User Manual

Compact Balance PCE-BSW 3 and PCE-BSW 7

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v1.0

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![PCE logo]

Contents

1   Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, …) are within the ranges stated in the technical specifications. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or moisture.
- Do not expose the device to shocks or strong vibrations.
- The case should only be opened by qualified PCE Instruments personnel.
- Never use the instrument when your hands are wet.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Do not use the instrument in explosive atmospheres.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.
- Non-observance of the safety notes can cause damage to the device and injuries to the user.

We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general guarantee terms which can be found in our general terms of business.

If you have any questions please contact PCE Instruments. The contact details can be found at the end of this manual.

2   Technical specifications

Model	PCE-BSW 3	PCE-BSW 7
Weighing range	0 … 3,000 g / 0 ... 6.6 lbs	0 … 7,500 g / 0 … 16.5 lbs
Resolution/readability (d)	0.1 g	1 g
Accuracy class	III	
Repeatability	±0.3 g	
Linearity	±0.3 g	
Settling time	<0.5 s	
Operating temperature	5 ... 25 °C	
Dimensions weighing plate	190 x 235 mm / 7.5 x 9.3 in	
Calibration	External calibration	
Overall dimensions	287 x 271 x 127 mm / 11.3 x 10.7 x 5 in	
Total weight	4.5 kg	
Interfaces	-	
Mains adaptor	Output DC 9V, 200 0mA, outside minus, inside plus	

3   Factory settings

	PCE-BSW 3	PCE-BSW 7
Weighing range	3,000 g	7,500 g
Weighing range "C-."	C-03	C-7.5
Readability, resolution "d-"	d-01	d-01
Decimal places "dP-."	dP-1	dP-0
Weight unit "UN-0."	UN-00	UN-00
Display brightness "br-."	br-3	br-3
Power saving mode "PS-0."	PS-01	PS-01
Sensitivity "E-0."	E-03/E-01	E-03/E-01
Limit value function on/off "P-."	P-OFF	P-OFF
Zero tracking "t0-"	t0-OFF	t0-OFF

4   Delivery scope
1 x compact balance
1 x mains adaptor
1 x user manual

5   Device description
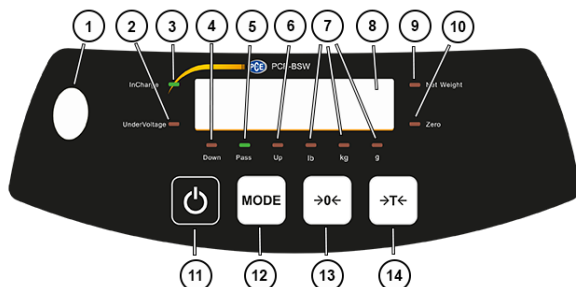
Front
1. Level for alignment
2. "Under Voltage" - battery charge level low
3. "In Charge" - battery is being charged
4. "Down" - weight below the set limit value *
5. "Pass" - weight within the specified limits *
6. "Up" - weight above the set limit *
7. "lb", "kg", "g" - display of the set weight unit
8. Display
9. Net Weight" - net weight, lights up when tared
Cancel taring with >0< or >T< key
10. "Zero" - lights up when zero is displayed
11. ON/OFF key
12. Key for function settings
13. Zeroing key
14. Tare key
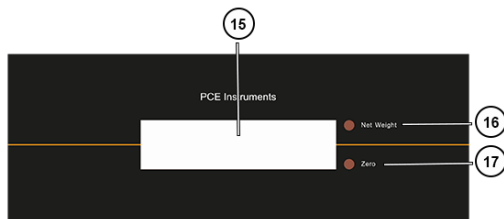
Back
15. Display
16. Net weight" - net weight, lights up when tared,
Cancel taruing with >0< or >T< key
17. "Zero" - lights up when zero is displayed

For indications 4 to 6, the weight limits must be activated and set in the menu.

6   First use of the balance

Open the package carefully and keep the packaging for possible later shipment of the balance. Place the weighing plate on the balance and connect the mains adaptor.

Set-up site
1.   Keep the set-up site clean and dry.
2.   Place the balance on a flat and stable surface.
3.   Avoid draughts and temperature fluctuations, e. g. through open windows and doors, installation under heaters or in direct sunlight.
4.   Avoid the effect of vibration on the balance.
5.   Make sure that the balance is not influenced by other devices.
6.   Static charge may occur in dry environments.
7.   Keep the balance away from objects with magnets and from magnetic fields.
8.   Do not use the balance in areas where there is a risk of explosion.

To align the level horizontally, you can adjust the feet. The bubble of the spirit level should be exactly in the circle marked in red.

When the balance is started, the display shows the following, one after the other:

F5 – 7.1	- Current programme version number
C – 03	- Weighing range in kg
dC - 6.6	- Current voltage (CE-Err means the mains adaptor is connected)
0,0	- Current weight on the weighing platform
o	- Power-saving mode (after 1 minute without load) / Press any key to return to weighing mode.

Setting the filter of the digital display
If you press "MODE" and "-> T<-" in weighing mode, you can switch between three speeds (F ... high, M ... medium, L ... low). Pressing the key combination several times switches between the setting options.

7   Function settings

Press the "On/Off" key and then hold down the MODE key until "F---1" appears on the display. Press MODE to go to the basic settings, press >0< to go to F---2, F---3, F---4, etc.

	Function	Description
F---1	Basic settings	Continue to C03 with MODE, to F---2 with >0<
C-03	Weighing range	1.5 / 3.0 / 6.0 / 7.5 / 15 / 30 in kg Select value with >T<, continue with MODE
d-01	Readability, resolution	01 / 02 / 05 / 10 select with >T<, continue with MODE
dP-1	Decimal places	Select 0 / 1 / 3 digits with >T<, continue with MODE
UN-00	Weight unit	UN00 for g UN01 for kg UN-02 for lb UN-03 for CT Select with >T<, continue with MODE
br-3	Display brightness	0 / 1 / 2 / 3 select with >T<, continue with MODE *(br-0 stands for the highest brightness)*

PS-01	Power saving mode	PS-00 - no power saving PS-01 - power saving PS-02 - rear display off - select with >T<
E–01	Sensitivity	00 / 01 / 02 / 03 / 04 / 05 / 06 / 07 / 08
P-OFF	Activate weight limits	Select P-OFF / P-ON with >T<, continue with MODE Under F---6, the values can be set. When weighing, the following glows on the left below the display: - Down (red) - if value is below lower limit value - Pass (green) - if value is within specified range - Up (red) - if value is above upper limit value
t0-OFF	Zero tracking	Automatically corrects deviations of the zero display - t0-OFF / t0-ON - select with >T< (should always remain activated)
F---2	Single-point calibration *(We recommend using at least 2/3 of the max. load -PCE-BSW 3 - 2 kg and PCE-BSW 7 - 5 kg)*	When "LOAD" is displayed, place the weight on the weighing plate. Confirm with MODE. When "L0000.0" is displayed, enter weight with >0< and >T<. Confirm with MODE. A double dash line appears, then the measured value and the calibration is finished.
F---3	Dual range balance *!! not available !!*	"FUNC-1"/"FUNC-2" ***Dual range not available!!!*** >T< to change, MODE to continue to F---4
F---4	AD converter	Display for checking the function of the load cell *The numerical value must increase when the balance is loaded and decrease when the load is removed.*
F---5	Three-point calibration *(The required weights depend on the weighing range of the balance).*	"CAL", then "*3000*" -> put on 3000 g Double line, then "*3000*" -> remove weight Double line, then "*2000*" -> load 2000 g. Double line, then "*2000*" -> remove weight Double line, then "*1000*" -> load 1000 g Double line, then "*1000*" -> remove weight Double line, then "0.0" -> calibration is finished
F---6	Set weight limits *(for activation, see "P - OFF")*	Change position with >T<, change value with >0<, confirm entries with MODE, "L0000.0" lower, "H0000.0" upper limit value
-END-	End of settings menu	Balance automatically goes to weighing mode

Attention!
The greyed-out menu items should not be used without consulting a service technician.
Be sure to follow the instructions on the following page!

7.1 Notes on changing the function settings

1. General
If you change default settings, check the display values afterwards with a known weight. If there are deviations, recalibrate/adjust the balance. To do this, call up single-point (F---2) or three-point calibration (F---5) in the function menu. For the one-point calibration you can select the weight yourself. For three-point calibration, fixed weights are required. During calibration, the balance is automatically adjusted to the respective weights and ambient conditions.

2. Changing the weighing range (*Should not be done by the customer!)*
After each change of the weighing range, the balance should be adjusted (see item 1).
Please do not change the weighing range as the load cells are not designed for this.

3. Changing readability/resolution (*Should not be done by the customer!)*
The possible settings are 01 / 02 / 05 / 10.

4. Changing decimal places (*Should not be done by the customer!)*
You can set 0, 1 or 3 decimal places. It is possible to set values here that do not match the other settings (e. g. three decimal places for the unit gramme, no decimal places for the unit kilogramme). After changing the decimal places, check with a known weight whether the balance displays correctly. Otherwise, you must adjust the balance (see item 1).

5. Changing the weight units
You can select grammes (g), kilogrammes (kg), pounds (lb) and carats (CT). If one of the first three units is selected, the respective indicator on the right below the display glows.
After changing the weight unit, check with a known weight whether the balances displays correctly. Otherwise, you must adjust the balance (see item 1). When kg is set, the decimal place changes with it. This must be adjusted again when changing to grammes.

6. Changing the sensitivity
Here, you can set how sensitively the balance reacts at very low loads.
For example, if you set the sensitivity to E-03, the balance will only display from 0.3 g when the resolution is 0.1 g and from 3 g when the resolution is 1 g. If you want the balance to display even the smallest quantities, set the sensitivity to E-01.

7. Limit value function - P-OFF/ P-ON
Here, you can activate that a visual indication appears on the left below the display if upper or lower weight limits are not met. If the function is activated, you can set the weight limits within the weighing range under F---6.

8. Zero tracking
With automatic zero tracking, very small quantities are not added up but ignored in order to stabilise the zero point. This "zeroing" of very small quantities can cause undesired false readings in some cases.

8   Charging the battery

If the battery voltage is low, the light next to "UnderVoltage" on the left of the display glows. Connect the mains adaptor and charge the battery. The connector is located at the bottom of the housing, in the recess in front of the front right foot of the balance. During charging, the light next to "InCharge" to the left of the display glows.

9   Troubleshooting

Problem	Possible cause	Solution
No display	Low or no voltage	> Recharge batteries in time > Check whether charging via the mains adaptor works
Weight display not stable	- Influence by the environment (vibration, temperature fluctuations), - Objects between weighing plate and housing - The weighing material is not stable	> Keep the environmental conditions as stable as possible > Remove objects > Fix the weighing product
Weighing is not correct	- No calibration - No taring before weighing net weights - Readability, decimal places, unit set incorrectly - With very small values, the display remains 0 if the "E-0" value is too high or automatic zero tracking has been activated	> Calibrate and -if necessary- adjust > Tare before weighing > Check the set values > For small quantities, make sure that E-01 and t0-OFF have not been changed
"CE-Err"	Scale displays "CE-Err" when switched on	> Reconnect the mains adaptor to charge the battery
"-Err-"	- Quick calibration with wrong weight - Upper limit value outside the weighing range of the balance	> Use suitable calibration weight >Adjust limit value
„- - - - - -"	Weight of the item to be weighed exceeds the weighing range.	Only load up to the specified max. weight

10   Warranty

You can read our warranty terms in our General Business Terms which you can find here: https://www.pce-instruments.com/english/terms.

11   Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.

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