpoints or in combination with application programme events

Serial Ports (3)	Three serial ports:
	  - Comm 1 RS232 full duplex Or - Comm 1 RS232 Full duplex with handshaking
	  - Comm 2 RS232 full duplex - Comm 2 RS232 Not available
	  - Comm 3 RS232 full duplex - Comm 3 RS232 Full duplex with handshaking
	Manual and Autoprint function
	Supports SMA, ENQ and NCI command response protocols
	Supports BSQ digital scales

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 client/server and Ethernet sockets plus it supports all the serial protocols
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
Analogue Signal Input Range	-1 m/V/V to 5 mV/V
Analogue 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)	Analogue output kit: 0-5 VDC, 0-10 VDC and 4-20 mA Current loop kit: Current loop and RS485/RS422 (supports T301X digital load cells) USB device kit: Provides USB interface to PC 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 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)
ZM-OPTO	Provides 3 inputs and/or 3 outputs, external G4 interface modules
USB Watertight Gland	Rubberised and sealed
Ethernet Watertight Gland	Rubberised and sealed

APPROVALS

Patent	US Patent 672,262
Agencies	EC UK3042/GB-1576 (NAWI)
	UK/0126/097 (OIML R61 Automatic Gravimetric filling instrument)
	Australia*
	South Africa*
	New Zealand*
	India*
	CE
	UL/C-UL
	IP69K (case)
	*pending

IP69K

OIML

Australian Government
National Measurement
Institute

c **UL** us
LISTED

CE

**Ministry of Business,
Innovation & Employment**

Avery Weigh-Tronix

www.averyweigh-tronix.com

Avery Weigh-Tronix is an ITW company