SMT-262

Analytical Balance

User Manual

Scalesco Measurement Technology Inc.

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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. 120 VAC 60 Hz, 6vDC @ 500 mA wall mount adapter
2. Scale with stainless steel weight platter (do not remove blue protective film)
3. Keyboard and Display Dust Cover
4. Below Balance Weight Hook
5. 6V4.0Ah sealed lead acid 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.

2. Carefully install, do not force, the weight platter on top of the mounting posts. Make sure the weight platter does not touch any adjacent surfaces, make sure the power cords, remote display cables are not touching the live weighing surface.

3. Be sure all feet are in contact with the counter, use the leveling feet and level bubble, 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.

5. Turn the unit on for **15 minutes**, using the power switch on the bottom right hand side of the unit, then press the **ON/TARE key** 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."

Battery Installation

Your model of scale operates on a rechargeable battery. The expected life of the batteries is 20 hours of continuous use.

Before using the scale for the first time, check to make sure your battery level is at high. If not charge the battery for up-to12 hours prior to use . Plug the wall-mount adapter into an appropriate 110-120 V power source to charge the battery.

Upon power up or when in use, when the battery is low, less than 5.6 V, the scale will display the battery icon and the unit will perform an auto shutdown.

Upon successful completion of recharging the battery, the scales “charge” light will turn off, indicating the battery is fully charged.

The SMT-262 includes a power switch, located on the bottom right side of the unit. To improve battery performance, switch the scale OFF when not in use,

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.

Technical Specification

Model # **(Part #)**	**SMT-262** **(262-006)**	**SMT-262** **(262-012)**	**SMT-262** **(262-030)**	**SMT-262** **(262-030)**
Capacity	6.6 lb / 3 kg	13 lb / 6 kg	33 lb / 15 kg	66 lb / 30 kg
Resolution	0.0005 lb / 0.0001 kg	0.0005 lb / 0.0002 kg	0.002 lb / 0.0005 kg	0.005 lb / 0.001 kg
Linearity & Std Deviation	+/- 1d	+/- 1d	+/- 1d	+/- 1d
Operating Temp	50° - 104° F (10° - 40° C)			
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 3 seconds to stable weight reading			

Features and Operator Keypad

The Model SMT-262 Precision balance is an affordable solution for many applications. Perfect for use in manufacturing factories, mines, agriculture, water conservation, medicine, food analysis, gems and jewelry, and educational laboratories.

It provides an big back lite LCD display for great visibility when used indoors and outdoors. Design for use within stable environments where fluctuation of temperature, humidity and vibration are limited. The backlight will be activated only when weight is applied on the scale, and turn off after 5 seconds of no use or stable weight to increase battery life.

Features include a simple counting feature for weighing small components, Upper and Lower weight limits for check weighing and counting applications and weighing for use to compare the weight of similar items or check weighing A

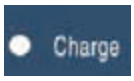
1) Power Off the scale

2) Scrolls between KG, LB, Pcs (count)

1) Print—Transmit weight display information to COM port

2) Activates upper and lower weight/pcs limit function

1)Performs a Zero Function. 2) Performs Tare, removes the weight of a container from the display and returns the scale to zero weight. 3) Powers On the scale



Indicates battery is charging

Operating Instructions

Standard Weighing

1.Turn on the scale, using the power switch, located on the bottom right side of the unit. Press the **ON/TARE** key . The scale perform a test sequence. If everything is OK, the display will show zero weight and the scale is ready for use.

2. Press the **ON/TARE** key if display is not showing “0.000” weight.

3. Place your item on the weight platter, it may take up to 3 seconds for the weight to stabilize. The weight symbol will flash to indicate the weight is in motion and stabilize to indicate a stable weight reading.

4. Press the **OFF/MODE** key to change the units of measure from Lbs to Kilograms and PCS (CNT)

5. If your 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.

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

Upper and Lower Limits Tolerance Feature

The Upper and Lower Limits feature is perfect for use when you have the known weight of an item and you want to set tolerances of the scale to audibly alarm you that the item on the scale is within the acceptance tolerance setting you have configured. The Upper and Lower Limits feature can be used while weighing in Lb, KG, our counting mode.

The SMT 242 allows you to configure:

1. Both the Upper (Over) and Lower (Under) tolerance settings. The Accept or acceptable tolerance window is defined as the weight between the Over and Under values entered.

2. Upper (Over) only tolerance settings. An audible alarm will indicate the weight or pieces applied on the scale is greater than or equal to (≥) your value entered.

3. Lower (Under) only tolerance settings. An audible alarm will indicate the weight or pieces applied on the scale is less than or equal (≤) your value entered.

Operating Instructions

Configuring and using the Over and Under Tolerance Settings

Ensure your scale is displaying weight in the units of measure you require lb, kg or pcs.

1. Press and hold the **FUNC** key for 7-10 seconds

"Lo Off" is displayed

2 .Press the **MODE** key to scroll between "Lo Off" and Lo On"

3. Press the **TARE** key to accept

"0 0. 0 0 0 0" is displayed , (the 0 indicates the digit is flashing

4.To enter the Under tolerance setting, press the **TARE** key, to scroll to the number you need to change, the "0" will flash to indicate the digit can be changed.

5. Once you have reached the digit you need to change, press the **MODE** key to increase the number from 0-9.

6. Once all the numbers have been entered press the **TARE** key

"Up Off" is displayed

7.Press the **MODE** key to scroll between "Up Off" and Up On"

8. Press the **TARE** key to accept

"0 0. 0 0 0 0" is displayed , (the 0 indicates the digit is flashing

9.To enter the upper tolerance setting, press the **TARE** key, to scroll to the number you need to change, the "0" will flash to indicate the digit can be changed.

5. Once you have reached the digit you need to change, press the **MODE** key to increase the number from 0-9.

6. Once all the numbers have been entered press the **TARE** key, your unit will return to normal weighing mode.

Place your item on the scale, an audible alarm will indicate you are outside your acceptance tolerance window.

To turn off the Limit feature, turn the each setting to Off.

Operating Instructions

Counting Function

THE SMT-262 provides a counting feature using pre-set sample sizes of 5, 10, 20, 30, 40 or 50 pieces. Make sure your sample count is accurate

TIp: For best counting results, the single piece weight of the item you are counting should be greater than or equal to the resolution of your scale (see Technical specifications). The lighter the item you are counting, the higher the number of sample pieces should be used during the sampling process.

1.Press the **TARE** key to ensure the scale is at zero weight..

2. Press the **MODE** key unit “CON” is displayed.

3a. If using a container to hold your sample pieces and counted items, place the container on the scale , press the **TARE** key “pc ADD 5” is displayed.

3b. If not using a container, press the **TARE** key “pc ADD 5” is displayed.

4. Press the **FUNC** key to scroll between 5, 10, 20, 30, 40 or 50 pieces. This is your sample size.

5. Once you have determined your sample size, place the items on the scale, press the **TARE** key to activate counting function. Once the weight has stabilized the “pc” symbol is shown on the display.

6. Add your remaining item to see the total count.

Press the **MODE** key if you want to scroll between the piece count (“pc”) and net weight(s).

NOTE: The piece weight will remain in memory, until your have powered on and off the scale either using the keyboard or the power on/off switch.

Note: Typically not all the items you are counting weigh the same , this could cause an error in your total count .

Weighing Tolerances & Calibration

Model # (Part #)	SMT-262 (262-006)	SMT-262 (262-012)	SMT-262 (262-030)	SMT-262 (262-030)
Max Capacity	6.6 lb / 3 kg	13 lb / 6 kg	33 lb / 15 kg	66 lb / 30 kg
Resolution	0.0005 lb / 0.0001 kg	0.0005 lb / 0.0002 kg	0.002 lb / 0.0005 kg	0.005 lb / 0.001 kg
Weighing Tolerance	0.0005 lb / 0.0001 kg	0.0005 lb / 0.0002 kg	0.002 lb / 0.0005 kg	0.005 lb / 0.001 kg
Linear Cal Weights	1 and 3 kg	6 and 12 kg	5 and 15 kg	10 and 30 kg

Form 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).

The SMT-262 provides two methods of calibration. The standard or “CAP” method requires only one weight to perform calibration, while the Linear or “LINE” method requires two kilogram weights, shown above, to calibrate the scale.

WARNING!

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

Calibration

Standard "CAP" Calibration

Standard Calibration allows you to calibrate the scale using one of the following methods:

1. Use the default maximum capacity kilogram weight to calibrate your scale.
2. Use a kilogram calibration weight less than full capacity, by entering the correct weight value during calibration .
3. Use a LB weight and enter in the kilogram equivalent conversion during calibration.

CAP Calibration using default weight capacity (#1):

1. With no weight on the scale, press the **TARE** key to zero the scale.

2. Press and hold the **TARE** key for 10-12 seconds until "CAL" is displayed, followed by "CAP". The "kg" icon is lite.

3. Press the **TARE** key to accept.

"00.0000" is displayed and flashing

4. With No weight on the scale, press the **TARE** key to begin zero calibration.

"XX.XXXX" is displayed (the default calibration weight value)

"X" indicates the digit is flashing

5. Press **TARE 6** times to the last to digit to confirm the calibration weight

The calibration weight value will flash

6. Place the correct calibration weight on the scale, press the **TARE** to accept .

Your scale is now calibrated and returns to normal weighing mode in the kg units of measure.

Calibration

CAP Calibration using other kilogram weight capacity (#2):

1. With no weight on the scale, press the **TARE** key to zero the scale.

2. Press and hold the **TARE** key for 10-12 seconds until “CAL” is displayed, followed by “CAP”. The “kg” icon is lite.

3. Press the **TARE** key to accept.

“00.0000” is displayed and flashing

4. With No weight on the scale, press the **TARE** key to begin zero calibration.

“XX.XXXX” is displayed (the default calibration weight value)

“X” indicates the digit is flashing

5. Press **MODE** key to change the flashing digit from 0-9, press the **TARE** key to move to the next flashing digit. Once you have entered your calibration weight value and you are at the last digit, press the **TARE** key

The calibration weight value will flash

6. Place the correct calibration weight on the scale, press the **TARE** to accept .

Your scale is now calibrated and returns to normal weighing mode in the kg units of measure.

CAP Calibration using other LB weight capacity (#3):

Since calibration weights available in KG may not be accessible to you, we have provided the conversion table and instructions below. This allows you to calibrate the scale with a LB weight, and entering the kilogram equivalent conversion during the calibration process.

	Conversion Code—Pound Equivalent				
Part Number	1 LB	2 LB	5 LB	10 LB	15 LB
262-006-6lb	00.4536	00.9072	02.2679		
262-012-12 lb	00.4536	00.9072	02.2679	04.53592	
262-030-30 lb	00.4536	00.9072	02.2679	04.53592	06.8039
262-060-60 lb			02.268	04.536	06.803

Calibration

	Conversion Code—Pound Equivalent				
Part Number	20 LB	30 LB	40 LB	50 LB	60 LB
262-030-30 lb	09.0718	11.3398			
262-060- 60 lb	09.072	11.340	13.608	18.144	22.620

1. With no weight on the scale, press the **TARE** key to zero the scale.

2. Press and hold the **TARE** key for 10-12 seconds until “CAL” is displayed, followed by “CAP”. The “kg” icon is lite.

3. Press the **TARE** key to accept.

“00.0000” is displayed and flashing

4. With No weight on the scale, press the **TARE** key to begin zero calibration.

“XX.XXXX” is displayed (the default calibration weight value)

“X” indicates the digit is flashing

5. Use the table above to identify the LB calibration weight conversion. .Press **MODE** key to change the flashing digit from 0-9, press the **TARE** key to move to the next flashing digit. Once you have entered your calibration weight value and you are at the last digit, press the **TARE** key

The calibration weight value will flash

6. Place the correct calibration weight on the scale, press the **TARE** to accept .

Your scale is now calibrated and returns to normal weighing mode in the kg units of measure.

Linear “Line” Calibration

Linear calibration requires you to use the two Kilogram weights as defined in the Weighing Tolerances and Calibration Section. The Linear calibration is the best method of calibration to use to ensure accurate weighing.

1.Press and hold the **TARE** key for 7 seconds until “CAL” is displayed, followed by “CAP”. The “kg” icon is lite.

2. Press the **MODE** key scroll “LINE” is displayed.

Calibration

Linear "Line" Calibration

3. Press the **TARE** key to accept

"00.0000" is displayed and flashing

4. With No weight on the scale, press the **TARE** key to begin zero calibration.

"XX.XXX" is displayed and flashing

5. Place the displayed calibration weight on the scale. Press the **TARE key**

6. The display will continue to flash, then display the 2nd calibration weight required, place correct kilogram weight on the scale. Press the **TARE key** to accept and begin the third stage of calibration.

Your scale is now calibrated and returns to normal weighing mode in the kg units of measure.

*Note: If the scale does not display zero weight upon removing the weight, press the **TARE** key to return the scale to zero. Repeat calibration steps if an error was made during the calibration process.*

Using the Below Balance Weight Hook

The SMT-262 includes a Below Balance weight Hook that allows you weigh hanging items that do not necessarily fit on the weight platter.

While using the Weight Hook, you continue to be able to use the full capacity of the scale and continue to achieve the resolution and accuracy of the standard weight platter

To install the weight hook:

1. Remove the weight platter from the scale.
2. Turn the scale over.
3. Locate the threaded hole on the bottom of the scale.
4. Gently turn the weight hook, until it locks into place, adjust for positioning.
5. Place scale in an area that allows you to access the Below Balance Weight Hook, free from vibration, return weight platter onto scale and begin weighing.

Communication and Specifications

The SMT-262 analytical balance includes a 9-pin RS-232 port for transmitting the weight to your host device using a null modem cable (not supplied) every time you press the **FUNC** key.

Communication Specification: **9600** Baud Rate, **8** Data Bits, **No** parity, **1** stop bit

ASC II Output Format: " +(-) XX.XXXX UNIT<CR><LF>

UNIT = kg, lb, or pcs

The information on the display will transmit upon the press of the **FUNC** key the format above.

Trouble Shooting Tip -

Use Windows HyperTerminal or similar program to test communication.

CABLE PIN-OUT SPECIFICATIONS

PIN	PC	BALANCE	PIN
1	EMPTY		1
2	RXD (In)	RXD (In)	2
3	TXD (Out)	TXD (Out)	3
4			4
5	Ground	Ground	5
6,7,8,9			6,7,8,9

Care and Maintenance

Cleaning—Use a damps 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—Precision scales include sensitive load cells. Dropping the unit or placing weights on the scale that are heavier then the rated capacity of your scale may cause damage to the load cell.

Trouble Shooting and Error Codes

Symptom	Possible Cause	Remedy
Cannot turn on	• No power to scale • Battery needs charging • Power switch is in OFF position	• Verify AC adapter connections and voltage • Charge battery • Turn on power switch
Poor weighing accuracy	• Improper calibration • Unstable environment • Debris touching pan • Scale was not zeroed prior to use	• Perform calibration • Move scale to stable location • Clean any debris near weight platter • Press the TARE key to zero the scale prior to use
Will not Calibrate	• Unstable environment • Incorrect calibration weight used	• Move scale to suitable location • Use correct calibration weight
Err 1	• Overload condition	• Excess weight applied to scale, remove weight • Perform Calibration
Err 0	• Underload condition	• Verify weight platter is installed correctly, power off then on • Perform Calibration
Inaccurate counts	• Sample weight is too low • Piece parts are not the same weight • Incorrect count of sample weight	• Increase sample size • Pieces being counted must be of similar weight, especially if light weight pieces • Double check count of sample size
Will not display CNT to activate new sample counting process	• Sample weight stored in memory	• Power Off/ON the unit to remove stored piece weight

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 Scaleco 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.

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.

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