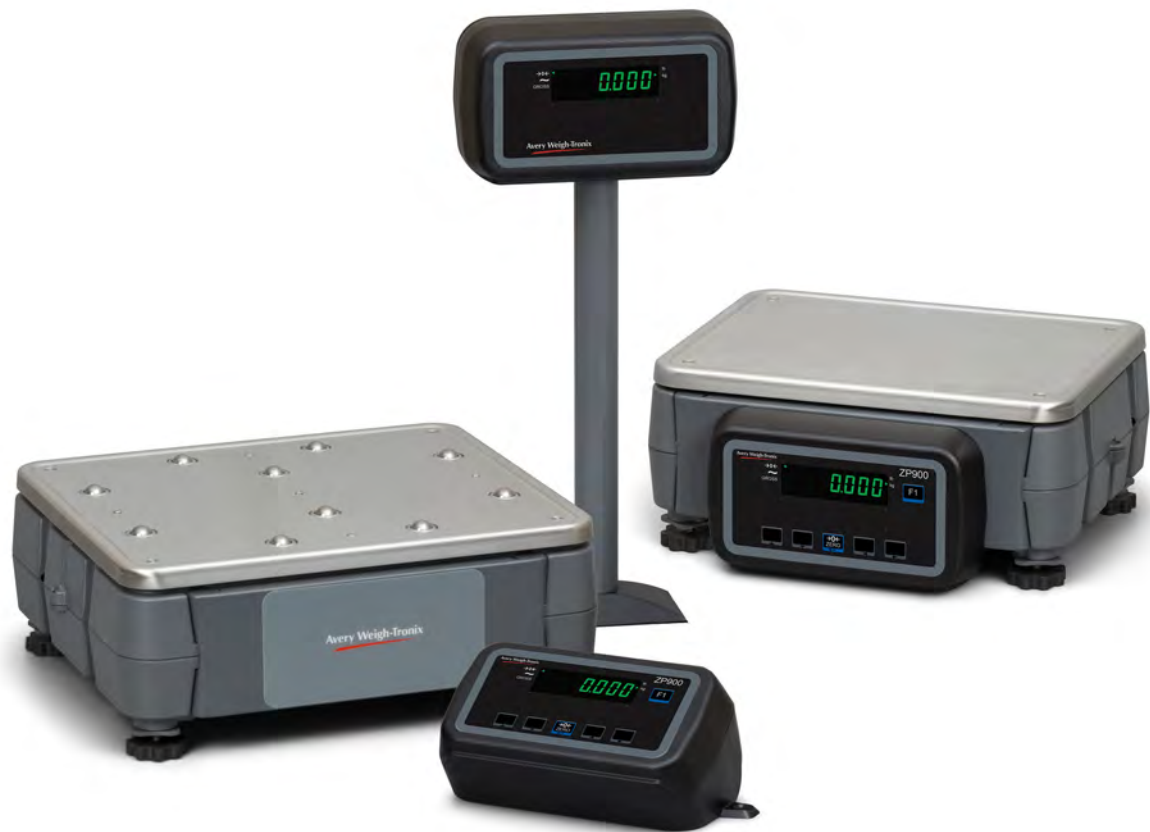


**ZP900**  
**Post Scales**



**User Instructions**

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# 1 General information and warnings

## 1.1 About this manual

---

This manual is divided into chapters by the chapter number and the large text at the top of a page. Subsections are labeled as shown by the 1.1 and 1.1.1 headings. The names of the chapter and the next subsection level appear at the top of alternating pages of the manual to remind you of where you are in the manual. The manual name and page numbers appear at the bottom of the pages.

### 1.1.1 Text conventions

---

Key names are shown in **bold** and reflect the case of the key being described. If a key has a dual function it may be referred to by its alternate function.

Displayed messages appear in ***bold italic*** type and reflect the case of the displayed message.

Annunciator names appear as *italic* text.

### 1.1.2 Special messages

---

Examples of special messages you will see in this manual are defined below. The signal words have specific meanings to alert you to additional information or the relative level of hazard.



---

**CAUTION!**

***This is a Caution symbol.***

***Cautions give information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.***

---



---

***NOTE: This is a Note symbol. Notes give additional and important information, hints and tips that help you to use your product.***

---

## 1.2 Installation

---



---

*NO USER SERVICEABLE PARTS. REFER TO QUALIFIED SERVICE PERSONNEL FOR SERVICE.*

---



---

*Equipment to be powered by a UL Listed I.T.E. power supply: rated 12 -36VDC and marked "LPS", or a UL Listed power supply rated 12-36VDC and marked "Class 2."*

---



---

*The Socket-Outlet shall be installed near the equipment and shall be easily accessible.*

---

### 1.2.1 Safe handling of equipment with batteries

---



---

***CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.***

---

---

***ATTENTION: Il y a danger d'explosion s'il y a remplacement incorrect de la batterie, remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.***

---

### 1.2.2 Wet conditions

---

Under wet conditions, the plug must be connected to the final branch circuit via an appropriate socket / receptacle designed for washdown use.

**Installations within the USA** should use a cover that meets NEMA 3R specifications as required by the National Electrical Code under section 410-57. This allows the unit to be plugged in with a rain tight cover fitted over the plug.

**Installations within Europe** must use a socket which provides a minimum of IP56 protection to the plug / cable assembly. Care must be taken to make sure that the degree of protection provided by the socket is suitable for the environment.

## 1.3 Routine maintenance

---



**IMPORTANT:** This equipment must be routinely checked for proper operation and calibration.  
Application and usage will determine the frequency of calibration required for safe operation.

---

Always isolate the indicator from the power supply before starting any routine maintenance to avoid the possibility of electric shock.

## 1.4 Cleaning the machine

---

Table 1.1 Cleaning DOs and DON'Ts



DO	DO NOT
Wipe down the outside of standard products with a clean cloth, moistened with water and a small amount of mild detergent	Attempt to clean the inside of the machine
	Use harsh abrasives, solvents, scouring cleaners or alkaline cleaning solutions
Spray the cloth when using a proprietary cleaning fluid	Spray any liquid directly on to the display windows

## 1.5 Training

---

Do not attempt to operate or complete any procedure on a machine unless you have received the appropriate training or read the instruction books.

To avoid the risk of RSI (Repetitive Strain Injury), place the machine on a surface which is ergonomically satisfactory to the user. Take frequent breaks during prolonged usage.

## 1.6 Sharp objects

---

Do not use sharp objects such as screwdrivers or long fingernails to operate the keys.

## 1.7 FCC and EMC declarations of compliance

---

### United States

---

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### Canada

---

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

### European Countries

---

**WARNING:** This is a Class A product. In a domestic environment, this product may cause radio interference in which the user may be required to take adequate measures.



# 1.8 Declaration of Conformity



EN	EU	DE	FR	NL	EU-	IT	ES
Declaration of Conformity	Konformitätserklärung	Conformiteitsverklaring	Déclaration UE de Conformité	Conformiteitsverklaring	Conformiteitsverklaring	Dichiarazione di Conformità UE	Declaración UE de Conformidad
<p><b>Model / Tipo: ZP900</b></p> <p>Name and address of the manufacturer: Avery Weigh-Tronix® Foundry Lane Snettisham Great Yarmouth NR6 3LP ENGLAND</p> <p>The declaration of conformity is issued under the sole responsibility of the manufacturer.</p> <p>Object of the declaration: ZP900-0912-035-P1 ZP900-1214-035-P1 ZP900-1214-080-P1 (*B)DH(P)RT</p> <p>The object of the declaration described above is in conformity with the relevant Union harmonisation legislation.</p> <p>Applicable Directives/Harmonised standards and technical specifications</p> <p>2014/30/EU EN 60950-1:2006 2014/35/EU EN 60950-1:2006 2011/65/EU EN 50581:2012 2014/53/UE EN 45501:2015 WELMEC 2.1</p> <p>The notified body 0136 (UK) has issued the approval for module B, type of examination (ANNEK II) Section 1 of 2014/31/UE and issued the certificate:</p> <p><b>UK3014</b></p> <p>The notified body 0136 (UK) has issued the approval for module B, type of examination (ANNEK II) Section 1 of 2014/31/UE and issued the certificate:</p> <p><b>UK3014</b></p> <p><b>GB95/50915</b></p> <p>Additional information: ITV Ltd trading as Avery Weigh-Tronix Office registered at News-House, Station Road, Egham, Surrey, TW20 9LB, England</p> <p>Note: This declaration is only valid if the non-automatic weighing instrument was verified by the manufacturer or a notified body.</p> <p>Signed for and on behalf of: Avery Weigh-Tronix at 1000 Armstrong Drive, Fairmont, MN, 56031-1439, USA on 2017-05-08</p> <p>K.Deert Global Head of R&amp;D</p>	<p><b>Model / Type: ZP900</b></p> <p>Nam en adres van de fabrikant: Avery Weigh-Tronix® Foundry Lane Snettisham Great Yarmouth NR6 3LP ENGLAND</p> <p>Dit is de verklaring van conformiteit die de fabrikant uitsluitend afgeeft voor de afgeleverde producten.</p> <p>Object van de verklaring: ZP900-0912-035-P1 ZP900-1214-035-P1 ZP900-1214-080-P1 (*B)DH(P)RT</p> <p>Het voorwerp van de verklaring is in overeenstemming met de desbetreffende harmonisatievoorschriften van de Unie.</p> <p>Toepasselijke richtlijnen/ geharmoniseerde standaardisatierichtlijnen/ technische specificaties</p> <p>2014/30/EU EN 60950-1:2006 2014/35/EU EN 60950-1:2006 2011/65/EU EN 50581:2012 2014/53/UE EN 45501:2015 WELMEC 2.1</p> <p>De aangemerkte instantie 0136 (VK) heeft de goedkeuring voor module B, type van onderzoek (ANNEK II) afdeling 1 van 2014/31/UE afgegeven en heeft de verklaring afgegeven:</p> <p><b>UK3014</b></p> <p>De aangemerkte instantie 0136 (VK) heeft de goedkeuring voor module B, type van onderzoek (ANNEK II) afdeling 1 van 2014/31/UE afgegeven en heeft de verklaring afgegeven:</p> <p><b>UK3014</b></p> <p><b>GB95/50915</b></p> <p>Aanvullende informatie: ITV Ltd trading as Avery Weigh-Tronix Office registered at News-House, Station Road, Egham, Surrey, TW20 9LB, England</p> <p>Note: Deze verklaring is alleen geldig indien het weegapparaat door de fabrikant is geïnstalleerd, of indien het weegapparaat is geïnstalleerd door een bevoegd orgaan.</p> <p>Ondertekend voor en namens: Avery Weigh-Tronix bij 1000 Armstrong Drive, Fairmont, MN, 56031-1439, USA op 2017-05-08</p> <p>K.Deert Wereldwijd Hoofd van Onderzoek en Ontwikkeling</p>	<p><b>Model / Type: ZP900</b></p> <p>Nam en adres van de fabrikant: Avery Weigh-Tronix® Foundry Lane Snettisham Great Yarmouth NR6 3LP ENGLAND</p> <p>Dit is de verklaring van conformiteit die de fabrikant uitsluitend afgeeft voor de afgeleverde producten.</p> <p>Object van de verklaring: ZP900-0912-035-P1 ZP900-1214-035-P1 ZP900-1214-080-P1 (*B)DH(P)RT</p> <p>De voorwerpen beschreven hierboven zijn in overeenstemming met de desbetreffende harmonisatievoorschriften van de Unie.</p> <p>Toepasselijke richtlijnen/ geharmoniseerde standaardisatierichtlijnen/ technische specificaties</p> <p>2014/30/EU EN 60950-1:2006 2014/35/EU EN 60950-1:2006 2011/65/EU EN 50581:2012 2014/53/UE EN 45501:2015 WELMEC 2.1</p> <p>De aangemerkte instantie 0136 (VK) heeft de goedkeuring voor module B, type van onderzoek (ANNEK II) afdeling 1 van 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est établie sous la seule responsabilité du fabricant.</p> <p>Objet de la déclaration: ZP900-0912-035-P1 ZP900-1214-035-P1 ZP900-1214-080-P1 (*B)DH(P)RT</p> <p>L'objet de la déclaration ci-dessus est conforme à la législation d'harmonisation de l'Union applicable.</p> <p>Les directives en vigueur/ Les normes harmonisées ou directives techniques spécifiques</p> <p>2014/30/UE EN 60950-1:2006 2014/35/UE EN 60950-1:2006 2011/65/UE EN 50581:2012 2014/53/UE EN 45501:2015 WELMEC 2.1</p> <p>L'organisme notifié 0136 (Royaume-Uni) a délivré l'approbation pour le module B, le type de processus de production (ANNEXE II, paragraphe 2 de 2014/31/UE) et a établi le certificat:</p> <p><b>UK3014</b></p> <p>L'organisme notifié 0136 (Royaume-Uni) a délivré l'approbation pour le module B, le type de processus de production (ANNEXE II, paragraphe 2 de 2014/31/UE) et a établi le certificat:</p> <p><b>UK3014</b></p> <p><b>GB95/50915</b></p> <p>Informations complémentaires: ITV Ltd trading as Avery Weigh-Tronix Office registered at News-House, Station Road, Egham, Surrey, TW20 9LB, England</p> <p>Note: Cette déclaration est valide seulement si l'appareil de pesage est installé par le fabricant ou avec une attestation de conformité délivrée par un organisme notifié.</p> <p>Signé par et au nom de: Avery Weigh-Tronix à 1000 Armstrong Drive, Fairmont, MN, 56031-1439, USA le 2017-05-08</p> <p>K.Deert Responsable Mondial de la Recherche et du Développement</p>	<p><b>Model / Type: ZP900</b></p> <p>Nam en adres van de fabrikant: Avery Weigh-Tronix® Foundry Lane Snettisham Great Yarmouth NR6 3LP ENGLAND</p> <p>Dit is de verklaring van conformiteit die de fabrikant uitsluitend afgeeft voor de afgeleverde producten.</p> <p>Object van de verklaring: ZP900-0912-035-P1 ZP900-1214-035-P1 ZP900-1214-080-P1 (*B)DH(P)RT</p> <p>De voorwerpen beschreven hierboven zijn in overeenstemming met de desbetreffende harmonisatievoorschriften van de Unie.</p> <p>Toepasselijke richtlijnen/ geharmoniseerde standaardisatierichtlijnen/ technische specificaties</p> <p>2014/30/EU EN 60950-1:2006 2014/35/EU EN 60950-1:2006 2011/65/EU EN 50581:2012 2014/53/UE EN 45501:2015 WELMEC 2.1</p> <p>De aangemerkte instantie 0136 (VK) heeft de goedkeuring voor module B, type van onderzoek (ANNEK II) afdeling 1 van 2014/31/UE afgegeven en heeft de verklaring afgegeven:</p> <p><b>UK3014</b></p> <p>De aangemerkte instantie 0136 (VK) heeft de goedkeuring voor module B, type van onderzoek (ANNEK II) afdeling 1 van 2014/31/UE afgegeven en heeft de verklaring afgegeven:</p> <p><b>UK3014</b></p> <p><b>GB95/50915</b></p> <p>Aanvullende informatie: ITV Ltd trading as Avery Weigh-Tronix Office registered at News-House, Station Road, Egham, Surrey, TW20 9LB, England</p> <p>Note: Deze verklaring is alleen geldig indien het weegapparaat door de fabrikant is geïnstalleerd, of indien het weegapparaat is geïnstalleerd door een bevoegd orgaan.</p> <p>Ondertekend voor en namens: Avery Weigh-Tronix bij 1000 Armstrong Drive, Fairmont, MN, 56031-1439, USA op 2017-05-08</p> <p>K.Deert Responsable Globale della Ricerca e Sviluppo</p>	<p><b>Model / Tipo: ZP900</b></p> <p>Nombre y dirección del fabricante: Avery Weigh-Tronix® Foundry Lane Snettisham Great Yarmouth NR6 3LP ENGLAND</p> <p>La presente declaración de conformidad es válida bajo la exclusiva responsabilidad del fabricante.</p> <p>Objeto de la declaración: ZP900-0912-035-P1 ZP900-1214-035-P1 ZP900-1214-080-P1 (*B)DH(P)RT</p> <p>El objeto de la declaración descrita anteriormente es conforme con la legislación de armonización pertinente de la Unión.</p> <p>Directivas aplicables/ Normas armonizadas u especificaciones técnicas</p> <p>2014/30/UE EN 60950-1:2006 2014/35/UE EN 60950-1:2006 2011/65/UE EN 50581:2012 2014/53/UE EN 45501:2015 WELMEC 2.1</p> <p>El organismo notificado 0136 (Reino Unido) ha otorgado la aprobación para el módulo B, tipo de examen (ANEXO II) Sección 1 de 2014/31/UE y ha emitido el certificado:</p> <p><b>UK3014</b></p> <p>El organismo notificado 0136 (Reino Unido) ha otorgado la aprobación para el módulo B, tipo de examen (ANEXO II) Sección 1 de 2014/31/UE y ha emitido el certificado:</p> <p><b>UK3014</b></p> <p><b>GB95/50915</b></p> <p>Información adicional: ITV Ltd trading as Avery Weigh-Tronix Office registered at News-House, Station Road, Egham, Surrey, TW20 9LB, England</p> <p>Note: Esta declaración es válida solamente si el equipo de pesaje no automático ha sido verificado por el fabricante o con certificado de conformidad emitido por un organismo notificado.</p> <p>Firmado en nombre de: Avery Weigh-Tronix en 1000 Armstrong Drive, Fairmont, MN, 56031-1439, EE.UU. el 2017-05-08</p> <p>K.Deert Jefe Global de Investigación y Desarrollo</p>		

## 2 Introduction

The ZP900 high performance post mail and shipping scales provides a choice of indicator types and BSQ base sizes and capacities. For capacity choices refer to the product literature. The BSQ base sizes available are:

- 9 in x 12 in (230 mm x 305 mm) base
- 12 in x 14 in (305 mm x 355 mm) base

The type of indicators available include:

- base-mounted
- desk-mounted
- pole-mounted display (single or dual display available)

The indicator comes standard with two RS232 COM ports and can be upgraded to enable use of 2 USB HID ports and an Ethernet port. Refer to the product literature for a description of the features, options and specifications.

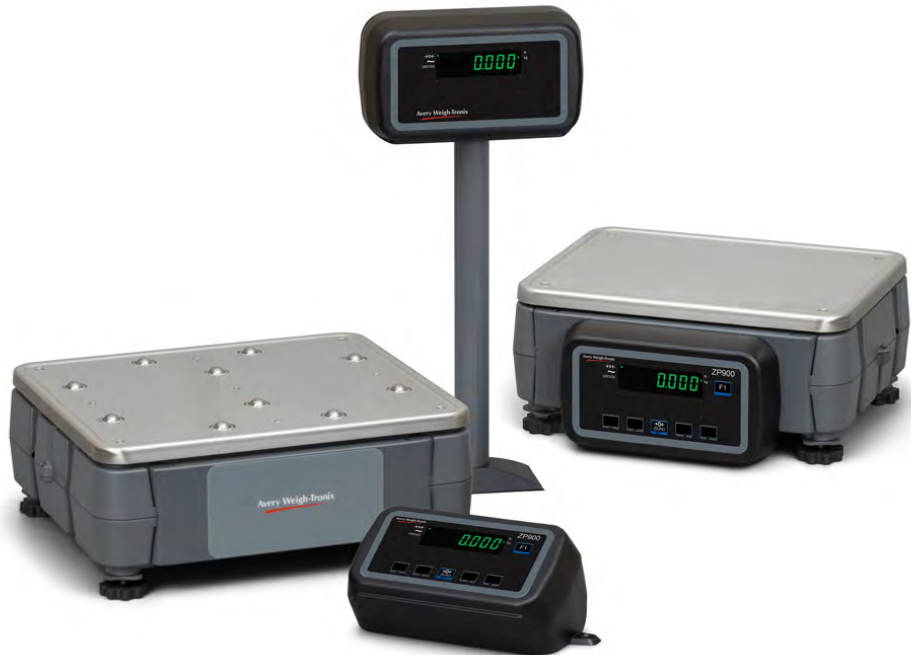


Figure 2.1 ZP900 post scale series



---

*When a base-mounted indicator is attached to the BSQ scale, be sure the feet are adjusted so the indicator is not touching the desk/table, just the feet.*

---

## 2.1 Unpacking and installation

Unpack the scale and check for any damage. Report damage to the shipping company immediately.

### 2.1.1 Removing the shipping stops

Four colored shippings stops are installed under the platter of the BSQ scale at the factory. Before you begin weighing be sure to remove these stops. Refer to the following photos.



Shipping stops shown taped in place.



Remove the tape and slide the stop to the nearest slot in the base (pointed out in the photo above).



Slide the stop down and remove it from the slot. Keep for future shipping.

Repeat these steps on all four corners. Save and re-use if shipping the scale becomes necessary in the future.

### 2.1.2 Leveling the scale

Place the scale on a level, stable surface free from vibrations or strong air currents. Level the scale using adjustable feet and the bubble level located on the side of the base. Turn the appropriate foot or feet until the bubble is centered and then lock the feet in place by turning the locking collar snugly up against the scale body.

See [Figure 2.2](#).

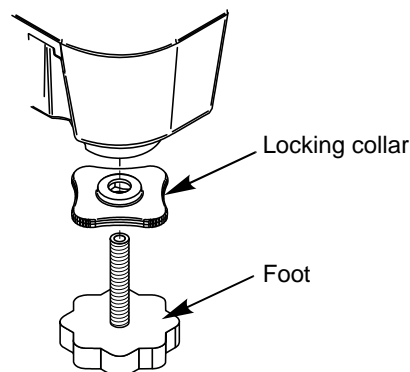


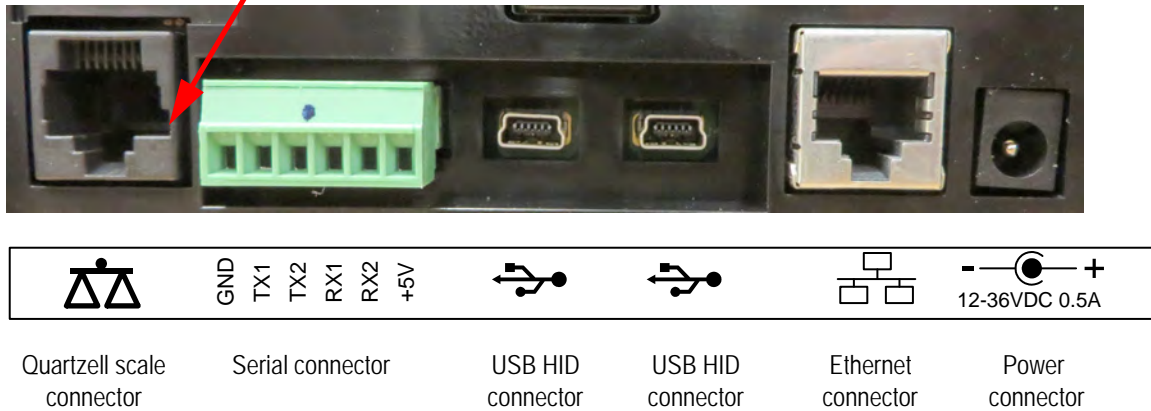
Figure 2.2 Foot and locking collar

## 2.2 Connections

### 2.2.1 Connections on the ZP900

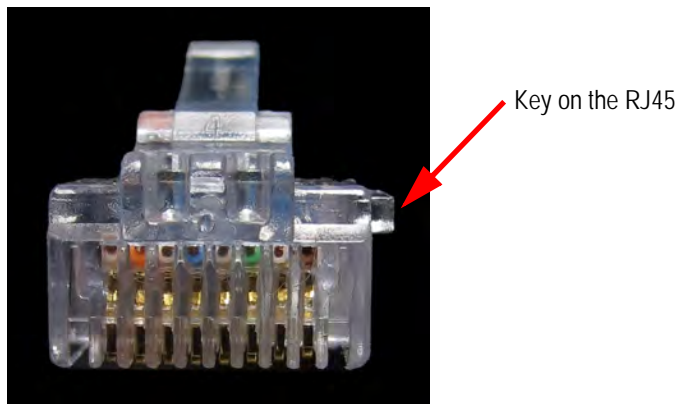
The connections for the ZP900 indicator are shown in [Figure 2.3](#).

Slot in the RJ45 connector to receive the key on the mating connector of the scale cable



**Figure 2.3 ZP900 connections**

The supplied RJ45 cable is used for connecting between the indicator and base. The cable and receptacle connectors are keyed so that it will only fit into the ZP900 Quartzell Scale and BSQ Scale connectors. See the areas pointed out in [Figure 2.3](#) and [Figure 2.4](#).



**Figure 2.4 Keyed RJ45 cable connector**

If substituting this with a non-keyed RJ45 cable do not inadvertently connect between the BSQ Scale and ZP900 Ethernet connectors as it may damage the internal ZP900 Ethernet port components.

The Desk mount ZP900 comes with the in-line PSU which can be connected to either the ZP900 or the BSQ power input connector. Power is supplied to the other device through the RJ45 interface cable.

### 2.2.2 Connections on the BSQ

The BSQ comes with two different back panels, depending on the power option you choose. One is for AC power only and the other is for use with the optional battery pack or AC power. These two panels and their connections are shown in [Figure 2.5](#).

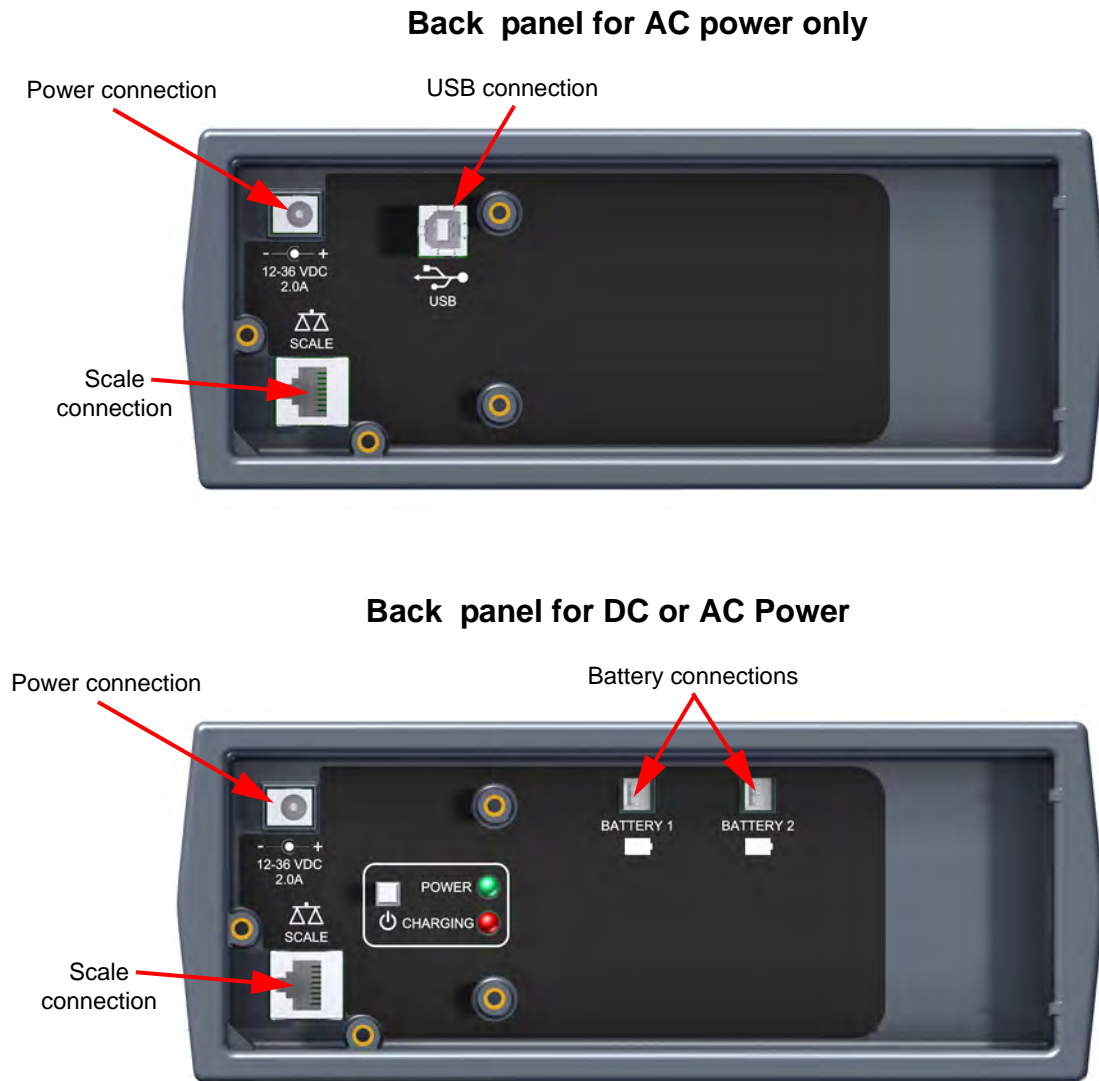


Figure 2.5 BSQ connections

## Base mount

On the Base mount model the AC power supply unit (PSU) is attached by a bracket to the back of the scale base. The DC output barrel jack plugs into the 12-36 VDC input as shown in [Figure 2.6](#).



**Figure 2.6 AC power block**

Plug the power cord into a properly grounded outlet, then into the receptacle in the PSU. See [Figure 2.7](#).



**Figure 2.7 AC power connections**



## Battery power

The optional battery pack connects to the two battery connections as shown in [Figure 2.8](#). The battery provides approximately 20 hours of operation for a single display and 15 hours for a dual display system before charging is necessary.



**Figure 2.8 Battery pack connections**

When a 24-36 VDC power supply is plugged into the power connection on the back panel of the ZP900, the green POWER light will turn on indicating power has been applied to the BSQ base. The red CHARGING light will blink to indicate the battery is charging. When the battery is fully charged the red CHARGING light will go out and the power supply can be unplugged to work on battery power only.

The standby power button, pointed out in [Figure 2.8](#), can be used to turn the ZP900 indicator on or off.

## 2.3 Powering up the ZP900

The indicator requires input power of 12 to 36 VDC @ 200ma min. The indicator is always ON as long as power is received. If using the ZP900 rechargeable battery pack, the battery timer setting can be used to turn the Indicator display OFF automatically.

Power can be supplied by:

- The included AC to 24VDC in-line PSU connected to a properly grounded outlet (100 VAC - 240 VAC, 50 or 60 Hz)
- Optional rechargeable battery pack mounted on the rear of the base. 20 hours operation between charges. Recharge time is four hours using the in-line PSU. The battery pack requires 24 to 36V to charge.
- 12 to 36 VDC power (150ma minimum at 24VDC) via a 2.1mm center positive barrel jack

## 2.4 Front panel

The front panels for the ZP900 indicator and remote display are shown in [Figure 2.9](#) and consists of the keys and the display.

Refer to the supplied label kit for appropriate capacity and classifier markings. Labels should be applied in areas pointed out by the arrows. See example below.

W1	W2	W3
Max 10 lb	Max 30 lb	Max 70 lb
Min 0.04 lb	Min 0.1 lb	Min 0.2 lb
e 0.002 lb e	e 0.005 lb e	e 0.01 lb

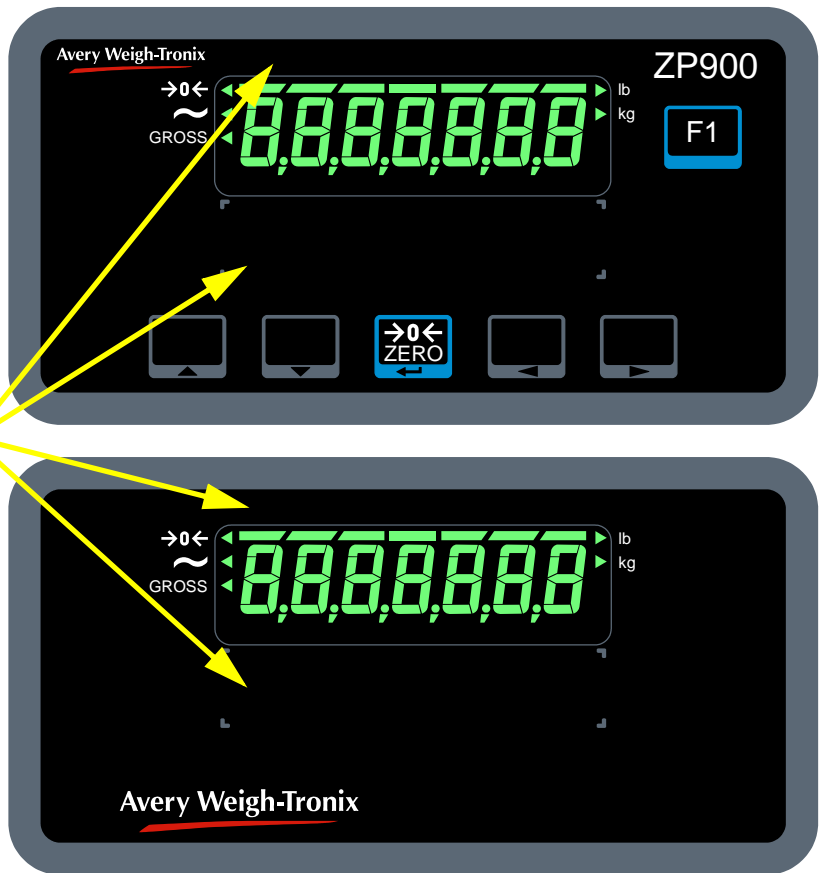


Figure 2.9 Indicator and remote display front panels









*Never press a key with anything but your finger. Damage to the overlay may result if sharp or rough objects are used.*



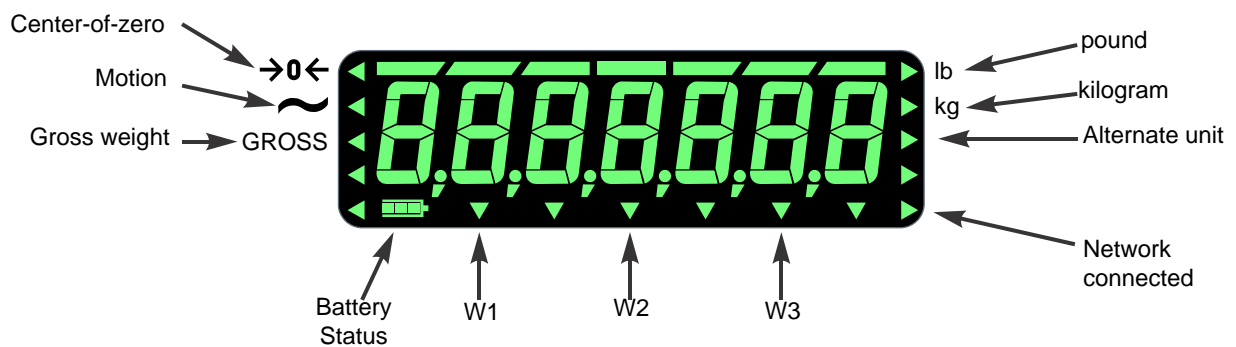
## 2.5 Keys

The functions of each key on the front panel are listed below.

	Press the <b>ZERO</b> key to zero the display. Acts as an <b>ENTER</b> key to accept a displayed value or function.
	<b>Weigh mode</b> - Press the <b>F1</b> key to toggle the active unit of measure if two units of measure are configured. Press and hold the <b>F1</b> key to access the password entry screen. <b>Menu Navigation</b> - Aborts a numeric entry and acts as an ESCAPE key for menu navigation.
	<b>Menu Navigation</b> - Move up in a menu. <b>Numeric entry</b> - Increments the value of the flashing digit. Allows you to access minus and comma signs.
	<b>Menu Navigation</b> - Move down in a menu. <b>Numeric entry</b> - Decrements the value of the flashing digit.
	<b>Menu Navigation</b> - Move left in a menu <b>Numeric entry</b> - Acts as a backspace shifting digits right on the display
	<b>Menu Navigation</b> - Move right in a menu <b>Numeric entry</b> - Inserts a 0 and shifts digits left

### 2.5.1 Annunciators

The annunciators on the display are shown and labeled in [Figure 2.10](#).



**Figure 2.10** Annunciators

## 2.6 Numeric entry procedure

The keys in [Figure 2.11](#) have alternate functions in numeric entry screens.

	These segments flash in numeric entry mode
<b>UP arrow</b>	– Press to increment the flashing number
<b>DOWN arrow</b>	– Press to decrement the flashing number
<b>LEFT arrow</b>	– Press to backspace cursor in a number
<b>RIGHT arrow</b>	– Press to advance cursor in a number
<b>ZERO /</b>	– Press to accept a value
<b>F1</b>	– Press to escape an entry screen

**Figure 2.11 Key function during numeric entry**

In numeric entry screens, the center segments shown in [Figure 2.11](#) flash. To enter a value on the display use the keys as described in [Figure 2.11](#). Following is an example:

### **Example: To key in the number 1793:**

With a **0** flashing on the display press the **UP arrow** () until **1** appears on the display.

Press the **RIGHT arrow** () key to shift the **1** left.

Repeatedly press the **UP arrow** () or **DOWN arrow** () key until **7** appears on the display.

Press the **RIGHT arrow** () key again to shift the **17** left and insert a **0**.

Repeatedly press the **UP arrow** () or **DOWN arrow** () key until **9** appears on the display.

Press the **RIGHT arrow** () key to shift the **179** left and insert a **0**.

Repeatedly press the **UP arrow** () or **DOWN arrow** () key until **3** appears on the display.

Press the **ZERO** key to enter or accept the value.

If necessary to change an entered value press the **Left arrow** () key to delete the right most digit.

## 2.7 Accessing the menus

---

Follow these steps to access the various menus in the indicator.

1. With the indicator powered up and in normal operating mode, press and hold the **F1** key ...

**Pass** is briefly displayed, then a flashing **0**, prompting you to enter the password.

2. Use the *Numeric entry procedure* [on page 18](#) to key in the password for the menu you want to access and press the **ZERO** key to accept it ...

The first item in the top level of the menu you accessed is displayed.

3. Use the navigation keys, shown below, to navigate through the menu structure. The symbols appear on the bottom of the keys.

### Menu Navigation Keys:

Press ▼ to move down in a menu

Press ▲ to move up in a menu, except at the bottom item in a menu, then use **ZERO/** ← or **F1**

Press ◀ to move left in a menu

Press ▶ to move right in a menu

Press **ZERO/** ← to accept a value or choice and move up in the menu.

Press **F1** to escape and move up in the menu

## 2.8 Exiting the menus

---

1. When in the configuration selection of a menu you must press either the **ZERO** key to accept or **F1** to not accept the choice or value. Then press the **UP arrow** key repeatedly until ...

**SAVE no** is displayed.

2. Use the **LEFT arrow** or **RIGHT arrow** key to scroll through these choices: **SAVE no**, **SAVEYES** and **CAnCEL**.

If you choose **SAVE no** any changes made will not be saved on exit.

If you choose **SAVEYES** then the changes will be saved on exit. When **SAVEYES** is selected the indicator will also attempt to auto-zero the scale. Refer to *Initial power up* [on page 20](#) for details.

If you choose **CAnCEL**, the indicator remains in the menu.

## 3 General operation

When power is cycled or when exiting from a menu the message **PoSt** is displayed briefly.

### 3.1 Initial power up

---

#### 3.1.1 Power up zero

---

On power up or when exiting from any menu with **SAVEYES** selected, the scale must be within the Power Up Zero window (default is +/- 10%) or a message **Z-Error** is displayed. Remove the weight causing the error and when stable the display should show Zero weight and be ready for normal operation. If the scale will not capture zero then it may need to be calibrated. Refer to the Service manual or contact the scale provider if needed.

#### 3.1.2 Power up gravity

---

If the Power Up Gravity setting was previously enabled the display will prompt with the message **grAVitY**.

Press the **ZERO** key and the previous setting for the calibration gravity value will be displayed. This value can be accepted by pressing the **ZERO** key or enter a new value to match the installation site location. Use the [Numeric entry procedure on page 18](#).

The scale should then perform as though calibrated at the installation location. Press **F1** to bypass Gravity entry but this process will be repeated on the next power up until a value is accepted. Refer to local area Gravitational constants or contact the scale provider if needed.



---

**CAUTION:** Verify with local agencies if adjusting the gravity factor is accepted in your area. It may be required that calibration be done with certified weights.

---

### 3.2 ZERO key

---

The **ZERO** key can be used to re-capture zero if the weight is stable and inside the allowable zero range (default is +/- 2%). If **ZERO** key is pressed when the weight is unstable or outside the zero range the message **cAnt** is displayed.

### 3.3 F1 key

---

If a second unit of measure has been configured the **F1** key will toggle the display between the available units of measure. If the second unit of measure is not lb or kg then the 3rd annunciator along the right side of the display will be illuminated when active. The **F1** key is also used for password entry to gain access to the ZP900 Configuration and Diagnostic Menu's. Refer to [Accessing the menus on page 19](#).

## 4 User menu

A password protected USER level menu is available to view information and set certain parameters.

### 4.1 Menu annunciators

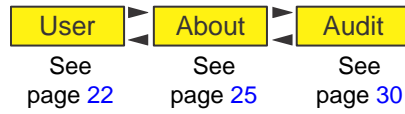
---

To help you know where you are in the menu, the bargraph at the top of the display is on while the indicator is in the menus and will change appearance according to the following rules:

<b>All segments flashing</b>	This means you are in the menu structure but not in any of the following screens.
<b>Center flashing / others off</b>	This means you are in a numeric entry screen. Enter a number and press <b>ZERO</b> to accept.
<b>Right flashing / others off</b>	This means you are in a list. Scroll through the choices with the <b>LEFT arrow</b> and <b>RIGHT arrow</b> keys and press <b>ZERO</b> to accept.

## 4.2 USER level menus

The USER level (password 111) contains the User, About, and Audit menus arranged as shown in [Figure 4.1](#).

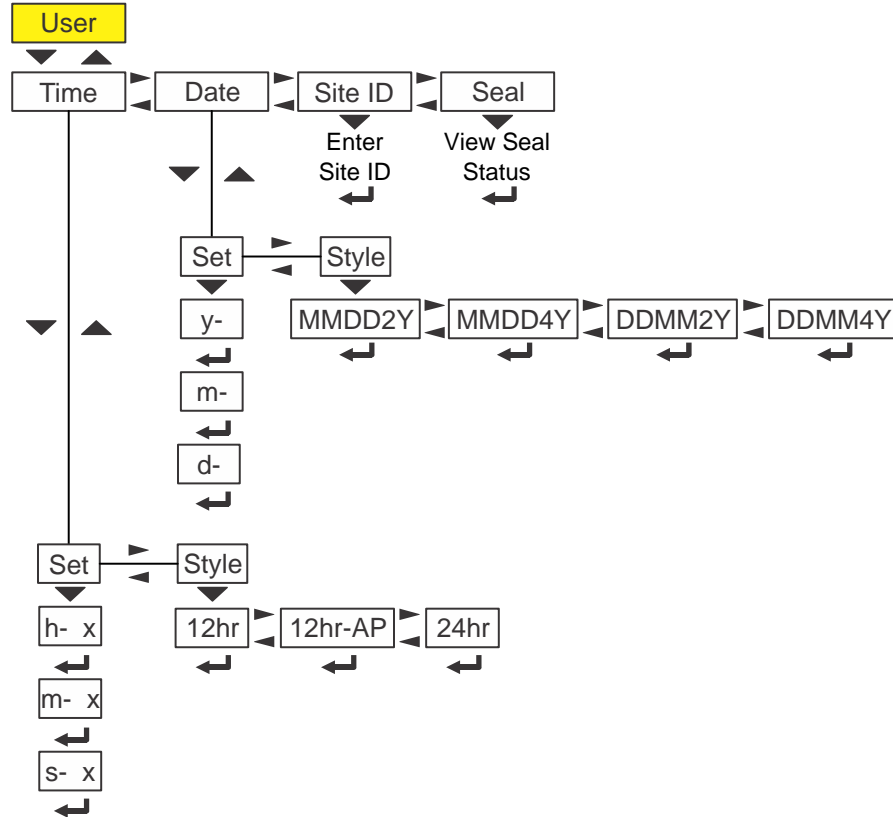


**Figure 4.1** USER level (password 111) menus

To access the USER level, from normal weighing mode, press and hold the **F1** key. Enter password 111 and press the **ZERO** key.

## 4.3 User menu

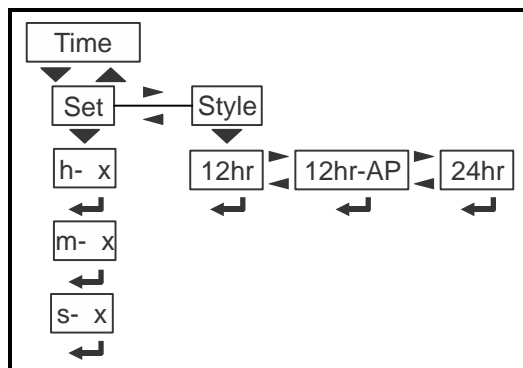
The User menu is shown in [Figure 4.2](#).



**Figure 4.2** User menu

Use this menu to set the time and date, to enter a site ID, and view the physical seal status. Each is explained below.

### 4.3.1 Time



Use the **tiME** menu item to set the clock (**SEt**) and to choose the style of the time display (**StYLE**) 12 hr, 12 hr AM/PM or 24 hr.

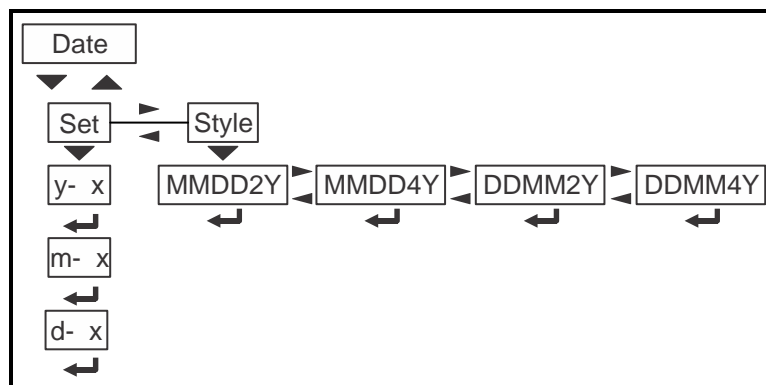


The Time and Date can be used in print formats.

**SEt** Use this to enter values for the time.  
**h- x**, = Hour  
**m- x** = Minute  
**s- x** = Seconds

**StYLE** Choose the style of the time display. Choices are:  
**12hr**, = 12 hour clock  
**12hr-AP** = 12 hour clock with AM/PM  
**24hr** = 24 hour military time

### 4.3.2 Date



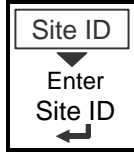
Use the **dAtE** item to set the year, month and day and the style of the displayed date.

**SEt** Enter values for the date.  
**y- x** = Year  
**m- x** = Month  
**d- x** = Day

**StYLE** Choose the style of the date display. Choices are:  
**MMdd2Y** = Month, Day, 2-digit Year  
**MMdd4Y** = Month, Day, 4-digit Year  
**ddMM2Y** = Day, Month, 2-digit Year  
**ddMM4Y** = Day, Month, 4-digit Year

### 4.3.3 Site ID

---

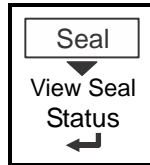


**SitE** Use this to enter a Site ID.

The Site ID can be used in a print format. Valid entries are decimal 32 through 126 (ASCII space to the ~ character).

### 4.3.4 Seal

---



**SEAL** Use this to view the seal status of the indicator.

This is the status of the physical seal jumper inside the indicator. If the unit is sealed, no changes can be made to the configuration of the indicator.



## 4.4 About menu

The About menu is shown in Figure 4.3.

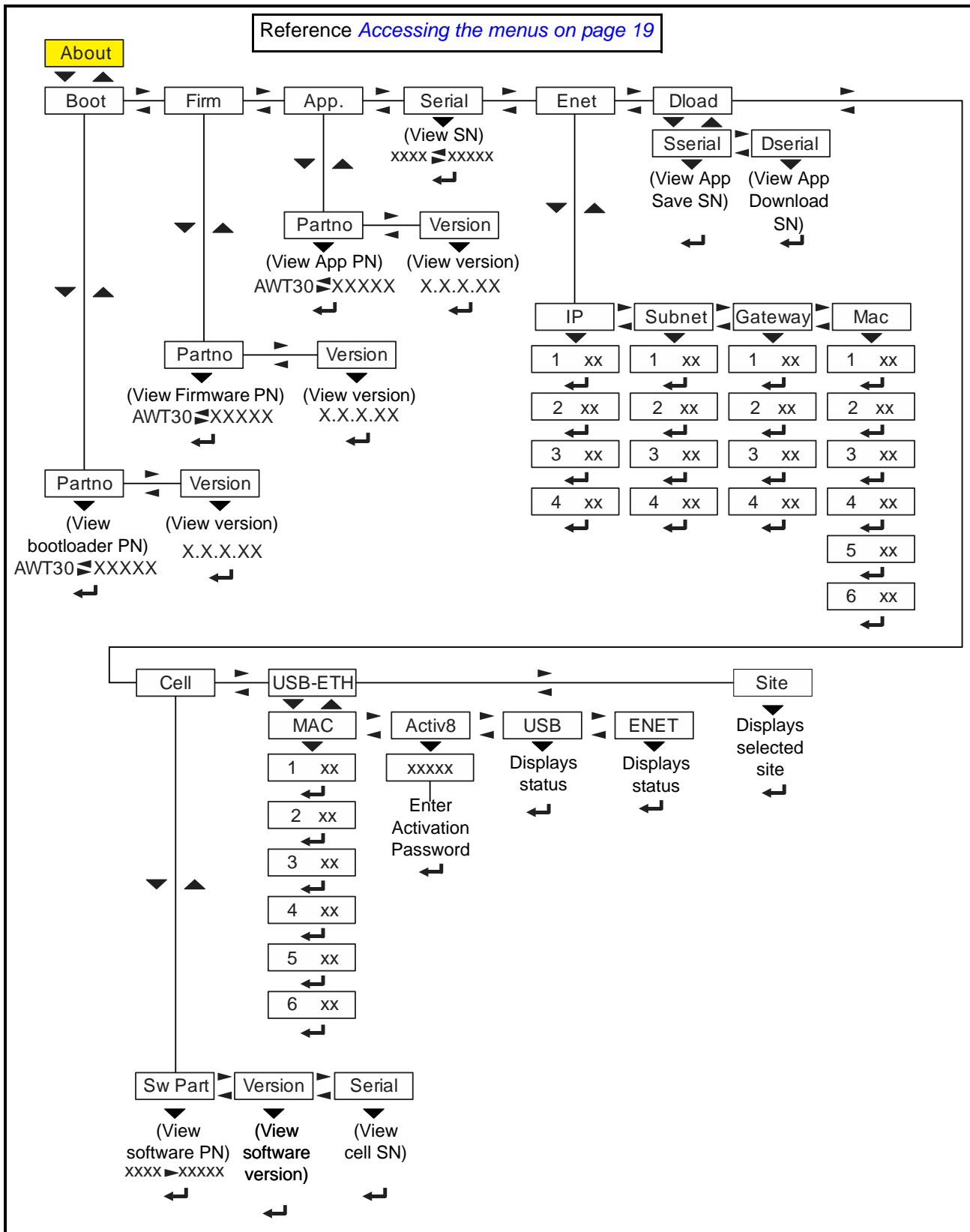


Figure 4.3 About menu

Use this menu to display information about the various items shown in [Figure 4.3](#). Each is explained below:



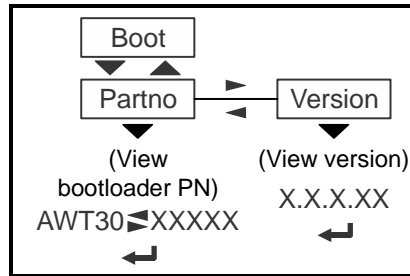
**Definitions:**

**Bootloader** Software that makes the electronics run.

**Firmware** Embedded system software that creates core functions of the product.

**App** Specific software that controls the behaviour for a given installation.

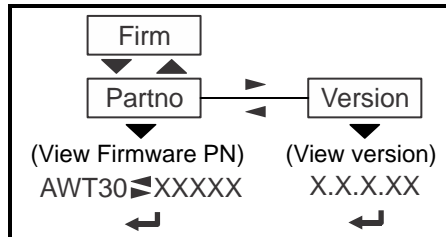
### 4.4.1 Boot (Bootloader)



**PArtno** Use this to view the bootloader part number. The part number is displayed in two parts. Press **RIGHT arrow** key or **LEFT arrow** key to toggle the display between the first and second parts of the part number.

**VERsion** Use this to view the version of the bootloader.

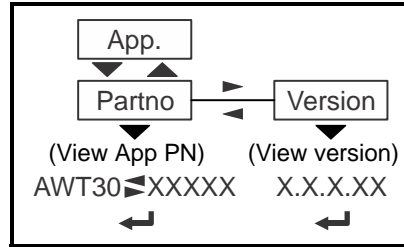
### 4.4.2 Firmware



**PArtno** Use this to view the firmware part number. The part number is displayed in two parts. Press **RIGHT arrow** key or **LEFT arrow** key to toggle the display between the first and second parts of the part number.

**VERsion** Use this to view the version of the firmware.

### 4.4.3 App



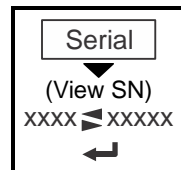
**PArtno** Use this to view the App part number. The part number is displayed in two parts. Press **RIGHT arrow** key or **LEFT arrow** key to toggle the display between the first and second parts of the part number.

**VERsion** Use this to view the version of the App.



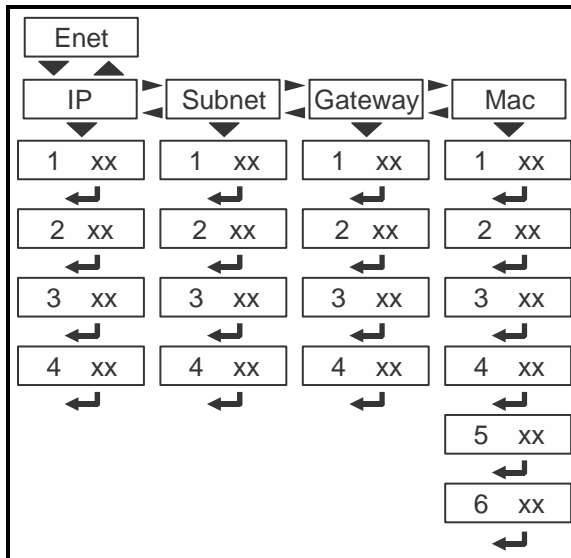
*In the ZP900 the Application is embedded with the Firmware so the Part number and Version will be the same.*

### 4.4.4 Serial



**SEriAL** Use this to view the Serial Number of the indicator. The number is displayed in two parts. Press **RIGHT arrow** key or **LEFT arrow** key to toggle the display between the first and second parts of the serial number.

### 4.4.5 Enet



**EnEt** This stands for Ethernet. Use this to view the network addresses.



*If the indicator is connected to an Ethernet network, the values displayed will be the current assigned addresses.*

**iP** Use this to view the IP address.

- SubnEt** Use this to view the Subnet address.
- gAtEWAY** Use this to view the Gateway address.
- MAc** Use this to view the Mac address.

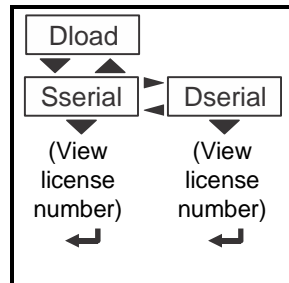



---

The IP, Subnet and Gateway addresses are a series of four double digit values. The MAC address is a series of six double digit values: 1 XX, 2 XX, 3 XX, etc.

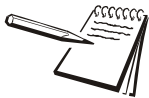
---

#### 4.4.6 Download



**dLoAd** This stands for download. Use this to view these items:

- SSEriAL** View the license number that created the configuration file.
- dSSEriAL** View the license number that downloaded the configuration file.

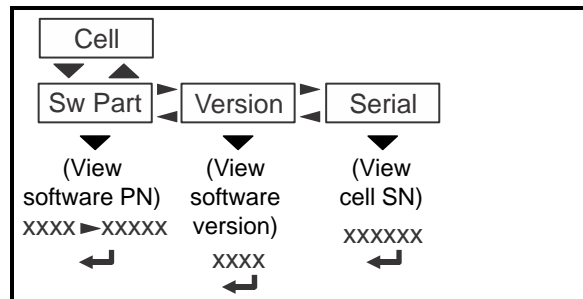



---

If the license number of your Configuration Software application does not match either the SSerial or DSerial numbers you will be unable to upload the existing configuration file from the indicator, but you can always download a new configuration file which will then add your license number to the Dserial value. Contact AWTX Technical Support for assistance.

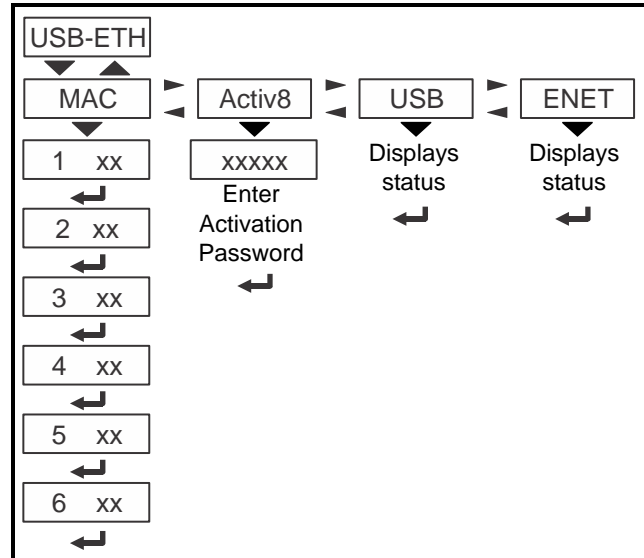
---

#### 4.4.7 Cell



- cELL** Use this menu item to view information about the Quartz Digital Transducer (QDT).
- SW PART** View the software part number for the cell.
- VERsion** View the version of the cell software.
- SERIAL** View the serial number stamped on the side of the cell.

### 4.4.8 USB-ETH



**uSb-Eth** The Ethernet and USB ports on the ZP900 are not functional unless activated. This menu contains information necessary to activate the two USB-HID and/or Ethernet ports on the ZP900. Record the MAC address found in this menu before contacting AWTX for activation code instructions.

**MAC** View the MAC address of the indicator Ethernet port.

**ACTiv8** Enter the activation code you receive from Avery Weigh-Tronix to enable the USB-HID and/or Ethernet ports.

**uSb** View the USB-HID port status (**ON** or **Off**).

**EnEt** View the Ethernet port status. (**ON** or **Off**).

### 4.4.9 Site

Use this menu item to view the selected Site (i.e. USA, GB, CAN, etc.)

This completes the About menu. To exit the menu, see [USER level menus on page 22](#).

## 4.5 Audit menu

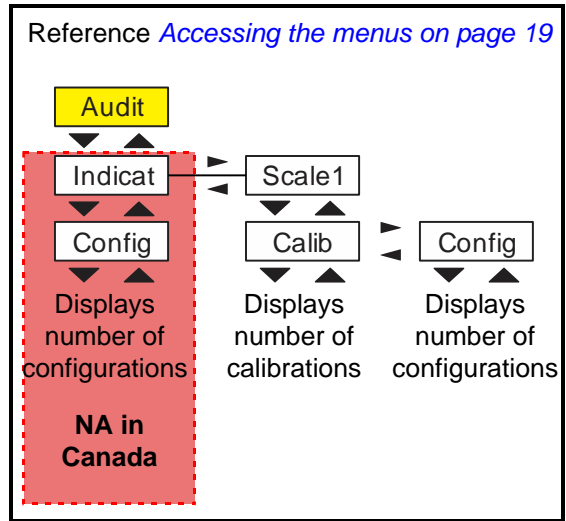


Figure 4.4 Audit menu

Use this menu to display audit counters for configuration and calibration.

### 4.5.1 Indicator

**conFig** Display the number of times that a change in the SYSTEM or PORTS menu has occurred.

### 4.5.2 Scale1

**cALib** Display the number of times that a change in the CALIB menu has occurred

**conFig** Display the number of times that a change in the SCALE menu has occurred.

## 5 Communications

The ZP900 can communicate through these ports:

- Serial Port 1 and 2
- Optional communication ports are available for Ethernet and USB-HID. Contact AWTX or your scale supplier for information on how to activate the USB or Ethernet ports.

### 5.1 Serial communication port defaults

---

	Port 1	Port 2	Port 2 (UK)
<b>Protocol</b>	SMA	NCI	D901
<b>Baud Rate</b>	9600	9600	2400
<b>Data Bits</b>	8	7	7
<b>Parity</b>	none	even	even
<b>Stop Bits</b>	1	1	1

Refer to the ZP900 Service Manual for full details on communication protocols and port configuration.

#### 5.1.1 Serial cable wiring for 9P AWTX supplied cable types

---

PC	Desc	Color	ZP900 Port 1	ZP900 Port 2
2	RXD	Red	TB3-2 (TX1)	TB3-3 (TX2)
3	TXD	Green	TB3-4 (RX1)	TB3-5 (RX2)
5	GND	Black	TB3-1	TB3-1

## 5.2 RS232 Serial ports default settings

---

### 5.2.1 For USA

---

Port 1 is set to SMA protocol @ 9600, 8, none, 1. This allows for connection directly to the optional ZP900 remote display.

Port 2 is set to NCI protocol @ 9600, 7, even, 1 and ENQ=5. This matches the default protocol of the NCI 7600 series.

To match the NCI 7800 series may require changing the Port 2 protocol attributes setting for ENQ to 2. This changes the number of transmitted display digits from 7 to 6 and status bytes from 3 to 2.

For certain software interfaces this may be unnecessary so test the communication before changing the default settings.

Refer to the ZP900 Service manual for details or contact you scale supplier.

**For other countries the default settings for Port 2 may vary.**

## 5.3 USB HID

---

If enabled the ZP900 USB HID ports will communicate with various Shipping Software packages. Refer to our website at <http://www.averyweigh-tronix.com> for a list of which Shipping Software supports the ZP900 USB HID interface.

## 5.4 Ethernet

---








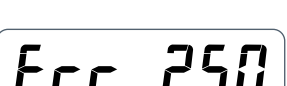

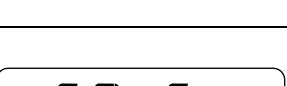
If enabled the ZP900 Ethernet TCP/IP port uses the following default settings:

IP address:	192.168.1.91
Subnet:	255.255.255.0
Gateway:	0.0.0.0
DHCP:	OFF
Mode:	Server
Port:	10001
Protocol:	SMA



## 6 Error messages

The following error messages may be displayed during use of the indicator:

Message / Fix	Display
Overload / Remove weight causing the error	
Underload / Check for obstruction under the load platter	
Can't / Request failed due to motion or other invalid condition	
Bounds / Entry not in valid range	
Invalid / Password entry failed	
Z-error / Power up zero error - see <i>Power up zero on page 20</i>	
Gravity / Power up gravity prompt - <i>Power up gravity on page 20</i>	
Error 250 / Scale not communicating - check interface cable from scale to indicator, contact scale service provider if error continues	
Save F / Failure to write configuration data to BSQ – Press the <b>ZERO</b> key to clear the error message and check the interface cable from scale to indicator and repeat the configuration procedure. Contact scale service provider if error continues.	
BSQ Error / ZP900 and BSQ have not been calibrated together	

## 7 Supervisor menu

Access the supervisor menu using the password 1793. Refer to [Accessing the menus on page 19](#) for instructions.

### 7.1 Post application supervisor menu

---

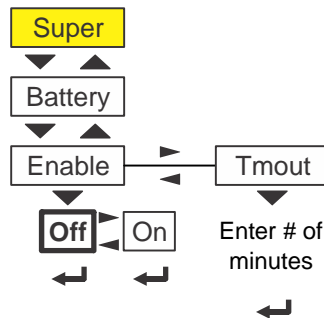


Figure 7.1 Supervisor menu for the Post application

#### 7.1.1 Battery

---



*The battery status and timeout features are only applicable when using the ZP900 battery option and do not function with other battery sources.*

---

**bAttErY** Use this to enable the battery and to set a timeout length (in minutes). If this time expires with no scale or keypad activity the indicator will automatically shut off.

**EnAbLE** Choices are **OFF** and **on**. Choose **OFF** to disable battery usage. Choose **on** to enable battery usage.

**tMout** This stands for timeout. Use this to set the length of time before inactivity of the scale and keypad cause battery power to be shutoff. Values between 1 and 3600 minutes are valid.

Repeatedly press the **UP arrow** key until the indicator returns to normal weighing mode.

When battery timeout is enabled, just prior to shutting off the display will show **buSY** and then **--OFF--** and the display will turn off.

To restart the indicator press the red POWER button on the back of the BSQ base.

If this feature is used with a non-battery operated ZP900 then to restart the indicator requires a disconnect/reconnect of the power cable. If a remote display is also connected it will show **oFFLinE** until the ZP900 is restarted.



*The changes are saved automatically and the indicator reboots.*

---

## 8 Outline dimensions and connections

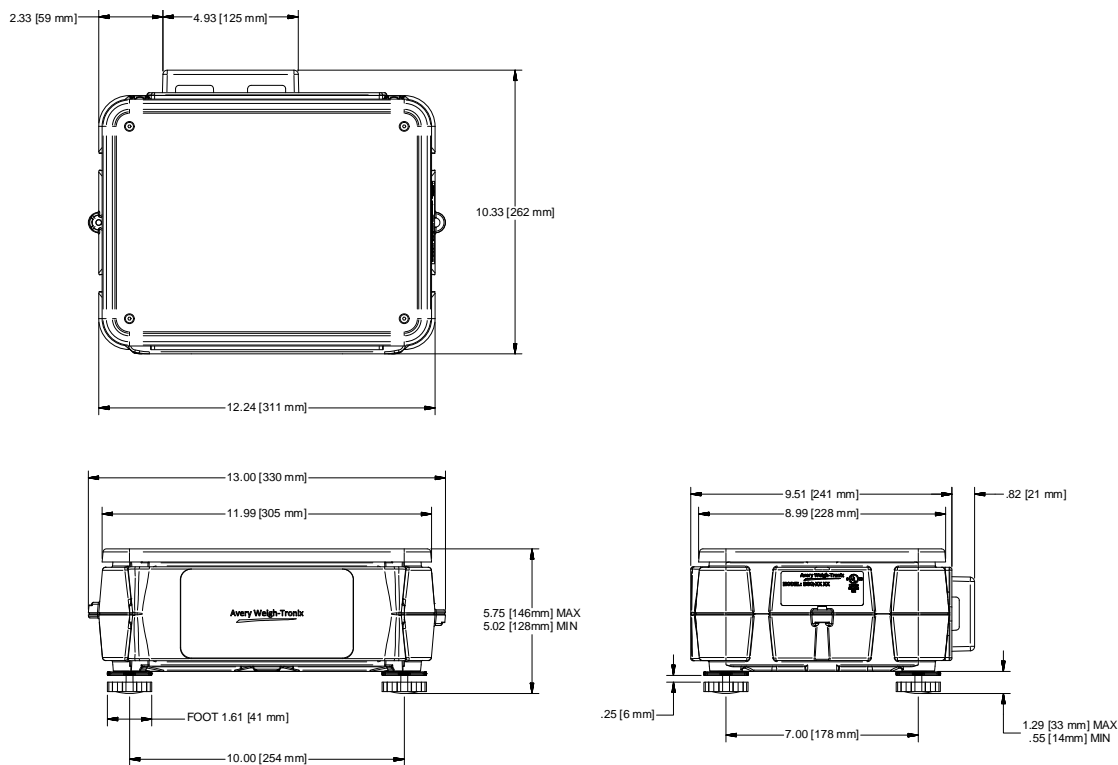


Figure 8.1 Model 0912 BSQ dimensions with PSU but no indicator

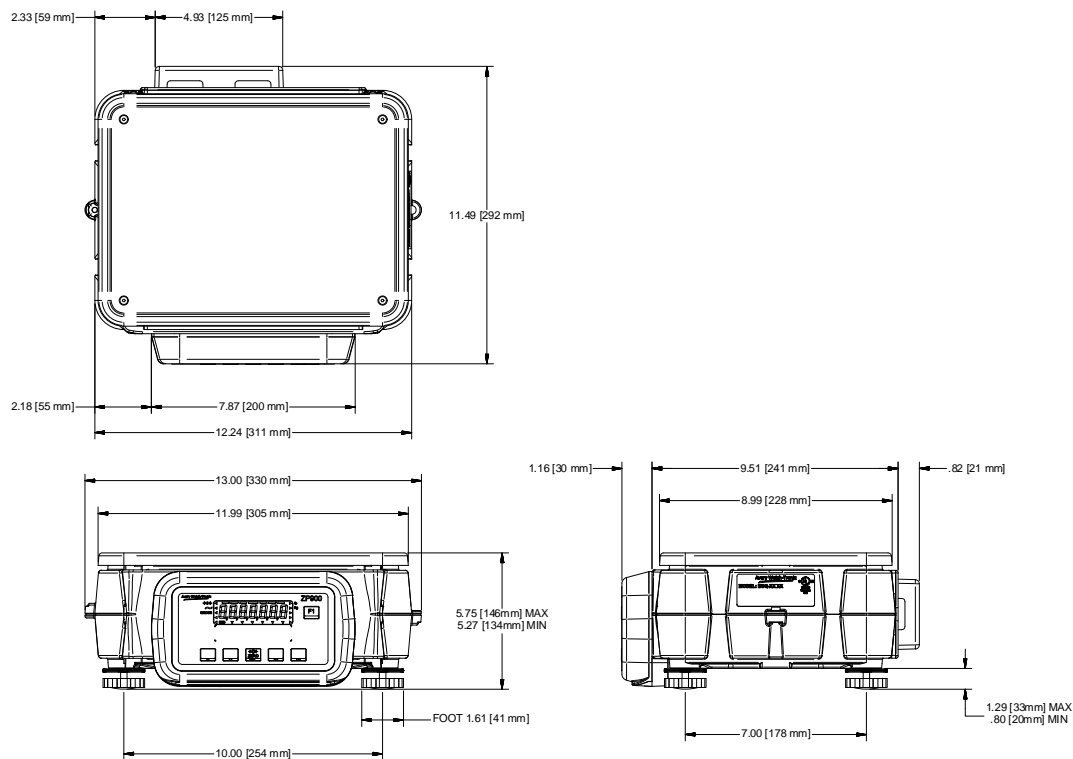


Figure 8.2 Model 0912 BSQ dimensions with PSU and indicator

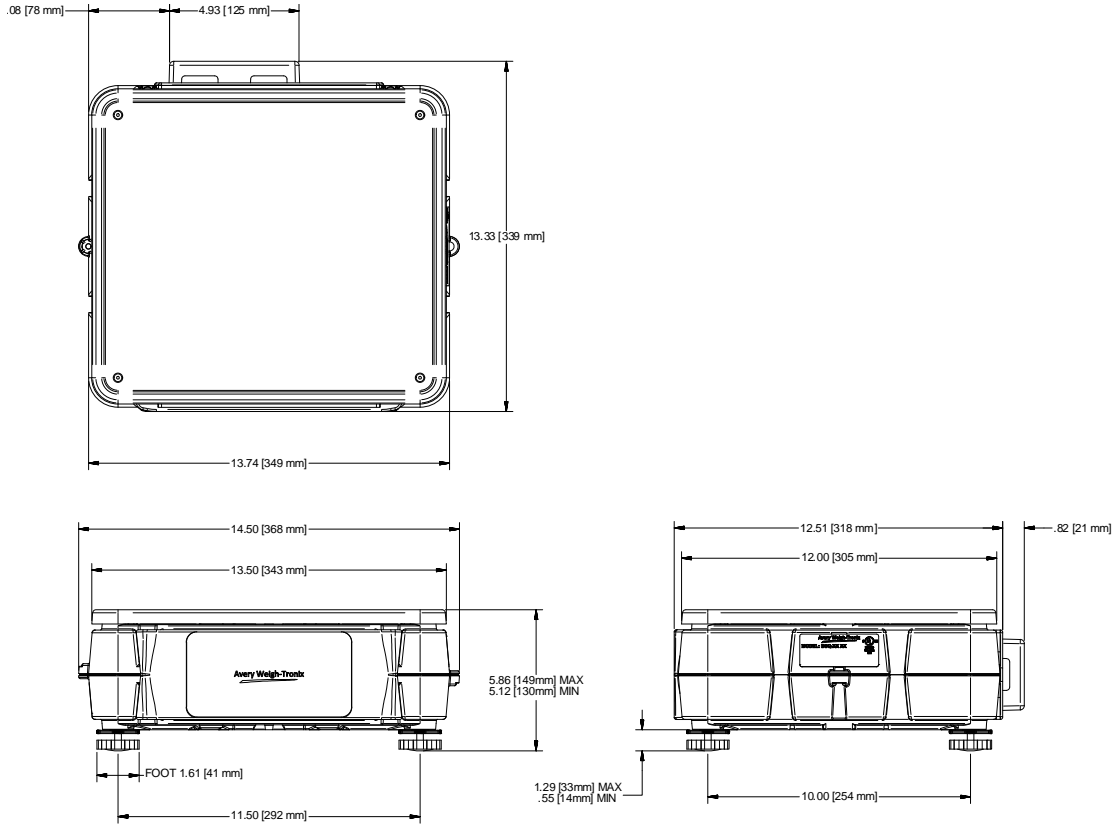


Figure 8.3 Model 1214 BSQ dimensions with PSU but no indicator

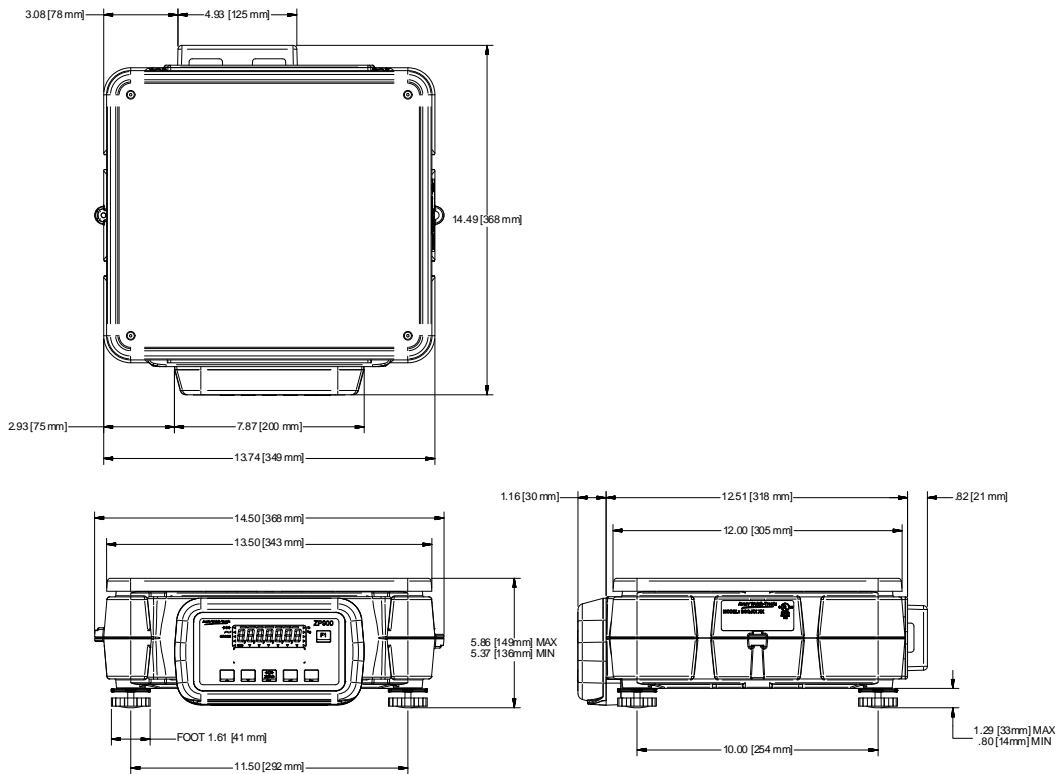
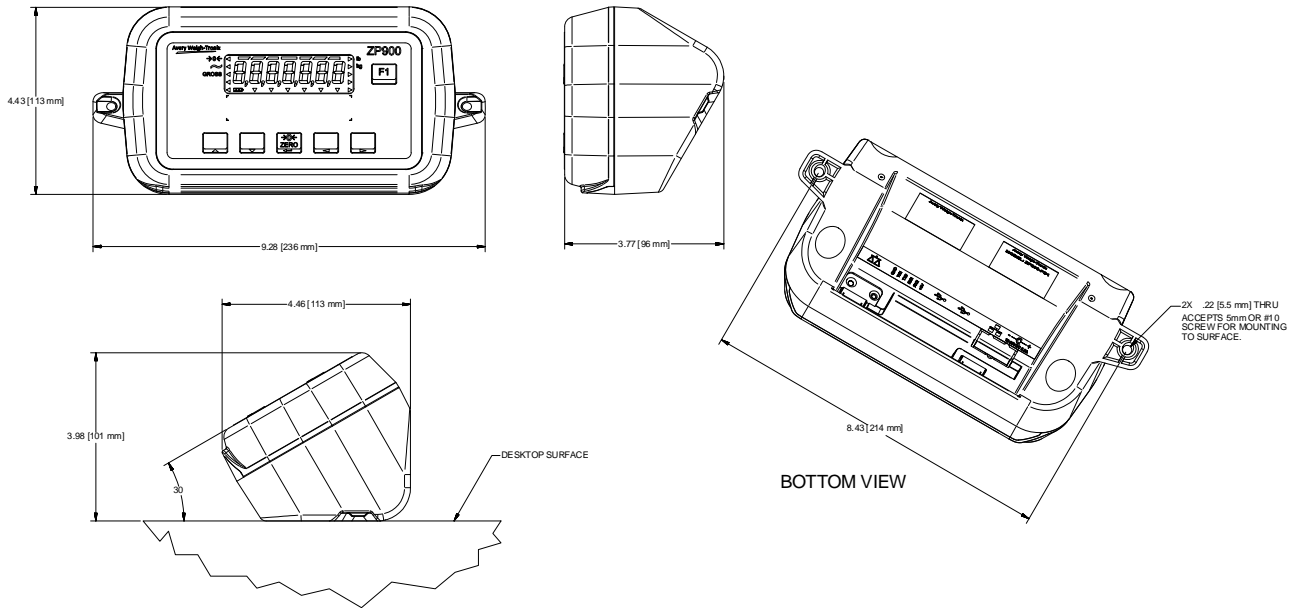


Figure 8.4 Model 1214 BSQ dimensions with PSU and indicator



**Figure 8.5 Desk mount indicator dimensions**

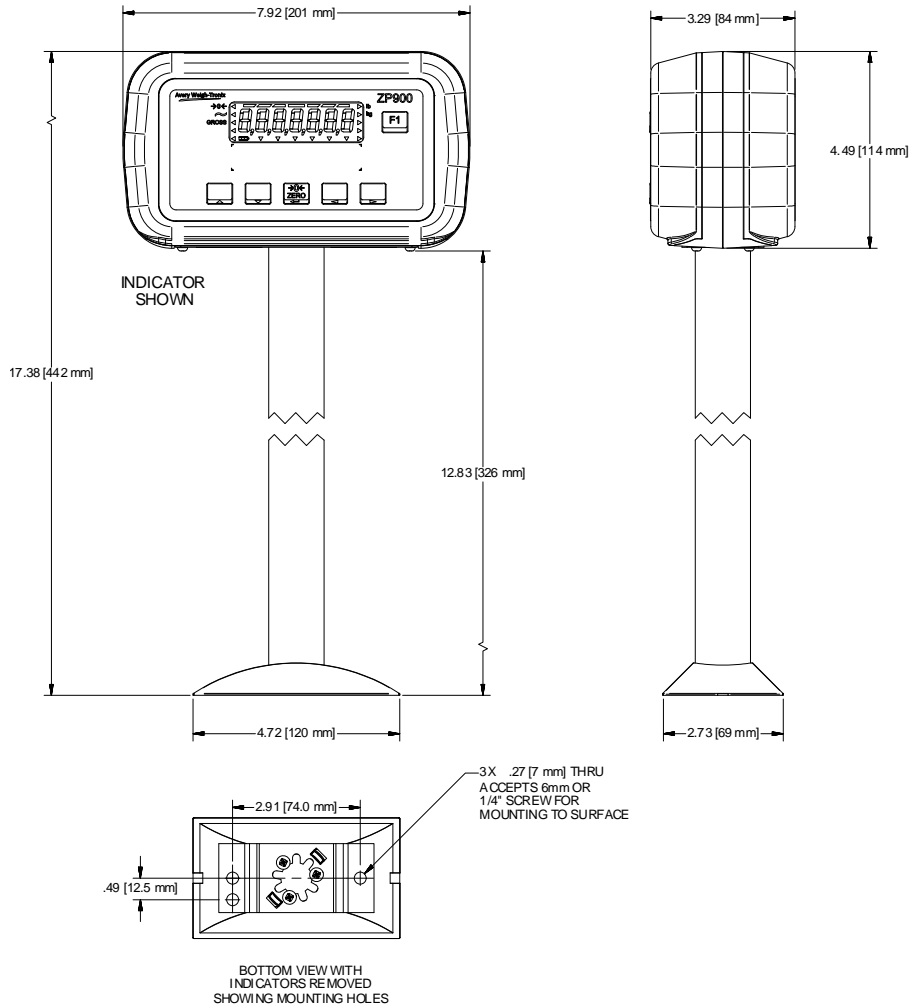


Figure 8.6 Pole mount and indicator dimensions

## 8.1 Connections

### 8.1.1 Connecting a Remote Display

Wiring instructions - Remote Display to Indicator	
Remote Display Serial Port	Indicator Serial Port
TB3 Pin 1 - Blue (GND)	TB3 Pin 1 - Blue (GND)
TB3 Pin 2 - White/Orange (TX1)	TB3 Pin 4 - White/Orange (RX1)
TB3 Pin 4 - White/Blue (RX1)	TB3 Pin 2 - White/Blue (TX1)
TB3 Pin 6 - Orange (+5V)	TB3 Pin 6 - Orange (+5V)

**Confirm default settings on the ZP900:**

Serial port 1 (9600, 8, n, 1) and Protocol 1 (SMA on Port 1).

## 8.1.2 Connecting a 2nd Remote Display

To connect a 2nd Remote Display requires connecting from Com2 of the ZP900 to Com1 of the 2nd Remote Display.

Wiring instructions - 2nd Remote Display to Indicator	
Remote Display Serial Port	Indicator Serial Port
TB3 Pin 1 - Blue (GND)	TB3 Pin 1 - Blue (GND)
TB3 Pin 2 - White/Orange (TX1)	TB3 Pin 5 - White/Orange (RX2)
TB3 Pin 4 - White/Blue (RX1)	TB3 Pin 3 - White/Blue (TX2)
TB3 Pin 6 - Orange (+5V)	TB3 Pin 6 - Orange (+5V)

For the 2nd Remote Display to function the ZP900 will need to be configured for Serial port 2 (9600, 8, n, 1) and Protocol 2 (SMA to Port 2).

2 wires will need to be attached to TB3 pin 1 (GND) and pin 6 (+5V) on the ZP900 indicator.

In order to connect to a PC terminal using a serial RS232 interface when two remote displays are already connected to the ZP900 serial ports, you can use Com 2 on either remote display and refer to the dip switch settings to select from an available protocol.

## 9 Agency and sealing label positions

There are two main labels that go onto the BSQ base. The NTEP info is on one, the EU and ROW approvals on the other. If the BSQ is part of a ZP900 system there is a third label which is applied.

The EU/ROW label is placed on the left side of the BSQ base. This where the level bubble is located. See placement in [Figure 9.1](#).

The NTEP label is placed on the right side of the base. See placement in [Figure 9.1](#).

When certified a verification mark sticker (certifying body supplied) is applied in the location shown in [Figure 9.1](#).

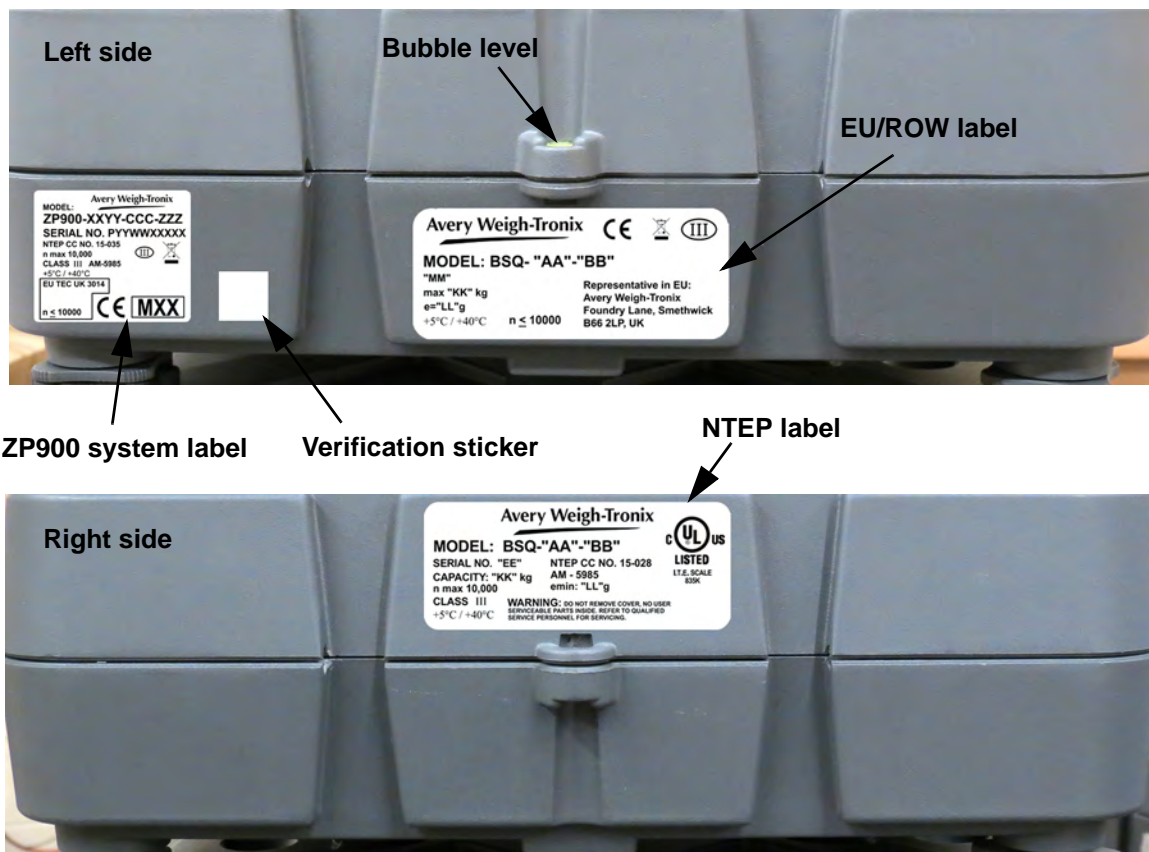


Figure 9.1 Label placement

The BSQ is sealed when necessary by using 2 seal labels, placed across the mid-seam of the housing on opposite sides of the scale. See below for the position of one such label.











# Avery Weigh-Tronix



## **Avery Weigh-Tronix USA**

1000 Armstrong Dr.

Fairmont MN 56031 USA

Tel:507-238-4461

Fax:507-238-4195

Email: [usinfo@awtxglobal.com](mailto:usinfo@awtxglobal.com)

[www.averyweigh-tronix.com](http://www.averyweigh-tronix.com)

## **Avery Weigh-Tronix UK**

Foundry Lane,

Smethwick, West Midlands,

England B66 2LP

Tel:+44 (0) 8453 66 77 88

Fax:+44 (0)121 224 8183

Email: [info@awtxglobal.com](mailto:info@awtxglobal.com)

[www.averyweigh-tronix.com](http://www.averyweigh-tronix.com)