Manual instruction

platform scales

table platform scales /F series
table platform scales /R series
platform scales with plastic head

Contents

1. APPROPRIATION

WPT scales are appriopriate for fast and precise measurements. Setting to tare in all measure range enables to determine net mass of weighed loads. The additional display is also offered as additional equipment. It can be used for controlling mass of weighed articles by other user.

Additional functions of the instrument:

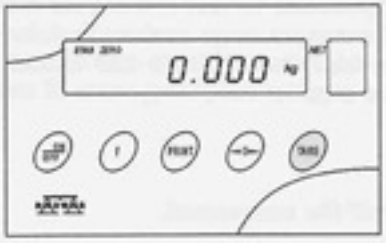
- Counting pieces
- control +/- in relation to standard mass
- average result
- digital filter
- checking the supplying voltage
- time switcher

The scales equiped with RS 232 have also additional functions:
- set up the speed of transmission in range of 1200- 19200 bit/s
- automatic or manuall printout

Not verified scales have also following functions:
- weighing if the AUTOZERO is switched off
- determine max pressure force on the pan or max mass on the pan [g] or [kg] ("hold")
- determine pressure force on the pan in newtons
- printout result on the separate printer or cooperation with computer (RS 232) with possibility of blockade printing non-stable measurement

NOTICE
The RS232 is installed optionally as requested by the user. If the scale is not equiped with this socket settings bod and rEPL does not work.

2. KEYBOARD



3. BUTTONS

ON/OFF	Turn on/off
F	Sett-up functions (user menu)
PRINT	transmitting indications to printer or computer
→0←	Sett-up to zero
TARE	Tare scale

Notice:
if the F button is pressed all functions of the buttons are changed for the time of sett-up. Procedure of using them is included in further part of the instruction.

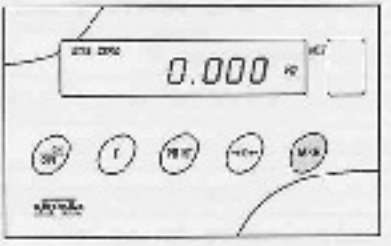
COMMANDS ON DISPLAY

No	COMMAND	DESCRIPTION
1.	bod	Speed of transmission
2.	AUE	average result of weighing
3.	PIECE	Counting pieces
4.	StEPS	Control +/- in relation to the standard mass
5.	rEPL	Automatic printout
6.	STAB	Description of printed data
7.	Auto	Control and correction zero indication of the scale
8.	t1	Temporary switch scale off
9.	toP	Determine max pressure force on the pan
10.	nE	Measurement of mass in newtons
11.	ZERO	Scale in autozero zone (indication=precise zero)
12.	STAB	Result is stable (ready to readout)
13.	PCS	Mode of counting pieces
14.	kg (g)	Scale in weighing mode
15.	- LH -	The scale is started with load higher than 15% of max capacity on the scale. The limits of the inervals are settled incorrectly for % deviations from the standard mass.
16.	BAT-LO batter	Discharged battery, The scale switches off after 5 minutes
17.		Control +/- in relation to standard mass - setting down level or mass is below the first range
18.		Control +/- in relation to standard mass: sett up upper level or mass above upper level
19.	- Lo -	Too low singular standard mass (mode of counting pieces)
20.		Control +/- in relation to standard mass: load mass is in settled interval

4. START UP AND SERVICE

- Unwrap the scale and put it on the stable flat ground far from sources of heat. Level balance by means of regulation legs and level indication installed on the base of the scale.
- Press the button ON/OFF to switch on the supplying.
- After start up the scale test of the scale is done. The zero indication appears on the display. Following commands appear on the display:

ZERO	- scale shows precise zero
STAB	- stable result of measurement
(kg)	- scale is in weighing mode



The scale is ready to work

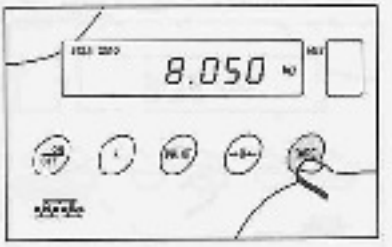
5. WEIGHING

Put load on the pan. Time of stabilization is about 3s. After this time **STAB** appears on the display, result of the weighing can be readout.

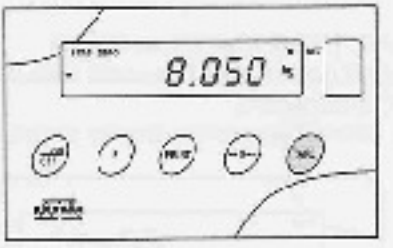
If max strength of thrust on the pan [N] or max load on the pan(function ***toP***) is determined **STAB does not appear.**

6. TARE AND SETT UP TO ZERO

To determine net mass put the container on the pan and after stabilization press the TARE button (the indication shows zero, indicator is on the right side of the display). After putting the load on the pan display shows nett mass.



The sett- up TARE can be done all measure range of the scale. When TARE function is used, please, remember not to exceed max measure of the scale. After take the container and load off the pan summary of tared masses appears on the display.



Sett-up to zero

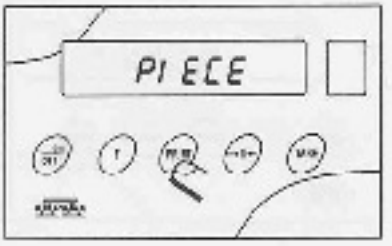
Sett-up the display to zero is possible only to +/- 2% of max capacity of the scale. If the zero value is higher than 2% of max capacity the display shows command **UAL 4**.

The sett-up to zero is the same as determination new zero point which is taken as precise zero by the scale. The sett-up to zero is possible only for stable indications of the display.

7. COUNTING PIECES OF THE SAME MASS

The procedure:

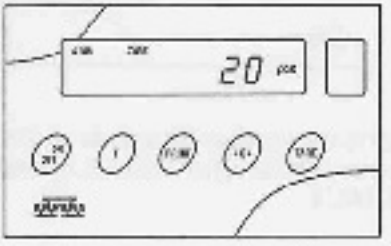
- put container on the scale and tare its mass to scale memory **TARE**, put as many pieces as we declare as standard into the container
- press key **F** repeatedly, untill order **PIECE** appears on display



- press key **PRINT** to sett-up quantity of the standard
- sett-up quatity of standard by means of:
-

TARE – digital
PRINT – value

- confirm by key F , **LOAD** appears on display
- press the **F** button once again. The scale shows amount of pieces on the pan and PCS command
- After put on or take off pieces the display shows their quantity



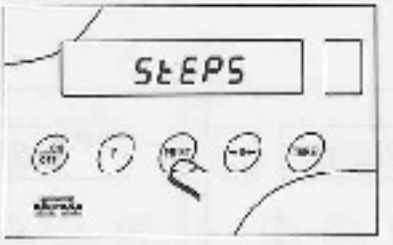
Return to weighing mode:
- press the F button many times until PIECE appears on the display
- Press the TARE button

Notice:
During sett-up quantity standard remember that preciseness of counting depends on metrological paramcters and repeatability of mass singular pieces. The quantity standard higher the result is more precise.

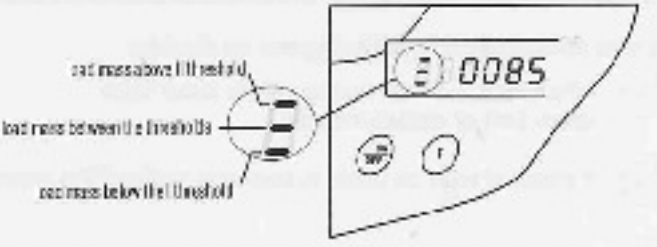
8. CONTROL +/- IN RELATION TO STANDARD MASS

Procedure:

- press **F** button repeatedly , until STEPS appears on display
- press **PRINT** button to start programming value of threshold

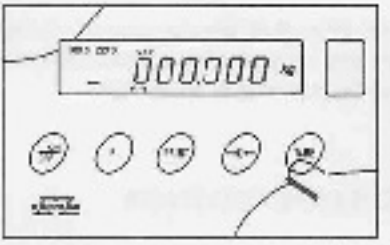


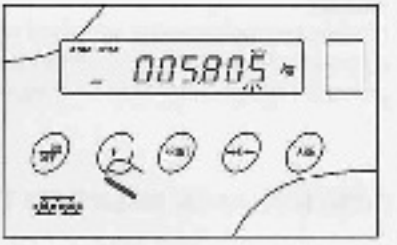
During setting up limits value following values appear:



down limit of the interval

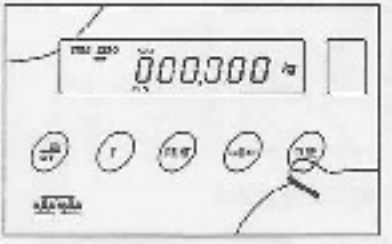
TARE – choose digital
PRINT - choose value of digital
F – confirm recorded data

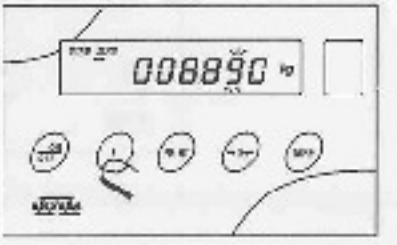




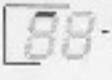
upper limit of the interval

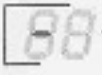
TARE - choose digital
PRINT - choose value of digital
F - confirm recorded data





From now additional commands appear on display:

 - when mass of load on the pan is lower than down limit of settled interval

 - if mass of load on scale is between limits of the interval

 - when mass of load on scale is above upper limit of defined range

NOTICE:

If the limits of the interval are settled incorrrectly (value of down limit is higher than upper limit) the scale shows command about error ***-LH-***.

Return to weighing mode:

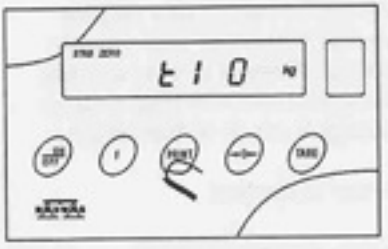
- press **F** key repeatedly until order **STEPS** appears on display
- press **TARE** key

9. AUTOMATIC TURN BALANCE OFF

This function is necessary to save-up the battery. The scale switches off if no weighing is done during last 5 minutes (function t1 = 1). This function can be switched off if it disturbs in work or if the supply is buffore.

Procedure:

- press the **F** button untill command t1 appears on the display



- press the **PRINT** button to select one of two values:

  t1 1 - function **„Automatic turn off" is active** (for battery and acumulator work)

  t1 0 - function **„Automatic turn off" is not active** (recomended for net work)

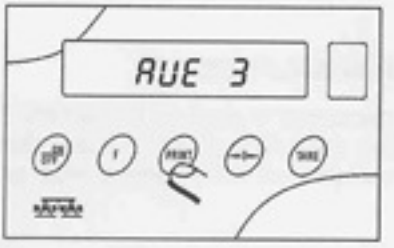
- to confirm press the **F** button

10. WEIGHING WITH AVERAGE RESULT <AUE>

The function of average result helps user in adapting the scale to the conditions of work. The value of average depends on conditions of work. If the conditions are non-stable (vibrations) the measurement is done with established preciseness.

Procedure:

- press the **F** button until **AUE** appears on display



- press the **PRINT** button untill one of following values appears on the display:
  - **1** - average **I** result of filter degree
  - **2** - average **II** result of filter degree
  - **3** - average **III** result of filter degree
  - **4** - average **IV** result of filter degree
  - **5** - average **V** result of filter degree

- press the **F** button to confirm

Notice:
The higher degree of average the longer time of weighing.

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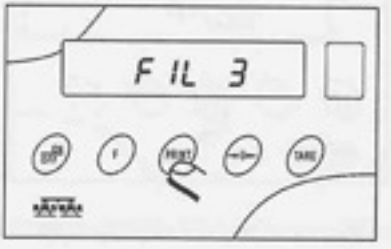
11. DEGREE OF FILTER <FIL>

In order to make operation of balance easier parameter to sett-up size of filter is introduced additionally. This parameter has influence on stability o result dependly on conditions in place of usage.

Procedure:

- Press the **F** button until order **FIL** 3 appears on display



- To select one of following numbers that refers to degree of avera press the **PRINT** button:

  1 – I degree of filter
  2 – II degree of filter
  3 – III degree of filter
  4 – IV degree of filter

- Press the **F** button to confirm.

Notice:
The higher degree of filter the longer time of weighing.

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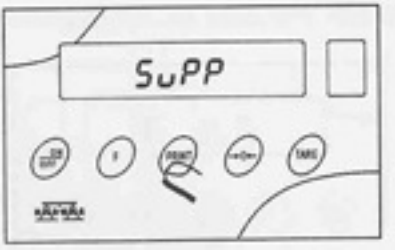
12. DISPLAY SUPPLY VOLTAGE OF THE SCALE <SuPP >

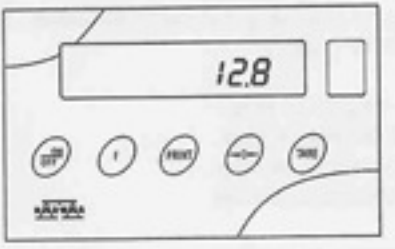
Checking supply voltage on main board of balance.Voltage is shown in Volts.

Procedure:

- press the **F** button untill command **SuPP** appears on display



- to activate monitoring of supply voltage press the **PRINT** button



To return to weighing press the **F** button

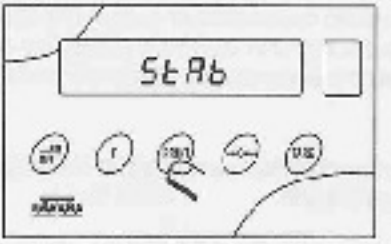
13. SPECIAL FUNCTIONS OF THE SCALE

13.1. DETERMINE TYPE OF DATA SENT BY RS 232

(only for not verified scales)

Procedure:

- Press the **F** button repeatedly untill order **StAb** appears on display



- press the **PRINT** button repeatedly until one of two commands appears on display:

StAb 0 – sending stable result of weighing
StAb 1 – sending stable or temporary result of weighing

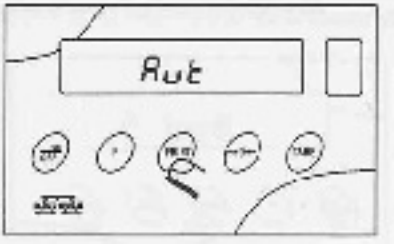
Atention:
For StAb 1 setting parameter <rEPL> should be settled on 0

13.2. AUTOZERO FUNCTION

(only for not verified scales)

Procedure:

- press **F** key repeatedly, until **AUt** appears on display



- to select one of two values press the PRINT button:

AUTO 0 - function **AUTOZERO** is turn on
AUTO 1 – function **AUTOZERO** is turn off

- to confirm press the **F** button

13.3. SETT-UP SPEED OF TRANSMISSION

External mechanism connected to socket RS 232 must be supplied from common net f.eg. with common protection against shock (lack of difference of electric potencial on conductors of balance and attached mechanism).

Parameters of the transmission recorded in the scale:

- Speed of transmission - 4800 bit / s
- Data bits - 8
- Stop bit - 1
- Control of parity - lack.

Value shown on balance display can be sent to external mechanism by connection in one of three ways:

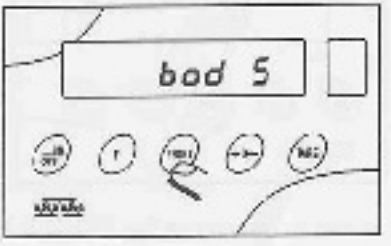
- Manually – after press **PRINT** key
- Automatically – after stabilization
- On demand of external mechanism – see additional functions- - „List of orders balance - computer".

Displayed value can be sent by series connector as:

- stable – start sending information after stabilization
- not stable

Procedure of sett-up the speed of transmission:

- press **F** key repeatedly untill order **bod 5** appears on display



- press **PRINT** key repeatedly untill numer of chosen speed of transmission appears on display

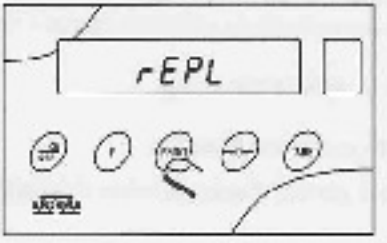
bod 3	-	1200 bit/s
bod 4	-	2400 bit/s
bod 5	-	4800 bit/s
bod 6	-	9600 bit/s
bod 7	-	19200 bit/s

- press the F button to confirm.

13.4. SETT-UP WORK MODE FOR RS 232 SOCKET

Procedure:

- press F button repeatedly untill order **rEPL** appears on display



- press the F button to confirm.
  press **PRINT** key many times untill one of orders appears on display:

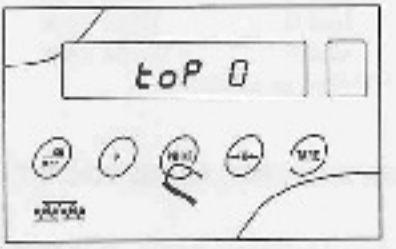
rEPL 0 – manual work (after pressing **PRINT** key)
rEPL 1 – automatic work (after atabilization of the resul:)

13.5. MEASUREMENT OF MAXIMUM STRENGTH OF THRUST ON THE PAN [N] („HOLD")

(only for not verified scales)

Procedure:

- Press the **F** button repeatedly until command **toP** appears on display



- Press the **PRINT** button to select:
  toP 1- scale in work mode of measurement max of strength or mass
  toP 0- scale in work mode in **kg**
- To confirm press the F button

Sign ▼ in upper part of display confirm that **toP1** is selected

- if indication of balance is different from zero press key →0←
- load the pan by changeable strength. Value of max strength is holded on display. Before next measurement press the button →0←

Return to weighing in [kg]

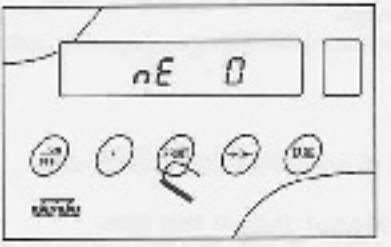
- press the F button repeatedly until toP appears on display
- to select **toP 0** by press the **PRINT** button, to confirm press the **F** button

13.6. DETERMINE THRUST FORCE ON THE PAN

(only for not verified scales)

Procedure:

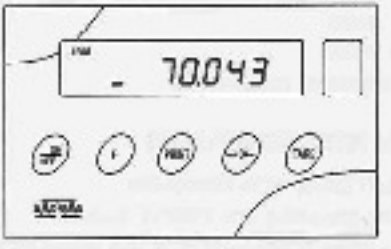
– press **F** key repeatedly till order **nE** appears on display



– press the **PRINT** button and select:

nE 1 – scale in work mode measurement of thrust in **[N]**
nE 0 – scale in work mode, weighing in **kg**

– to confirm press the F button
– if sign ⏥ appears before numbers on display **nE1** is confirmed unit of measure **[N]** is not displayed



Return to weighing:
– press **F** key repeatedly untill **nE** appears on display
– select **nE 0** by pressing **PRINT** button
– confirm by F button

13.7. COOPERATION WITH PRINTER

If the button **PRINT** s pressed the signal is sent to printer each time. Signal refers to actual state of display with measurement units (if balance has RS 232 installed).

Dependly on setting parameter **StAB** it can be printout of stable or temporary value. Dependly on setting parameter **REPL** printout can be automatic or manual.
One of thermal printers KAFKA can cooperate with every platform balance:

a) **KAFKA**
Printout of result of weighing with measure units.

b) **KAFKA 1/Z**
This printer has internal clock of real time.
Time and date can be printed after connecting printer to supply net.

c) **KAFKA SQ S**
There is a clock of real time and possibility to make statistics measurement in this sprinter.
Statistics contains:
- Batch quality
- Summary of mass of all samples
- average value
- standard deviation
- variation factor
- min value
- max value
- difference in max – min

13.8. COOPERATION WITH COMPUTER

Results of weighing can be sent to computer:
- manually – after pressing the PRINT buttor
- automatically – after stabilization of the result of weighing (when REPL 1 and balance was in autozero zone before putting load on the pan)
- on demand of computer – see "List of commands in RADWAG scales"

14. LIST OF ORDERS IN RADWAG SCALES

Function - **TARA**
Format - **T CR LF**
Appriopiation - setting to tare

Function - **ZERO**
Format - **Z CR LF**
Appropriation - setting to zero.

Function - **PRINT**
Format - **SI CR LF**
Appriopiation - sending this command to the scale makes return sending contents of display register. When FULL appears on the display the scale sends S + CR LF instead of contents.

Function - **STABLE DATA** (equivalent for STAB 0)
Format - **S 0 CR LF**
Appriopiation - sett-up data as a stable to print them

Function - **NON-STABLE DATA** (**PRINT** was pressed on)
Format - **S 1 CR LF**
Appriopiation - sett-up data as a stable and non-stable to print them.

If command which is not included in the register or is an error and ends witl CR LF is sent to the scale the scale returns command E S CR LF.

15. COMMANDS ABOUT ERRORS

FuLL- 2 - range of weighing was exceeded
- LH - - levels of intervals are settled incorrectly (**STEPS**) or balance was turn on with load on the pan

16. TECHNICAL PARAMETERS

16.1. Table platform scales /F series

	WPT/F 3C	WPT/F 6C	WPT/F 15C	WPT/F 30C
Max capacity	3 kg	6 kg	15 kg	30 kg
Min capacity	20 kg	40 kg	100g	200g
Reading accuracy	1g	2g	5g	10g
Verification scale interval	1g	2g	5g	10g
Range of tara	-3kg	-6kg	-15kg	-30kg
Temperature of work	0°C to +40°C			
supply	230 V 50 Hz/10,5V battery 6 x R6			
Pan size	300 x 300mm			
Gross mass	4,8kg			
Output signal	Optionally RS 232			

16.2. Table platform scales /R series

	WPT/R 6C2	WPT/R 15C2	WPT/R 30C3	WPT/R 60C3
Max capacity	6 kg	15 kg	30 kg	60 kg
Min capacity	40g	100g	200g	400g
Reading accuracy	2g	5g	10 g	20g
Verification scale interval	2g	5g	10g	20g
Range of tara	-6kg	-15kg	-30kg	-60kg
Temperature of work	0°C to +40°C			
Supply	230 V 50 Hz/10,5V battery 6 x R6			
Pan size	250 x 300mm		410 x 410mm	
Gross mass	5,4 kg		9kg	
Output signal	Optionally RS 232			

16.3 Platform scales WPT xx C series

	WPT 15 C3	WPT 30 C3	WPT 60 C3	WPT 150 C3	WPT 60 C4	WPT 150 C4	WPT 60 C5	WPT 150 C5	WPT 300 C5
Max capacity	15kg	30kg	60kg	150kg	60kg	150kg	60kg	150kg	300kg
Min capacity	0.1kg	0.2kg	0.4kg	1kg	0.4kg	1kg	0.4kg	1kg	2kg
Reading accuracy	5g	10g	20g	50g	20g	50g	20g	50g	100g
Verification scale interval	5g	10g	20g	500g	20g	50g	20g	50g	100g
Range of the tare	- Max								
Pan size	410 x 410mm				500 x 500mm		600 x 600mm		
Temp of work	0°C to + 40°C								
Supply voltage	230 V 50 Hz/ 10,5V AC, battery supply 6 x R6								
Gross mass	12kg				18kg		21kg		
Output signal	Optionally RS 232								

17. ADDITIONAL EQUIPMENT

Table pan scales WPT xx/F series
- additional display
- RS 232

Table pan scales WPT xx/R
- additional display
- RS 232

Platform scales WPT xx/C series
- RS 232
- Rack under head with cable (steel version)