



## E1310 advanced programmable weight indicator and process controller

*Technical Specification*

### DESCRIPTION

#### General – hardware

- This specification describes the E1310 advanced programmable weight indicator and controller. The indicator is capable of stand alone operation or integration into a larger system via optional industrial network interface cards.
- It is a microprocessor-based high resolution industrial weighing system capable of running unique programs that precisely meet customer specific application requirements. Housed in a rugged desk top or wall mount Nema 4X stainless steel enclosure (panel mount option available) the indicator features a 1.5" high x 5" wide backlit dot graphic display capable of displaying up to 8 lines of data, each line 40 characters long.
- Other user interface features include 5 programmable soft keys that can be assigned text prompts to guide an operator through a sequence of operations controlled by the indicator.
- Up to 8 x analog weighing platforms of any type can be connected, via optional scale cards, to the indicator. For example, floor, bench, over-head track, tanks and hoppers. These can then be displayed either independently or simultaneously. Alternatively, up to 4 patented SensorComm™ intelligent digital junction boxes can be connected to provide noise-free lightning surge protection together with a host of self diagnostics.
- Applications are virtually limitless, the indicator being ideal for batching, filling, recipe formulation, parts counting, checkweighing, weighbridges, in -motion or combinations of the above.
- The indicator can control a weighing process via a comprehensive range of optional I/O modules as well as 4 onboard RS232 serial ports. Alternatively, a full range of optional industrial network interface cards are available for all popular Fieldbus protocols, as well as Ethernet 10/100, for connection to SCADA systems.
- Monitoring, data retrieval and e-mail error reporting via a web browser and internet is possible. Finally, an internal modem option is also available.

#### General – software tool

- Custom programming is made easy with SimPoser B, an optional pc based software tool. Included in the package is a program editor, configurator, print formatter, compiler and downloader.

# Avery Weigh-Tronix

# SPECIFICATIONS

## User Interface

### Display

#### Type

Dot graphic cold cathode fluorescent backlit, white characters on blue background. 1.5" high x 5" wide, 64 x 240 dot layout. Capable of displaying alpha-numeric characters as well as graphics, for example, pie/bar charts and tachometer. Typical display capabilities shown opposite.

#### Decimal point

Configurable to any of the 8 positions

#### Units of measure

kg, g, lb, oz, lb-oz plus 4 programmable custom units

#### Refresh rate

Programmable up to 10 times per second

#### Languages

Selectable operation prompts in English, French, German, Spanish and Italian

#### Keypad

24 Tactile/audio feedback corrosion resistant keys:

10 Alpha numeric entry

9 Dedicated function keys (Zero, Tare, Print, Units, Select, Enter, Escape, Clear and Decimal Point)

Note: These keys can also be assigned specific tasks.

5 Programmable and labelled soft keys (F keys)

#### Audio output

Audio tone for key press confirmation and operational alarms

#### Optional PC keyboard

A PS/2 or AT style PC keyboard can be connected.

## Load Cell Input

### Analog

#### Number of cells

Can support/power up to 32 x 350Ω strain gauge load cells using 4 or 6 wire connection technology. Indicator to scale separation up to 2000 ft.

#### Excitation

10V DC or 10V AC square wave.

#### Number of scale inputs

1 analog scale input is standard, expandable to 8

### Digital

Up to 3 digital Quartzell™ high resolution weight sensors can be connected.

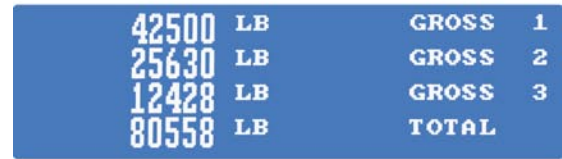
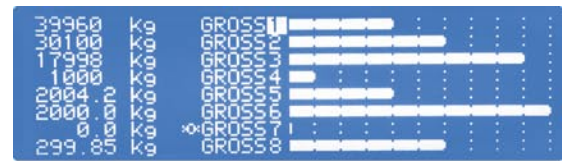
## Analog to Digital Converter

**Type:** Delta Sigma

**Rate:** 60 updates per second

**Resolution:** 1,000,000 increments

## Examples of display.



## Zero

### Setting

Keypad push button programmable to be effective between 1% and 100% maximum capacity

### Zero band

Non-approved, +/- 100% of maximum capacity

Approved, +/- 2% of maximum capacity

### Zero indication

The "→0←" symbol is turned on when the gross weight is within +/- ¼ division of the zero scale interval.

### **Zero tracking**

Programmable to track zero, in either net or gross mode, within the zero band

### **Under and over range indication**

Display is "dashed" out and an operator warning is displayed.

### **Tares**

#### **Types**

3 types, each type allowing multiple/cumulative tares and each 100% subtractive and allowing negative weight display

#### **Tare button**

Semi-automatic. Cumulative taring possible. "Net" symbol is turned on.

#### **Manually entered tare value(s)**

Keyboard entered tare. Multiple pre-set tares (PT's) possible. "Net" and "PT" symbols are turned on.

#### **Recall stored tare value(s)**

Recall any number of stored tares recorded under a PLU. "Net" and "PT" symbols are turned on.

#### **Remote taring**

Tare values can also be set via SMA serial protocol as well via the industrial network cards.

### **Linearization/Multiplier**

#### **Linearization**

Full digital 10 point linearization

#### **Increment multiplier**

Sets or subsets of 1, 2, & 5 i.e. 0.001 to 50

### **Filters/Damping**

#### **Type**

Harmonizer™ digital filtering is fully adjustable to damp out the effects of noise and vibration.

#### **Stages**

Frequency – 6 levels of adjustment

Amplitude – 8 levels of adjustment

Threshold – Band, outside of which frequency/amplitude filtering is disabled until new band is established around new nominal weight.

### **Real time clock**

Battery backed real time clock for time and date stamping data

### **Memory/Program integrity**

1 megabyte standard, expandable to 8 megabyte, battery backed RAM. Data and application program password protection is selectable within SimPoser B.

### **Communications**

4 serial, split 3 bidirectional RS232/485/422 ports for connection to serial printers, PC's, PLC's, bar code scanners, Quartzell™ load cells, SensorComm™ intelligent junction boxes etc. and 1 bidirectional RS232/20mA current loop. Modbus ASCII also available via RS232.

Optional industrial network cards, fieldbus cards and modem card also available

### **Electrical power input**

#### **Voltage/frequency**

85 to 265V AC, 50/60Hz, single phase 75VA. Comes with 6 ft. of power cable and mains plug.

#### **Tolerance**

Voltage +10%, -15%

Frequency +/- 10%

### **Environmental**

#### **Dust and moisture ingress protection**

Nema 4X /IP67

#### **Corrosion protection**

304 stainless steel enclosure  
(7.2" high x 11" wide x 8.4" deep)

#### **Electrical disturbance protection**

Immune to electrical disturbance, including RFI as detailed in EN45501:1992

#### **Storage temperature**

-40° F to + 140° F

#### **Operating temperature**

14° F to + 104° F

### **Approvals**

NTEP Class III/IIIL to 10,000 divisions CC# 01-033 A1

EC approval No: UK 2678 type approval certificate to 6,000 divisions (single platform only). Meets and exceeds the requirements of EN45501:1992. European Accuracy class III machines.

UL/CUL listed

FCC class A

### **Part numbers**

E1310 indicator

Part number AWT05-500206



## SimPoser B software

The SimPoser program development suite comes with an easy to use program editor, configurator, print formatter, compiler and downloader.  
Part number AWT30-500013

SimPoser cable, PC to indicator, 4 ft.  
Part number 47355-0010

## Panel mount

Stainless steel panel mount kit  
Part number 1310KT0000PM00

## Analog scale inputs

Up to 2 additional scale analog input cards can be added (piggybacked inside E1310 enclosure) to provide a total of 7 additional scale inputs (a 3 scale card plus a 4 scale card). Available with or without stainless steel load cell summing junction box.

### *With junction box*

Single scale card and junction box  
Part number 52959-1018

Dual scale card and junction box  
Part number 52959-1026

Three scale card and junction box  
Part number 52959-1034

Four scale card and junction box  
Part number 52959-1042

Five scale card and junction box  
Part number 52959-1059

Six scale card and junction box  
Part number 52959-1067

Seven scale card and junction box  
Part number 52959-1075

### *Without junction box*

Single scale card only  
Part number 52959-2081

Dual scale card only  
Part number 52959-2099

Three scale card only  
Part number 52959-2107

Four scale card only  
Part number 52959-2115

## Digital scale inputs

Up to 3 Quartzell™ digital load cells or 4 SensorComm™ intelligent junction boxes can be connected to the onboard serial ports.

Quartzell™ digital load cells. See Quartzell™ specification sheet for more details.

Patented Nema 4X SensorComm™ digital junction box, 4 analog load cell inputs, daisy chained RS485 connection (400ft separation), featuring rapid corner balancing, self diagnostics & unique “ghosting” cell failed feature  
Part number 53550-0011

As above, but fiber optic output for ultimate lightning protection. 1000 ft. separation.  
Part number 53583-0012

Fiber optic to RS485 converter card for mounting in E1310 enclosure  
Part number 53810-0116

## Analog output cards

Up to 2 analog output cards can be added (piggybacked inside E1310 enclosure) to provide a total of 8 independent analog outputs (2 x 4 analog output cards). Each channel fully isolated, 16 bit, 0-5V DC or 0-10V DC or +/- 5V DC or +/- 10V DC or 0-20mA or 0-24mA or 4-20mA.

Single channel analog output card  
Part number 52959-1158

Dual channel analog output card  
Part number 52959-1166

Three channel analog output card  
Part number 52959-1174

Four channel analog output card  
Part number 52959-1182

## I/O modules

Up to 4 input or output modules can be housed in the E1310 enclosure or up to 64 via 8 external SSCU8 carrier cards (see below).

I/O configuration is achieved using SimPoser and is held in memory.

### *Input modules*

G4IDC5D 2.5 to 28V DC module  
Part number 48552-0019

G4IDC5B 4 to 16V DC module  
Part number 48552-0027

G4IDC5 10 to 32V AC/DC module  
Part number 48552-0035

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*Output modules continued*

G4IDC5G 35 to 60V AC/DC module  
Part number 48552-0043

G4IAC5A 90 to 140V AC/DC module  
Part number 48552-0050

G4IAC5A 180 TO 280V AC/DC module  
Part number 48552-0068

**Output modules**

G40DC 5 to 60V DC module  
Part number 48552-0076

G4ODC5A 5 to 200V DC module  
Part number 48552-0084

G4OAC5 12 to 140V AC module  
Part number 48552-0092

G4OAC5A 24 to 280V AC module  
Part number 48552-0100

G4OAC5A5(NC) 24 to 280V AC module  
Part number 48552-0118

G4ODC5R 0.5 amp, SPST, NO relay  
Part number 48552-0126

G4ODC5R5 0.5 amp, SPST, NC relay  
Part number 48552-0134

**SSCU8 I/O module carrier cards, enclosures and cables**

*SSCU8 external I/O module carrier card, open style*  
SSCU8 carrier card can hold up to 8 I/O modules. A total of 8 SSCU8 locally located (4 ft.) carrier cards can be supported by one E1310 indicator.

Part number 47183-0018

**Mild steel enclosure for SSCU8**

Rugged painted mild steel Nema 4X enclosure  
Part number 47192-0017

**Stainless steel enclosure for SSCU8**

Stainless steel Nema 4X enclosure  
Part number 47192-0025

**Cables**

Cable, E1310 to SSCU8. Length 4 ft.  
Part number 47388-0011

**Industrial network cards**

Capabilities include monitoring and data collection via a web browser (HTTP), operational updates and error reporting via e-mail (SMTP) and raw data transmission via FTP. Two separate industrial networks can operate at the same time. They can operate independently or transfer data between the networks.

DeviceNet™ card  
Part number 52959-1190

InterBus card  
Part number 52959-1208

ControlNet™ card  
Part number 52959-1224

ProfiBus® card  
Part number 52959-1232

ModBus Plus card  
Part number 52959-1240

Ethernet10/100 card [supports Ethernet-ModBus TCP, Ethernet TCP/IP (raw socket client), Ethernet TCP/IP (raw socket server), Ethernet IT, Ethernet/IP, HTTP, SMTP, SSI and FTP]  
Part number 52959-1257

Remote I/O card  
Part number 52959-1273

LonWorks® card  
Part number 52959-1267

Modbus ASCII (via RS232) included

**Internal modem card**

Internal modem for (digital and analog) telephone access  
Part number 52960-1015

**Pulse counter cards**

Up to 16 x 0-5V TTL pulse counter inputs with input signal speeds up to 10 MHz can be accommodated via up to 2 pulse input counter cards installed in the E1310 enclosure. Ideal for conveyor speed monitoring, for example.

2 channel pulse input card  
Part number 52959-1315

8 channel pulse input card  
Part number 52959-1349

**Memory expansion**

Up to 2 memory expansion cards can be added to give a total of 8 MB additional memory.

1 MB card  
Part number 52961-1014

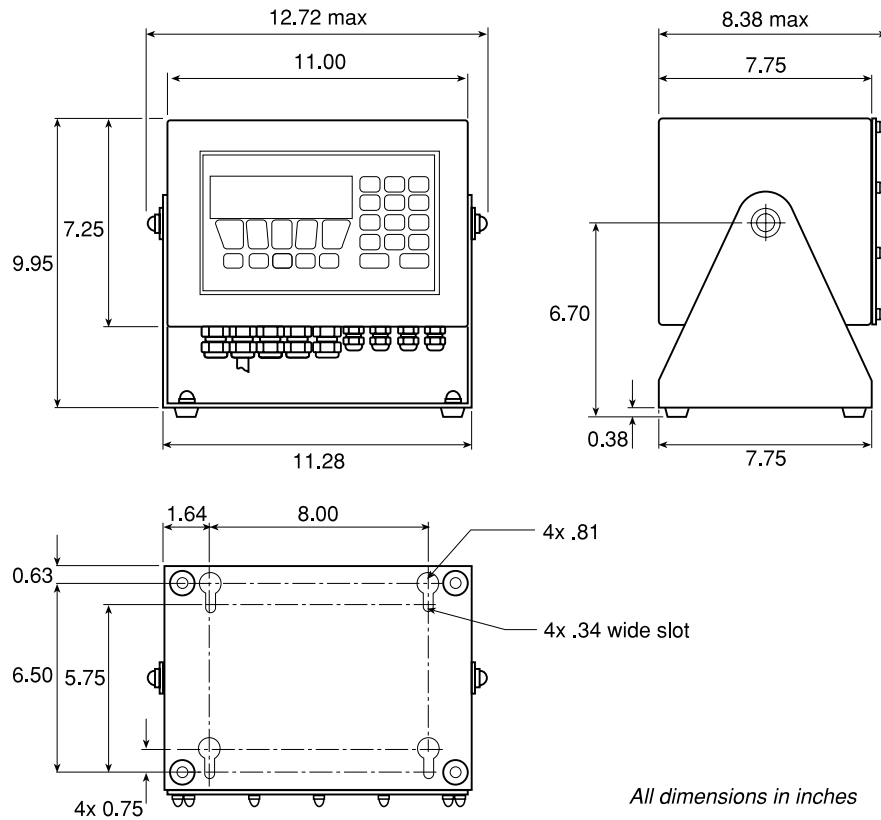
4 MB card  
Part number 52961-1048

# PHYSICAL SPECIFICATIONS

Technical Specification  
**E1310 Indicator**



## Dimensions



## Weight

17 lbs.

## Shipping

**Net:** 17 lbs.

**Gross:** 22 lbs.

**Measurement:** 15.7" x 13.8" x 13.0"

**Harmonised Commodity Code:** 842390 00 0

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