SCILOGEX Professional Series Electronic Precision Balances

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Operating Instructions

SCI120P, SCI210P, SCI300P,
SCI410P, SCI510P and SCI1000P

Overview

Specifications

Catalog No.	**SCI300P**	**SCI510P**	**SCI300P**
Capacity (g)	300	510	1000
Readability (g)	0.1	0.1	0.1
Precision (g)	±0.1	±0.1	±0.1
Pan Size (g)	14.2 cm × 13.0 cm Diameter		

Catalog No.	**SCI210P**	**SCI410P**	**SCI120P**
Capacity (g)	210	410	120
Readability (g)	0.01	0.01	0.001
Precision (g)	±0.01	±0.02	0.003
Pan Size (g)	9.7 cm Diam.	14.2 cm × 13.0 cm	9.7 cm Diam.

Accessories

Anti-theft locking device   0000000

Error Codes

Error codes are shown on the main display for approximately 2 seconds. The program then returns automatically to the previous mode.

Problem	Cause	Solution
Blank Screen	No power available	Check power supply
	Power supply not plugged into balance	Plug the power supply into the balance
	Battery is drained	Replace battery
oL	The load is heavier than the capacity of the balance	Reduce the load on the balance pan
uL	Stainless steel weighing pan is not present	Place the weighing pan on the balance
	Interference with the balance pan	Verify the area around the balance is clear
CALErr	Problem with calibration procedure	Calibrate only when zero is displayed
		Be sure the calibration weight remains on the pan until after the calibration cycle is complete
APPErr	Weight is too light	Increase the weight on the balance
Max. weight capacity is less than printed balance specifications	The balance was switched on without the weighing pan	Place the weighting pan on the balance and turn the balance on
Mass readings are incorrect	The balance was not calibrated properly	Calibrate the balance

If any other errors occur, please contact SCILOGEX.

Balance Care and Use

Balances are an essential component of any science lab. Listed below are tips to properly use, store, and maintain balances.

- Balances should always be placed on a level and sturdy surface.

- Recalibrate balances every time they are physically moved from one location to another. If balances always remain in the same location, calibrate at least once a month.

- Allow 15 minutes to an hour of warm-up time before using balances.

- Ensure that balances are free from drafts, excessive shaking, and electromagnetic interference.

- It is important to zero or tare balances each time an object is removed as long as the value is not required for subsequent measurements. This will help ensure the zero point of the balance in conjunction with regular calibrations.

- Static can interfere with accurate weighing. Make sure the balance surface, objects, and work area are free from static.

- To maximize balance life, keep the housing and platform clean. A damp cloth and mild detergent may be used to remove debris from under the platform.

- Store the balance in a cool and dry location.

- Make sure the voltage rating printed on the power supply is identical to your local line voltage.

- Unplug AC adapters and/or remove batteries when balances will not be used for extended periods of time.

- The balance is energized at all times unless you disconnect the AC adapter and, if connected, the battery.
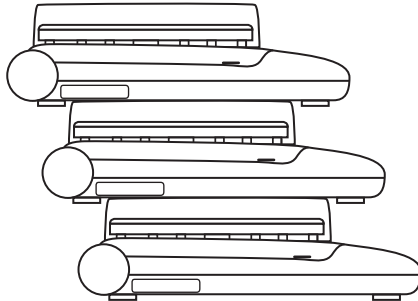
Getting Started

Equipment Supplied

Balance with in-use cover

Weighing pan

AC Adapter

Calibration weight

Additional equipment with model

SCI1000P Round glass draft shield

Level indicator and adjustable feet

Storage

Note: Do not stack more than three balances on top of one another at a time.

Installation

Choose a location that is not subject to the following negative influences:

- Heat (heater or direct sunlight)
- Drafts from open windows and doors
- Extreme vibrations during weighing
- Excessive moisture
- Excessive static

Calibration/Span Adjustment

Calibration is recommended after initial installation and each time the balance is moved.

Features
Calibration/adjustment can be performed only when:
— there is no load on the balance
— the balance is zeroed
— the internal signal is stable

If these conditions are not met, an error message is displayed.

Example: Calibrate/adjust span on the balance.

The weight required for calibration/adjustment is displayed. Standard calibration weights for selected models: to remove, see instructions on page 6.
Press (F) to select a different weight value.
To cancel the procedure, press and hold the (ENTER) key (> 2 sec.)

Step	Key (or instruction)	Display
1. Switch on the balance	(ON/OFF)	`188:888 kg`wtl
2. Zero the balance	(ZERO)	`0.0 g`
3. Start calibration. The preset calibration weight is displayed without the weight unit (in this example, 5000 g)	(CAL)	`? 5000.0`
4. To select a different calibration weight value	(F) repeatedly	`? 2000.0` `? 1000.0`
5. Confirm calibration weight value and start calibration/span adjustment. After the zero point is stored, the required calibration weight flashes on the display.	(ENTER)	`CAL` `5000.0 g`
6. Place the required calibration weight on the balance. Wait approximately 10 seconds. The readout stops flashing if the weight is applied within the defined time limit and tolerance. If the weight value is accepted, the display stops flashing and the stability symbol ⟂ appears on the display.		`5000.0 g`
7. Remove the calibration weight.		`0.0 g`
8. Calibration has been completed.		

Totalizing

Purpose

With this application program you can add up successive weight values exerting capacity of balance.

Example: Totalizing weight values

| Step	Key (or instruction)	Display
1. Select application program.	(ZERO) > 2 sec	`InoAPP`
2. Select Totalizing.	(F) repeatedly	`6.totAL`
3. Confirm setting Symbol "∗" on the display: Application is active.	(ENTER)	`0.0 g *`
4. If necessary, zero the balance.	(ZERO)	
5. Place sample on balance (in this example, 380 g).		`380.0 g *`
6. Store value in memory. Total weight is displayed steadily; Σ symbol flashes.	(ENTER)	`380.0 g Σ*`
7. Remove sample from the balance.		
8. Place the next sample on the balance (in this example, 575 g).		`575.0 g Σ*`
9. Store value in memory. Totalized stored weight is displayed; symbol Σ flashes. *Note:* Σ symbol remains on indicating stored value in memory until cleared.	(ENTER)	`955.0 g Σ*`
10. Clear Totalizing memory.		
11. End Totalizing.	(ENTER) > 2 sec.	`575.0 g Σ*`
12. Reactivate Totalizing (if no other application program has been selected).	(F)	`0.0 g *`
13. Repeat procedure starting from step 5.		

Setting Up the Balance

Place the components on the balance/scale in the following order:

1. Weighing pan (round or square). *Note:* There is a small notch on the center of one edge of the square weighing pan. The square pan should be oriented so this notch faces toward the back of the balance.

2. Round glass draft shield on model OB2143.
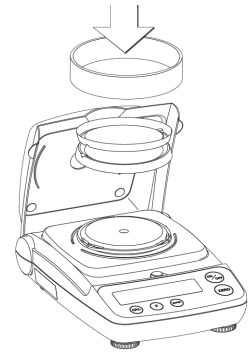
Connecting the Balance to AC Power

- It is recommended to use only the included AC adapter for optimal performance and safety.
- Insert plug into the jack (located on back of balance).
- Plug the AC adapter into a properly grounded electrical outlet.
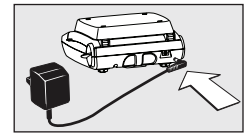
Installing the Battery

Batteries are not included.

- Use only commercially available 9V batteries.
- Lay the balance on its side.
- Open the battery compartment. Remove the compartment cover.
- Install the battery in the compartment.
- Make sure the polarity is correct.
- Close the battery compartment. Slide the cover into position until it snaps into place.
- Do not throw away used batteries with normal household waste. Rechargeable batteries contain toxic materials and must be disposed of in accordance with local waste disposal regulations.
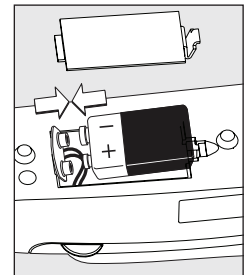
### Leveling the Balance (only for model OB2143)

- Always level the balance again any time it has been moved to a different location. Example: moving bubble from R to L.
- Turn the feet as shown in the diagram until the air bubble is centered within the circle of the level indicator. In most cases this will require several adjustment steps.
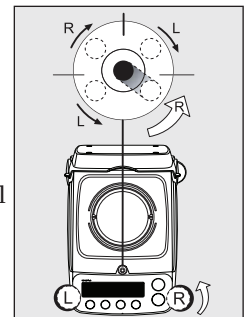
Removing Weight for Calibration/Span Adjustment

- Grasp the tab to turn and remove the weight compartment.

    Follow instructions on page 13 for calibration/span adjustment.
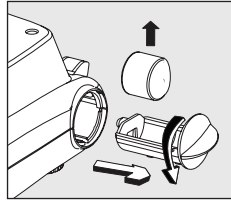
Operation

Basic Weighing Function

Zeroing the Balance

You can zero the balance within the entire weighing range, up to the maximum capacity.

Preparation

- Switch on the balance. Press the (ON/OFF) key.
- If necessary, zero the balance: Press the (ZERO) key.

Additional Functions

- Switching off the balance. Press the (ON/OFF) key.

"Hold" Display

Purpose

"Holds" the displayed value; also, the display will be locked for five seconds after removing the sample from the pan.

Example: Determine the weight of oversized sample.

| Step	Key (or instruction)	Display
1. Select application program.	(ZERO) > 2 sec	$noAPP$
2. Select Hold Display.	(F) repeatedly	$5.HLdon$
3. Confirm setting Symbol "✱" on the display: Application is active.	(ENTER)	$0.0\,g$
4. If necessary, zero the balance.	(ZERO)	
5. Place the oversized sample on the balance.		$8888\,g$
6. Start application program: Symbol "△" flashes on the display. The weight value is locked.	(F)	$275.5\,g$
7. Unload the balance. The weight value remains displayed for a further five seconds.		
8. Zero the balance.	(ZERO)	$0.0\,g$
9. End the Display Hold application.	(ENTER) > 2 sec.	
10. Reactivate Display Hold (if no other application program has been selected)	(F)	
11. Repeat procedure starting from step 5.		

Weighing in Percent

Purpose

This application program allows you to obtain weight readouts in percent which are in proportion to a reference weight.

Example: Determine an unknown percentage. Store the weight on the balance as the reference percentage (100%).

Step	Key (or instruction)	Display
1. Select application program.	(ZERO) > 2 sec	*LnoAPP*
2. Select Weighing in Percent.	(F) repeatedly	*4PErCt*
3. Confirm setting Symbol "∗" on the display: Application is active.	(ENTER)	0.0 g *
4. Place empty container on the balance.		100.0 g *
5. Tare the balance.	(ZERO)	0.0 g *
6. Place the reference weight for 100% on the balance.		222.5 g *
7. If desired, change the number of decimal places displayed: 100.0%, 100.00% or 100% (factory setting).	(F) repeatedly	100.0
8. Confirm selected number of decimal places.	(ENTER)	100.00 * *
9. Place unknown weight on the balance.		144.94 * *
10. Toggle display between weight and percentage.	(F) repeatedly	322.5 g *
11. Unload the balance.		
12. Weighing in Percent application: clear the reference percentage.	(ENTER)> 2 sec.	
13. Reactivate Weighing in Percent (if no other application program has been selected).	(F)	
14. Repeat procedure starting from step 5.		

Description of the Keys
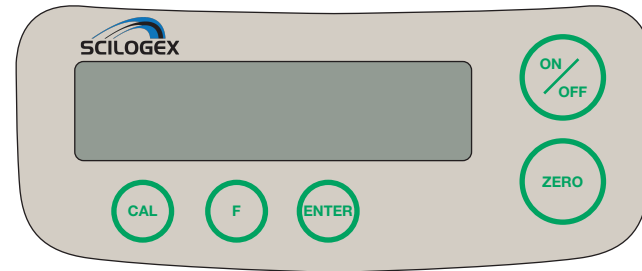
(ON/OFF)   On/off key: switches the balance on and off or switches it to the standby mode.

(ZERO)   Zeros the balance; press and hold 2 seconds: open the application menu.

(CAL)   Starts calibration/adjustment.

(F)   Starts an application program. Scrolling in application menu, configuration menu and calibration menu.

(ENTER)   Confirms the selected setting; exits application, configuration and calibration menu if key is pressed and held for more than 2 seconds.

Determine Weight of Sample

Step	Key (or instruction)	Display
1. Turn the balance on. Self-test runs Display: Software version	(ON/OFF)	*8.8.8.8.8.8.8* r 31.01
2. Open the protective flip-down cover and leave open while weighing.		
3. Place container on the balance (in this example, 52 g).		52.0 g
4. Zero the balance.	(ZERO)	0.0 g
5. Place sample in container on balance (in this example, 150.2 g).		150.2 g

Application Programs

Toggling between Weight Units

With this application program you can toggle the display of a weight value back and forth between two weight units (see table below).

Example: Toggle weight unit from pounds [lb] (application) to grams [g] (basic unit).

Step	Key (or instruction)	Display
1. Select application program.	(ZERO) > 2 sec	`. lnoAPP`
2. Select Toggling between Weight Units.	(F)	`.2un lt`
		`.2.GrAN5`
3. Confirm Unit.	(ENTER)	
4. Select weight unit. In this example: "5. Pound" (see table below).	(F) repeatedly)	`.5Pound`
5. Confirm weight unit (pounds).	(ENTER)	`0.0000 lb`
6. Place sample on balance.		`0.2204 lb`
		`100.0 g`
7. Toggle weight unit.	(F)	

Menu Code	Unit	Conversion Factor	Display
1. uSEr	Grams	1.00000000000	o
2.GrAN5 (factory setting)	Grams	1.00000000000	g
4.CArAt	Carats	5.00000000000	o
5.Pound	Pounds	0.00220462260	lb
6.ounCE	Ounces	0.03527396200	oz
7.trYo	Troy ounces	0.03215074700	ozt
8.tL.Hon	Hong King toels	0.02671725000	tlk
9.tL.5 in	Singapore toels	0.02645544638	tl
10.tL.tA	Taiwanese toels	0.02666666000	tl
11.GrA 1	Grains	15.4323583500	GN
12.PEnY	Pennyweights	0.64301493100	dwt
15.tL.CH	Chinese toels	0.02645547175	tl
22.Pdo2	lb/oz	0.03527396200	lb:oz
23.nEllt	Newtons	0.00980665000	N

Counting

Purpose

With the Counting program you can determine the number of parts or items.

Example: Determine the number of uncounted parts; weigh in the selectable reference sample quantity (in this example: 20).

Step	Key (or instruction)	Display
1. Select application program.	(ZERO) > 2 sec	`. lnoAPP`
2. Select Counting.	(F) repeatedly	`.3Count`
3. Confirm setting Symbol "∗" on the display: Application is active	(ENTER)	`0.0 g`
4. Place empty container on the balance.		`100.0 g`
5. Zero the balance.	(ZERO)	`0.0 g`
6. Place the reference sample quantity (20) on the balance.		`66.0 g`
7. Select reference sample quantity: in increments of 1 (1, 2, 3, ..., 99) or in increments of 10 (10, 20, 30, ..., 100).	(F) repeatedly (briefly) or (F) > 2 sec.	
8. Confirm selected reference sample quantity.	(ENTER)	`20`
9. Place uncounted parts on the balance.		`20 pcs`
10. Toggle display between mean piece weight, total weight, and quantity.	(F) repeatedly	`5.12 pcs`
11. Unload the balance.		`3300.0 g`
12. Counting application: Clear the reference value.	(ENTER) > 2 sec.	
13. Reactivate Counting (if no other application program has been selected).	(F)	
14. Repeat procedure starting from step 5.		