Operating Manual

aczet

Economical Precision Balances

CZ Series

Contents

1. Technical Data

Aczet	CZ 153	CZ 203	CZ 302	CZ 602	CZ 1202	CZ 2002
Readability (d)	0.001 g	0.001 g	0.01 g	0.01 g	0.01 g	0.01 g
Weighing range (max)	150 g	200 g	300 g	600 g	1200 g	2000 g
Reproducibility	0.001 g	0.001 g	0.01 g	0.01 g	0.01 g	0.01 g
Linearity	±0.003 g	±0.003 g	±0.03 g	±0.03 g	±0.03 g	±0.03 g
Smallest part weight for parts counting	2 mg	2 mg	20 mg	20 mg	20 mg	20 mg
Reference quantities at parts counting	10, 20, 50, 100, 200					
Weighing Units	g, ct, lb, oz, d, ozt, dwt, mo, tl h, tl c, tl t, t, bt, n					
Recommended adjustment weight, not added (class)	100 g (F1)	200 g (F1)	200 g (F1)	500 g (F1)	1000 g (F1)	2000 g (F1)
Warm-up time	2 hours					
Stabilization time (typical)	3 sec.					
Operating temperature	+ 5° C .... + 35° C					
Humidity of air	max. 80 % (not condensing)					
Weighing plate, stainless steel (mm)	Ø 80	Ø 120	Ø 120	Ø 120	Ø 120	Ø 120
Gross Weight	2.6 kg					
Overall Dimension (WxDxH)	180 x 220 x 85mm					
Voltage	9 V / 800 mA					

Aczet	CZ 601	CZ 1201	CZ 3001	CZ 6001	CZ 5001T
Readability (d)	0.1 g	0.1 g	0.1 g	0.1 g	1 g
Weighing range (max)	600 g	1200 g	3000 g	6000 g	5000 g
Reproducibility	0.1 g	0.1 g	0.1 g	0.1 g	1 g
Linearity	±0.3 g	±0.3 g	±0.3 g	±0.3 g	±3 g
Smallest part weight for parts counting	200 mg	200 mg	200 mg	200 mg	2 g
Reference quantities at parts counting	10, 20, 50, 100, 200				
Weighing Units	g, ct, lb, oz, d, ozt, dwt, mo, tl h, tl c, tl t, t, bt, n				
Recommended adjustment weight, not added (class)	500 g (F1)	1000 g (F1)	3000 g (F2)	5000 g (F2)	5000 g (F2)
Warm-up time	2 hours				
Stabilization time (typical)	3 sec.				
Operating temperature	+ 5° C .... + 35° C				
Humidity of air	max. 80 % (not condensing)				
Weighing plate, stainless steel (mm)	140 x 150	140 x 150	140 x 150	140 x 150	140 x 150
Gross Weight	2.6 kg				
Overall Dimension (WxDxH)	180 x 220 x 85mm				
Voltage	9 V / 800 mA				

NTEP Models

Aczet	CZ 502T	CZ 602T	CZ 1202T	CZ 1201T	CZ 501T
Readability (d)	0.01 g	0.01 g	0.01 g	0.1 g	0.1 g
Weighing range (max)	600 g	600 g	1200 g	1200 g	500 g
Reproducibility	0.01 g	0.01 g	0.01 g	0.1 g	0.1 g
Linearity	±0.03 g	±0.03 g	±0.03 g	±0.3 g	±0.3 g
Smallest part weight for parts counting	20 mg	20 mg	20 mg	200 mg	200 g
Reference quantities at parts counting	10, 20, 50, 100, 200				
Weighing Units	g, ct, lb, oz, d, ozt, dwt, mo, tl h, tl c, tl t, t, bt, n				
Recommended adjustment weight, not added (class)	500 g (F1)	500 g (F1)	1000 g (F1)	1000 g (F1)	500 g (F2)
Warm-up time	2 hours				
Stabilization time (typical)	3 sec.				
Operating temperature	+ 10° C .... + 25° C				
Humidity of air	max. 80 % (not condensing)				
Weighing plate, stainless steel (mm)	Ø 120	Ø 120	Ø 120	140 x 150	140 x 150
Gross Weight	2.6 kg				
Overall Dimension (WxDxH)	180 x 220 x 85mm				
Voltage	9 V / 800 mA				

NTEP Models

Aczet	CZ 601T	CZ 5000HT	CZ 6000T	CZ 6000HT
Readability (d)	0.1 g	0.1 g	1 g	0.1 g
Weighing range (max)	600 g	5000 g	6000 g	6000 g
Reproducibility	0.1 g	0.1 g	1 g	0.1 g
Linearity	±0.3 g	±0.3 g	±3 g	±0.3 g
Smallest part weight for parts counting	200 mg	200 mg	2 g	200 mg
Reference quantities at parts counting	10, 20, 50, 100, 200			
Weighing Units	g, ct, lb, oz, d, ozt, dwt, mo, tl h, tl c, tl t, t, bt, n			
Recommended adjustment weight, not added (class)	500 g (F1)	5000 g (F2)	5000 g (F2)	5000 g (F2)
Warm-up time	2 hours			
Stabilization time (typical)	3 sec.			
Operating temperature	+ 10° C .... + 25° C			
Humidity of air	max. 80 % (not condensing)			
Weighing plate, stainless steel (mm)	140 x 150	140 x 150	140 x 150	140 x 150
Gross Weight	2.6 kg			
Overall Dimension (WxDxH)	180 x 220 x 85mm			
Voltage	9 V / 800 mA			

2 Basic Information (General)

2.1 Proper use

The balance you purchased is intended to determine the weighing value of material to be weighed. It is intended to be used as a "non-automatic" balance, i.e. the material to be weighed is manually and carefully placed in the centre of the weighing plate. As soon as a stable weighing value is reached the weighing value can be read.

2.2 Improper Use

Do not use balance for dynamic weighing. In the event that small quantities are removed or added to the material to be weighed, incorrect weighing results can be displayed due to the "stability compensation" in the balance. (Example: Slowly draining fluids from a container on the balance.)
Do not leave permanent load on the weighing plate. This may damage the measuring system.
Impacts and overloading exceeding the stated maximum load (max) of the balance, minus a possibly existing tare load, must be strictly avoided. Balance may be damage by this.
Never operate balance in explosive environment. The serial version is not explosion protected.
The structure of the balance may not be modified. This may lead to incorrect weighing results, safety-related faults and destruction of the balance.
The balance may only be used according to the described conditions. Other areas of use must be released by ACZET in writing.

2.3 Warranty

Warranty claims shall be voided in case

- Our conditions in the operation manual are ignored
- The appliance is used outside the described uses
- The appliance is modified or opened
- Mechanical damage and damage caused by media, liquids

Natural wear and tear

- The appliance is improperly set up or incorrectly electrically connected
- The measuring system is overloaded

3 Basic Safety Precautions

3.1 Pay attention to the instructions in the Operation Manual

Carefully read this operation manual before setup and commissioning, even if you are already familiar with ACZET balances.

Versions in other languages are non-binding translations. The only binding version is the original document in German.

3.2 Personnel training

The appliance may only be operated and maintained by trained personnel.

4 Transportation & Storage

4.1 Testing upon acceptance

When receiving the appliance, please check packaging immediately, and the appliance itself when unpacking for possible visible damage.

4.2 Packaging / return transport

- Keep all parts of the original packaging for a possibly required return.
- Only use original packaging for returning.
- Prior to dispatch disconnect all cables and remove loose/mobile parts.
- Reattach possibly supplied transport securing devices.
- Secure all parts such as the glass wind screen, the weighing platform, power unit etc. against shifting and damage.

5.Unpacking, Setup and Commissioning

5.1 Installation Site, Location of Use

The balances are designed in a way that reliable weighing results are achieved in common conditions of use.
You will work accurately and fast, if you select the right location for your balance.

Therefore, observe the following for the installation site:

- Place the balance on a firm, level surface;
- Avoid extreme heat as well as temperature fluctuation caused by installing next to a radiator or in the direct sunlight;
- Protect the balance against direct draughts due to open windows and doors;
- Avoid jarring during weighing;
- Protect the balance against high humidity, vapors and dust;
- Do not expose the device to extreme dampness for longer periods of time. Non- permitted condensation (condensation of air humidity on the appliance) may occur if a cold appliance is taken to a considerably warmer environment. In this case, acclimatize the disconnected appliance for ca. 2 hours at room temperature.
- Avoid static charge of goods to be weighed or weighing container.

Major display deviations (incorrect weighing results) may be experienced should electromagnetic fields (e.g. due to mobile phones or radio equipment), static electricity accumulations or instable power supply occur. Change location or remove source of interference.

5.2 Unpacking

Carefully remove the balance from the packaging and setup balance at the intended workstation.

5.2.1 Placing/ Remove the transportation lock

The balance must be installed in a way that the weighing plate is exactly in horizontal position.

Remove the transportation lock [1] (CZ 153, CZ 203, CZ 302) :

5.2.2 Scope of delivery

Serial accessories:

- Balance
- Weighing plate
- Mains power supply
- Operating Manual
- Draft shield (only models CZ 153, CZ 203, CZ 302, CZ 602, CZ 601, CZ 1202, CZ 2002, CZ 3001)

5.3 Mains connection

Power is supplied via the external mains adapter. The stated voltage value must be the same as the local voltage.
Only use original ACZET mains adapters. Using other makes requires consent by ACZET.

5.4 Connection of peripheral devices

Before connecting or disconnecting of additional devices (printer, PC) to the data interface, always disconnect the balance from the power supply.
With your balance, only use accessories and peripheral devices by ACZET, as they are ideally tuned to your balance.

5.5 Initial Commissioning

In order to obtain exact results with the electronic balances, your balance must have reached the operating temperature (see warming up time chap. 1). During this warming up time the balance must be connected to the power supply (mains, accumulator or battery).

The accuracy of the balance depends on the local acceleration of gravity.

Strictly observe hints in chapter Calibration.

5.6 Calibration

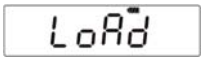
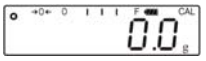
As the acceleration value due to gravity is not the same at every location on earth, each balance must be coordinated - in compliance with the underlying physical weighing principle - to the existing acceleration due to gravity at its place of location (only if the balance has not already been adjusted to the location in the factory). This Calibration process must be carried out for the first commissioning, after each change of location as well as in case of fluctuating environment temperature. To receive accurate measuring values it is also recommended to calibrate the balance periodically in weighing operation.

5.7 Calibration Process

The calibration should be made with the recommended adjustment weight (see chap. 1 "Technical data").

5.7.1 Calibration Procedure (non NTEP models)

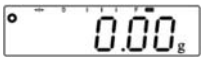
Observe stable environmental conditions.
A warming up time (see chapter 1; Technical Data) is required for stabilization.
Ensure that there are no objects on the weighing plate.

Display	Operation
	**In weighing mode press MODE approx. 3 sec. until „UnLoAd“ appears.**
	**When display „LoAd“ appears, put the necessary adjustment weight (see chap.1; Technical Data) on the center of the weighing plate. Adjustment will be carried out automatically after dead stop control**
	• Wait for stability display
	“Pass” appears, the adjustment process has been finished successfully. • Take away calibration weight
	**Wait until the balance is again in the weighing mode.**

5.7.2 Calibration procedure (NTEP Model):

Observe stable environmental conditions.
A warming up time (see chapter 1; Technical Data) is required for stabilization.
Ensure that there are no objects on the weighing plate.

Display	Operation
F1 Unt tECH	• Start balance by pressing ⏻ During the selftest press MODE . "F1 Unt" is displayed. • Press MODE repeatedly until "tECH" is displayed
• Press adjustment switch on the lower side of the balance!	
P in P1 Lin	Press →0←, "Pin" is displayed Enter password: Press ⁘, ⊙, Tare subsequently. "P1 Lin" is displayed
P2 CAL	Press MODE, "P2 CAL" will be displayed
UnLoAd ⇩ LoAd	Press →0←, "UnLoAd" followed by „LoAd" is displayed
	• Put the necessary adjustment weight (see chap.1; Technical Data) on the centre of the weighing plate. Adjustment will be carried out automatically after dead stop control.
	• Wait for stability display

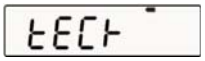
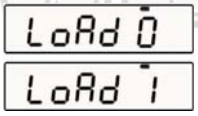
	**"Pass" appears, the adjustment process has been finished successfully.** • **Remove adjusting weight during selftest**
	**Wait until the balance is again in weighing mode.**

5.8 Linearization

Linearity shows the greatest deviation of a weight display on the scale to the value of the respective test weight according to plus and minus over the entire weighing range.
If linearity deviation is discovered during a testing instrument control, you can improve this by means of linearization.

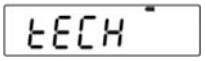
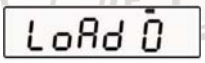
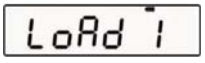
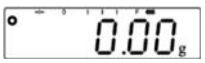
- Carrying out linearization is restricted to specialist staff possessing well acquainted with the workings of weighing scales.
- The test weights to be used must be adapted to the weighing scale's specifications; see chapter "testing instruments control".
- Observe stable environmental conditions. Stabilisation requires a certain warm-up time.
- After successful linearization you will have to carry out calibration; see chapter "testing instruments control".

5.8.1 Linearization non NTEP models (low resolution)

Balance Display	Operation
	• Start balance by pressing ⏻ Whilst the balance carries out a self test, press MODE until “F1 Unt” appears
	• Press MODE repeatedly until “tECH” appears
	• Press ⊙, “Pin” appears
	• Press ⁂, ⊙ and Tare successively, “P1 Lin” appears
	• Press ⊙ a new, “Pin” appears again
	• Press successively ⊙, ⁂ and %, „LoAd 0“ appears; after the apparition of the stability display and the signal sound, “LoAd 1” will be displayed

LoAd 2	• Put on weight 1 (see table chap. 6.8.1) • Wait for the stability display and the signal sound • "LoAd 2" appears • Remove weight 1 and put on the weight 2
LoAd 3	• After the stability display and the signal sound "LoAd 3" appears; remove weight 2 and put on weight 3
LoAd 4	• After the stability display and the signal sound "LoAd 4" appears; remove weight 3 and put on weight 4
LoAd 0 LoAd 4	• After having placed weight 4, „LoAd 0" appears again • Remove weight 4, „LoAd 4" appears anew • Place weight 4 again
LoAd 3	• Wait for the stability display and the signal sound, „LoAd 3" will be displayed • Remove weight 4 and place weight 3
LoAd 2	• Wait for the stability display and the signal sound, „LoAd 2" will be displayed • Remove weight 3 and place weight 2
LoAd 1	• Wait for the stability display and the signal sound, „LoAd 1" will be displayed • Remove weight 2 and place weight 1
LoAd 0	• Wait for the stability display and the signal sound • "LoAd 0" will be displayed
	• Remove weight 1
	• After the stability display and the signal sound the balance carries out a selftest and changes into the weighing mode. Now the linearization is concluded successfully.

5.8.2 Linearization of non NTEP models (low resolution) and NTEP models

Balance Display	Operation
	• Start balance by pressing . While the balance carries out a self test, press until "F1 Unt" appears
	• Press repeatedly until "tECH" appears
In case of verifiable models press the adjustment switch on the lower side of the balance!	
	• Press , "Pin" appears
	• Press , and successively, "P1 Lin" appears
	• Press a new , "Pin" appears again
 	• Press successively , and , "LoAd 0" appears; after the apparition of the stability display and the signal sound, "LoAd 1" will be displayed • Put on weight 1 (see table chap.6.8.1)
	• Wait for the stability display and the signal sound • "LoAd 2" appears • Remove weight 1 and put on the weight 2
	• After the stability display and the signal sound „LoAd 3" appears; remove weight 2 and put on weight 3
	• After the stability display and the signal sound the balance carries out a selftest. Remove the weight during selftest. The balance changes into weighing mode. Now the linearization is concluded successfully.

5.8.3 Table Linearization points

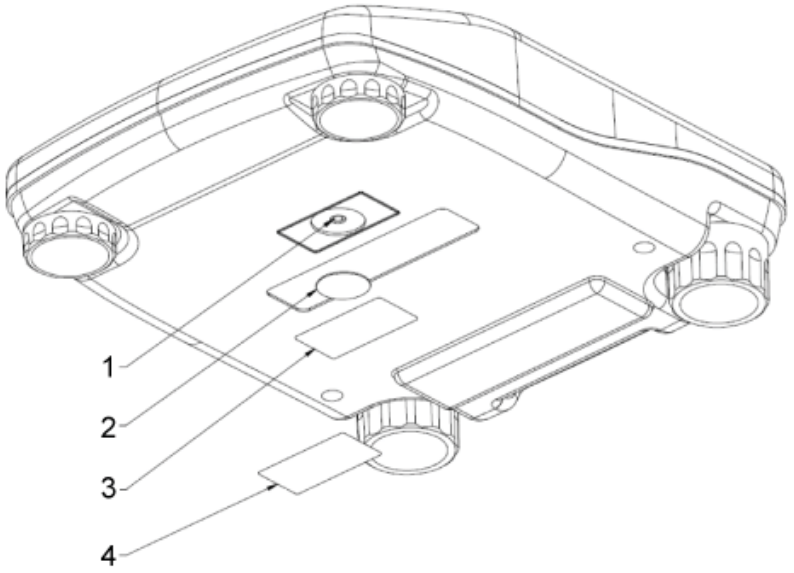
Non NTEP models:

Max	Weight 1	Weight 2	Weight 3	Weight 4
120 g	30 g	60 g	90 g	120 g
200 g	50 g	100 g	150 g	200 g
300 g	50 g	100 g	200 g	300 g
1200 g	300 g	600 g	900 g	1200 g
2000 g	500 g	1000 g	1500 g	2000 g
3000 g	0.5 kg	1 kg	2 kg	3 kg
6000 g	1 kg	2 kg	4 kg	4 kg

NTEP models :

Max	Load 0	Load 1(Weight)	Weight 1	Weight 3
500 g	0 g	200 g	400 g	600 g
600 g	0 g	200 g	400 g	600 g
1200 g	0 g	400 g	800 g	1200 g
1200 g	0 g	400 g	800 g	1200 g
500 g	0 g	200 g	400 g	600 g
600 g	0 g	200 g	400 g	600 g
5000 g	0 g	2000 g	4000 g	6000 g
6000 g	0 g	2000 g	4000 g	6000 g
6000 g	0 g	2000 g	4000 g	6000 g

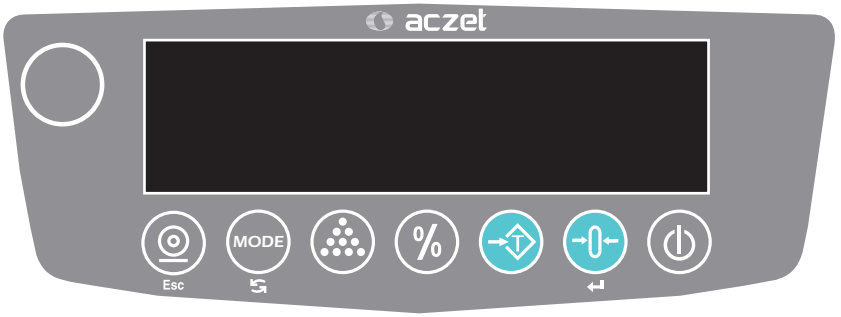
5.9 Position of seals and adjusting switch:



1. Adjustment switch
2. Plastic disk to cover the adjustment switch
3. Self-destroying seal mark
4. Self-destroying seal mark

6. Controls

6.1 Keyboard overview



	Key	Designation	Function
1		[ON/OFF]	• Turn on/off
2		[ZERO]	• Set weight display at zero • Activate the current element in the menu • Select in Weighing units (menu F UNIT): change to the next unit
3	Tare	[TARE]	• Taring
4	%	[%]	• Call-up %-function • In the percent mode back to weighing mode • Only % function
5		[PCS]	• Call-up parts counting mode • In the piece count mode back to weighing mode
6	MODE	[MODE]	• Weighing units switch-over; • At weighing unit switch-over (menu „F UNIT“): Set weighing unit on/off • Counting up in parts counting mode • Select menu and pass through menu items from top to bottom • Changing readability
7		[PRINT/ESC]	• Print out weighing result • Exit menu (jumping back to weighing mode)

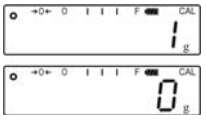
6.2 Overview of display

	Display	Description	
1	g	Gram	
2	kg	Kilogram	
3	→0←	Zeroing display	
4	→T←	Taring	
5	○	Stability display	
6	Pcs	Display for parts counting	
7	%	Percent weighing display	
8	◀	Display for tolerance weighing	
9	(mom)	Momme	
10	CAL	Display for adjustment. Signals the adjustment function	
11	0 F	Bar graph	
12	Weight unit display	g (Gramm) (ct) Carat (oz) Ounce (ozt) Fine ounce (d) Dram (dwt) Penny weight (tl.h) Tael (Taiwan) (tl.c) Tael (Chin.) (t.lt) Troy Tael (t) Tola	In models NTEP only g available

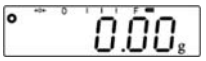
7. Operation

7.1 Simple Weighing

7.1.1 Non NTEP models

Balance Display	Operation
	• Start balance by pressing ⏻ The balance will carry out a self-test. Wait for "0.0" display
	• Should the balance not display exactly "0.0" despite empty scale pan, press the →0← button. The balance starts with resetting to „0"
	• Place goods to be weighed on balance Wait until the stability display appears [■]. Read weighing result.
	• To switch off the balance press shortly ⏻ .

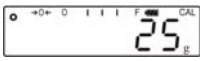
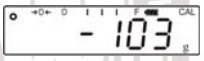
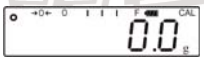
7.1.2 NTEP models

Balance Display	Operation
	• Start balance by pressing ⏻ The balance will carry out a self-test. Wait for "0.0" display
 (example)	• Should the balance not display exactly "0.0" despite empty scale pan, press the →0← button. The balance starts with resetting to "0"
	• Place goods to be weighed on balance Wait until the stability display appears [■]. Read weighing result.
	• To switch off the balance press shortly ⏻ .

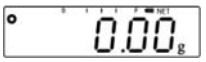
7.2 Taring

The dead weight of any weighing container may be tared away by pressing a button, so that the following weighings show the net weight of the goods to be weighed.

7.2.1 Non NTEP models

Balance Display	Operation
	• **Deposit weighing receptacles.** **The weight of the container is displayed.**
	• **Press Tare , the zero display appears.** **The pictogram →T← is displayed.** **The pictogram →0← goes out.** **The weight of the container is now internally saved.**
	• **Place goods to be weighed in the weighing container.** **The net weight of the goods to be weighed is displayed.**
	• **The weight of the weighing container will be displayed as a minus number after removing the weighing container.**
	• **The tare weight is saved until it is deleted. Remove the load from the balance and press Tare . The zero display appears, the pictogram →T← goes out and →0← will be displayed again.**

7.2.2 NTEP models

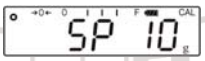
Balance Display	Operation
 (example)	• Put on weighing container. The weight of the container is displayed.
	• Press Tare , the zero display appears. The pictogram NET is displayed. The pictogram →0← goes out. The weight of the container is now internally saved.
	• Place goods to be weighed in the weighing container. The net weight of the goods to be weighed is displayed.
	• The weight of the weighing container will be displayed as a minus number after removing the weighing container.
	• The tare weight is saved until it is deleted. Remove the load from the balance and press Tare . The zero display appears, the pictogram NET goes out and →0← will be displayed again.

7.3 Parts counting

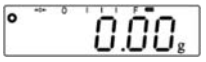
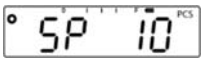
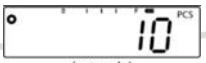
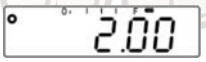
Before the balance can count parts, it must know the average part weight (i.e. reference). Proceed by putting on a certain number of the parts to be counted. The balance determines the total weight and divides it by the number of parts (the so-called reference quantity). Counting is then carried out on the basis of the calculated average piece weight.

The higher the reference quantity the higher the counting exactness.

7.3.1 Non NTEP models

Balance Display	Operation
	• **Start balance by pressing**  **The balance will carry out a self-test.** **Wait for „0.0“ display.**
	• **Press**  **Appears the reference quantity “10”.**
	By pressing the MODE **key several times, the reference quantities 10, 20, 50, 100, 200 can be set**
	• **Place as many parts to count on the weighing plate as the set reference quantity requires.** • **Confirm by pressing**  **The balance is now in parts counting mode and counts all units on the weighing plate.**
	• **Press** MODE **The balance is in weighing mode and displays the weight of the counted parts.**
	• **Remove the load** • **Press**  **, the balance goes to weighing mode**

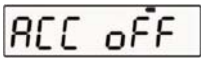
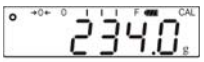
7.3.2 NTEP models

Balance Display	Operation
	• Start balance by pressing  The balance will carry out a self-test. Wait for „0.0“ display.
	• Press  Appears the reference quantity “10”.
	By pressing the MODE key several times, the reference quantities 10, 20, 50, 100, 200 can be set
 (example)	• Place as many parts to count on the weighing plate as the set reference quantity requires. • Confirm by pressing  The balance is now in parts counting mode and counts all units on the weighing plate.
	• Press MODE The balance is in weighing mode and displays the weight of the counted parts.
	• Remove the load • Press  , the balance goes to weighing mode.

7.4 Adding

It is useful, when a mixture of various components is weighed in a tare container and finally for control purposes the sum weight of all weighed components is required.

7.4.1 Non NTEP models

Balance Display	Operation
	• Start balance by pressing ⏻ Whilst the balance is carrying out a selftest, press MODE . "F1 Unt" appears,
	• Press MODE repeatedly until „F4 ACC" appears
	• Press →0← , "ACC oFF" appears
	• Press MODE button to adjust „ACC on" • Acknowledge with →0← button and press Print to return into weighing mode
 (example)	Put on the first sample The weight of the first sample is displayed • Press ⊙
	"ACC 1" is shortly displayed, then appears once more the weight of the first test item.
 (example)	• Remove the first sample • Put on the second sample The weight of the second sample is displayed. • Press ⊙
	"ACC 2" is shortly displayed

	Then appears for 2 seconds the weight of both test items, before the weight of the second test item will appear again.
With the further samples proceed as described above.	
In order to display the total weight of the samples, remove weight from the weighing plate, wait for the zero display and press ⊙. The number of weighing actions and the total weight of the samples will be displayed shortly.	

7.4.2 NTEP models

Balance Display	Operation
	• Start balance by pressing ⏻. The balance will carry out a self-test. Wait for "0.0" display.
 (example)	• Put on the first sample • The weight of the first sample is displayed.
	• Press ⊙, "ACC 1" is shortly displayed, then appears once more the weight of the sample which now is stored.
	• Remove the first sample and put on the second one. The weight of the second sample is displayed.

	Press ⊙ , „ACC 2“ is shortly displayed, then appears shortly the total weight and then the weight of the second sample which now is also stored.
With the further samples proceed as described above.	
In order to display the total weight of the samples, remove weight from the weighing plate, wait for the zero display and press ⊙ . The number of weighing actions and the total weight of the samples will be displayed shortly.	

i	In order to delete the stored values, press ⊙ and while the sum of the test items is displayed, press ⁂ , the balance will return to „0.0 g“.

i	The two following items limit the totalizing process: 1. Totalizing max. 99 times 2. Number of digits displayed

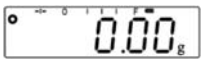
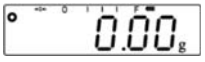
7.5 Percent weighings

Percent weighing allows to display weight in percent, in relation to a reference weight.
Percent weighing allows to display weight in percent, in relation to a reference weight.

7.5.1 Non NTEP models

Balance Display	Operation
	• **Start balance by pressing ⏻ the balance will carry out a self-test.** **Wait for the "0.0 g" display.**
	• **Put a reference weight on the weighing plate, which corresponds to 100%**
	• **Press %** **In the display appears "100.00%"**
	• **Remove reference weight** **The display returns to "0.0 %"**
	• **Put on specimen**
	**In the display appears the percentage of the specimen with reference to the reference weight.**
	• **Back to weighing mode by pressing again the % button.**

7.5.2 NTEP models

Balance Display	Operation
	• Start balance by pressing ⏻ the balance will carry out a self-test. Wait for the "0.0 g" display.
	• Put a reference weight on the weighing plate, which corresponds to 100%
 (example)	• Press % In the display appears "100.00%"
	• Remove reference weight The display returns to "0.0 %"
	• Put on specimen
	In the display appears the percentage of the specimen with reference to the reference weight.
	• Back to weighing mode by pressing again the % button.

8. The Menu

8.1 Menu Map

In the menu can be made 8 different settings and the adjustment.

8.2 Call up menu

The menu is called-up by pressing the key, wile the balance is carrying out the self test. In the display appears the message “F1 UNT”.

8.3 Navigation in the menu

	Key	Direction in the menu	Description
1	MODE	↓	Select menu and pass through menu items from top to bottom
2	→0←	→	Select current element
3	⊙	↑	Exit the current element, return to weighing mode

8.4 Menu overview non NTEP models

Balance Display	Operation
	Selection of weighing units
	Background lighting on/automatic/off • EL on: Background lighting on • ELAu: Background lighting switches on automatically EL off: Background lighting off

F3 Con	**RS -232 interface** **S 232:** • P Prt: connect with printer • b XXXX: Baud rate can be selected between 9600, 600, 1200, 2400, 4800 • LP-50: not documented • EnG: Selection of Language English • Chi: Selection of Language Chinese • tP: Standard printer setting • P Cont: Continuous printout • P AUto: autom. Printout • P ASk: Data output via remote control commands **S USb: not documented**
F4 ACC	**Adding (see chap. 8.4):** • **ACC of: Adding disabled** • **ACC on: Adding enabled**

8.5 Menu Map (NTEP models)

Balance Display	Operation
F1 Unt	Not available
F2 bL	Background lighting on/automatic/off • EL on: background lighting on • EL Au: background lighting switches on automatically • EL off: background lighting off
F3 Con	**RS -232 interface** **S 232:** • P Prt: connect with printer • b XXXX: Baud rate can be selected between 9600, 600, 1200, 2400, 4800 • LP-50: not documented • EnG: Selection of Language English • Chi: Selection of Language Chinese • tP: Standard printer setting • P Cont: Continuous printout • P AUto: autom. Printout • PASk: Data output via remote control commands **S USb: not documented**

8.6 Menu settings

8.6.1 Switch over weighing units (Unit) (only non NTEP appliances)

The weighing units are switched on or off via the menu.

Activate Function. :

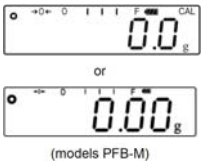
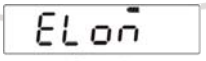
Balance Display	Operation
	• Start balance by pressing ⏻ As long as the balance carries out a self test, press MODE .
	"F1 Unt" is displayed.
 (Example)	• Press →0← Weighing unit is switched on or off. • Use MODE to switch weighing unit on or off • Using ⏻ change to the next unit.

Switch-over weighing unit :

By pressing the MODE key in the weighing mode it is possible to switch between the activated units.

8.6.2 Display background illumination

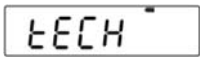
In the menu display background illumination can be switched on or off.
To achieve this, follow the sequence of operations below.

Balance Display	Operation
 (models PFB-M)	• Start balance by pressing ⏻ As long as the balance carries out a self test, press MODE .
	"F1 Unt" is displayed.
	• Press MODE "F2 bL" is displayed.
 (Example)	• Press →0← **"EL on"** or **"EL off"** resp. **"ELAU"** is displayed • Press MODE to switch over between the three settings • Press ⏻ to activate the displayed setting.

Display	Adjustment	Function
"EL on"	Background illumination on	Contrastful display which can also be red in the darkness.
"EL off"	Background illumination off	Battery saving
"ELAU"	The background illumination will be switched off automatically 10 sec after having reached a stable weighing value.	Battery saving

8.6.3 Multi-Tare function (only models NTEP)

The balance can be tared several times successively. For that make in the menu the following setting:

Balance Display	Operation
	• Start balance by pressing  While the balance carries out a self test, press 
	"F1 Unt" is displayed.
	• Press  repeatedly until „tECH" is displayed
Press adjusting switch!	
	• Press  , "Pin" is displayed
	• Enter password using the buttons  ,  and  successively, "P1 Lin" is displayed
	• Press  repeatedly until "P8 5-t" is displayed
	• Press  , "St on" is displayed (if „St on" is not displayed, press ) • Press  again, the Multi-Tare function is now enabled.
	• Return to weighing mode using 

9. Data output RS 232 (optional)

You can print out weighing data via the RS 232C interface.

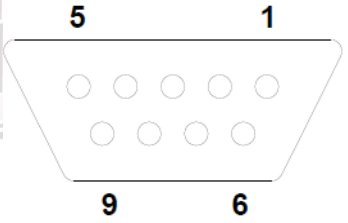
The following conditions must be met to provide successful communication between the weighing balance and the printer.

- Use a suitable cable to connect the weighing balance to the interface of the printer. Faultless operation requires an adequate ACZET interface cable.
- Communication parameters (baud rate, bits and parity) of balance and printer must match.

9.1 Technical data

Connection 9 pin d-subminiature bushing
Baud rate 9600
Parity 8 bits, no parity

9.2 Pin allocation of balance output bushing:



Pin 2 input
Pin 3 output
Pin 5 signal earth

9.3 Printer operation - Printout examples

Standard printout "weighing data"

G :	8.65 g	Gross Weight

Printout parts counting

PCS :	10 pcs	Reference quantity
UW :	0.861 g	Individual weight
G :	8061 g	Gross weight

Printout adding

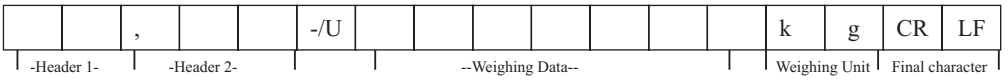
1 :	35.07 g N	First weighing
2 :	8.62 g N	Second weighing
3 :	8.00 g N	Third weighing
1-3 :	51.69 g N	Total of all individual weighing

Printout Percent

PERC :	30.19%	Weight value in percent

Please not that negative values cannot been edited via the interface !

9.4 Continuous data output



Head line 1 : ST =stable, **US=instable**
Head line 2: NT=net, **GS=gross**

9.5 Remote control instructions

The remote control commands are sent from the remote control unit to the balance as ASCII code. After the balance having received the s/w/t commands, it will send the following data.

T	Function :	Tare balance
Z	Function :	Set balance to zero
W	Function :	Weighing value for the weight (stable or unstable) is sent via the RS 232 interface
S	Function :	Stable weighing value for the weight is sent via the RS 232 interface
P	Function :	In counting mode the number of the pieces to be counted is displayed in "Pcs"

10. Error Massages

Err 3	Incorrect adjusting weight	Put on correct adjustment weight (see chap. 1; Technical Data
Err 4	Zero range exceeded	Remove load and press to reset balance to zero.
Err 5	Keyboard error	Inadmissible input
Err 6	Electronic error	Switch balance off and on again. If the error message remains displayed, please contact your dealer.
Err 5	Transportation lock	Remove the transportation lock

11. Service, maintenance, disposal

11.1 Cleaning
Before cleaning, please disconnect the appliance from the operating voltage.
Please do not use aggressive cleaning agents (solvents or similar agents), but a cloth dampened with mild soap suds. Ensure that no liquid penetrates into the device and wipe with a dry soft cloth.
Loose residue sample/powder can be removed carefully with a brush or manual vacuum cleaner.
Spilled weighing goods must be removed immediately.

11.2 Service, maintenance
The appliance may only be opened by trained service technicians who are authorized by ACZET.
Before opening, disconnect from power supply.

11.3 Disposal
Disposal of packaging and appliance must be carried out by operator according to valid national or regional law of the location where the appliance is used.

12. Instant help

In case of an error in the program process, briefly turn off the balance and disconnect from power supply. The weighing process must then be restarted from the beginning.

Help: Fault	Possible cause
The displayed weight does not glow.	• The balance is not switched on. • The mains supply connection has been interrupted (mains cable not plugged in/faulty). • Power supply interrupted. • (Rechargeable) batteries are inserted incorrectly or empty • No (rechargeable) batteries inserted.
The displayed weight is permanently changing	• Draught/air movement • Table/floor vibrations • Weighing plate has contact with other objects. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)
The weighing result is obviously incorrect	• The display of the balance is not at zero • Adjustment is no longer correct. • Great fluctuations in temperature. • Warm-up time was ignored. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)

Should other error messages occur, switch balance off and then on again. If the error message remains inform manufacturer.

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