

SMT-2012

General Purpose Bench Scale

User Manual



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UNITED STATES

This equipment has been tested and found to comply with the limits for 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. His 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 radion noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectroniques depassant les limites applicable aux appareils numeriques de la Class A prescrites dans le Reglement sur le brouillage radioelectrique que edicte par le minister des Communications du Canada.



Risk of Electrical shock. Do not remove cover.

No user serviceable parts inside.

Refer servicing to qualified Scalesco service personnel.

Scalesco Measurement Technology reserves the right to change specifications at any time.

UNPACKING AND INSTALLING THE SCALE

Unpacking the scale

Check packaging for any obvious evidence of damage. Inspect the unit for shipping damage. Immediately report shipping damage to Scalesco at 1-866-587-9773.

Remove contents from packaging, your product should include:

1. AC adapter
2. Scale Base with Stainless Steel weight platter
3. 29" Column Post with 4mm hex key
4. Indicator mounting plate, Column mounting collar, wall mount/ table-top base, table-top rotary bracket
5. Rechargeable Battery -Installed

If you are missing an item please contact Scales-co for immediate replacement at no charge, shipped via UPS ground.

Installing the scale

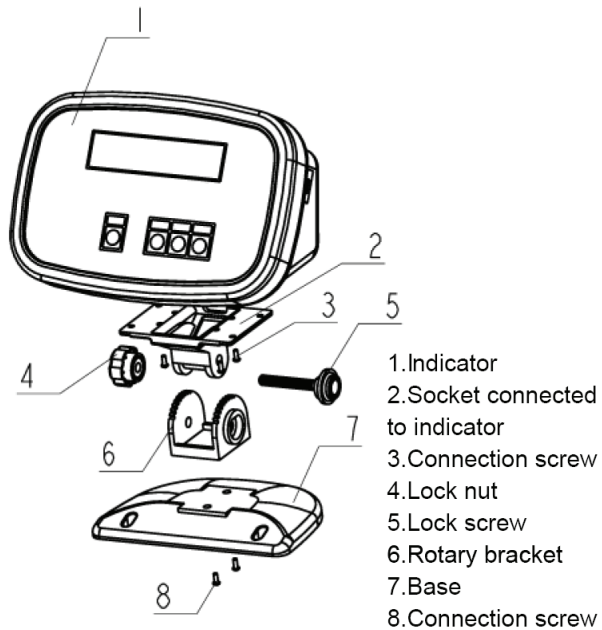
1. Mount the scale on a stable, level surface that is free from air currents, rapid temperature changes and vibration. This may effect the weighing accuracy or the stability of the displayed weight. Remove foam shipping stops in scale base
2. See assembly instructions in this manual.
3. Be sure all feet are in contact with the counter, use the leveling feet and level bubble, if applicable to your model, to make a firm contact.
4. Connect the AC adapter's power plug to the scale, then plug the AC adapter into a appropriate outlet, properly grounded. Turn the On/Off switch ON.
5. Turn the unit on for **15 minutes**, to allow the electronics and load cell to warm up to room temperature.
6. Place a known weight on the scale to test the weighing accuracy. Your scale should display within the weighing tolerance shown within the Weighing Tolerances section of this manual.

Trouble Shooting Tip!

"If your scale is not weighing accurately upon installation, go to the calibration instructions found in this manual to perform a new calibration. Your scale may have become out of tolerance due to a large change in the altitude from initial factory calibration or a mechanical shift during the shipment of the product."

ASSEMBLY INSTRUCTIONS

The SMT 2012 includes an display wall mount/ table top mounting bracket , giving you the option to mount the display on a wall or table top instead of using the indicator column attachment to the base.



Assembling the table-top / wall mount kit.

1. Remove the 4 screws on the bottom of Item 1 (indicator) , using a Phillips screw driver.
2. Place Item 2 (indicator mounting plate or socket connected to indicator) on back of Item 1 (indicator) and secure with 4 screws.
3. Remove 2 screw from bottom of Item 6(rotary bracket), using a Phillips screw driver.
4. Fit Item 6 (rotary bracket) into Item 7 (base plate) and secure with two screws.
5. Fit assembled Items 1 & 2 (Indicator & Socket) into assembled Items 6 & 7 (rotary bracket + base plate) and adjust for desired viewing angle.
6. Route Item 5 (Lock Screw) and Item 4 (lock nut) and through completed assembly and turn lock nut to provide a secure fit.

ASSEMBLY INSTRUCTIONS

Removing the Column Post mount bracket from scale base

You can remove the column post mount from the base by using a 6mm Hex key to remove the hex bolts and a Phillips screw driver to remove the two strain reliefs for the interface cable. You will have 4.5 feet of cable to route the indicator into the correct location.

Important Note: To protect the interface cable from stretching or being broken, use a tie wrap on the bottom of the frame to provide a strain relief for the interface cable. Then route the cable accordingly.

Assembling display for use as a column post mount

1. Remove the 4 screws on the bottom of Item 1 (indicator) , using a Phillips screw driver.
2. Place Item 2 (indicator mounting plate or socket connected to indicator) on back of Item 1 (indicator) and secure with 4 screws.
3. Route Interface cable through Column Post Mount Bracket on the scale base.
4. Route the interface cable through the Column Post
5. Insert Column post into Column Post Mount Bracket , and tighten the two hex nuts using the included 4mm hex key.
6. Insert Column mounting collar onto top of column and secure with a Phillips or flat head screw driver.
7. Fit assembled Items 1 & 2 (Indicator & Socket) into Column Post mount bracket and adjust for desired viewing angle.
8. Route Item 5 (Lock Screw) and Item 4 (lock nut) and through completed assembly and turn lock nut to provide a secure fit.
9. Connect Interface cable into indicator by pulling back on the collar and aligning pins and key, and allow it to snap into place.
10. Plug the AC wall mount adapter into the indicator and into the appropriate Ac outlet.
11. Turn On/Off switch into ON position, press **On/Off** key on the indicator to warm yur unit up for 15 minutes before use.

Rechargeable Battery

Your model of table top bench scale operates on a rechargeable battery. The expected life of the batteries is 35 hours of continuous use.

Before using the scale for the first time in battery mode, charge the battery for 12 hours prior to use .

Connect the power adapter to the scale and plug into an appropriate 110-120 V power source to charge the battery

When the battery is low a low voltage icon will be displayed. Charge the battery as soon as possible to extend battery life.

It is recommended to charge the battery every 3 months, if storing the scale for long periods of time. This will exercise the battery and extend it's life.

To extend battery life, it is not recommended to completely discharge the battery.

Use the **ON/OFF Switch** to turn the scale off, to extend the life of the battery, and stop from charging the battery.

Technical Specification

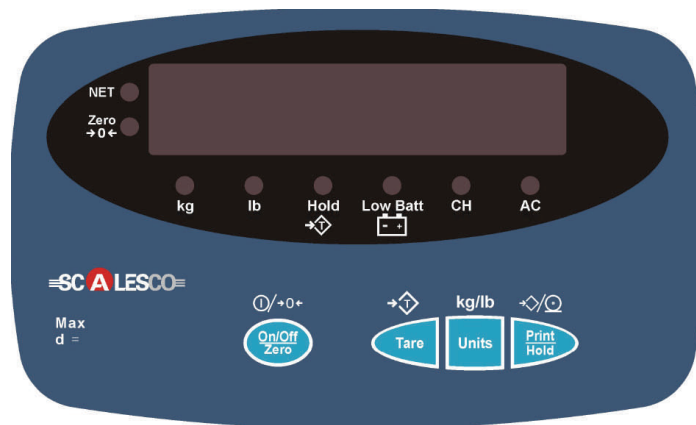
Model # (Part #)	SMT-2012 (2012-200)	SMT-2012 (2012-300)	SMT-2012 (2012-600)
Capacity and Resolution	200 x 0.02 lb 100 x 0.01kg	300 x 0.05 lb 150 x 0.02 kg	600 x 0.1 lb 300 x 0.05 kg
Linearity	+/- 2 divisions (division = resolution setting)		
Operating Temp	10° - 40° C / 50° - 104° F		
Tare Range	Up to 100% of max. capacity, subtractive (subtract tare weight from max capacity = new max capacity)		
Overload	Maximum capacity + 9 divisions (division = resolution setting)		
Stabilization	Up-to 5 seconds to stable weight reading		

Features and Operator Keypad

The Model SMT-2012 General Purpose Scale is an affordable solution for many applications. Perfect for use in most general purpose weighing applications.

It provides an big LED display for great visibility when indoors. Design for use within stable environments where fluctuation of temperature, humidity and vibration are limited.

Features include a Weight Hold which will hold the weight value on the display even after you remove the weighed item, RS-232 interface for connecting to PC's to transmit weight, and units switching between LB and KG.



- 1) Powers On/Off the scale by pressing and holding the key for 3 seconds.
- 2) Quick press, returns the scale to zero weight.



- 1) If configured, for use as print command to send data to RS-232 port
- 2) If configured, for use to hold last stable weight reading on display even after item has been removed.



Used to perform Tare, to remove weight on container used.



Change displayed weight from lbs to kilogram.

LED Indications



Net—Indicates the tare feature is in effect, the scale is displaying the net weight

Zero—Indicates the scale is at a stable zero weight

Kg—Indicates stable weight reading s kilograms

Lb—Indicates stable weight reading is pounds.

Hold (Tare) - Indicates weight hold function is in effect or the tare key has been enabled and the display is showing net weight.

Low Batt—Indicates Battery is Low, plug in unit to power source to charge battery.

CH- Indicates battery is charging.

AC- Indicates AC power is supplied to the unit.

Operating Instructions

Standard Weighing

1. Turn on the scale's display on, using the **On/Off Zero** key.
2. Press the **On/Off Zero** key to zero the scale if display is not showing "0.00" weight.
3. Place your item on the weight platter. The "kg" or "lb" led in the display will indicate the unit of measure the weight display is showing.

Note: The selection of units of measure will remain in the scales memory until you power off the unit using the power switch. This means if you have selected "lb" initially as a units of measure, you will not have to change the units of measure even after powering on and off your scale.

Tare Weighing

The use of tare allows you to identify the net weight of an item within a container. The weight of the container is removed from the gross weighing calculation. Gross-tare=Net weight.

1. If you are using a container to weigh objects and want to see the net weight, place the container on the scale, press the **TARE** key. The display should show "0.000" weight. Place your items in the container, to determine the net weight.

The Hold (Tare) and Net LED will light to indicate your tare is in effect.

*Note: Upon completion of your tare weighing, after removing your container the display will show a negative weight. Press the **TARE** key to return the scale to zero weight.*

Operating Instructions

Weight Hold

The default factory setting has the Print and Hold key functions enabled. To perform the Hold function, press and hold the **PRINT/HOLD** key for 5 seconds to activate the weight hold function. You can configure the use of the **Print/Hold** key for a single quick by reviewing the **Feature and Function** and **User Configuration** sections in this manual.

The default factory setting is P3.02.

1. Press the **PRINT/HOLD** key for 5 seconds until the arrow next to Hold appears in the display.
2. Place your load on the scale, wait for the arrow next **LB** and **Hold** stop flashing to achieve a stable weight reading, remove load.
3. The weight is held on the display
4. Press **Zero** key to remove held weight or Load a new item on the scale.

Conditions of P3.2 Weight Hold:

Holds largest stable Weight Reading:

1. Upon return to Zero, scale will change weight reading if any new weight is applied.
2. At weight hold stable state, weight will change if the scale recognizes a new weight greater than or equal to 2 divisions (displayed resolution of scale x 2) of current displayed weight.

Alternate Configuration Settings and Operation

The weight hold function can be configured for operating in three different methods:

Function P3.0 : Off

Function P3.1 or Single Use :

Upon removal of item at a stable , the display will hold the highest weight reading on scale.

1. Press the Print/Hold key for 5 seconds.
2. Place your item on the scale, remove the item. The largest weight setting will remain on the display until the Hold key is pressed again to return the scale to Zero weight.

Operating Instructions

Weight Hold P3.1 or Single Use Continued -

Holds largest stable Weight Reading:

1. Upon return to Zero, scale will change weight reading if any new weight is applied that is greater than 2 divisions (displayed resolution of scale x 2) of current held weight.
2. At weight hold stable state, weight will change if the scale recognizes a new weight greater than or equal to 2 divisions (displayed resolution of scale x 2) of current displayed weight.

Do not use Zero key in this mode, it may give you an inaccurate weight.

Weight Hold Function P3.3 –50

The function allows you to increase the weight that the scale will not recognize when you have achieved a stable weight hold reading. For use with animals that have a hard time being sitting still.

You can increase the setting from 3 divisions to 50 divisions.

Example Setting "P3-10": Capacity and Resolution of scale is 300 lb x 0.02 lb. (10 x 0.02 lb = 0.2lb.) Auto Hold will not change if weight is + 0.2 lb of previous held weight or a new weight will be held is greater than 0.2 lb difference..

Conditions of P3.3-50 Weight Hold:

Holds largest stable Weight Reading:

1. Upon return to Zero, scale will change weight reading if any new weight is applied.
2. At weight hold stable state, weight will change if the scale recognizes a new weight greater than or equal to the setting of 3-50d of current displayed weight.

Operating Instructions

Print

THE SMT 2012 platform scale allows you to configure the **Print/Hold** Key to transmit weight through the RS-232 port to your connected device. The default factory setting is a Quick press for Printing the displayed weight, as shown below:

<LF><reading, minus, decimal point, weight unit><CR><EXT>

Example: "xxxxx12.02lb" or "xxx-12.02lb"

Additionally you can configure the scale to:

- Turn Off RS-232 function
- Continuously send the displayed weight data
- Transmit displayed weight data at stable weight after 5 seconds from stable weight.
- Transmit Gross, Tare, Net upon press of Print Key
- Continuously Transmit Gross, Tare, Net
- Transmit Gross, Tare, Net upon press upon stable weight after 5 seconds from stable weight.

Example:

"Gross:xxxxx12.02lb"

"Tare: :xxxxx2.02lb"

"Net:xxxxx10.00lb"

- Bi-Directional Output for communicating with host device or UPS Worldship

See the **RS-232 Communication** section of this manual for more information.

Features & Functions

THE SMT 2012 platform scale allows you to configure the indicator to allow you to modify the operation of the unit to perform certain functions. The following is an explanation on the setting that are most commonly changed.

P1: Auto shutdown

Allows you to configure the scale to automatically turn off after 1-15 minutes of non-use. Recommended for use when using battery operation to extend battery life.

P2: Hold / Print Key Function Functionality

Configure the key to operate as: Hold Only Function, quick press to activate weight hold feature; Print Only Function, quick press to transmit data through RS-232 port; Hold and Print Function, quick press for Print function, long press for weight hold function.

P3: Weight Hold Functionality

Configure the Weight Hold Function to operate as: Inactive; Single push button weight hold; auto release weight hold.

P11: Unit Key Functionality

Configure the key to operate as: Unit key inactive displays weight in **KG** only; Unit key inactive displays weight in **LB** only, Unit key is **active** converts weight from LB to KG.

P16: Auto Zero Tracking

The default setting is +/- 2d or 0.4lbs. This setting is used to return the scale to zero weight, if the displayed weight is within 0-0.4 lbs. If you place your scale in an unstable environment where there is vibration around you or the scale is having a hard returning to zero, Change the setting from 0.1 to 1lb. Increasing this to one lb, will mean your scale will not recognize a weight applied that is less than 1 lb.

P17: Data Filter Intensity



The data filter controls the speed of the display and the time it takes to achieve a stable weight. The default factory setting is medium, Decreasing the filter to weak or slow will increase the speed that the display changes weight and returns to zero, but has a lesser chance to an accurate stable weight.

User Configuration Menu





The following are items that can be modified by in-house scale technicians. These settings do not effect the weighing or accuracy of the unit. Prior to making any changes please make sure you understand each of the settings prior to entering into the menu structure or call our service department at 1-866-587-9773 for support.

Important Note: Modifying any items other than these shown below will effect the weighing performance, and may require non-warranty service support to correct. Both User and Service setting are accessible by entering the configuration menu.

To enter into the User Configuration Mode:

Press and hold the  key and the  key
“SET UP” is displayed

Once is Configuration Mode, use the:

	Key to save setting and/or move next selection.		Key to increment flashing digit from 0-9.
	Key to move flashing digit to next digit for modification. Use to move from “1” 2 to 1 “2” (“_”) indicates flashing		Key to exit configuration set-up mode and return to normal weighing

Example: Change Auto shutdown timer from 5 to 15 minutes

1. While at zero weight, Press and hold **Zero[ON/OFF]** and **UNIT** key for 5 seconds.
2. Press **Unit** Key to 5 times change flashing digit from 5 to 0.
3. Press **Print/ Hold** Key –0 Flashes
4. Press **UNIT** key once to change to 1
5. Press **TARE** to accept, P2.2 is displayed. Continue pressing **TARE** key to your next selection and repeat above steps or press the **ZERO[ON/OFF]** key to save setting and return to normal weighing mode.

Parameter	Setting	Definition
Auto Shutdown Timer	P1.00 P1.01- P15	Auto shutdown -Off Auto shutdown –1 to 15 minutes of no activity. P.15 is the default for 5 minutes.
Hold and Print Key Functionality	P2.0 (Hold Only) P2.1 (Print Only) P2.2 (Print & Hold)	Press button once to activate Wt Hold Press button once to transmit weight through RS-232 Quick press to Print, Press and hold for 5 seconds for Weight Hold.
Weight Hold Functionality	P3.0 P3.1 P3.02-50	Weight Hold Inactive Push Button Weight Hold and release Push button weight hold activate, auto release of held weight upon new weight applied, Ignore stable weight increase from 0.4 lb to 10 lb.
Units Key Functionality	P11.0 P11.1 P11.2	Units key inactive- KG weight only Units key inactive– LB weight only Units key active—KG or LB
Auto Zero Tracking	P16.0 P16.1 P16.2 P16.3 P16.4 P16.5 P16.6 - .8	0 d = Off +/- 0..25d +/- 0.5d +/- 1d +/- 1.5d +/- 2d +/- 3d, 4d, 5d
Data Filter Intensity	P17.0 P17.1 P17.2 P17.3	Slow Weak Medium Strong

Weighing Tolerances & Calibration

Model # (Part #)	SMT-2012 (2012-200)	SMT-2012 (2012-300)	SMT-2012 (2012-600)
Max Capacity	200 lbs	300 lbs	600 lbs
Resolution	0.02 lb	0.05 lb	0.1 lb
Weighing Tolerance	+ / - 0.04 lb	+ / - 0.10 lb	+ / - 0.20 lb

From time to time, all scales may require calibration to provide an accurate weighing. When calibrating your scale, you are teaching the scale a zero weight reading, and a known accurate weight(s).

Since the SMT-2012 is a high precision scale, either shipping or large shifts in altitude (gravity) can effect the weighing accuracy from the original point of calibration, Fairmont, MN. Product received not within calibration are not considered damaged under the Scalesco Warranty Policy.

The SMT-2012 allows you to configure the capacity and resolution of your scale in other settings than as defined by this manual. Please use the setting provided in this manual . IF you have changed these settings, you are required to perform a new calibration.

WARNING!

Calibrating your scale with inaccurate or the incorrect weights as defined in the Weighing Tolerances and Calibration Section will cause your scale to weigh incorrectly.

If you require assistance in calibrating your scale, you can find a local scale dealer using the yellow pages for a minimal fee.

Calibration

Calibrating your scale requires two calibration weights and correct entry of configuration setting P7, P8, P9 and P10.

The SMT 2012 requires a 4-point calibration; zero, half capacity, full capacity, and finally zero.

When calibrating at half capacity, you are required to use 12.5% to 80% of the scales capacity. When calibrating the third stage or full capacity, you are required to use 25% to 100% of the scales full capacity rating as a calibration weight. See the table below for the recommended calibration weights. You can use weights other than shown below.

Important Note: The weight used for full capacity or 3rd stage of calibration must be greater than the half capacity or 2nd stage of calibration.

CALIBRATION WEIGHT VALUES (LB)			
Part Number	Capacity	50% Capacity— Step 1	100% Capacity— Step 2
2012-200	200 x 0.02 lb	12.5% or 25 lbs 25% or 50 lbs 50% or 100 lbs	25% or 50 lbs 50% or 100 lbs 100% or 200 lbs
2012-300	300 x 0.05 lb	15% or 45 lbs 25% or 75 lbs 50% or 150 lbs	25% or 75 lbs 35% or 105 lbs 50% or 150 lbs
2012-600	600 x 0.1 lb	12.5% or 75 lbs 20% or 120 lbs 25% or 150 lbs	25% or 150 lbs 30% or 180 lbs 50% or 300 lbs

Calibration

Before calibrating the scale, you must ensure your setting in the configuration menu are correct for the P7, P8, P9, and P10. The setting below are the only recommended setting to ensure correct weighing. Setting other than shown below will not allow you scale to weigh correctly and a calibration error will incur.

Capacity and Resolution	Divisions	P7	P8	P9	P10
200 x 0.02 lb	10,000	18	1	2	1
200 x 0.05 lb	4,000	12	2	2	1
200 x 0.1 lb	2,000	07	0	1	1
300 x 0.02 lb	15,000	20	1	2	1
300 x 0.05 lb	6,000	14	2	2	1
300 x 0.1 lb	3,000	10	0	1	1
300 x 0.2 lb	1,500	06	1	1	1
300 x 0.5 lb	600	01	2	1	1
600 x 0.05 lb	12,000	19	2	2	1
600 x 0.1 lb	6,000	14	0	1	1
600 x 0.2 lb	3,000	10	1	1	1
600 x 0.5 lb	1,200	05	2	1	1
100 x 0.01 kg	10,000	14	0	2	2
100 x 0.02 kg	5,000	13	1	2	2
100 x 0.05 kg	2,000	07	2	2	2
100 x 0.1 kg	1,000	04	0	1	2
150 x 0.01kg	15,000	20	0	2	2
150 x 0.02 kg	7,500	16	1	2	2
150 x 0.05 kg	3,000	10	2	2	2
150 x 0.1 kg	1,500	06	0	1	2
150 x 0.2 kg	750	02	1	1	2
300 x 0.02kg	15,000	20	1	2	2
300 x 0.05 kg	6,000	14	2	2	2
300 x 0.1 kg	3,000	10	0	1	2
300 x 0.2 kg	1,500	06	1	1	2
150 x 0.5 kg	600	01	2	1	2

Calibration

You are not required to configure your capacity and resolution setting unless you need to reduce the accuracy or resolution from the factory default setting. To reduce the setting follow the chart on the previous page and set them to the correct choice for P7, P8, P9, and P10

Calibrating your scale

To calibrate the scale

1. With no weight on the scale, simultaneously press and **TARE** and **ON/OFF/ZERO** keys

“CAL -?” is displayed

2. Press the **TARE** key

“CAP -XXX.XX” is displayed, “X” indicates the capacity setting

“d.XX” is displayed indicating the resolution of your scale.

“CAL.PO” is displayed indicating Zero Weight calibration

You can press the **ON/OFF/ZERO** key at any time to exit calibration.

3. Press the **TARE** key, with no weight on the scale, to perform Zero calibration

“CAL.P1” is displayed, then

“100,150,300” indicating 1/2 capacity or Step 1 calibration

4. The display is showing a weight value “XXX”, 50% of the scales total capacity, place the appropriate weight as displayed on the scale or add a known weight between 12.5-80% of capacity, see page 13 for examples, and enter the new calibration weight value being used by using the **PRINT/HOLD** and **UNITS** key



Key to move flashing digit to next digit for modification. Use to move from 120 to 120 (“_”) indicates flashing digit



Key to increment flashing digit from 0-9.

Example: 120 lb capacity scale, using 20 lb calibration weight

Display shows 120.00 (“_”) indicates flashing digit, press the **PRINT/HOLD** key 3 times, press the **UNITS** key once to change 2 to 3. Press the **PRINT/HOLD** once, press the **UNITS** key 8 times to change the 1 to 2.

Calibration

5. Press the **TARE** key to accept the entry and begin Half capacity or Stage 1 calibration.

“CAL.P2.” is displayed indicating full capacity or Stage 2 calibration

“200, 300, 600” is displayed indicating the 100% weight capacity

Place the appropriate weight as displayed on the scale or add a known weight between 25-100% of capacity, see page 13 for examples, and enter the new calibration weight value being used by using the **PRINT/HOLD and UNITS key**

Important NOTE: 100% or Stage 2 calibration weight value must be greater than 50% or Stage 1.

6. With the new weight on the scale, Press the **TARE** key to accept new weight value entered and begin Full capacity or Stage 2 calibration..

The Indicator will briefly display the weight value used, then “CAL.P0”

7. Remove all weight from the scale, press the **TARE** key, the scale will perform the final zero calibration and power up into normal weighing mode.

If “CAL.Er” is displayed at anytime during calibration, repeat calibration, and make sure your 50% or Stage 1 calibration weight is less than 100% or Stage 2 calibration weight, make sure your scale is in a stable environment. Contact the Scalesco service department at 1-866-587-9773 is you need support.

Communication and Specifications

The SMT-2012 includes a 9-pin RS-232 port for transmitting the weight to your host device, using a null modem cable (not supplied). You can purchase this cable from scales-co, PN# 1140-13842.

The SMT 2012 can be configured to:

1. Turn Off RS-232 Interface, to save battery life (p4.0)
2. Transmit displayed weight value, by pressing the **PRINT/HOLD** key
3. Transmit Gross, Tare and Net weight value by pressing the **PRINT/HOLD** key
4. Continuously output displayed weight format
5. Continuously output Gross, Tare and Net weight

Communication and Specifications

6. Upon stable weight, transmit displayed weight value

7. Upon Stable weight Transmit Gross, Tare and Net Weight

NOTE: Bi-directional output available upon request and consultation of use. Contact Scales-co at 1-866-587-9773 for the Service manual for your Model 2012 Bench Scale.

Configuration of RS-232 setting, baud rate, data bits and parity

Enter the configuration menu by following the instructions early described in this manual on page 14. The following is the configuration setting for

Parameter	Setting	Definition
RS-232 Mode	P4.0	RS-232 inactive
	P4.1	Press Print key, transmit displayed wt
	P4.2	Press print key, transmit G,T,N
	P4.3	Continuous output, displayed weight
	P4.4	Continuous output G, T, N
	P4.5	Output displayed wt when stable, 5 sec
	P4.6	Output G,T,N when stable, 5 sec
	P4.7	Bi-directional Format, see service manual (for use with UPS worldship)
Baud Rate	P5.0	1200 Baud
	P5.1	2400 Baud
	P5.2	4800 Baud
	P5.3	9600 Baud
	P5.4	19,200 Baud
Data Format	P6.0 (8N1)	8 digits, None Parity, 1 start, 1 stop
	P6.1 (7O1)	7 digits, Odd Parity, 1 start, 1 stop
	P6.2 (7E1)	7 digits, Even Parity, 1 start, 1 stop

Communication and Specifications

The SMT-7012 includes a 9-pin RS-232 port for transmitting the weight to your host device, using a straight pass-thru cable (not supplied). You can purchase this cable from scales-co, PN# S100-001.

Displayed Weight Format:

<LF><reading, minus, decimal point, weight unit><CR><EXT>

Example: "xxxxx12.2lb" (positive wt) or "xxx-12.2lb" (negative wt)

Gross, Tare, Net Format:

LF><**Gross:** reading, minus, decimal point, weight unit><CR><EXT>

<LF><**Tare:** reading, decimal point, weight unit><CR><EXT>

<LF><**Net:** reading, minus, decimal point, weight unit><CR><EXT>

Example:

"Gross:xxxxx12.02lb"

"Tare: :xxxxx2.02lb"

"Net:xxxxx10.00lb"

Trouble Shooting Tip -

Use Windows HyperTerminal or similar program to test communication.

Communication and Specifications

CABLE PIN-OUT SPECIFICATIONS

<u>PIN</u>	<u>Scale</u>	<u>Host</u>	<u>PIN</u>
1	EMPTY		1
2	TXD (Out)	RXD (In)	2
3	RXD (In)	TXD (Out)	3
4			4
5	Ground	Ground	5
6,7,8,9			6,7,8,9

UPS Worldship Compatible

The SMT 7012 is compatible to operate with UPS Worldship when using a special "ini" file loaded onto your PC. Contact Scalesco Measurement at 1-866-587-9773 for the configuration file.

Special Notes:

Once you have loaded the "ini" file. You will need to configure the scale as follows:

Configuration Menu	P4	P5	P6
Parameter Setting	7	3	2

RS-232 Interface

If using an available RS-232 port on your PC, configure your COM Port 1-4 for 9600 Baud rate, 7 data bits, Even Parity, 1 stop Bit (CONTROL PANEL/SYSTEM/HARDWARE/DEVICE MANAGER/PORTS (COM & LPT).

Within the UPS Worldship program, select Tool/System Preferences Editor/ Hardware/Scale Port (COM 1-4)/Scale Type (LPS 150/400). Press test scale to confirm correct interface settings.

Using USB to Serial Converter

If using an available USB port on your PC, configure the USB converter to COM Port 1-4 for 9600 Baud rate, 7 data bits, Even Parity, 1 stop Bit (CONTROL PANEL/SYSTEM/HARDWARE/DEVICE MANAGER/PORTS (COM & LPT).

Within the UPS Worldship program, select Tool/System Preferences Editor/ Hardware/Scale Port (COM 1-4)/Scale Type (LPS 150/400). Press test scale to confirm correct interface settings.

Care and Maintenance

Cleaning—Use a damp cloth with mild detergent to clean your scale.

Calibration Schedule—In order to maintain the highest accuracy, you should implement a monthly, quarterly or yearly calibration schedule.

Handle with Care—Dropping the unit or placing weights on the scale that are heavier than the rated capacity of your scale may cause damage to the load cell.

Trouble Shooting and Error Codes

Symptom	Possible Cause	Remedy
_____	<ul style="list-style-type: none"> • Under Zero Range • Mechanical obstruction 	<ul style="list-style-type: none"> • Remove all weight, zero the scale • Remove Weight platform, look for obstructions
0 - - - - 0 _ - - -	<ul style="list-style-type: none"> • Weight range above or below calibrated zero point 	<ul style="list-style-type: none"> • Remove weight, zero scale • Perform calibration, a zero shift error has occurred
- - - -	<ul style="list-style-type: none"> • Weight exceeded scale capacity 	<ul style="list-style-type: none"> • Remove load
CAL - Er	<ul style="list-style-type: none"> • Error while performing calibration 	<ul style="list-style-type: none"> • Perform new calibration
Lo.bAt	<ul style="list-style-type: none"> • Low battery condition 	<ul style="list-style-type: none"> • Charge battery for 8 hours for a full charge
EEP.E0	<ul style="list-style-type: none"> • Electronic Failure 	<ul style="list-style-type: none"> • Replace Indicator
EEP.E1	<ul style="list-style-type: none"> • Configuration setting were changed and not stored 	<ul style="list-style-type: none"> • Calibrate scale to store settings
EEP.E2	<ul style="list-style-type: none"> • P7-P9 setting incorrect 	<ul style="list-style-type: none"> • Configure setting to manual

Service Information

If you experience any difficulty, the Scalesco team is available to help you between the hours of 8:00 AM and 5:00 PM CST, M-F, toll free 1-866-587-9773 or 507-238-9773. For after hours support, e-mail us at sales@scales-co.com.

The SMT-7012 has replacement parts available. They are:

- Display pre-calibrated)
- AC power Supply
- Loadcell
- Leveling Feet
- Stainless Steel Shroud
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If your scale is damaged and it has been determined that you do not meet the warranty conditions, you can purchase a parts, refurbished or new scales, at the discretion of Scaleco Measurement Technology Inc, directly from us at a 60% discount from the current list price as shown on our website.

Limited Warranty Policy

Scalesco Measurement Technology Inc (hereafter referred to as "SMTI") products are warranted against defects in material and workmanship for a period of one (1) year from the date of shipment.

During the warranty period SMTI will repair, or at its option, replace at no charge any component(s) determined defective by a authorized SMTI representative, provided the equipment is returned freight prepaid, to Scalesco Measurement Technology Inc.

The warranty will not apply to products that:

1. Have had repairs or modifications not authorized by SMTI.
2. Have been subject to damage by accident, misuse, careless handling, inappropriate installation, fire, water submersion or act of God.
3. Have been exposed to corrosive material
4. Have foreign material penetrating or within the product.
5. Have been determined to weigh accurately after calibrating according instructions within the user manual.

SMTI's liability is confined to the factory repair, product or parts replacement, and does not extend coverage to labor, material or service charges involved in removal of the equipment to return to the factory or from on-site repair.

SMTI is not responsible for any direct expenses or consequential damage due to errors in weighing or failure of a Scalesco brand product to perform properly.

SMTI reserves the right to incorporate changes in material, operation and design of the products without notice and is not obliged to incorporate the same changes in equipment previously or currently manufactured.

This warranty is limited exclusively to defective Scalesco brand products. The SMTI warranty is limited to initial the installing customer and is not intended to insure the benefit of a secondary owner in the event of resale after use. This warranty is in lieu of all other warranties, expressed or implied.

Return Policy

See our website for the up-to-date return policy at <http://www.scales-co.com>.

Scalesco Measurement Technology Inc.

1200 Indus Street Suite A, Fairmont MN 56031 USA