

# USER MANUAL

with PUE C/31  
indicator

Manual number  
PTI-15-05/01/07/A

platform table scales /F series  
platform table scales /R series  
platform scales WTC series  
stainless industrial scales



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## 1. INTENDED USE

Scales are designed for fast and precise measurements of weighed loads masses and direct commercial settlements.

Tarring in full weighing range enables to determine net mass of weighed loads.

### Functions:

- backlight of display
- level of filtration
- autozero function
- setting baud rate of transmission
- continuous data transmission for RS 232
- automatic operation for RS 232
- designed printouts
- designation minimum mass for function operating
- counting pieces
- +/- mass control
- percentage deviation from standard mass
- latch of maximum scale indication
- automatic tare
- memory of tare
- inscribing tare value
- automatic scale switch-off
- user calibration
- Totalizing
- Weighing animals

User functions may have attribute of accessibility. For this reason it is possible to adjust scale to individual needs to provide access to only these functions which are currently needed.

Attribute determination accessible/inaccessible is possible in user menu and described in further part of manual.

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Service manual for indicators of PUE C31 series is accessible on the internet: [www.radwag.pl](http://www.radwag.pl) .

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## 2. PRECAUTIONS

### 2.1. Maintenance

- A. Please, read carefully this user manual before and use the device according to its intended use.
- B. Dead batteries (accumulators) should be utilized according to the law;
- C. Devices that are to be withdrawn from usage should be sent back to the producer or in case of own utilization do it according to the law.

### 2.2. Power supply

Indicators in plastic casing are intended to be supplied from a power adapter or from NiMH rechargeable battery pack (standard equipment). New rechargeable batteries should be formatted according to the description in the chapter 11.5.4. of this manual.

If you want to use normal batteries instead of rechargeable ones, proceed as follows:

- Before installing non-rechargeable batteries turn on the device and set „5.5 cHr6” to „no”, to switch off charging.
- Then install the batteries.

Installing batteries without changing „5.5 CHr6” to „no” may cause damage of batteries and the indicator.

### 2.3. Operation in a strong electrostatic field

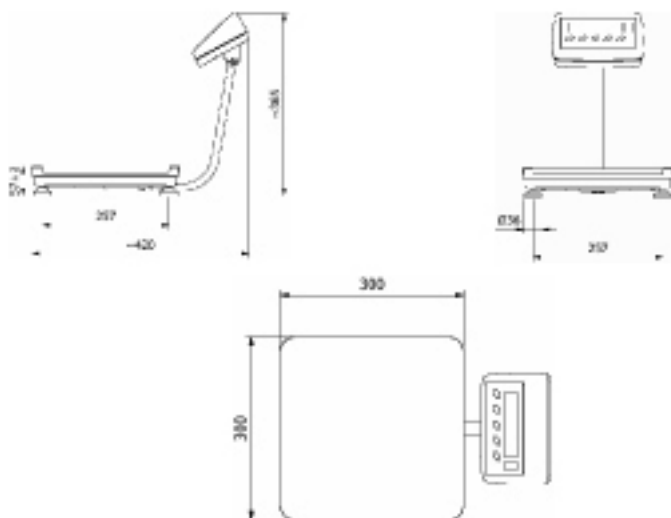
If the device is about to operate in a strong electrostatic field (e.g. printing houses etc.) it should be connected to the earthing. Connect it to the clamp terminal signed  $\perp$ .

### 3. WARRANTY CONDITIONS

- A. RADWAG is obliged to repair or change those elements that appears to be faulty because of production and construction reason,
- B. Defining defects of unclear origin and outlining methods of elimination can be settled only in participation of a user and the manufacturer representatives,
- C. RADWAG does not take any responsibility connected with destructions or losses derives from non-authorized or inappropriate (not adequate to manuals) production or service procedures,
- D. Warranty does not cover:
  - Mechanical failures caused by inappropriate maintenance of the device or failures of thermal or chemical origin or caused by atmospheric discharge, overvoltage in mains or other random event,
  - Inappropriate cleaning.
- E. Loss of warranty appears after:
  - Access by an unauthorized service,
  - Intrusion into mechanical or electronic construction of unauthorized people,
  - Removing or destroying protection stickers.
- F. The detailed warranty conditions one can find in warranty certificate.
- G. Contact with the central authorized service:+48 48 384 88 00 ext. 106 or 107.

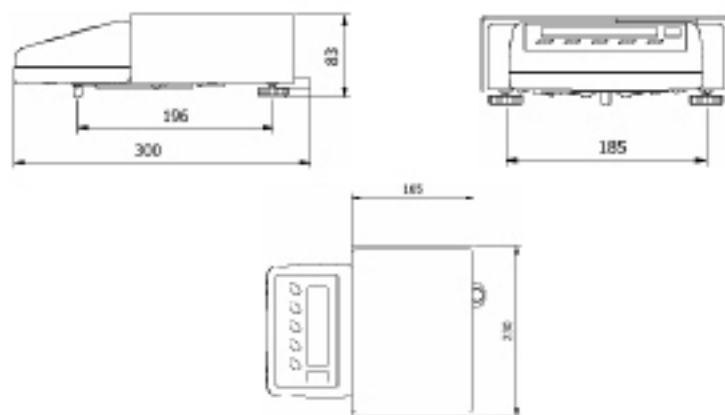
## 4. MAIN DIMENSIONS

### 4.1. Platform table scales WPT/F series



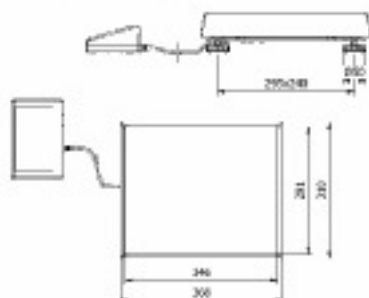
*WPT/F series – main dimensions*

### 4.2. Platform table scales WPT/R series



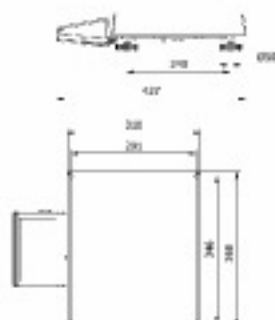
*WPT/F series – main dimensions*

### 4.3. Platform scales of WTC...C1 series



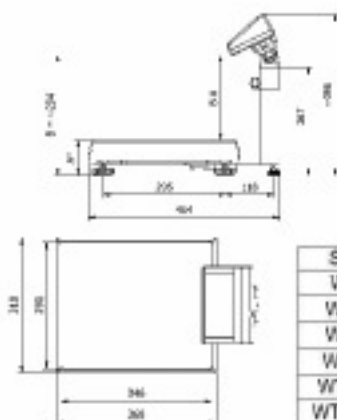
| Scale type     | A (±2mm) | net mass [kg] | gross mass [kg] |
|----------------|----------|---------------|-----------------|
| WTC 6 C1/K     | 86       | 5,5           | 6,5             |
| WTC 15 C1/K    | 86       | 6,5           | 7               |
| WTC 30 C1/K    | 86       | 6,5           | 7               |
| WTC 3/6 C1/K   | 86       | 5,5           | 6,5             |
| WTC 6/15 C1/K  | 86       | 6,5           | 7               |
| WTC 15/30 C1/K | 104      | 6,5           | 7               |

WTC...C1/K series – main dimensions



| Scale type     | A (±2mm) | net mass [kg] | gross mass [kg] |
|----------------|----------|---------------|-----------------|
| WTC 6 C1/R     | 86       | 5,5           | 7               |
| WTC 15 C1/R    | 86       | 5,5           | 7               |
| WTC 30 C1/R    | 86       | 6             | 7               |
| WTC 3/6 C1/R   | 86       | 5,5           | 7               |
| WTC 6/15 C1/R  | 86       | 5,5           | 7               |
| WTC 15/30 C1/R | 104      | 6             | 7               |

WTC...C1/R series - main dimensions

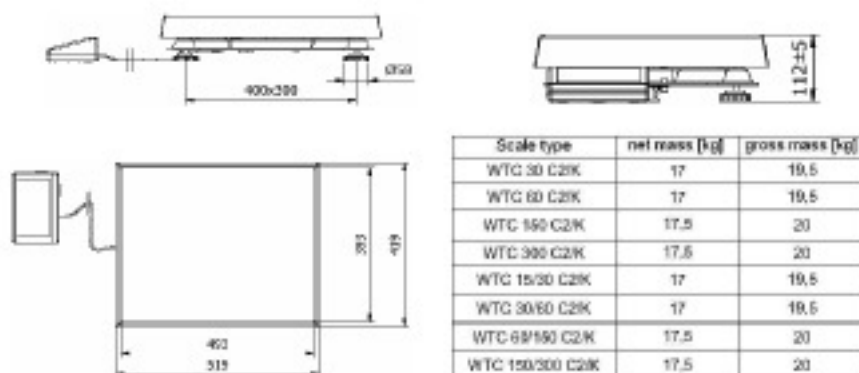


| Scale type   | A (±2mm) | net mass [kg] | gross mass [kg] |
|--------------|----------|---------------|-----------------|
| WTC 6 C1     | 86       | 5,5           | 6,5             |
| WTC 15 C1    | 86       | 6             | 7               |
| WTC 30 C1    | 86       | 6             | 7,5             |
| WTC 3/6 C1   | 86       | 5,5           | 6,5             |
| WTC 6/15 C1  | 86       | 6             | 7               |
| WTC 15/30 C1 | 104      | 6             | 7,5             |

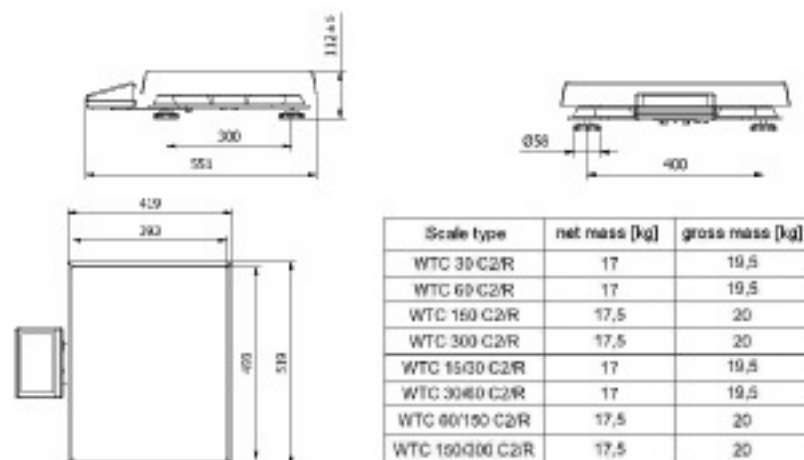
WTC...C1 series – main dimensions



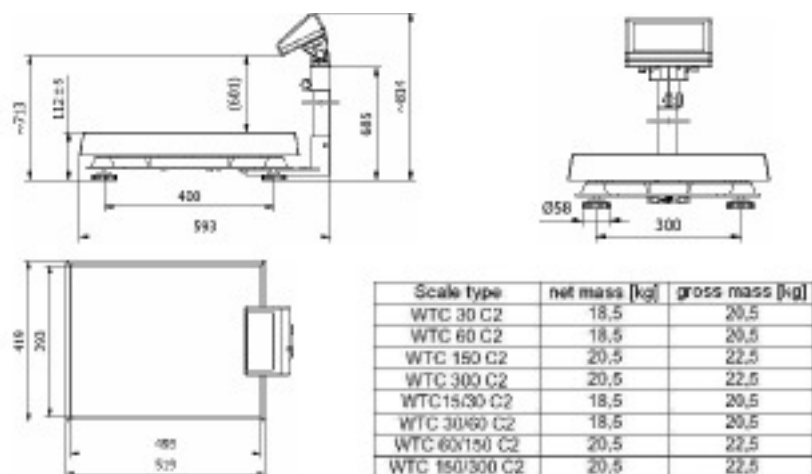
#### 4.4. Platform scales of WTC...C2 series



WTC...C2/K series – main dimensions

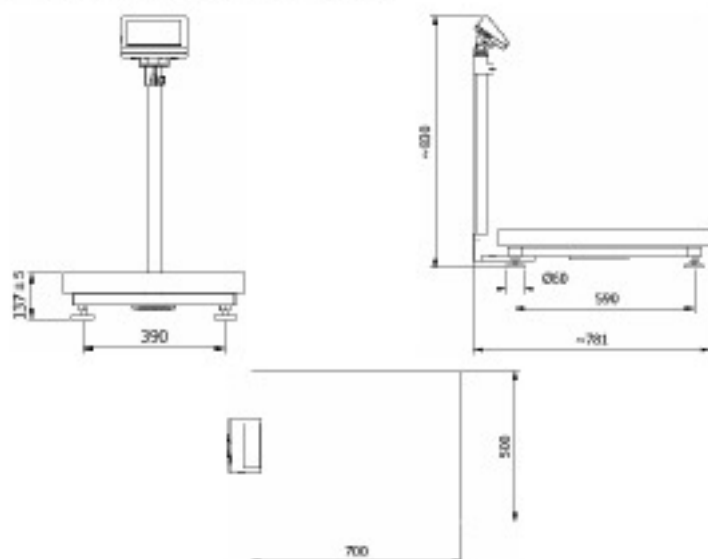


WTC...C2/R series – main dimensions



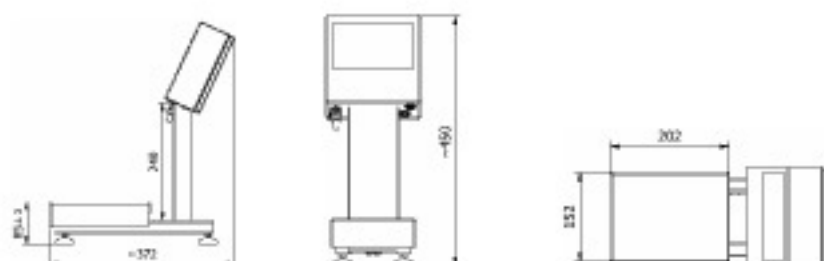
WTC...C2 series – main dimensions

#### 4.5. Platform scales WTC...C3 series

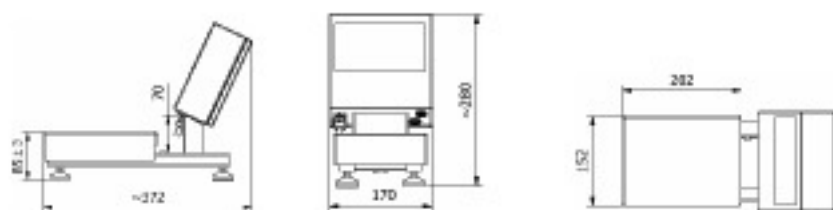


WTC...C3 series – main dimensions

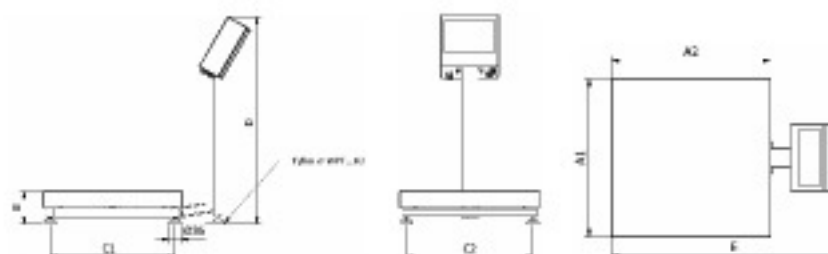
#### 4.6. Platform scales of WPT...H series



WPT...H1 series (pillar 24cm) – main dimensions



WPT...H1 series (pillar 7cm) – main dimensions



| Scale type | A1  | A2  | B       | C1  | C2  | D     | E     |
|------------|-----|-----|---------|-----|-----|-------|-------|
| WPT...H2   | 306 | 296 | 103 ± 3 | 268 | 208 | ~536  | ~486  |
| WPT...H2K  | 306 | 296 | 103 ± 3 | 268 | 208 | -     | -     |
| WPT...H3   | 411 | 411 | 98 ± 2  | 370 | 370 | ~617  | ~613  |
| WPT...H3K  | 411 | 411 | 98 ± 2  | 370 | 370 | -     | -     |
| WPT...H4   | 500 | 500 | 155 ± 5 | 400 | 400 | ~700  | ~718  |
| WPT...H4K  | 500 | 500 | 155 ± 5 | 400 | 400 | -     | -     |
| WPT...H5   | 600 | 600 | 155 ± 5 | 500 | 500 | ~700  | ~818  |
| WPT...H5K  | 600 | 600 | 155 ± 5 | 500 | 500 | -     | -     |
| WPT...H6   | 800 | 800 | 135 ± 5 | 730 | 720 | ~1100 | ~1050 |
| WPT...H6K  | 800 | 800 | 135 ± 5 | 730 | 720 | -     | -     |

WPT...H2 - WPT...H6 series – main dimensions

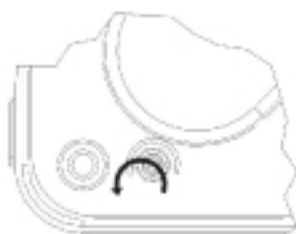
## 5. UNPACKING AND ASSEMBLY

### 5.1. Scales of WPT/F series

Unpack and put the scale on a flat even stable surface far away from sources of heat.

For table platform scales of /F series:

- **MAXIMALLY SCREW OUT** the transport protection according to the drawing below:



- Install the pillar, be careful about the cable linking the indicator with the load cell:



### 5.2. Scales of WPT/R series

Unpack and put the scale on a flat even stable surface far away from sources of heat.

### 5.3. Scales of WTC series

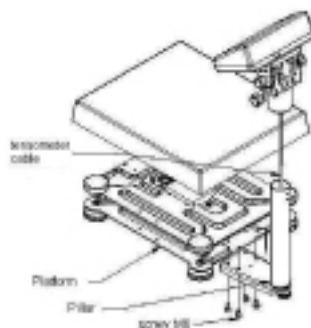
Unpack and put the scale on a flat even stable surface far away from sources of heat and then:

- Remove transport protection:

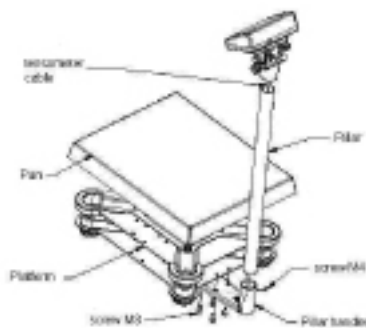


For versions with an indicator on the pillar, install the pillar first:

- Screw down the pillar handler to the platform:

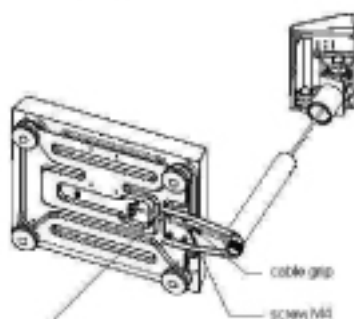


*WTC...C1 series*

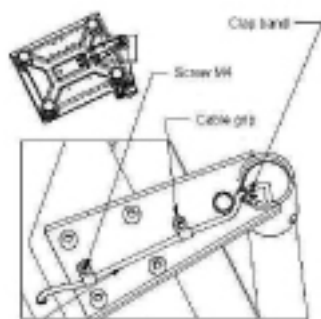


*WTC...C2 and WTC...C3 series*

- Stretch delicately the cable so it did not touch the ground after mounting:

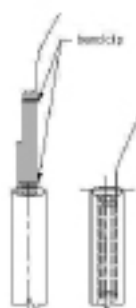


*WTC...C1 series*

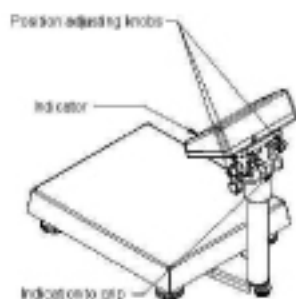


*WTC...C2 and WTC...C3 series*

- The surplus cable wind and place inside the pillar as show below:



- Put the indicator with the hendler on the pillar and tighten up the handwheels:



*WTC...C1 series*

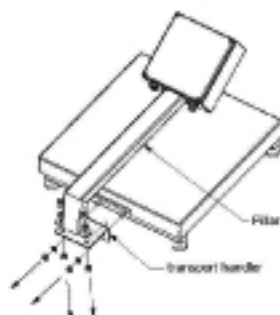


*WTC...C2 and WTC...C3 series*

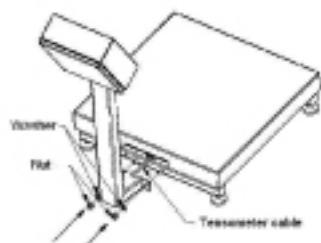
#### 5.4. Platform scales of WPT...H series

Unpack and put the scale on a flat even stable surface far away from sources of heat and then:

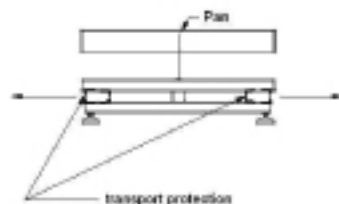
- Unscrew the pillar and the transport handler from the platform:



Turn the pillar and mount it to the platform. The surplus cable place inside the pillar.



Pick up the pan and remove the transport protection.



## 6. GETTING STARTED

- After unpacking and mounting (chapter 5 of this manual) the scale level it out. Use levelling legs and the level condition indicator installed in the basis of the scale.



level - OK



level incorrect

- Turn the device on using the **ON/OFF** key – keep pressing the key for about 0.5 sec,
- Wait for the test completion,
- Then you will see **zero indication** and pictograms:

**-0-**

- zero indication

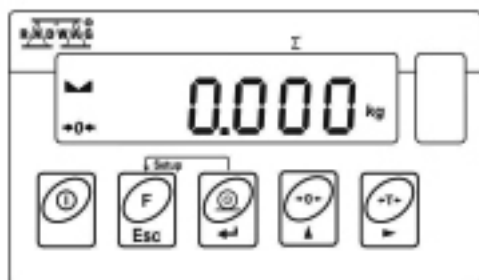


- stable result











**kg** - weight unit

If the indication is not zero press **zero** key.

## 7. KEYPAD



## 8. KEYS' FUNCTIONS





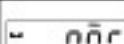
-   - Switching on/off
-   - Function key (operation mode selection)
-   Sending a weighing result to RS232
-   - zeroing
-   - tarring

### **Notice:**

After pressing **F + PRINT** keys' functions changes. The way of operation in this mode is described in details further in this manual.



## 9. INSCRIPTIONS ON THE DISPLAY

| No  | Text string                                                                         | Description                                                                                                      |
|-----|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| 1.  | <b>FIL</b>                                                                          | Filter level                                                                                                     |
| 2.  | <b>bAud</b>                                                                         | Transmission baud rate                                                                                           |
| 3.  | <b>PCS</b>                                                                          | Piece counting                                                                                                   |
| 4.  | <b>HiLo</b>                                                                         | +/- control according to a standard mass                                                                         |
| 5.  | <b>rEPL</b>                                                                         | Automatic printout                                                                                               |
| 6.  | <b>StAb</b>                                                                         | The condition of printing data                                                                                   |
| 7.  | <b>Auto</b>                                                                         | Autozero correction                                                                                              |
| 8.  | <b>t1</b>                                                                           | Power save – time to switch off while no operation                                                               |
| 9.  | <b>toP</b>                                                                          | Latch of the max measurement                                                                                     |
| 10. | <b>Add</b>                                                                          | Totalizing                                                                                                       |
| 11. | <b>AnLS</b>                                                                         | Weighing animals                                                                                                 |
| 12. | <b>-0-</b>                                                                          | Indication in autozero zone (indication = exact zero)                                                            |
| 13. |    | Stable result (ready to read)                                                                                    |
| 14. | <b>PCS</b>                                                                          | Operation mode – <b>counting pieces</b>                                                                          |
| 15. | <b>kg (g)</b>                                                                       | Operation mode – <b>weighing</b>                                                                                 |
| 16. |    | Rechargeable battery pack or battery discharged(BAT-LO)                                                          |
| 17. | <b>Net</b>                                                                          | Tare function has been used.                                                                                     |
| 18. |  | +/- control with reference to the standard mass : setting the lower threshold or mass below the first threshold. |
| 19. |  | +/- control with reference to the standard mass: load masa between the thresholds                                |
| 20. |  | +/- control with reference to the standard mass: setting the upper threshold or mass over the second threshold.  |

## 10. USER MENU

### 10.1. Submenus

User's menu is divided into 6 basic submenus. Each group has its own characteristic name preceded by the letter **P** and a number

#### P1 rEAd

|      |      |  |     |
|------|------|--|-----|
| P1.1 | FIL  |  | 2   |
| P1.2 | Auto |  | YES |
| P1.3 | tArA |  | no  |
| P1.4 | Fnnd |  | no  |

---

#### P2 Prnt

|      |      |  |        |
|------|------|--|--------|
| P2.1 | Pr_n |  | StAb   |
| P2.2 | S_Lo |  |        |
| P2.3 | bAud |  | 9600   |
| P2.4 | S_rS |  | 8d1SnP |

---

#### P3 Unit

|      |      |  |    |
|------|------|--|----|
| P3.1 | StUn |  | kg |
|------|------|--|----|

---

#### P4 Func

|      |      |  |     |
|------|------|--|-----|
| P4.1 | FFun |  | ALL |
| P4.2 | Funi |  | No  |
| P4.3 | PcS  |  | No  |
| P4.4 | HiLo |  | No  |
| P4.5 | PrcA |  | No  |
| P4.6 | Prcb |  | No  |
| P4.7 | AtAr |  | No  |
| P4.8 | toP  |  | No  |
| P4.9 | Add  |  | No  |
| P4.A | AnLS |  | No  |

---

#### P5 othr

|      |      |  |      |
|------|------|--|------|
| P5.1 | bL   |  | Auto |
| P5.2 | bLbt |  | 50   |
| P5.3 | bEEP |  | YES  |
| P5.4 | t1   |  | no   |
| P5.5 | CHr6 |  | no   |

---











#### P6 CAL

|      |      |  |  |
|------|------|--|--|
| P6.1 | St_u |  |  |
| P6.2 | uCAL |  |  |

## 10.2. Browsing user menu

Use scale's keys to move inside the menu.

### 10.2.1. Keypad

-  +  Entering main menu
-  +  Inscribing tare value
-  +  Increasing a digit value by „1“ or moving down in the menu
-  Selecting the parameter or changing the value of a selected parameter
-  Entering the selected submenu or activating a parameter for changes
-  Confirmation (enter)
-  Leaving without changes or reaching a higher level of the menu

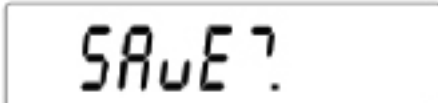
### 10.2.2. Return to the weighing mode



The changes that have been introduced should be saved in order to keep them in the memory for good.

While leaving parameters press **F** key until the text **SAvE** appears on the display?.


Then press: **PRINT/ENTER** – to save changes or **F** – to leave without changes.



SAvE?

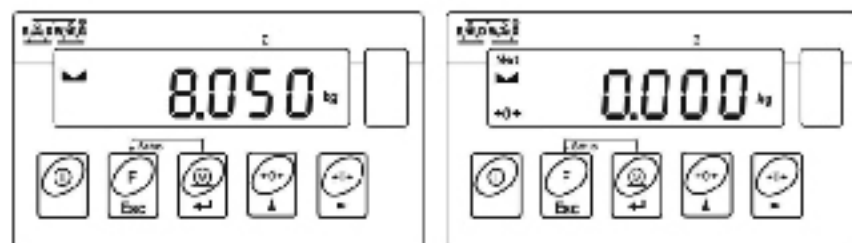
*Return to weighing*

## 11. WEIGHING

Put a load you want to weigh on the weighing pan. When the  pictogram appears it means that the result is stable and ready to read.

### 11.1.Tarring

In order to determine the net mass put the packaging on the pan. After stabilising press - **TARE** (Net pictogram will be displayed in the left upper corner and zero will be indicated).



After placing a load on the weight pan net mass will be shown. Tarring is possible within the whole range of the scale. After unloading the pan the display shows the tared value with minus sign



**Notice:**



*Tarring cannot be performed when a negative or zero value is being displayed. In such case **Err3** appears on the display.*

## 11.2. Inscribing tare value

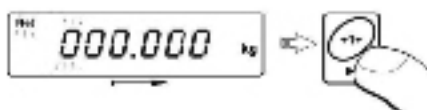
You can also inscribe a tare value:

### Procedure:

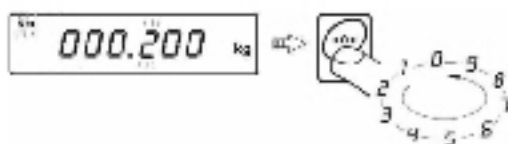
While in weighings mode press:

- Press simultaneously  and 

You will see :



**TARE** – select a digit



**ZERO** – select a digit value

- Using **TARE** and **ZERO** set the tare value.
- Press **PRINT**.
- Program returns to weighings mode. The inscribed tare value can be seen on the display with "–" sign.
- Tare can be inscribed anytime in weighings mode.

## 11.3. Zeroing

To **ZERO** the scale press: 

The scale will display zero and following micrograms: "0" and .

Zeroing is only possible within the scope of  $\pm 2\%$  of full scale. While zeroing outside the scope of  $\pm 2\%$  you will see **Err2**.

Zeroing is possible only in stable state.

### NOTICE:

*Zeroing is possible only within  $\pm 2\%$  of full range around zero. If the zeroed value is beyond the interval of  $\pm 2\%$ , **Err2** is displayed.*

## 11.4. Weighings in two ranges

Switching between the **I range** and the **II range** happens automatically (exceeding Max of the **I range**).

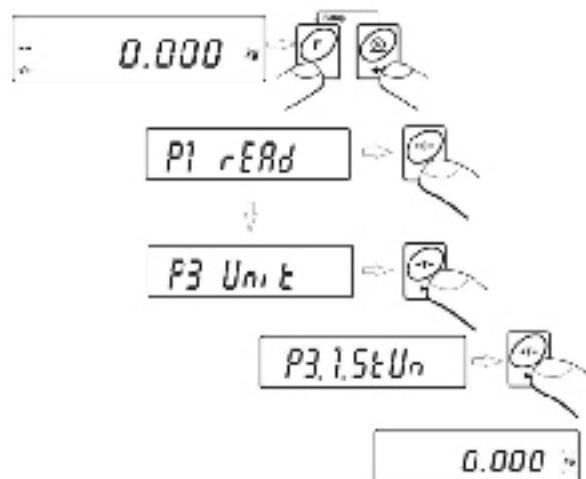
Weighings in the second range is signalled by a pictogram in the top left corner of the display.

Then weighings is done with the accuracy of the **II range** to the moment of returning to zero (autozero range **+0→**) where the scale switches back to the **I range**.



## 11.5. Selection of basic weight unit


This function is used to set weight unit the scale will start with.  
Enter the submenu - **P3 Unit**



press  until the expected unit appears on the display:



**Options:**

- When the basic unit is [kg], users can toggle between: [kg, lb, N] for *verified scales [lb] is not accessible*,
- If the basic unit is [g], users can toggle between: [g ct] .



The scale returns to:

**P3.1.5tUn**

Return to weighing according to *chapter - 10.2.2*.

**0.000**

**NOTICE:**

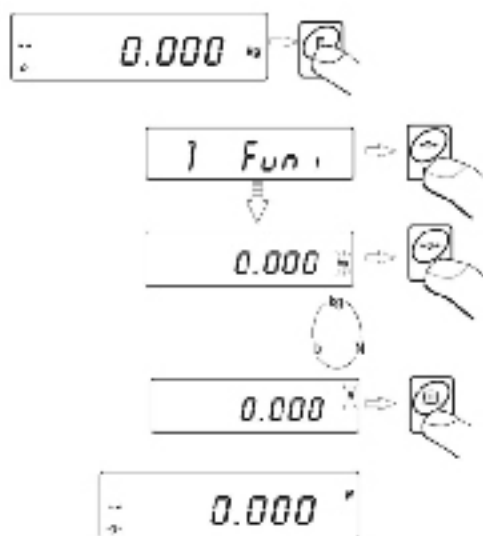
*After turning on the scale always sets the basic unit.*

## 11.6. Temporarily selected unit

This function is used to set weight unit the scale will use temporarily until the next power off or next selection.

**Procedure:**

Press **F**



After you select the unit you want come back to weighing procedure.

**Options:**

- When [kg] is a basic unit, users can select following units: [kg, lb, N] *lb* is not accessible for verified scales.
- When [g] is a basic unit, users can select following units: [g, ct]

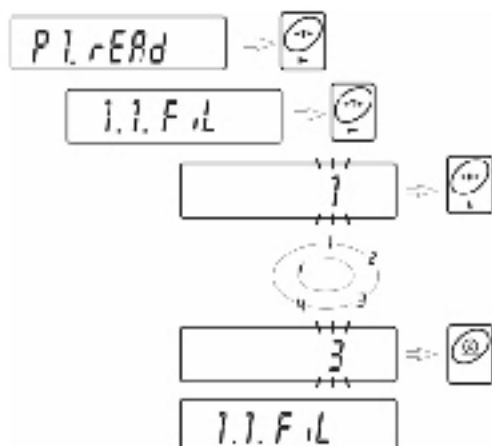


## 12. MAIN PARAMETERS

Users can adjust the scale to external ambient conditions (filtering level) or particular needs (autozero operation, tare memory).  
This parameters are placed in <P1 rEAd> submenu.

### 12.1. Setting a filtering level

**Procedure:**



- By pressing  select the filtering level you need

OFF – filters switched off  
1 - 4 – level of filtering

### Return to weighing

See - 10 2.2.

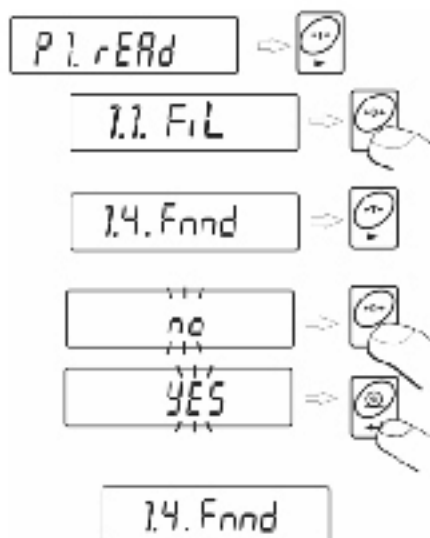
### NOTICE:

*Filtering level influences the time of stabilization. The higher the filtering level is the longer stabilization time is needed.*

## 12.2. Median filter

This filter eliminates short changes (impulses) of measure signal (e.g. shocks).

### Procedure:






**MEDIAN FILTER no** - filter disabled

**MEDIAN FILTER YES** - filter enabled

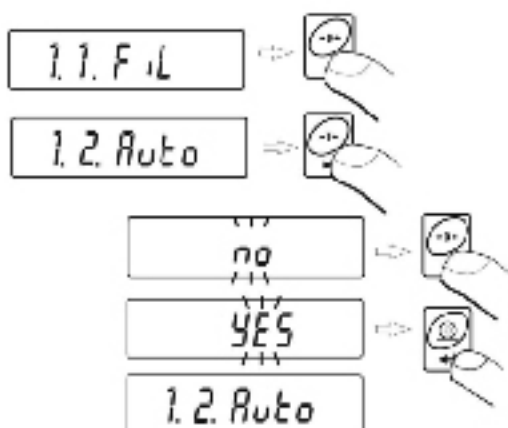
### Return to weighing

See - 10.2.2.

### 12.3. Autozero function

The autozero function has been implemented in order to assure precise indications. This function controls and corrects „0“ indication. While the function is active it compares the results continuously with constant frequency. If two sequential results differ less than the declared value of autozero range, so the scale will be automatically zeroed and the pictograms  and  0  will be displayed. When AUTOZERO is disabled zero is not corrected automatically. However, in particular cases, this function can disrupt the measurement process e.g. slow pouring of liquid or powder on the weighing pan. In this case, it is advisable to disable the autozero function.

#### Procedure:



AUTOZERO  
AUTOZERO

no - disabled  
YES - enabled

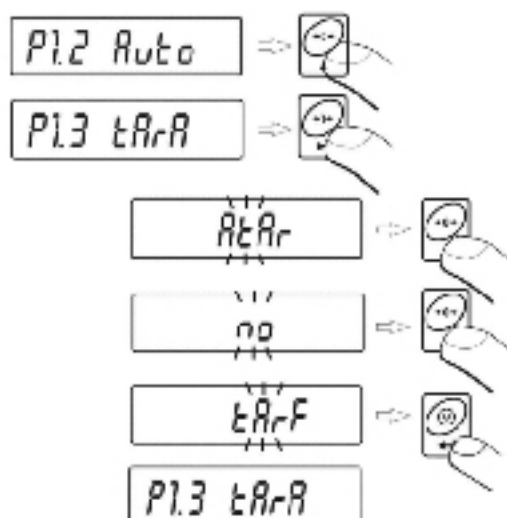
#### Return to weighing

See - 10.2.2

## 12.4. Tare function

This parameters enables users to configure a tare function.

Procedure:



**AtAr - automatic tare function on** and is stored in balance memory after unplugging it from mains

*Description of function: operating point 11.4 automatic tare*

**no - automatic tare function off** (user can turn on operating of automatic tare F5 AtAr – till unplugging the balance from mains)

**tArF - tare memory function** – stores last value of tare in balance memory. It is automatically displayed after starting the balance. Value of tare is displayed with minus sign, and there is **Net** symbol indicated on the display. (user can turn on operating of automatic tare **F6 AtAr** – till unplugging the balance from mains)

**Return to weighing**

See - 10.2.2.

### 13. RS 232 PARAMETERS

External devices connected to RS 232C have to be supplied from the same mains and common electric shock protection. It prevents from appearing a potential difference between zero leads of the two devices. This notice does not apply to the devices that do not use zero leads.

- **Transmission parameters:**
- Baud rate - 2400 – 38400 bit / s
- Data bits - 7,8
- Stop bits - 1,2
- Parity control - no, even, odd

There are four ways of sending data via RS232 interface:

- **Manually** – after pressing **PRINT**
- **Automatically** – after stabilizing the indication over LO threshold
- **Continuously** – after it is activated in parameter or by a command sent via RS232
- **On external request** - see - „*List of scale - computer commands*”

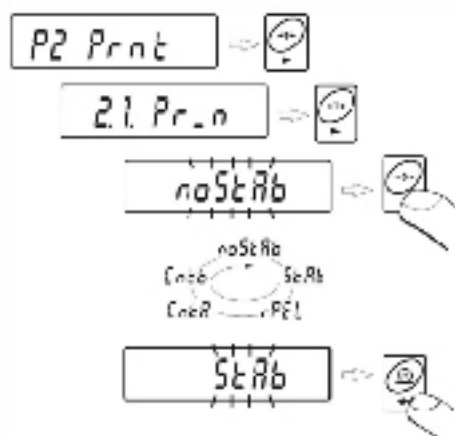
The indication can be sent as:

- **stable** – the indication is sent after the scale stabilizes.
- **any** – the indication is sent immediately after pressing the **PRINT** key, this state is assigned with <?> in the printout.

### 13.1. Printout type

This parameter is to select the type of printout

#### Procedure



**noStAb** – immediate printout – *not accessible in verified scales*

**StAb** – sending stable results

**rEPL** – automatic operation

**CntA** – continuous transmission in basic unit

**Cntb** – continuous transmission in present unit

#### Return to weighing

*see 10.2.2.*

### 13.2.Minimal mass threshold

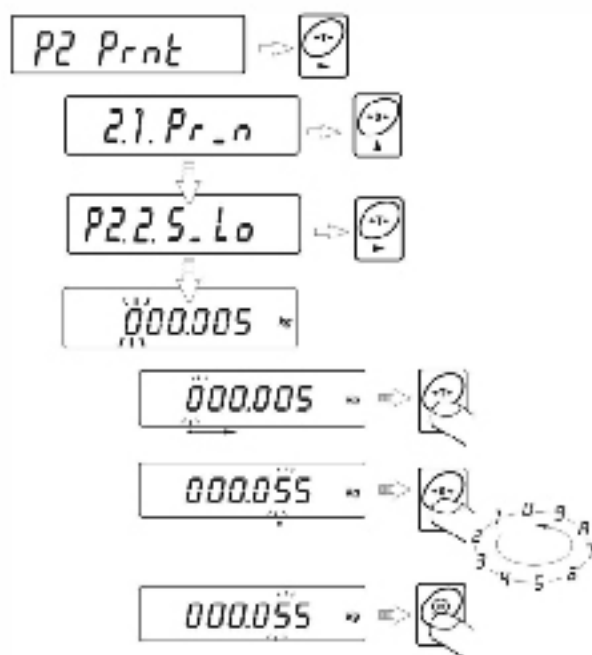
This function is necessary while working with **automatic tare** or **automatic operation or weighing animals**.

**Automatic taring** will not be applied until the indication (gross) is lower than the value inscribed in **S\_Lo** parameter.

**In automatic operation** measurements (net) are sent via RS232 when the indication is equal or greater than the value inscribed in **S\_Lo** parameter.

**Weighings animals** is performed when the indication is equal or greater than the value inscribed in **S\_Lo** parameter.

#### Procedure:

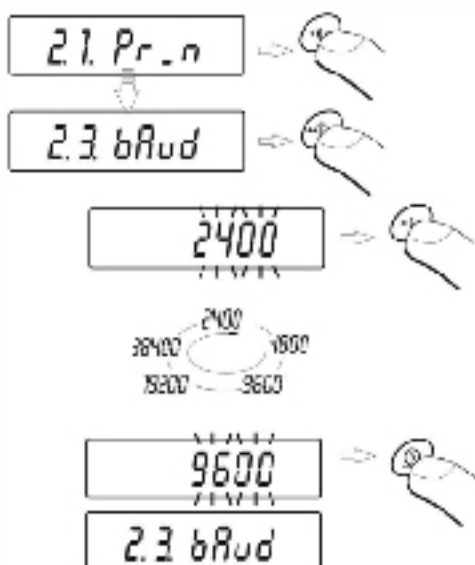


#### Return to weighing

see 10.2.2.

### 13.3. Baud rate

Procedure of setting:



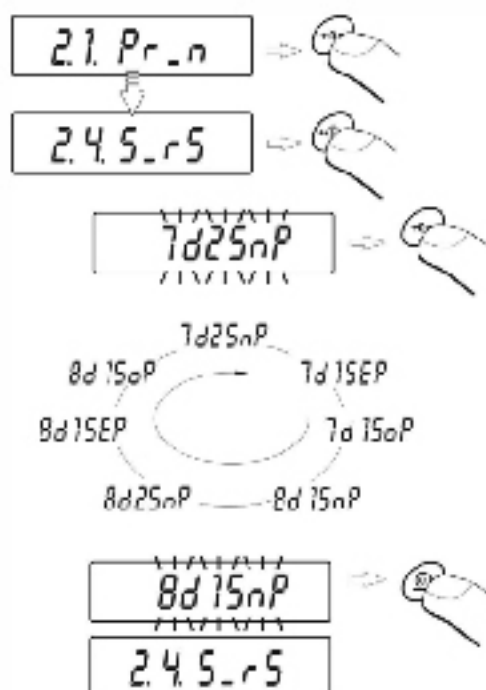
**Return to weighing**

see 10.2.2



### 13.4. Serial transmission parameters

Procedure:



- 7d25nP** - 7 data bits; 2 stop bits, no parity control
- 7d15EP** - 7 data bits; 1 stop bit, EVEN parity control
- 7d15oP** - 7 data bits; 1 stop bit, ODD parity control
- 8d15nP** - 8 data bits; 1 stop bit, no parity control
- 8d25nP** - 8 data bits; 2 stop bits, no parity control
- 8d15EP** - 8 data bits; 1 stop bit, EVEN parity control
- 8d15oP** - 8 data bits; 1 stop bit, ODD parity control

**Return to weighing**

See 10.2.2.

## 14. OTHER PARAMETERS

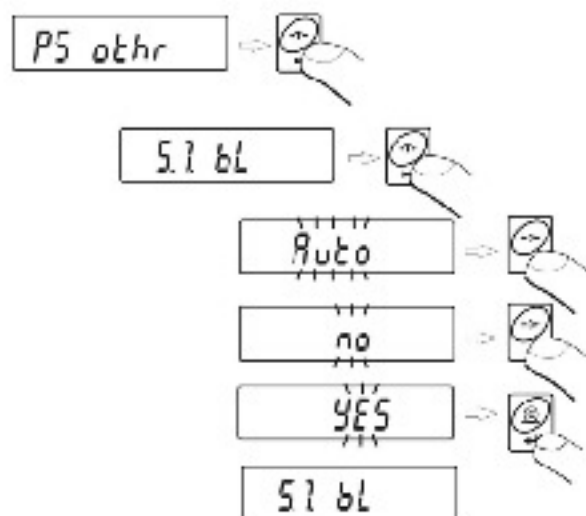
The user can set parameters which influence the scale operation. They are gathered in the submenu **P5 Othr** e.g. backlight and beep signal. Enter this submenu **P5 Othr** according to chapter 6.1

Program recognises the way the scale is supplied (mains, battery) and automatically selects the way of operating on the backlight::

- **bl** – for mains
- **blbt** – for batteries or rechargeable battery pack

### Backlight for supplying from mains

**Procedure:**



- bl** no – podświetlanie wyłączone
- bl** YES – podświetlanie włączone
- bl** Auto – podświetlanie wyłączone automatycznie, jeśli wskazanie nie zmieni się przez około 10s

### Powrót do ważenia

*Patrz – punkt 10.2.2. – powrót do ważenia*

### NOTICE:

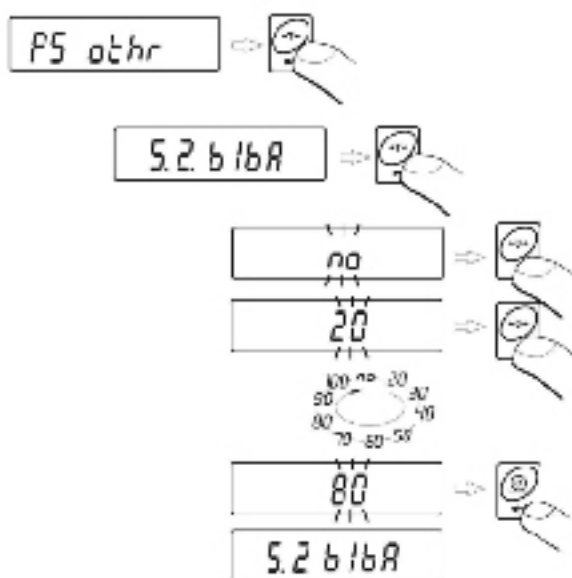
*For setting **bl=Auto**, if there is no change on the display (equilibrium) for 10s, the backlight is automatically switched off.*

*The backlight switches on automatically when the indication leaves the equilibrium state.*

## 14.1. Backlight for supplying from batteries

The user can change the intensity of backlight from 0% to 100%. The lower the intensity is the longer the scale operates without recharging or exchanging batteries. When the intensity is set this function works as AUTO (described above).

### Procedure:



### Return to weighing

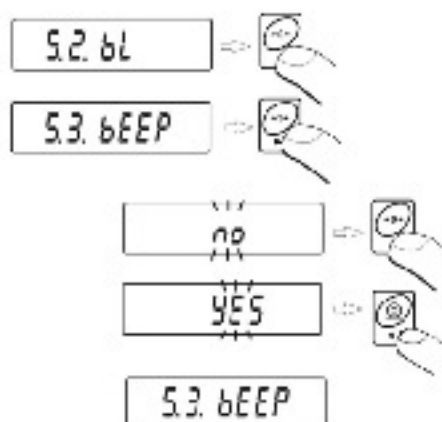
See 10.2.2.

### NOTICE:

*The more intense the backlight is the shorter the scale operates on batteries.*

## 14.2. "Beep" signal – after pressing a key

Procedure:



**bEEP**      **no**    – switched off  
**bEEP**      **YES**   – switched on

## Return to weighing

See 10.2.2.

## 14.3. Automatic switch-off

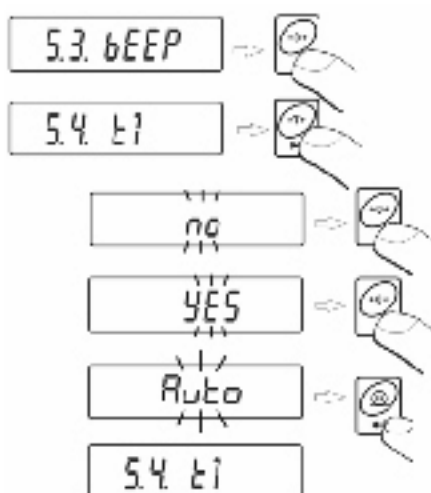
This function is essential to save the battery power. The scale is switched off automatically when (function **t1** = **YES**) no weighing appears in 5 minutes. (no charges on the display). In case when this function disrupts the operation (e.g. long time weighing procedures) or while working with connection to mains, switch off this function.

Operation according to the power supply.

| Setting     | Operation |          |
|-------------|-----------|----------|
|             | Mains     | Battery  |
| t1 = 0      | disabled  | disabled |
| t1 = YES    | enabled   | enabled  |
| t1 = Auto * | disabled  | enabled  |

\* automatic enabling/disabling according to the source of power.


## Procedure:



## Return to weighing

Sec 10.2.2.

### 14.4. Battery voltage level check

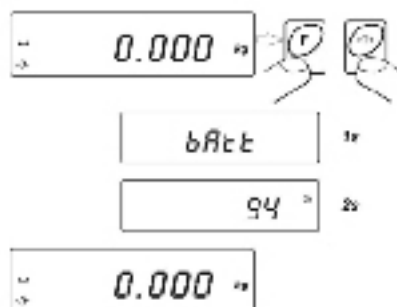
While supplying from batteries too low level of voltage is measured by software the pictogram  is displayed. It means that charging or exchanging batteries is required.

#### 14.4.1. Checking the batteries

This function is to check the level of battery supply.  
It works only if:

- Weighing mode is set
- Battery supply is set in parameters

## Procedure:





After displaying the level of batteries (in per cents) the program returns to weighing.

### 14.4.2. Battery discharge pictogram.

The symbol (bat low) switches on when the voltage level drops to 18% of the accepted level of voltage. It means that charging or exchanging batteries is required.


Low level of bateries:

- Pictogram  on the display,
- After some time the device will automatically switch off to protect the batteries from destructable discharging,
- Charging is signaled by  (blinking period about 2 seconds) on the display.



### 14.4.3. Accumulator charging option

This function allows to switch on charging algorithm for NiMH batteries (for indicators plastic casing):

a) Parameter „cHr6” set to „no”:

- Pictogram  does not appear, charging disabled.
- During software initializing, after turning on „bAtt”.

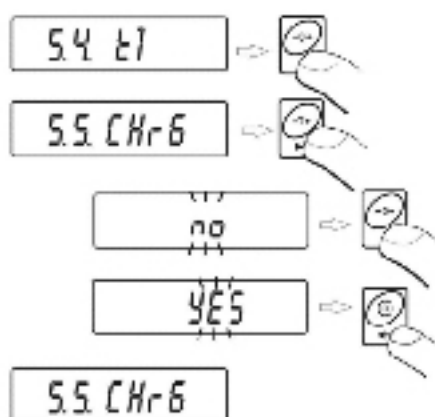
**b) Parameter „cHr6” set to „YES”:**

- Pictogram  blinks slowly (period about 2 seconds), charging is enabled
- Message „nimh” appears on the display
- In case of damaging accumulators or lack of it the pictogram  blinks quickly (period about 0.5 sec).

**Notice:**

*Indicators are equipped with the set of rechargeable batteries NiMH R6 (AA) and power adapter.*

**Procedure:**



**CHr6 YES**- enabled  
**CHr6 no** - disabled

**Return to weighing**

*See 10.2.2.*

#### 14.4.4. Formatting rechargeable battery packs

Every plastic indicator is equipped with a brand new NiMH R6 (AA) battery pack and a power adaptor. They need formatting after first powering up. It is crucial for batteries life:ime to undertake this process. Formatting consist in charging and total discharging (without meantime charging).

##### Procedure:

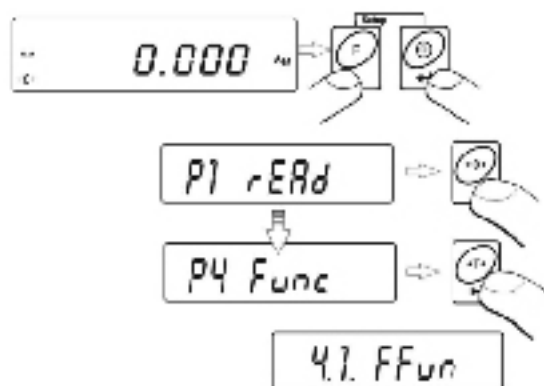
1. Supply the indicator from mains.
  2. Charge batteries for 12 hours (time of charging 2200mAh batteries).
  3. After 12 hours unplug from mains.
  4. Use the device up to the moment of self powering down.
  5. Repeat the process of charging starting from point 1.
- They reach their optima capacity after three cycles of full charging and discharging.

## 15. WORK MODES

### 15.1. Setting accessibility of operation modes

In this parameter group users can disable/enable accessibility of functions after pressing F key.

Enter **P4 Func**:

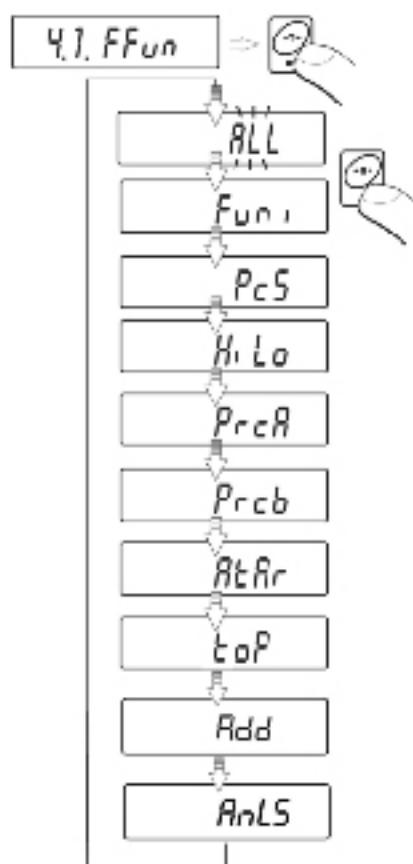




### 15.1.1. Selecting quantity of operation modes

This function enables user to set if, after pressing F key, all operating modes will be accessible (**ALL**) or only one from the list chosen and used by operator.

**Procedure:**



After choosing setting press **PRINT** key. The program will return to displaying name of submenu **P4.1 FFun**.

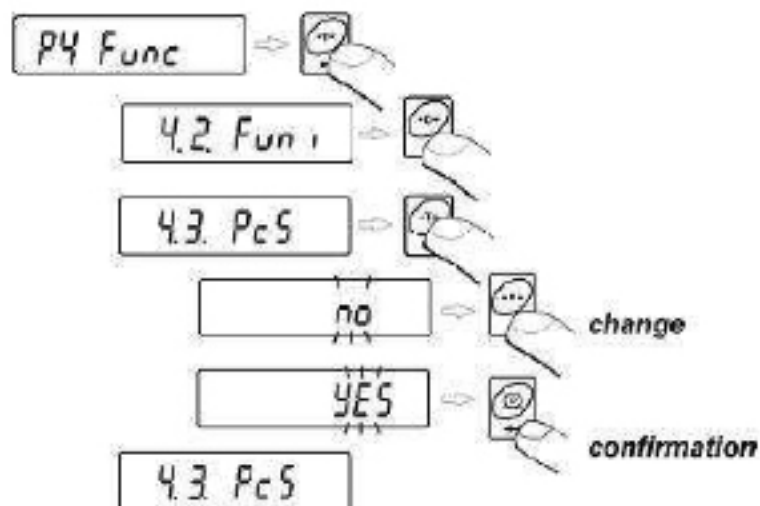
**Return to weighing**

See 10.2.2.

### 15.1.2. Setting parameter 4.1 FFun - ALL

This is the function to disable all modes that are not intended to use by operators. It accelerates the access to used modes.

#### Procedure:



**no** - mode is disabled;  
**YES** - mode is enabled

**Return to weighing**

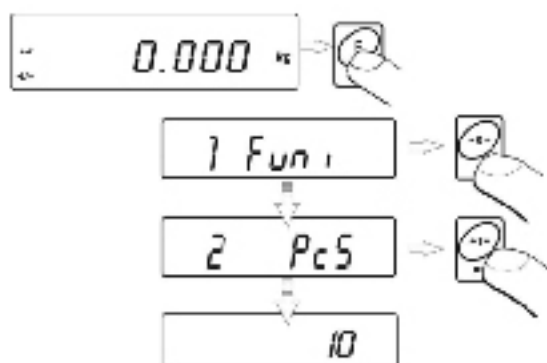
*see 10.2.2*


## 15.2. Counting pieces of the same mass

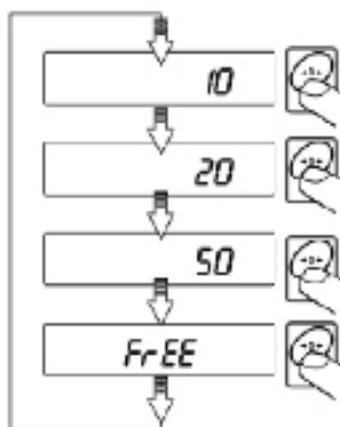
Standard solution is equipped with option of counting small pieces of the same mass. Counting pieces does not operate with other scale functions. It is possible to execute a tare function in this operating mode in order to tare a container value.



**To use this option:**

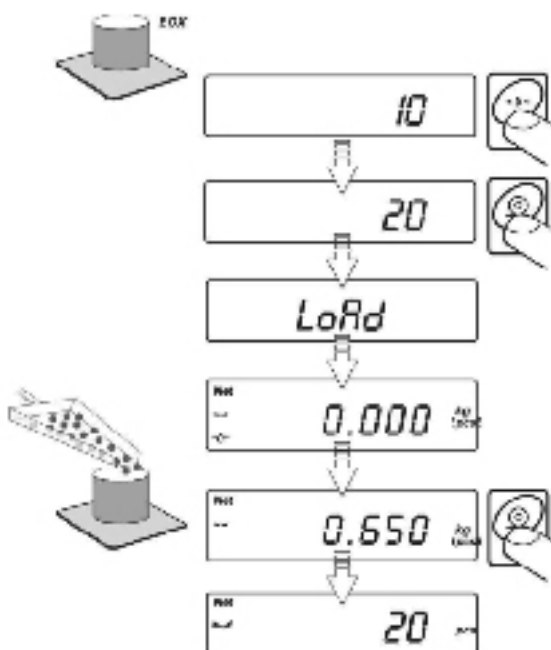
- enter to PIECE function.



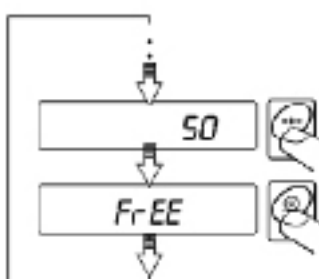
- press  key to start setting quantity of sample, you have a few options to choose from

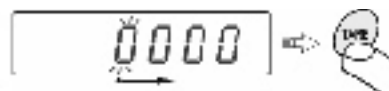


- pressing  key to choose of value (10, 20, 50pcs. or free)
- if you want to choose one of them e.g. 20pcs press  and proceed as shown in the picture

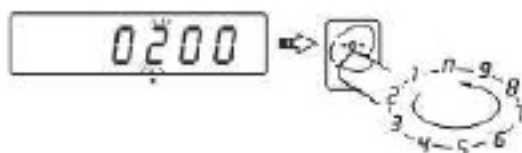


If the option **FrEE** was chosen, you must enter the quantity of sample, which will serve to determine the mass of a single detail





- By pressing **TARE** key you choose digit position to change

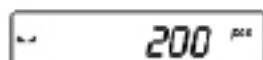


Pressing **ZERO** you change value of digit

- Confirm the entered value by pressing **PRINT** key
- The display will indicate a **LoAd** message – place on the pan as many details as entered during option



- Press **PRINT** key – scale will indicate quantity of sample (PCS symbol is active)



- add remaining details, display will indicate their quantity.

**Return to weighing**

- press **F** twice

**Notice:**

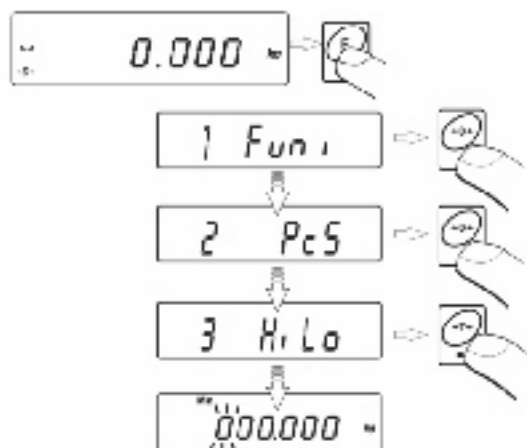
*If an user presses the **F** key when details are not present on the pan, the message **-Lo-** will be indicated for a few seconds and the scale will automatically return to weighing*

*If mass of single piece is lower than division (d) , **-Err5-** message will appear on the display (see chapter 19 – Error messages) and automatically return to weighing*

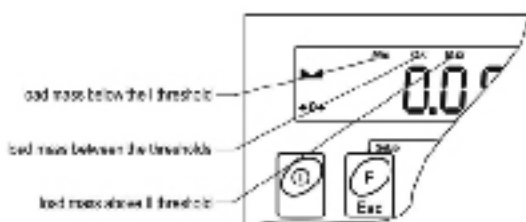
### 15.3. +/- control referring to the inscribed standard mass

#### Procedure:

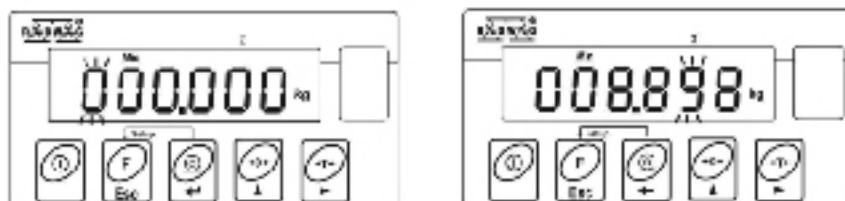
- Enter the function



During setting threshold values following cases take place:

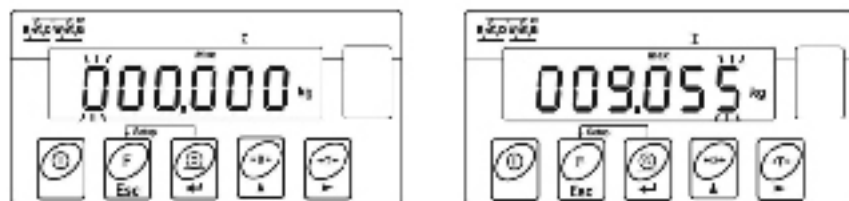


#### SET LOWER THRESHOLD



- TARE** – selection of the digit to set;
- ZERO** - selection of the digit value;
- PRINT** – confirmation of the entered values

## SET UPPER THRESHOLD



- TARE** – select on of the digit to set;
- ZERO** - selection of the digit value;
- PRINT** – confirmation of the entered values



### **NOTICE:**

*If a user erroneously enters a value of the lower threshold higher than the upper one, the scale will indicate an error message and will return to weighing.*

#### **Return to weighing**

- Press the **F** key twice

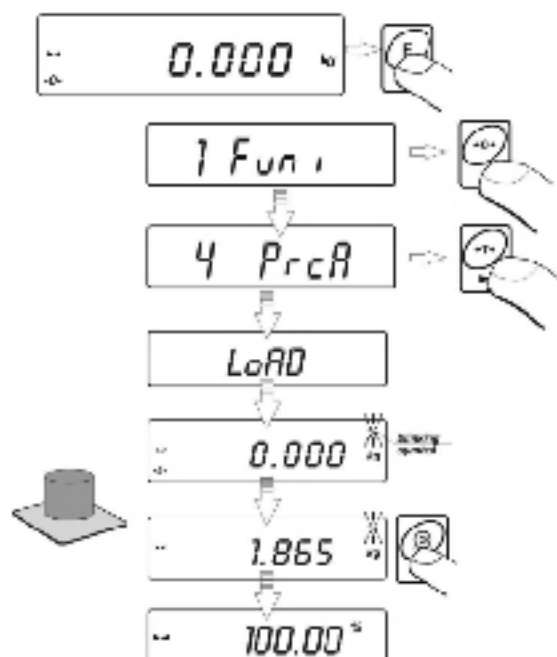
## **15.4. Control of % deviation referring to the inscribed standard mass**

Scale software enables control of deviation (in %) of weighed loads mass referring to the inscribed standard mass. Mass of standard can be determined by its weighing (**PERC A** function) or entered to the scale memory by an user (**PERC B** function)

### 15.4.1. Mass of standard determined by its weighing.

#### Procedure:

- Enter the function



- place an load on the pan which mass will be accepted as standard
- press **PRINT** to confirm this operating mode
- after few seconds the indication **100,00%** will be displayed

From this moment display will not indicate mass of weighed load but deviation of load mass placed on the pan referring to the mass of standard (in %).

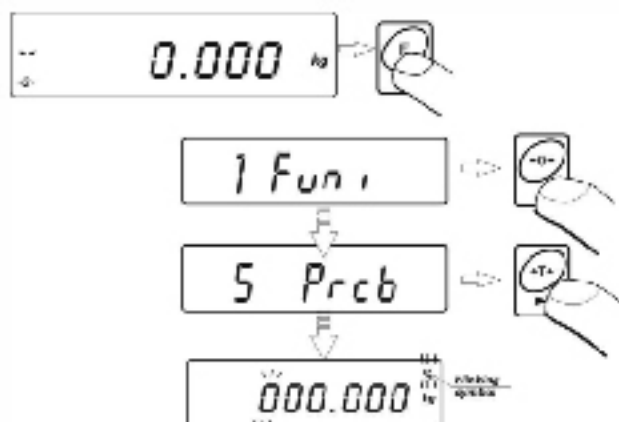
65.26 %



## 15.4.2. Mass of standard inscribed to scale memory

Procedure:

- Enter the function.

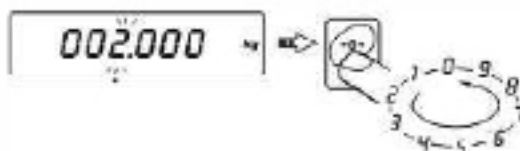


- na wyświetlaczu wyświetli się wskazanie jak powyżej :
- posługując się przyciskami

**TARE** – wybór ustawianej cyfry



**ZERO** - setting the value of the selected digit



set **value of mass of standard**, enter it to scale memory using **PRINT** key – display will indicate: **0,00%**

From this moment display will not indicate the mass of weighed load but deviation of the load mass placed on the pan referring mass of standard (in %)

**Return to weighing:**

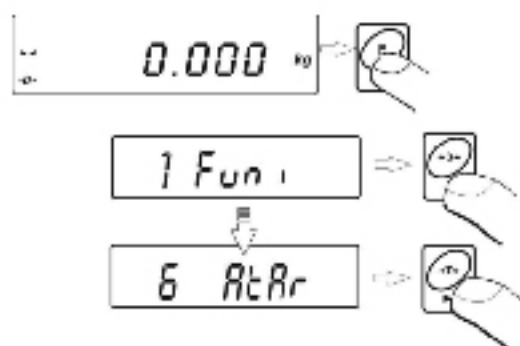
- press **F** twice

## 15.5. Automatic tare

This function is useful for fast net mass determination of weighed load in case when tare value of is different for each load. In case when the function is active the cycle of scales operating looks as follows:

- press zeroing key when the pan is empty
- place the container for pieces
- when indication is stable **automatic tarring** of the container mass will be performed (**Net** marker will appear in the upper part of the display)
- place a sample into the package
- display will indicate net mass of sample
- remove the sample together with the container
- display will indicate tare mass with minus sign
- place a container for the next sample. When indication is stable automatic tarring will take place (**Net** marker will appear in the upper part of the display)
- place next sample into the package

### Procedure:



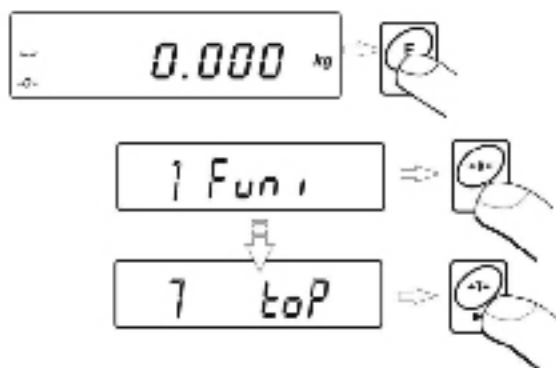
### Leaving the function

- press **F** twice

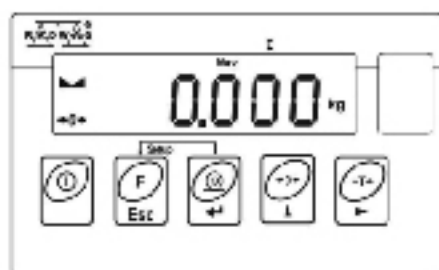
## 15.6. Measurement max force on the pan – latch

### Procedure:

- Enter the „toP” function:



Confirmation of choice of **toP** function is indication of the **Max** pictogram.



- apply a force to the weighing pan. The display of scale will latch the maximum value of the force
- remove loads from the pan
- before the next measurement press the →0← key

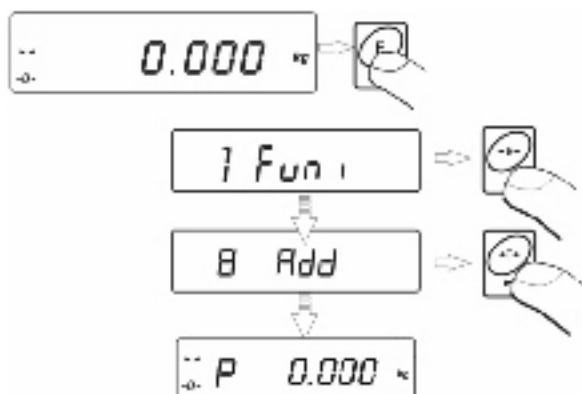
### Return to weighing

- press F twice

## 15.7.Totalizing

### Procedure:

- Enter the „Add“ function:



- You will see the indication as above
- Set the first load

-- 1.912 --

- After stabilizing (letter **P** disappears) press **PRINT**, and the sum of weighings („▲“ pictogram in the top right corner), and the weighing result will be printed out.

-- 1.912 ▲ --

- Unload the pan, the indication returns to **ZERA** and letter „P“ appears in the left side of the display

-- P 0.000 --

- Put another load on the pan

.. 1.912 kg

- After stabilizing press **PRINT**, the program show the sum of both weighings („▲” pictogram in the top right corner), and the weighing result will be printed out.

3.824 kg ▲

- To complete totalizing press **PRINT** again (with a load on the pan or after unloading), a sum of all weighings will be printed out:

```
(1) 1.912 kg
(2) 1.912 kg
-----
TOTAL: 3.824 kg
```

- In case of subsequent pressing **PRINT** key you will see „unLoAd” message – then unload the pan, the indication returns to **ZERO** and the letter „P” appears in the left part of the display. The program is ready for another procedure of totalizing.
- In case of subsequent pressing **PRINT** without putting another load on the pan the letter „P” appears in the left part of the display. The program is ready for another procedure of totalizing.

#### Return to weighing

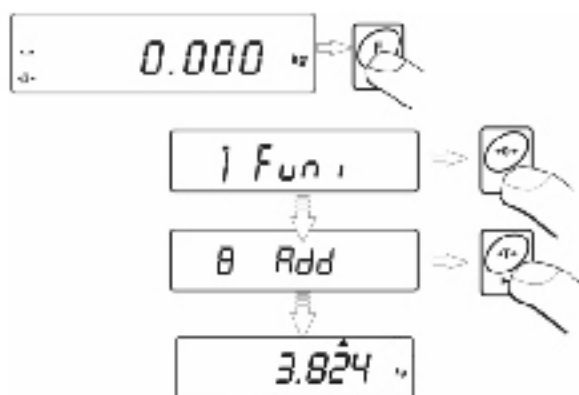
- Press **F** key, you will see:

ESC ?

- Press **PRINT** key to return to weighing.
- Press **F** to return to totalizing.

### 15.7.1. Memory of the last value of sum of weighed goods

- After interrupting (e.g. switching off) the totalizing procedure, it is possible to restart the procedure without losing data. In order to do it just enter the totalizing procedure:



- You will see the last memorized sum of weighings on the display.
  - In order to continue the procedure press **PRINT**, the indication returns to **ZERO** and the letter **P** appears in the left part of the display. The scale is ready for weighing.
  - In order to terminate the previous totalizing procedure press **F** key, **→0←**, or **TARE**. You will see the letter **P** in the left part of the display. The scale is ready for weighing.

#### Return to weighing

- Press **F** key, you will see:

ESC ?

- Press **PRINT** key to return to weighing.
- Press **F** to return to totalizing.

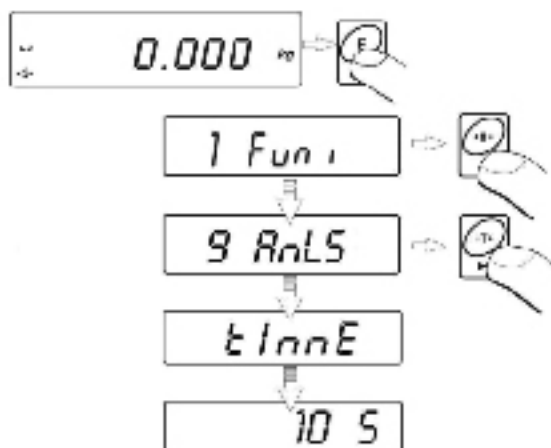
#### **NOTICE:**


*In case of overflow of the range of the display in totalizing you will see „5-FULL” message in the display. In that case unload the pan and press **PRINT** to complete the procedure with a printout of sum of all weighings or put a lower mass on the pan which does not cause the overflow error.*

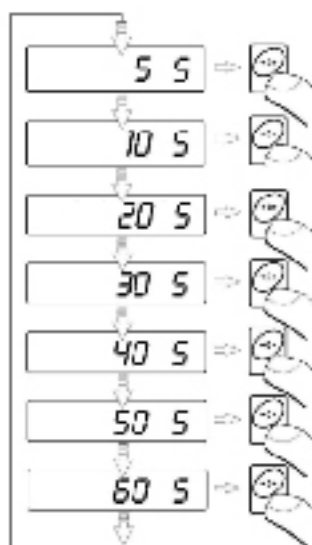
## 15.8. Weighing animals

### Procedure:

- Enter the „AnLS“ function:



- Press  to set the duration time (in seconds) of the process of weighings animals. Following values can be selected:



- Confirm the selected value by pressing **PRINT**,
- You will see the following window:

A rectangular digital display window. On the left side, there is a stylized 'R' with a small 'v' below it. To the right of this, the number '0.00' is displayed, followed by a small 'g' on the far right.

- Load an animal to the platform,
- After exceeding the **-LO-** value (see 11.2), program starts the weighings process. The appearance of subsequent hyphens **< - - - - - >** showing the progress,
- After completing the process of weighings the result is latched on the display and additionally the **OK** pictogram is shown in the upper part of the display:

A rectangular digital display window. On the left side, the letters 'OK' are displayed. To the right, the number '575.45' is shown, followed by a small 'g' on the far right.

- After removing the animal from the platform program returns to the window:

A rectangular digital display window. On the left side, there is a stylized 'R' with a small 'v' below it. To the right, the number '0.00' is displayed, followed by a small 'g' on the far right.

#### Return to weighing

- Press **F**



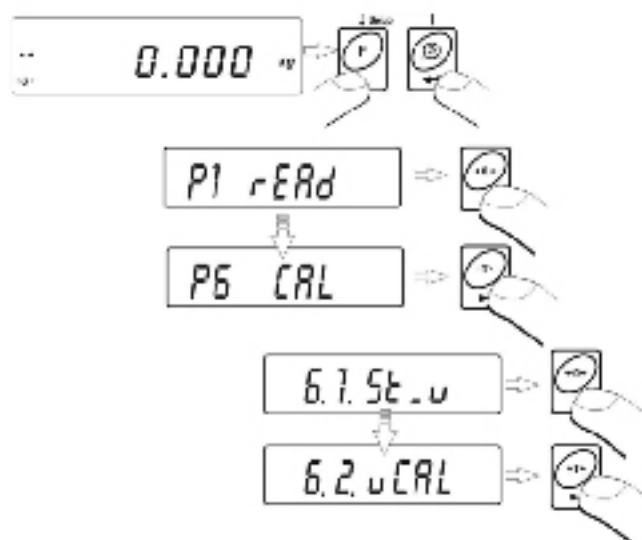
## 16. USER CALIBRATION

*Only for non-verified scales*

Confirmation of high accuracy of weighing requires periodical correcting of calibration factors in the scale memory – this is adjustment of the scale. Calibration should be performed when we start weighing or dynamic change of temperature occurs. Before starting calibration remove loads from the pan.

### 16.1. Calibration

**Procedure:**



- following inscriptions will appear

noCAL

LoAd

3.000 kg

- A new start mass is adjusted during this period of time. After that a mass of calibration weight is shown (e.g. 3 000kg).
- Load the pan with the weight indicated on the display:
  - In case of precision scales of WLC x/Ax series the calibration process starts automatically after putting a weight,
  - In case of other scales the process of calibration requires the acceptance of calibration weight by pressing **PRINT**,
- The program starts the process of calibration with the following sign on the display:

CAL

- After completion of the process of calibration the following screen will appear

unLoAd

- take off the weight , then the following sequence of screens will appear

done

6.2. uCAL

- return to weighing performing the procedure of saving parameters.

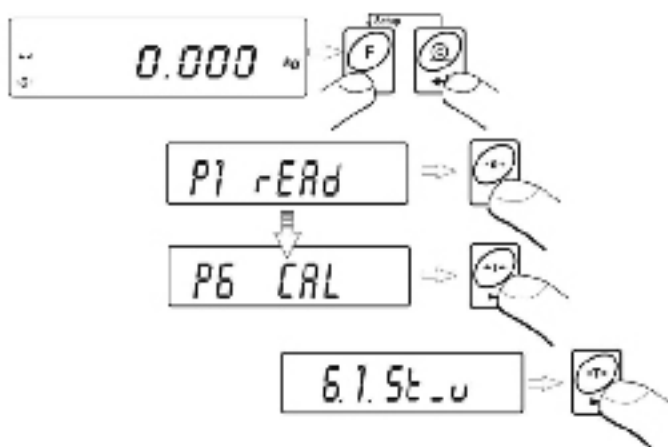
#### Return to weighing

See 10.2.2.

## 16.2. Start mass adjustment

If the scale does not require the full calibration process it is possible to adjust only a new start mass.

### Procedure:



- the display will show the following information

St CAL  
done

- after the completion of the start mass adjustment the following screen will appear:

6.1.5t.u

### Return to weighing

See 10.2.2

## 17. COOPERATION WITH PRINTER

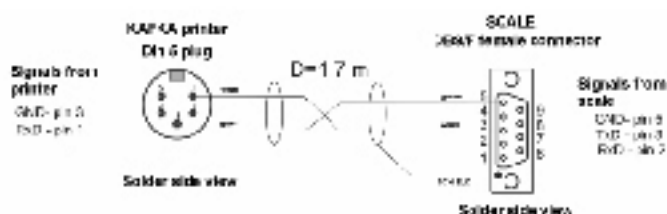
Each time the **PRINT** key is pressed a current mass value together with mass units is sent to RS 232 interface.

Depending on setting of **STAB** parameter it can be printed out with temporary or stable value. Depending on setting of **REPL** parameter printout will be automatic or manual.

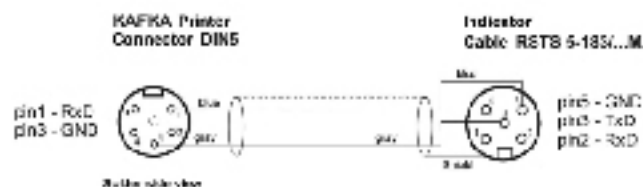
One of thermal printer in KAFKA series can cooperate with each platform scales:

- a) **KAFKA**  
Only result of weighing with mass unit can be printed
- b) **KAFKA 1/2**  
This printer is equipped with an internal real time clock. Both date and time can be printed.
- c) **KAFKA SQ S**  
This printer is equipped with an internal real time clock and possibility of running statistics from measurements. Statistic contents: quantity of samples, sum of masses of all samples, average value, standard deviation, variation factor, min value, max value, difference max - min

### Cable diagrams:



*Scale – Kafka printer cable diagram for plastic casing*



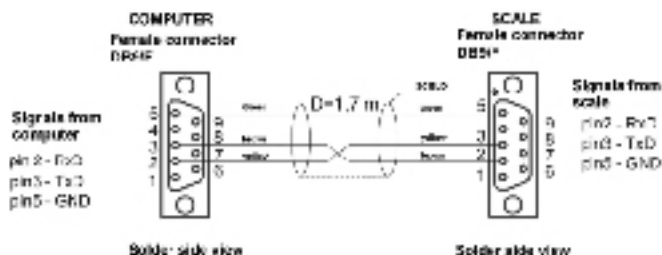
*Scale – Kafka printer cable diagram for steel housing*

## 18. COOPERATION WITH COMPUTER

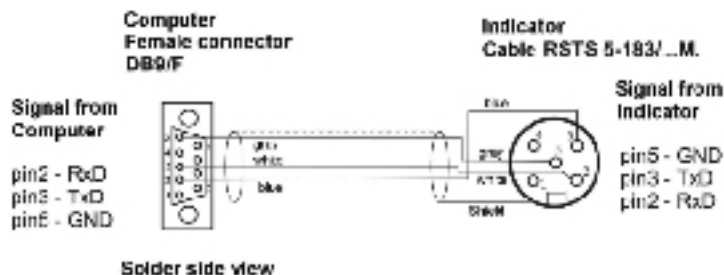
- **manually** - after pressing **PRINT** key
  - **in continuous way** – after function activating or sending an appropriate command
  - **automatically** – when the result is stable (if **REPL YES** and before placing a load, the scale indicated a value below **Lo** value)
- on demand sent from a computer** – see List of commands

These scales can cooperate with „*EDYTOR WAG*“ program. The indicator window comprises the most important information from the scale display. The program allows to configure easily, e.g. design printouts, edit parameters. A precise description is issued in the „*Help*“ file that accompanies the program.

### Cable diagrams:



Scale – computer cable diagram for plastic casing



Scale – computer cable diagram for metal housing

## 19. COMMUNICATION PROTOCOL

### 19.1. General information

- A. A character protocol scale-terminal has been designed for communication between RADWAG scales and external devices via RS-232 interface.
- B. It consists of commands sent from an external device to the scale and a responses from a scale.
- C. Responses are sent every time after receiving a command (reaction for any command).
- D. Using commands allows users to receive some information about the state of scale and/or influence the operation e.g.:
  - Requesting weighing results,
  - Display control,

Sending subsequent commands without expecting for answers is inappropriate and can interfere the transmission operation.

### 19.2. A set of commands for Rs232 interface

| Commands | Description of commands                            |
|----------|----------------------------------------------------|
| Z        | Zeroing                                            |
| T        | Taring                                             |
| S        | Send the stable result in basic unit               |
| SI       | Send the result immediately in basic unit          |
| SU       | Send the stable result in current unit             |
| SUI      | Send the result immediately in current unit        |
| C1       | Switch on continuous transmission in basic unit    |
| C0       | Switch off continuous transmission in basic unit   |
| CU1      | Switch on continuous transmission in current unit  |
| CU0      | Switch off continuous transmission in current unit |
| PC       | Send all implemented commands                      |

**Notice:**

*Each command have to be terminated in CR LF*

### 19.3. Respond message format

After sending a request message you can receive:

|            |                                                                                                                            |
|------------|----------------------------------------------------------------------------------------------------------------------------|
| XX_A CR LF | command accepted and in progress                                                                                           |
| XX_D CR LF | command completed (appears only after XX_A)                                                                                |
| XX_I CR LF | command comprehended but cannot be executed                                                                                |
| XX_^ CR LF | command comprehended but time overflow error appeared                                                                      |
| XX_v CR LF | command comprehended but the indication below the                                                                          |
| XX_E CR LF | error while executing command – time limit for stable result exceeded (limit time is a descriptive parameter of the scale) |

XX - command name

Frame format:

|         |           |       |      |      |       |      |    |    |    |    |
|---------|-----------|-------|------|------|-------|------|----|----|----|----|
| 1-3     | 4         | 5     | 6    | 7-15 | 16    | 17   | 18 | 19 | 20 | 21 |
| Command | stability | space | sign | mess | space | Unit |    |    | CR | LF |

Stability character: [space] if stable

[?] if not stable

[^] if an indication over the range

[v] if an indication below the range

sign [space] for positive values or

[-] for negative values

mess 9 characters, justified to the right

unit 3 characters, justified to the left

command 3 characters, justified to the left

- A. In case that a command includes only one character the command field is filled with spaces.**

**Example 1:**

**S CR LF** – computer command

**S \_ A CR LF** – command comprehended and in progress

**S \_\_\_\_\_ 8 . 5 \_ g \_ CR LF** – command executed and mass returned

**Where:** \_ - space

**Description:**

- Stable weighings result
- Sign „+”
- Unit „g”

**Example 2:**

**S CR LF** – computer command

**S \_ A CR LF** - command comprehended and in progress

**S \_\_\_\_\_ - \_\_\_\_\_ 1 . 8 9 2 \_ k g \_ CR LF** - command executed and mass returned

**Where:** \_ - space

**Description:**

- Stable weighings result
- Sign „-”
- Unit „kg”

**Example 3:**

**S CR LF** – computer command

**S \_ A CR LF** - command comprehended and in progress

**S \_\_\_\_\_ - \_\_\_ 2 1 2 0 . 1 8 \_ N \_ CR LF** - command executed and mass returned

**Where:** \_ - space

**Description:**

- Stable weighings result
- Sign „-”
- Unit „N”



**B. In case that a command includes two characters the command field is filled with a space.**

**Example 1:**

**S I CR LF** – computer command

**S I \_ ? \_ \_ \_ \_ \_ 1 8 . 5 \_ g \_ \_ CR LF** - command executed and mass returned

**Where:** \_ - space

**Description:**

- Non-stable weighings result
- Sign „+”
- Unit „g”

**Example 2:**

**S U CR LF** – computer command

**S U \_ \_ \_ - \_ \_ 1 7 2 . 1 3 5 \_ N \_ \_ CR LF** - command executed and mass returned

**Where:** \_ - space

**Description:**

- Stable weighings result
- Sign „-”
- Unit „N”

**Example 3:**

**S I CR LF** – computer command

**S I \_ ^ \_ \_ \_ \_ \_ 0 . 0 0 0 \_ k g \_ CR LF** - command executed and mass returned

**Where:** \_ - space

**Description:**

- Range overflow (message: „FULL2” on the display)
- Unit „kg”

**C. In case that a command includes three characters.**

**Example 1:**

**S U I C R L F** – computer command

**S U I \_ \_ \_ \_ \_ 1 2 3 1 8 . 0 \_ c t \_ C R L F** - command executed and mass returned

**Where:** \_ - space

**Description:**

- Stable weighings result
- Sign „+”
- Unit „ct”

**Example 2:**

**S U I C R L F** computer command

**S U I ? \_ \_ \_ \_ \_ 6 8 . 2 3 7 \_ N \_ \_ C R L F** command executed and mass returned

**Where:** \_ - space

**Description:**

- Non-stable weighings result
- Sign „-”
- Unit „N”

**Example 3:**

**S U I C R L F** – computer command

**S U I v \_ \_ \_ \_ \_ 0 . 0 0 0 \_ k g \_ C R L F** - command executed and mass returned

**Where:** \_ - space

**Description:**

- Range overflow (message: „null” on the display)
- Unit „kg”

## 19.4. Manual printout

Users can generate printouts by pressing ENTER/PRINT. Settings (see 12.1. Printout type)

### **Notice:**

*If a scale is verified printouts of immediate values are blocked.*

### **Frame format**

|           |       |      |      |       |      |    |    |    |    |
|-----------|-------|------|------|-------|------|----|----|----|----|
| 1         | 2     | 3    | 4-12 | 13    | 14   | 15 | 16 | 17 | 18 |
| stability | space | sign | mass | space | Unit |    |    | CR | LF |

Stability character [space] f stable

[?] if not stable

[^] If an indication over the range

[v] if fan indication below the range

sign [space] for positive values or

[-] for negative values

mass 9 characters justified to the right

unit 3 characters justified to the left

### **Example 1:**

\_\_\_\_\_ 1 8 3 2 . 0 \_ g \_ \_ CR LF – printout after pressing  
ENTER/PRINT

**Where:** \_ - space

### **Description:**

- Stable weighings result
- Sign „+”
- Unit „g”

### **Example 2:**

? \_ - \_ \_ \_ 2 . 2 3 7 \_ l b \_ CR LF - printout after pressing ENTER/PRINT

**Where:** \_ - space

### **Description:**

- Non-stable weighings result
- Sign „-”
- Unit „lb”

### Example 3:

^ \_ \_ \_ \_ \_ 0 . 0 0 0 \_ k g \_ CR LF - printout after pressing ENTER/PRINT

Where: \_ - space

#### Description:

- Range overflow (message: „FULL2” on the display)
- Unit „kg”

## 19.5. Continuous transmission

The indicator can work in a continuous transmission mode. It can be switched on or off in parameters or using RS232 commands

### Continuous transmission setting

(see - 12.1 Printout type)

- **C1 CR LF** – Switch on continuous transmission in basic unit
- **C0 CR LF** – Switch off continuous transmission in basic unit

### Frame format

|   |   |       |                     |       |      |      |       |      |    |    |    |    |
|---|---|-------|---------------------|-------|------|------|-------|------|----|----|----|----|
| 1 | 2 | 3     | 4                   | 5     | 6    | 7-15 | 16    | 17   | 18 | 19 | 20 | 21 |
| ? | ^ | space | Stability character | space | sign | mass | Space | unit |    |    | CR | F  |

Stability character [space] † stable

[?] if not stable

[^] If an indication over the range

[v] if an indication below the range

sign [space] for positive values or

[-] for negative values

mass 9 characters justified to the right

unit 3 characters justified to the left

- **CU1 CR LF** – Switch on continuous transmission in current unit
- **CU0 CR LF** – Switch off continuous transmission in current unit

## Frame format

|   |   |   |                     |       |      |      |       |      |    |    |    |    |
|---|---|---|---------------------|-------|------|------|-------|------|----|----|----|----|
| 1 | 2 | 3 | 4                   | 5     | 6    | 7-15 | 16    | 17   | 18 | 19 | 20 | 21 |
| 8 | U | I | Stability character | space | sign | mass | Space | unit |    |    | CR | LF |

Stability character [space] if stable

[?] if not stable

[^] if an indication over the range

[v] if an indication below the range

sign [space] for positive values or

[-] for negative values

mass 9 characters justified to the right

unit 3 characters justified to the left

## 19.6. Configuring printouts

### General information

If some information included are redundant or not sufficient and there is a necessity of changes one can design their own protocol format in

**EDYTOR WAG** computer program. This piece of software is accessible in:  
<http://www.radwag.eu>

## 20. ERROR MESSAGES

|            |                                                                                                            |
|------------|------------------------------------------------------------------------------------------------------------|
| "Err2"     | value beyond the zero range                                                                                |
| "Err3"     | value beyond the tare range                                                                                |
| „Err4"     | Calibration mass or start mass beyond the acceptable range ( $\pm$ % for weight, $\pm 10$ for start mass). |
| „Err5"     | Mass of a single piece lower than the scale division.                                                      |
| "Err7"     | power down time was too short (should be over 3s)                                                          |
| "Err8"     | operation time exceeded taring/zeroing                                                                     |
| „NULL"     | zero value from the AD converter                                                                           |
| „FULL2"    | measurement range overflow                                                                                 |
| „LH"       | start mass error, the mass on the weighing platform is beyond the acceptable range $\pm 10$ of start mass. |
| „5 – FULL" | - Display range overflow in totalizing.                                                                    |

## 21. TECHNICAL PARAMETERS

### 21.1. Table platform scales of WPT/F series

| Technical parameters: | WPT/F<br>3/6C/K                  | WPT/F<br>6/15C/K | WPT/F<br>15/30C/K |
|-----------------------|----------------------------------|------------------|-------------------|
|                       | WPT/F<br>3/6C                    | WPT/F<br>6/15C   | WPT/F<br>15/30C   |
| Max capacity          | 3/6kg                            | 6/15kg           | 15/30kg           |
| Min capacity          | 20/40g                           | 40/100g          | 100/200g          |
| Readability           | 1/2g                             | 2/5g             | 5/0g              |
| Verification division | 1/2g                             | 2/5g             | 5/0g              |
| Range of tare         | -5kg                             | -15kg            | -30kg             |
| Operation temperature | -10°C to +40°C                   |                  |                   |
| Power supply          | 230 V 50 Hz/11V AC / 6xAA (NIMH) |                  |                   |
| Platform size         | 300 x 300 mm                     |                  |                   |
| Weight                | 4,8kg                            |                  |                   |
| Interface             | RS 232                           |                  |                   |

#### Notice:

Letter /K means indicator connected only via a cable

### 21.2. Table platform scales of WPT/R series

| Technical parameters:                          | WPT/R 1,5/3C                                       | WPT/R 3/6C |
|------------------------------------------------|----------------------------------------------------|------------|
| Max capacity                                   | 1,5/3 kg                                           | 3/6 kg     |
| Readability                                    | 0,5/1 g                                            | 1/2 g      |
| Tare range                                     | -1,5/ -3 kg                                        | -3/ -6 kg  |
| Platform size                                  | 230x160 mm                                         |            |
| Operation temperature                          | -10° to +40°C                                      |            |
| Interface                                      | RS 232                                             |            |
| Power supply                                   | 230V AC, 50Hz / 11V AC rechargeable batteries 6xAA |            |
| Average operation when supplied from batteries | 35 hours (average time)                            |            |
| Ingress protection rating                      | IP 65 - steel, IP 54 - plastic                     |            |
| Display                                        | LCD (with backlight)                               |            |
| Weight                                         | 7,4 kg                                             |            |

### 21.3. Platform scales of WTC series

| Technical parameters:                          |                                                     | WTC 6<br>C1   | WTC 15<br>C1   | WTC 30<br>C1   |                |
|------------------------------------------------|-----------------------------------------------------|---------------|----------------|----------------|----------------|
|                                                |                                                     | WTC 6<br>C1/K | WTC 15<br>C1/K | WTC 30<br>C1/K |                |
|                                                | WTC 3<br>C1/R                                       | WTC 6<br>C1/R | WTC 15<br>C1/R | WTC 30<br>C1/R | WTC 30<br>C2/R |
| Max capacity                                   | 3 kg                                                | 6 kg          | 15 kg          | 30 kg          | 30 kg          |
| Readability                                    | 1 g                                                 | 2 g           | 5 g            | 10 g           | 10 g           |
| Tare range                                     | -3 kg                                               | -6 kg         | -15 kg         | -30 kg         | -30 kg         |
| Platform size                                  | 290×390 mm                                          |               |                |                |                |
| Operation temperature                          | -10° - +40 °C                                       |               |                |                |                |
| Interface                                      | RS 232                                              |               |                |                |                |
| Power supply                                   | IP 65 - steel, IP 54 - plastic                      |               |                |                |                |
| Average operation when supplied from batteries | 230V AC, 50Hz / 11V AC, rechargeable batteries 6×AA |               |                |                |                |
| Ingress protection rating                      | 35 hours (average)                                  |               |                |                |                |
| Display                                        | LCD with backlight                                  |               |                |                |                |

| Technical parameters:                          | WTC 50<br>C2                                        | WTC 150<br>C2   | WTC 300<br>C2   | WTC 150<br>C3   | WTC 300<br>C3   |
|------------------------------------------------|-----------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
|                                                | WTC 50<br>C2/K                                      | WTC 150<br>C2/K | WTC 300<br>C2/K | WTC 150<br>C3/K | WTC 300<br>C3/K |
|                                                | WTC 50<br>C2/R                                      | WTC 150<br>C2/R | WTC 300<br>C2/R |                 |                 |
| Max capacity                                   | 50 kg                                               | 150 kg          | 300 kg          | 150 kg          | 300 kg          |
| Readability                                    | 20 g                                                | 50 g            | 100 g           | 50 g            | 100 g           |
| Tare range                                     | -60 kg                                              | -150 kg         | -300 kg         | -150 kg         | -300 kg         |
| Platform size                                  | 400×500 mm                                          |                 |                 | 500×700 mm      |                 |
| Operation temperature                          | -10° - +40 °C                                       |                 |                 |                 |                 |
| Interface                                      | RS 232                                              |                 |                 |                 |                 |
| Power supply                                   | IP 65 - steel, IP 54 - plastic                      |                 |                 |                 |                 |
| Average operation when supplied from batteries | 230V AC, 50Hz / 11V AC, rechargeable batteries 6×AA |                 |                 |                 |                 |
| Ingress protection rating                      | 35 hours (average)                                  |                 |                 |                 |                 |
| Display                                        | LCD with backlight                                  |                 |                 |                 |                 |

**Notice:**

*Letter /K means indicator connected only via a cable*



## 21.4. Platform scales of WPT...H series

| Technical parameters                           | WPT 3H1                                           | WPT 6H2    | WPT 15H2   | WPT 15H3   | WPT 30H3   | WPT 60H3   | WPT 150H3   |
|------------------------------------------------|---------------------------------------------------|------------|------------|------------|------------|------------|-------------|
|                                                | WPT 3H1/K                                         | WPT 6H2/K  | WPT 15H2/K | WPT 15H3/K | WPT 30H3/K | WPT 60H3/K | WPT 150H3/K |
| Max capacity                                   | 3 kg                                              | 6 kg       | 15 kg      | 15 kg      | 30 kg      | 60 kg      | 150 kg      |
| Readability                                    | 1 g                                               | 2 g        | 5 g        | 5 g        | 10 g       | 20 g       | 50 g        |
| Range of tare                                  | -3 kg                                             | -6 kg      | -15 kg     | -15 kg     | -30 kg     | -60 kg     | -150 kg     |
| Platform size                                  | 200×150 mm                                        | 250×300 mm |            | 410×410 mm |            |            |             |
| Work temperature                               | -10° - +40 °C                                     |            |            |            |            |            |             |
| Interface                                      | RS 232                                            |            |            |            |            |            |             |
| Ingress protection rating                      | IP 67 - steel, IP 66/67 - plastic                 |            |            |            |            |            |             |
| Power supply                                   | 230 V, 50 Hz and internal gelcell SLA accumulator |            |            |            |            |            |             |
| Average operation when supplied from batteries | 45 hours (average)                                |            |            |            |            |            |             |
| Display                                        | LCD                                               |            |            |            |            |            |             |
| Weight                                         | 4 kg                                              | 5,6 kg     |            | 13 kg      |            |            |             |

| Technical parameters                           | WPT 60H4                                          | WPT 150H4   | WPT 60H5   | WPT 150H5   | WPT 300H5   | WPT 150H6   | WPT 300H6   |
|------------------------------------------------|---------------------------------------------------|-------------|------------|-------------|-------------|-------------|-------------|
|                                                | WPT 60H4/K                                        | WPT 150H4/K | WPT 60H5/K | WPT 150H5/K | WPT 300H5/K | WPT 150H6/K | WPT 300H6/K |
| Max capacity                                   | 60 kg                                             | 150 kg      | 60 kg      | 150 kg      | 300 kg      | 150 kg      | 300 kg      |
| Readability                                    | 20 g                                              | 50 g        | 20 g       | 50 g        | 100 g       | 50 g        | 100 g       |
| Range of tare                                  | -60 kg                                            | -150 kg     | -60 kg     | -150 kg     | -300 kg     | -150 kg     | -300 kg     |
| Platform size                                  | 500×500 mm                                        |             | 600×600 mm |             | 300×900 mm  |             |             |
| Work temperature                               | -10° - +40 °C                                     |             |            |             |             |             |             |
| Interface                                      | RS 232                                            |             |            |             |             |             |             |
| Ingress protection rating                      | IP 67 - steel, IP 66/67 - plastic                 |             |            |             |             |             |             |
| Power supply                                   | 230 V, 50 Hz and internal gelcell SLA accumulator |             |            |             |             |             |             |
| Average operation when supplied from batteries | 45 hours (average)                                |             |            |             |             |             |             |
| Display                                        | LCD                                               |             |            |             |             |             |             |
| Weight                                         | 19 kg                                             |             | 22 kg      |             | 42 kg       |             |             |

## 22. TROUBLE SHOOTING

| Problem                                      | Cause                                                | Solution                                             |
|----------------------------------------------|------------------------------------------------------|------------------------------------------------------|
| Turning on does not work                     | Discharged batteries.                                | Connect to mains or change batteries                 |
|                                              | No batteries (not installed or improperly installed) | Check the correctness of installation (polarization) |
| The scale turns off automatically            | „t1“ set to „YES“ (Power save)                       | In „pthr“ submenu change „5.4 t1“ to „no“            |
| After turning on „LH“ message on the display | Loaded weight pan during powering up                 | Unload the pan. Then the scale will indicator zero.  |

## 23. ADDITIONAL EQUIPMENT

- WD- 4/1** Additional display in plastic casing (for scales with PUE C/31 indicator)
- WD- 4/3** Additional display in stainless metal housing (for PUE C/31H, PUE C/31H/Z)
- WWG-1** Large size display (2") for PJE C/31H, PUE C/31H/Z
- AP2-1** Current loop in plastic casing for PUE C/31
- AP2-3** Current loop in metal housing PUE C/31H, PUE C/31H/Z
- K0042** Power cord for car lighter 12V DC for PUE C/31H/Z
- K0047** Power cord for car lighter 12V DC for PUE C/31
- P0136** KAFKA printer cable for PUE C/31 indicators
- P0108** Computer cable
- P0253** Printer cable KAFKA for PUE C/31H
- P0259** Computer cable for PUE C/31H
- P0261** FPSON printer for PUE C/31H
- P0151** FPSON printer cable for PUE C/31

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