# **User Manual**

## **Scales of Y series**

Manual number: ITKU-43-17-07-15-A



- WLY Scales
- WPY Scales



## MANUFACTURER OF ELECTRONIC WEIGHING INSTRUMENTS

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46.3. Saving label templates in the scale	
46.4. Attributing a label to a product	
46.5. Attributing a label to a client	
46.6. Printing labels	
47. APPENDIX D - CITIZEN printer setting	
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49. APPENDIX F - Communication with barcode scanners	
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## 1. INTENDED USE

Scales are the response for the market demands concerning simplicity of operation and high functionality. They are intended for quick and precise weighing in industrial and laboratory conditions. The state-of-the-art weighing terminal with TFT 5.7" colorful graphic displays with touch panels allows for intuitive operation without using keys.

Scales are equipped with 2 USB interfaces, 2 RS232 connectors, port Ethernet, 4 inputs /4 outputs (digital) and Wi-Fi b,g,n. They can cooperate with barcode scanners, receipt printers, label printers, transponder card readers (RFID) and standard PC equipment: mouse, keyboard, pendrives (limited use).

## 2. PRECAUTIONARY MEASURES

- A. Please, read carefully this user manual before and use the device according to its intended use;
- B. Weighed loads should be placed in possibly central part of scale pan;
- C. Do not clean the device with agents causing corrosion;
- D. Weighing pan should be loaded with goods having gross mass lower than maximal capacity of the scale;
- E. Do not leave loads on the pan for longer period of time ;
- F. In case of failure, immediately disconnect scale power supply;
- G. Devices that are to be withdrawn from usage should be utilized according to the law.

## **3. WARRANTY CONDITIONS**

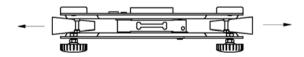
- A. RADWAG is obliged to repair or change those elements that appears to be faulty because of production and construction reason,
- B. Defining defects of unclear origin and outlining methods of elimination can be settled only in participation of a user and the manufacturer representatives,
- C. RADWAG 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. Forfeiture of warranty appears after:
  - Access by an unauthorized service,
  - Intrusion into mechanical or electronic construction of unauthorized people,
  - Installing another operating system,
  - 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.

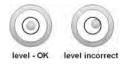
## 4. UNPACKING AND MOUNTING

#### 4.1. Scales of Y/C2, Y/F1 series

- A. Take the device out of the package,
- B. Put the scale on an even stiff ground,
- C. Remove transport protection:

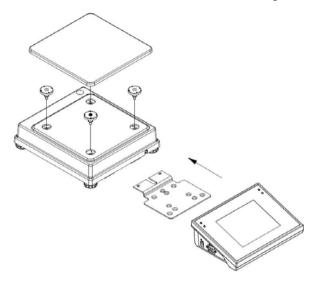


D. Scale should be levelled by turning regulation feet. Levelling is correct if air bubble is situated in the central position:



#### 4.2. Scales of Y/D2 series

- A. Take the device out of the package,
- B. Put the scale on an even stiff ground,
- C. Fit the pan and the bracket under the device according to the drawing:

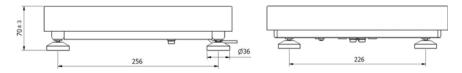


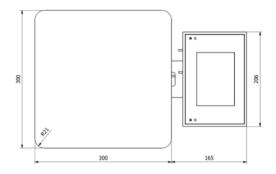
E. Scale should be levelled by turning regulation feet. Levelling is correct if air bubble is situated in the central position:



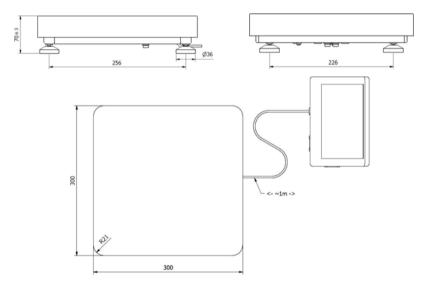
## 5. SCALE STRUCTURE

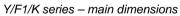
#### 5.1. Main dimensions

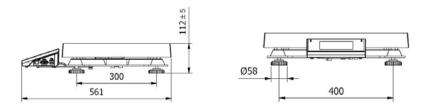




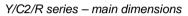
Y/F1/R series – main dimensions

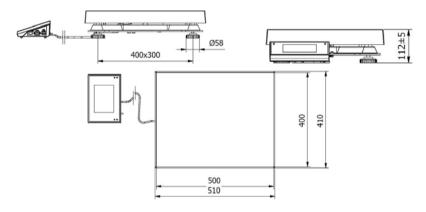




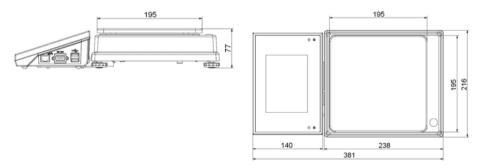








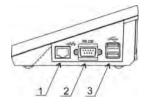
Y/C2/K series – main dimensions



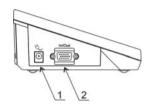
Y/D2 series – main dimensions

#### 5.2. Description of connectors

#### 5.2.1. Connectors' description in PUE 7.1

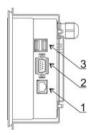


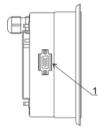
1 – Ethernet RJ45 2 – RS232 (COM1) 3 – USB



1 – power supply socket 2 – I/O, RS232 (COM2)

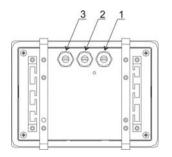
#### 5.2.2. Connectors' description in PUE 7.1P





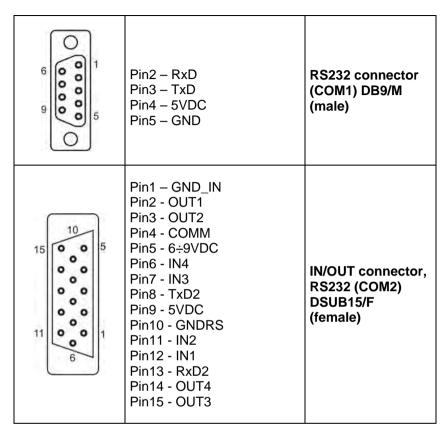
1 – Ethernet RJ45 2 – RS232 (COM1) 3 – USB 1 - I/O, RS232 (COM2)

#### 5.2.3. Description of glands PUE 7.1P



- 1 Supply cord gland
- 2 Gland for platforms 1, 2
- 3 Gland for platforms 3, 4

#### 5.2.4. Connector with RS232 and I/O



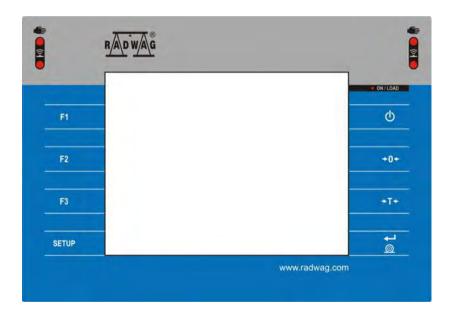
## 6. GETTING STARTED

- After the terminal is connected to power the ON/LOAD
   ON/LOAD diode starts to light.
- Press to start the operating system loading procedure. Windows CE together with RADWAG software loading is signalled by blinking the red diode ON/LOAD.
- When the loading procedure is completed the main software window appears.

#### 6.1. Balance levelling

This applies to precision balances of WLY series

- For proper use of the device room temperature should be between + C°15 and + C°30;
- After switching on, the device needs the 30 minute warm-up time;
- During the thermal stabilization of the weighing scales the indication may drift;
- For verified weighing scales, user calibration should be performed after the warm-up time.



#### 7. KEYPAD OVERLAY

## 8. FUNCTIONS OF KEYS

Key	Description
Φ	Turning on/off the scale
+0+	Zeroing
+T+	Tarring
<b>\$</b>	Printing out the result or confirming some entered data
SETUP	Function key (entering the menu)
F1	Programmable key
F2	Programmable key
F3	Programmable key

## 9. PROGRAM STRUCTURE

The main menu has been divided into twelve functional groups. In every group there are parameters of similar use.

## 9.1. Main menu items

Pictogram	Description
K	Scale
	Databases
	Reports
and the second s	Working Modes
0	Communication

R	Devices
	Display
<b>9</b> 9	Inputs / Outputs
<u>A</u>	Authorization
C [ct] (lb] C [g]	Units
668	Other
	User Adjustment
1	Info
(	Update
	Remote desktop

## 9.2. Inventory of parameters

## 9.2.1. Scale parameters - weighing

Pictogram	Description	Value	
Pm	Median Filter		
Filter		Fast	
<b>◆</b> []◆	Autozero		
i	LO threshold	0.1	
3.46	Last digit	Always	

## 9.2.2. Working modes

Pictogram		Description	Value
<b>S</b>		Accessibility	-
	3	Weighing	<
	220	Parts counting	<
Č.	3	Percent setup	<
2		Dosing	<
		Formulation	<
	Ľ.	Animal weighing	<
Z	5	Density	<
e	9	CPG	<
		Vehicle scale	<
8		Weighing	-
West I		Save Mode	Manual, each stable
TAN I	3	Down-weighing	~
	5	Checkweighing	~
4		Tare mode	Single
and a second sec	3	Labelling mode	-
	4	Number of labels	1
		No. of cumulative labels	1

				No. of CC labels	1
		AUTO		C label automatic triggering	-
				Mode	None
			1	Threshold	100
		AUTO		CC label automatic triggering	-
				Mode	None
			M	Threshold	100
				Statistics	Global
	A-B			Differential weighing	-
		A-B		Activation	<b>V</b>
		ABC		Batch portion type	Value
		<b>H</b>		Charge	1
				Min 2, Max 2 thresholds active	$\checkmark$
	MAX			Peak hold	$\checkmark$
				Information about saved measurement	$\checkmark$
	×			Ingredient weight entered manually	$\checkmark$
000				Parts counting	-
	SMP			Automatic correction of reference mass	$\checkmark$
	MIN			Minimum reference mass	10d
	Mar I			Save Mode	Manual, each stable

	8			Down-weighing	$\checkmark$
	2			Checkweighing	~
				Tare mode	Single
	6			Labelling mode	-
		6		Number of labels	1
				No. of cumulative labels	1
		4		No. of CC labels	1
		AUTO		C label automatic triggering	-
			007	Mode	None
				Threshold	100
		AUTO		CC label automatic triggering	-
				Mode	None
				Threshold	100
	allina			Statistics	Global
	<b>F</b>			Information about saved measurement	$\checkmark$
	×?			Ingredient weight entered manually	$\checkmark$
٤%				Percent setup	-
				Save Mode	Manual, each stable
	Contraction of the second seco			Down-weighing	$\checkmark$
				Checkweighing	$\checkmark$

	483			Tare mode	Single
				Labelling mode	-
				Number of labels	1
				No. of cumulative labels	1
				No. of CC labels	1
		AUTO		C label automatic triggering	-
			007	Mode	None
			12	Threshold	100
		AUTO		CC label automatic triggering	-
				Mode	None
			1	Threshold	100
	allina			Statistics	Global
				Information about saved measurement	$\checkmark$
	×?			Ingredient weight entered manually	$\checkmark$
Å				Dosing	-
	<u></u> ×?			Ask for multiplier	$\checkmark$
	<b>₽</b> ?			Ask for number of cycles	$\checkmark$
				Confirm batching ingredients manually	<
	× →			No. of weighments for calculating the correction	0
	A			Automatic cycle	$\checkmark$
	P			Global	-

		-		Batching outputs	-
			•	Output 1	0
			•	Output 2	0
			9	Output 3	0
			0	Output 4	0
		9		Bulk batching output	-
			9	Output 1	0
			9	Output 2	0
			9	Output 3	0
			9	Output 4	0
		←∎→		Correction	0
		MAX ←		Maximum correctional value	0
				Formulation	-
	<b>x</b> ?			Ask for multiplier	$\checkmark$
	<b>B</b> ?:			Ask for number of cycles	$\checkmark$
				Confirm batching ingredients manually	$\checkmark$
	103			Automatic tare	$\checkmark$
				Ingredient control	$\checkmark$
				Portion weighing	$\checkmark$
	Ø			Report printout	<b>V</b>
E				Animal weighing	-
	Mo			Averaging time	5
	(AUD)			Automatic mode	$\checkmark$

	8			Checkweighing	$\checkmark$
	-			Tare mode	Single
				Labelling mode	-
				Number of labels	1
				No. of cumulative labels	1
				No. of CC labels	1
		AUTO		C label automatic triggering	-
			007	Mode	None
				Threshold	100
		AUTO		CC label automatic triggering	-
			007)	Mode	None
				Threshold	100
				Statistics	Global
L.				Density	-
	R)			Standard liquid	Water
				Temperature	21
				Standard liquid density	1
				Sinker volume	0
	00285			Ask abort sample number	$\checkmark$
				Pycnometer mass	0
				Pycnometer density	0

□ [ct] □ [lb] □ [g]	Unit	g/cm <sup>3</sup>
	Save Mode	Manual, each stable
8	Checkweighing	$\checkmark$
T.	Tare mode	Single
allina	Statistics	Global
е	CPG	-
	Save Mode	Manual, each stable
$\underline{\bigcirc}_{1 2}$	Number of accessible controls	1
1288C	Ask for batch number	$\checkmark$
$\bigcirc$	Password required	<b>&gt;</b>
	Vehicle scales	-
√-= ×->	Default transaction type	Entry
	Select vehicle	From a list
P	Report printout	

## 9.2.3. Communication

Picto	gram	Description	Value
S		RS 232 (1)	-
	NV.	Baud Rate	9600
	010	Data bits	8
	010	Stop bits	1
	PARITY	Parity	None

C		RS 232 (2)	-
	W	Baud Rate	9600
	010	Data bits	8
	010	Stop bits	1
	PARITY	Parity	None
ŷ		Ethernet	-
	ŷ	DHCP	$\checkmark$
	ŷ	IP Address	192.168.0.2
	ŷ	Subnet mask	255.255.255.0
	Je .	Gateway	192.168.0.1
	ŷ	DNS	192.168.0.1
	Je .	MAC Address	-
		Тср	-
		Port	4001
		Wi-Fi	-
		Network status	-
		Available networks	-
		DHCP	<b>V</b>
		IP Address	-
		Subnet mask	-
		Default gateway	-

	DNS	-
	Mac address	-

## 9.2.4. Devices

	Pictogra	m	Description	Value
PC			Computer	
	P		Port	None
	습		Address	1
	S		Continuous transmission	$\checkmark$
	P.		Weighing Printout Template	-
	SYSIC		E2R System	-
		E212 SYSIEM	System is active	$\checkmark$
		-	Lock selecting products	$\checkmark$
5			Printer	-
	P		Port	RS 232 (1)
	ave		Code page	1250
	P		Printouts	-
		de la companya de la	Weighing printout template	See ch. 16.2.3
		J.	Report From Weighments Printout Template	See ch. 35.4.2
		J.	Cumulative printout template	See ch. 16.2.3
		J.	Cumulative printout template for cumulative data	See ch. 16.2.3

		No.	Adjustment report printout template	See ch. 22.3
		Contraction of the second seco	Dosing report printout template	See ch. 28.7
		A A	Formulation report printout template	See ch. 29.5
		J.	Printout Template of an Ingredient in a Formulation	See ch. 16.2.3
		J.	CPG report printout pattern (Control of Packacked Goods)	See ch. 30.14
		A A	Average tare report printout pattern (Control of Packacked Goods)	See ch. 30.13
		J.	Entry Ticket Printout Template	See ch. 33.5
		J.	Exit Ticket Printout Template	See ch. 33.5
		Contraction of the second seco	Control Weighment Ticket Printout Template	See ch. 33.5
		J.	Report From Vehicle Scale Printout Template	See ch. 33.5
		Contraction of the second seco	Density printout template	See ch. 31.4
		C.	Product printout template	See ch. 16.2.3
		Page 1	Operator printout template	See ch. 16.2.3
		Page 1	Client printout template	See ch. 16.2.3
		A MARINA AND AND AND AND AND AND AND AND AND A	Warehouse printout template	See ch. 16.2.3
		P)	Package printout template	See ch. 16.2.3
		Part of the second seco	Car printout template	See ch. 16.2.3
	20		Printouts activation	-
-			Barcode reader	-
	C		Port	None
			Prefix	01

		Suffix	0d
	1	Field selection	See ch. 16.3.3
	TEST	Test	See ch. 16.3.4
		Transponder card reader	-
	Ċ	Port	None
		Additional display	-
	Ċ	Port	None
	de la companya de la	Template	See ch. 16.5.2
Mod		Modbus RTU	
	C	Port	None
	企	Address	1
-		Advanced settings	-
		Number of printers	1

## 9.2.5. Display

P	Pictogram		Description	Value
			Text information	-
	ALL D		Displaying template	See ch. 17.1.1
			Left displaying template	See ch. 17.1.1
	ALL D		Right displaying template	See ch. 17.1.1
	3		Font	-
		a <sup>a</sup>	Туре	Courier

		13	Font size	Small
		áa	Bold	<b>V</b>
		áa	Tilt	$\checkmark$
		đ	Colour	Black
	Ő		Background colour	Light grey
			Set Default	-
			Button functions	See ch. 17.2
88			Show all platforms	$\checkmark$
			Bargraph	-
	?		Bargraph type	None
			Fast weighing	-
		MAX	MIN, MAX thresholds working mode	Unstable
		Оок	OK threshold working mode	Unstable
			Min threshold signalling colour	Red
			OK threshold signalling colour	Intense green
		R	Max threshold signalling colour	Red
			Gradient	<b>V</b>
		Ø	Background colour	Black
		P2	Frame colour	White
			Signalling checkweighing ranges	-
		MAX	MIN, MAX thresholds working mode	Unstable
		Сок	OK threshold working mode	Unstable

	0	Min threshold signalling colour	Red
	MIN		1.00
		OK threshold signalling colour	Intense green
	30	Max threshold signalling colour	Red
	1	Gradient	<
	0	Background colour	Black
	<b>u</b>	Frame colour	White
		Linear	-
	30	Min threshold signalling colour	Red
	8	OK threshold signalling colour	Green
	Š	Max threshold signalling colour	Red
		Min Max range background colour	Turquoise
		OK range signalling colour	Turquoise
		Gradient	<

## 9.2.6. Inputs / Outputs

Pictogram		Description	Value
P		Inputs	-
	9	Input 1	None
	ð	Input 2	None
	ð	Input 3	None
	9	Input 4	None

9		Outputs	-
	8	Output 1	None
	9	Output 2	None
	8	Output 3	None
	Ŷ	Output 4	None

#### 9.2.7. Authorization

Picto	gram	Description	Value
8		Anonymous operator	Operator
		Date & Time	Administrator
J.		Printouts	Administrator
		Databases edition	
	1	Products	Administrator
		Clients	Administrator
	TAN	Dosing processes	Administrator
	F	Formulations	Administrator
		Packages	Administrator
	-	Vehicles	Administrator
	-	Warehouses	Administrator
	P	Labels	Administrator
	2	Images	Administrator

	?	Traceability process	Administrator
	-0240B-	Weighing counter	Administrator
	X	Delete older data	Advanced Operator
		Set element from the database	-
	3	Products	Administrator
		Clients	Administrator
	TA	Dosing processes	Administrator
		Formulations	Administrator
	-	Packages	Administrator
	-	Vehicles	Administrator
	*	Warehouses	Administrator
	2	Traceability process	Administrator
	00285	Lot number	Operator
	12880	Batch number	Operator
е		CPG	-
	ABC	Batch number	Operator
	123	Batch size	Operator
	123	Sample quantity	Operator
		Average Tare Estimation	Advanced operator
	483	Tare	Operator
		Density	Advanced operator

## 9.2.8. Units

Picto	gram	Description	Value
[ct] []		Accessibility	-
	[ct] []	g	<
	[ct] []	ct	<b>V</b>
	[ct] []	lb	<
	[ct] [g]	ΟZ	<b>V</b>
	[ct] []	Ν	<
[ct]		Start unit	None
[ct]		Defined unit 1	-
	00285	Multiplier	0
		Name	-
[ct]		Defined unit 1	-
	00285	Multiplier	0
		Name	-
[ct]		Acceleration of gravity	9.80665

#### 9.2.9. Other

Picto	gram	Description	Value
		Language	English
		Date and Time	-
	No.	Set date and time	-
	- Sec	Date format	yyyy.MM.dd

	a de la	2013.03.29	11:10:09
ŗ		Веер	Yes
5		Screen volume	0 %
		Screen brightness	90 %
		Touch screen calibration	-
<b>6</b>		Energy saving mode	None
0		Screen timeout	60 [s]
) 📦 🖐		Proximity sensor	2
		Log in required	$\checkmark$
<b>L060</b>		Start logo	-
P		Error information preview time	Мах
43		Import	-
		Export	-

## 9.2.10. User Adjustment

An option only for non-verified scale

Pictogram	Description	Value
J.	Setting of start mass	-
	Adjustment	-
S.	Report printout	$\checkmark$
	Adjustment track record	-

## 9.2.11. Info

Pictogram	Description	Value
ALCH SUCC	Factory number	-
(i)	Software version	2.7.3
(i)	Version of weighing software	1.2.2
<b>\$</b>	Memory usage	FLASH: - [%]
(i)	Image version	OS 1.0.0
	Wi-Fi	<

## 9.2.12. Update

Pictogram	Description	Value
۲	Software version on server	Check version
	Update from server	-
	Update from pen drive	-
	Changes in software	-

# **10. INDICATING WINDOW**

#### Main view:

Weighing	Log In	2013 14:11	.01.23 2:14
→0+		0.0	g
Product:			
Tare:	0.0g		
Gross:	0.0g		
Number:	0		
Total:	0g		
	-0123 1286C 1/1 286C		

#### In the main application window one can see four separate parts:

- Top bar,
- Weighing window,
- Workspace,
- Function keys.

#### 10.1. Top bar



The top bar on the display contains the following data:

Pictogram and name of an active working mode	
Logged user	
	Pictogram of an active connection with a computer
2012.06.06 06:06:06	Date and time

#### 10.2. Weighing window

The weighing window contains data on carried out weighing process:



#### 10.3. Workspace

The workspace is located under the weighing window:

Product:	
Tare:	0.000kg
Gross:	0.000kg
Number:	0
Total:	Okg

The workspace features three displaying templates. The upper section of the workspace comprises a graphic information on which of the three templates is enabled. Changing of the template is carried out by dragging the workspace to the right or left.

The data contained in the workspace is optionally programmable for each of the working modes. The default template format is described in point 17.1.1 of this user manual.

#### Caution:

An exception is an "initial workspace window" in the CPG mode, containing a logo and non-editable navigating line:



#### 10.4. Function keys

Below the workspace area there is a set of on-screen function keys:



The on-screen function keys are editable in each of the available working modes. The procedure of enabling/disabling function keys is described in point 17.2 of this user manual.

# 11. LOGGING IN

In order to get full access to users parameters and to be able to edit database the user must log as an **<Administrator>**.

#### Caution:

For each brand new scale there is a default Admin> operator with Administrator> authorization and no password. After the scales start the user automatically logs in as a default operator. If default operator data have been changed or if new operators have been added manual logging procedure is required.

#### 11.1. Logging in - procedure

- Press <Log in> sign to open operators database window, <Log in> sign is located in the main window of an application at the top bar,
- Select a proper position and wait to see a screen keyboard with an edit field for an operator password,
- Enter the password and confirm it with \_\_\_\_\_ button,
- Program returns to the main window, the logged in operator name is displayed instead of **<Log in>** sign at the top bar of the main window.

### 11.2. Logging out procedure

- While in the main application window press the name of a logged in operator in the top bar on the screen to open the database of operators,
- Press Logging out button situated in the top bar of the operators' database window:



• The program returns to the main window and in the top bar the operators name is substituted by **<Log in>**.

#### 11.3. Authorization access levels

There are four levels of authorization: Administrator, Advanced Operator, Operator, None.

# Access to user parameters, databases and working modes depending on the authorization access level attributed:

Operator type	Access level description
None	No access to user parameters. No weighing can be confirmed. Cannot start procedure "CPG". Cannot enter the reference mass unit and estimate the reference mass unit by weighing in "Counting Pieces" and "Deviations", density determination, carrying out dosing and formulation making processes. No access to <export a="" database="" file="" the="" to="" weighing=""> in menu <reports><sup>2)</sup>.</reports></export>
Operator	Access to parameters in submenu: <weighing>, <display><sup>1</sup> (excluding the group <actions>), <others><sup>1</sup>). Can start and perform all weighing procedures. Access to <export the<br="">weighing database to a file&gt; in menu <reports><sup>2</sup>).</reports></export></others></actions></display></weighing>
Advanced Operator	Access to parameters in submenus: <weighing>, <working modes="">, <communication>, <devices><sup>1)</sup>, <display><sup>1)</sup>, <others><sup>1)</sup>. Can start and perform all weighing procedures. Access to <export a="" database="" file="" the="" to="" weighing=""> in menu <reports><sup>2)</sup>.</reports></export></others></display></devices></communication></working></weighing>
Administrator	Access to all user parameters, functions and databases <sup>2)</sup> . Can start and perform all weighing procedures.

- 1. Authorization level for editing functions:
  - < Printouts> in submenu " Devices / Printer",
  - Sample> in submenu "Some Devices / Additional display",
  - Displaying template> in submenu , Display /
     Text information",
  - < Date and Time> in submenu < Others>,

The functions are declared in submenu **Authorizations**, which is accessible only for users with the **Administrator**> authorization level (see ch. 19 of this manual).

A user logged in as <Administrator> in submenu
 Authorizations> (see ch. 19 of this manual) can change authorization levels for accessing different databases and functions:
 Delete older data>, < Weighing counter>. The exception are database < Weighings / Alibi>, that have the status "Read

# are database <//> Weighings / Alibi>, that have the status "R only".

# **12. NAVIGATING WITHIN THE MENU**

Owing to the colour display with the touch panel navigating within the menu is simple and intuitive.

## 12.1. Keys





Scrolling "up-down"

Enter (OK)

Abort

Add a new item in a database

Disabling the formerly selected record e.g. Logging out the operator

Searching a database by date

Searching a database by name

Searching a database by code

Printing on item from a database

Exporting reports from testing and average tare (for testing pre-packages mode PGC)

Clearing an editing field

Screen keyboard on / off

Reading a printout template from a \*.lb file (active after connecting a pen drive)

Saving printout template in a file format \*.lb (option enabled on plugging a portable data storage device to scale port)



Variables for a printout template



One level up

Immediate exit to the main window



## 12.2. Return to weighing

Changes made to the scale's settings are automatically saved in the memory on returning to the main software window. The scale provides two ways of returning to the main window:

- By pressing key for a few times until returning to the main window,
- By pressing key in the top bar, which causes immediate returning to displaying the main window.

## 13. WEIGHING

Put a load on the weight pan. When pictogram read is displayed the indication is ready to read.

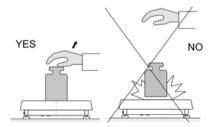
#### Caution:

A weighing can be saved after stabilising a measurement (pictogram ...).

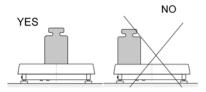
#### 13.1. Conditions of operational use

In order to assure a long term operating period with appropriate measurements following principles should be adhered to:

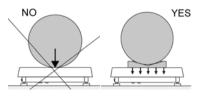
• Avoid applying mechanical shocks to the weight pan:



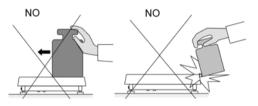
• Loads should be placed in the centre of the pan (eccentric errors are outlined in PN-EN 45501 chapter 3.5 and 3.6.2):



• Do not apply concentrated forces (all load in one point):



• Avoid side loads, particularly side strokes:



#### 13.2. Zeroing

In order to zero the indication choose a platform on the touch panel and press  $\bullet^{\bullet\bullet}$ . After zeroing is performed the indication is equal zero and following symbols usually appear:  $\bullet O \bullet$  and  $\bullet \bullet \bullet$ .

Zeroing is possible only when the indication is stable.

#### Caution:

Zeroing is possible only within  $\pm 2\%$  of full range around zero. If zeroing value is not within  $\pm 2\%$  of maximal capacity the following message will be displayed:



## 13.3. Tarring

In order to tare the scale choose a platform on the touch panel if necessary,

put a package on the pan and press  $\mathbf{r}^{+\mathbf{r}+}$ . You will see the indication equal zero and following symbols usually appear: **Net** and **L**.

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 tarred value with minus sign.

You can also inscribe tare values to the product database. Every product has a field "Tare". In that case tare is automatically set to this value after selecting the product.

#### Caution:

Tarring cannot be executed when a negative or zero value is being displayed. In such case the following message will be displayed:



#### 13.4. Inscribing tare

It is possible to inscribe a tare value.

#### Procedure:

- While in any work mode press <sup>13</sup>, then the screen keyboard is displayed,
- Inscribe tare and press
- The program returns to weighing and the and the display shows the entered value with the "–" sign provided there was zero before on the display.

## 13.5. Weighing for dual range scales

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

Weighment in the second range is signalled by a pictogram in the top left corner of the display  $\rightarrow |2|$ . Then weighment is done with the accuracy of the **II range** to the moment of returning to zero (autozero range  $\rightarrow 0$ ) where the scale switches back to the **I range**.



Switching between the **II range** and **I range** is automatic both in the switching point the autozero zone. While in AUTOZERO – pictogram -0-appears. Then pictogram -2 is off and a scale returns to weighing in the **I range**.

# 13.6. Toggling between weighing units

Operators can change the weight unit in two ways:

- Pressing the unit symbol on the screen,
- Pressing formerly defined button < the Change unit>.

# Possible selection:

- gram [g]
- kilogram [kg]
- carat [ct]
- pound [lb]
- ounce [oz] \*
- Newton [N] \*

\*) - weighing unit inaccessible in a verified scale

## Caution:

- 1. The user can also declare the start unit and determine two custom weighing units (user defined) see point 20 of this user manual;
- 2. The procedure of attributing functions to buttons is described in ch. 17.2 of this manual.

# 14. SCALE PARAMETERS

Users can set the scale according to the ambient conditions (filtering level) or own needs (autozero) and set the LO threshold for minimum load that enables operation of some functions. This parameters are placed in



In order to enter submenu < Weighing>, press and then:

#### Caution:

Weighing parameters are directly related to a specific weighing platform, so at the beginning the weighing platform should be selected for which we want to set parameters.

#### Inventory of scale parameters:



#### 14.1. Median filter

The median filter is intended for eliminating short-lasting mechanical shocks.

#### Procedure:

• Enter < Weighing> according to ch. 14 of this manual, select < Median Filter> and then set an appropriate value.

#### Accessible settings:

**None** - median filter is off **0.5, 1, 1.5, 2, 2.5** - filtering level to choose

## 14.2. Filter

This filter is intended to suppress continuous mechanical vibrations at the cost of stabilization time.

#### Procedure:

Enter < Weighing> according to ch. 14 of this manual, select

 Filter> and then set an appropriate value.

## Accessible settings:

None, V.Fast, Fast, Average, Slow.

#### Caution:

The higher filtering level the longer stabilization time.

## 14.3. Autozero

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  $\longrightarrow$  and  $\Rightarrow 0 \leftarrow$  will be displayed.

If 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:

Enter < Weighing> according to ch. 14 of this manual, select
 < Autozero> and then set an appropriate value.

## Accessible settings:



- Autozero off
- Autozero on

## 14.4. Minimum weight for different functions (LO)

Parameter **<LO THRESHOLD>** is associated with automatic weighing. Next weighing will not be saved until the indication goes under the **THRESHOLD LO** (net).

#### Procedure:

- After entering < Threshold Lo> according to ch. 14 of this manual a keyboard is displayed,
- Inscribe LO and confirm by pressing

#### 14.5. Last digit

The last digit option **Last digit>** is to switch off the last digit of measured mass indication – the measurement is carried out with decreased accuracy.

#### Procedure:

• Enter group of parameters < Weighing> in accordance with ch.

14 of this user manual, select parameter **Last digit>** and set its desired value.

#### Accessible settings:

Always	-	Last digit always visible
Never	-	Last digit always switched off
When stable	-	Last digit visible only on stable indication of mass

# **15. COMMUNICATION**

The scale can communicate with external devices via different ports:

- 🏾 🌮 RS232 (1),
- 🌮 RS232 (2),
- Sthernet,
- 🛄 Тср,
- 🗃 Wi-Fi.

The communication can be configured in parameters' group



In order to enter **Communication>**, press and then:

## 15.1. RS 232 settings

#### Procedure:

Enter < Communication> according to ch.15 of this manual, select
 RS232 (1)> or < RS232 (1)>, and then set an appropriate value.

#### For RS 232 following parameters are accessible:

- Baud Rate 4800, 9600, 19200, 38400, 57600, 115200 bit/s
- Data bits 5, 6, 7, 8
- Stop Bit No, 1, 1.5, 2
- Parity No Odd Even Mark Space

## 15.2. ETHERNET setting

#### Procedure:

 Enter < Communication> according to ch.15 of this manual, select < Ethernet> and then set an appropriate value.

#### Following settings are accessible for Ethernet:

- DHCP
- Ves Vo
- IP Address 192.168.0.2
- Subnet Mask 255.255.255.0
- Default gateway 192.168.0.1
- DNS 192.168.0.1
- MAC Address ---

#### Caution:

- 1. The above settings are presented for information purpose only. Transmission parameters have to be selected in accordance with client's local network settings.
- 2. Parameter **<MAC Address>** is automatically assigned to a device and it is has **<Read only>** Attribute.
- 3. In case of declaring the **<DHCP>** parameter to value **</** and on device restart, the other transmission parameters have **<Read only>** attribute.
- After making changes press key, then a new message is displayed: **<Restart to apply the changes>**,
- Go back to weighing and restart the device.

## 15.3. TCP protocol setting

TCP (*Transmission Control Protocol*) is a protocol for communication between two computers. It operates in mode client-server. Server awaits on connection initiation on a specified port while client initiates connection to the server. Scale software allows setting the port for the **"Tcp**" protocol.

#### Procedure:

- Enter < Communication> parameter group as described in chapter 16 of this manual,
- Select: " Tcp / Port" then you will see window <Port> with the screen keyboard,
- Enter the required number and press

#### Caution:

The number of **TCP** port in **RADWAG** instruments is set to default value: **4001**.

#### 15.4. Wi-Fi

#### 15.4.1. Wi-Fi network status

In order to view selected network parameters click **<Network Status>** field. Displayed window provides the following parameters:

Name	Value	Description
Network	-	Network name
Network status	Connected	Network status with values: connected, disconnected
RSSI	- dbm - %	Signal strength
Forget the network	-	Disconnection from a selected network

Selected network and parameters set for connection are stored within the scale program, each time the scale is turned on it connects to the selected network in accordance with pre-set parameters.

#### 15.4.2. Available networks

The user can view < a Available networks> detected by the scale.

#### Procedure:

- Enter < Communications> parameter group as described in chapter 15 of this manual,
- Go to < Wi-Fi / Available networks> submenu and select determined network out of the list,
- In order to search for available networks again, select < Refresh> option.

#### Caution:

Pictogram located next to the network name, informs whether the network requires password or not (pictogram with a padlock).

#### 15.4.3. Transmission parameters

#### Procedure:

 Enter < Communications> parameter group as described in chapter 15 of this manual, select < Wi-Fi> and set particular values.

For Wi-Fi the scale software provides the following transmission parameters:

DHCP	Yes, No
IP Address	192.168.0.2
Subnet mask	255.255.255.0
Default gateway	192.168.0.1
DNS	192.168.0.1
Mac address	

#### Caution:

- 1. The above settings serve only for information purposes. Transmission parameters must be set in order to comply with customer's local network settings.
- 2. **<MAC address>** parameter is assigned to a particular device automatically and it is characterised with **<Read only>** attribute.

- 3. When setting **<DHCP>** parameter to <sup>√</sup> value and restarting the device, the remaining parameters are characterized with **<Read only>** attribute.
- With modifications carried out press button, the following message is displayed **<Restart to apply the changes>**,
- Enter weighing mode and restart the device.

# 16. DEVICES

#### 16.1. Computer

The scale can cooperate with a computer. Active connection **scale-computer** is signalled by icon in the top bar of the main window. In submenu

Computer> some settings needs to be configured for cooperation with computers.

Enter submenu < 🕮 Computer>, press 📧	and then:
"鋵 Devices / 墨 Computer".	

#### 16.1.1. Computer port

#### Procedure:

- Enter parameters' group < Devices> according to ch. 16 of this manual, \_\_\_\_\_
- Select "E Computer / Port" and then set the appropriate option.

The scale can communicate with a computer via following ports:

- RS232 (1),
- RS232 (2),
- Tcp.

## 16.1.2. Computer address

## Procedure:

- Enter < To Devices> parameter group as described in chapter 16 of this manual,
- Choose "E Computer / Address" then the window <Address> with the screen keyboard appears,
- Enter the required address and confirm it by pressing

## 16.1.3. Continuous transmission

Users can enable continuous transmission from the scale to a computer. Setting parameter < Continuous transmission> starts subsequent sending data from < Weighing Printout Template> set in submenu: "Setup / Devices / Computer / Weighing Printout Template".

## Procedure:

- Enter parameters' group < Devices> according to ch. 16 of this manual,
- Choose "E Computer / Continuous transmission" and then set an appropriate value.

## Accessible settings:



- Continuous transmission off
- Continuous transmission on

## 16.1.4. Weighing printout template

Users in parameter **Weighing Printout Template**> can define variables included in the printout from the scale to a computer.

#### Procedure:

- Enter < Devices> parameter group as described in chapter 16 of this manual,
- Choose "E Computer / Weighing Printout Template" then the editing field <Weighing Printout Template> with the screen keyboard appears,
- Modify the template if necessary and confirm the changes by pressing

#### Caution:

There are additional buttons in the bottom line of the screen keyboard. They can be used while modifying a printout template.:



Screen keyboard on/off

Reading a printout template from a \*.lb file (button active while connecting a USB pen drive)

Saving printout template in a file format \*.lb (option enabled on plugging a portable data storage device to scale port)

List of variables for printout templates (see the list in APPENDIX A of this manual)

Clear the editing field

#### 16.1.5. Cooperation with "E2R System"

Scales can cooperate with computer software "**E2R System**" that is a modular system for complex production supervising by monitoring of weighments processes. In order to allow the cooperation with

"E2R System" enable parameter < E2R System>.

#### Caution:

The parameter *E2R Systems* can be activated by an authorized service or the manufacturer.

#### Procedure:

- Enter < Devices> parameter group as described in chapter 16 of this manual,
- Choose "E Computer / E2R System / System is active" and then set an appropriate value.

#### Accessible settings:



- System is not active
- System is active
- If during cooperation with < E2R System> product selection lock is required for operators, go to parameter < Lock selecting products> and set its value to .
- Active connection with the computer software is indicated by additional information displayed in the top bar of the software:

Weighing E2R System	Admin		2013.01.23 14:43:06
------------------------	-------	--	------------------------

#### Where:

E2R System	- parameter active < We System is active>	
	- active connection with a computer software	

## 16.2. Printer

In < Printer> submenu users can:

- Set communication with a printer,
- Set code page of a printer,
- Set templates of printouts,
- Activate/deactivate printout of demanded standards.

To enter < Printer>, press and then: " Printer"

#### 16.2.1. Printer port

#### Procedure:

Enter < Devices> parameter group as described in chapter 16 of this manual, choose " Printer / Port" and then select an appropriate option.

#### Printers can be attached to:

- RS232 (1),
- RS232 (2),
- USB,
- Tcp.

#### 16.2.2. Printer code page

#### Procedure:

- Enter parameters < Devices> as described in chapter 16 of this manual,
- Choose " Printer / Code Page" then the screen keyboard will be displayed,
- Write the required code page and confirm by pressing

#### Caution:

The default value is 1250 - code page for Middle-East Europe.

#### 16.2.3. Templates for printouts

Enter *Printouts* to define printout templates.

#### Procedure:

Enter parameter group < Devices> as described in chapter
 16 of this manual, then choose " Printer / Printouts",

- After editing a template a memo box with the default content and the screen keyboard,
- Modify the template according to your requirements and confirm it by pressing

#### Caution:

There are additional buttons in the bottom line of the screen keyboard. They can be used while modifying a printout template.:



Screen keyboard on/off

Reading a printout template from a \*.lb file (button active while connecting a USB pen drive)

Saving printout template in a file format \*.lb (option enabled on plugging a portable data storage device to scale port)

List of variables for printout templates (see the list in APPENDIX A of this manual)

Clear the editing field

## Default printouts' settings:

d d	Weighing Printout Template	{0}
J.	Weighments Report Printout Template	See ch. 35.4.2
J.	Cumulative Printout Template	N={15} SUM={16}
Æ.	Cumulative of Cumulative Printout Template	N2={20} SUM2={21}
J.	Dosing Report Printout Template	See ch. 28.7
Æ.	Formulation Report Printout Template	See ch. 29.5
Ð	Printout Template of an Ingredient in a Formulation	-
<u>I</u>	CPG Report Printout Template (Control of Packaged Goods)	See ch. 30.14
<u> d</u>	Average Tare Report Printout Template (Control of Packaged Goods)	See ch. 30.13

<b>A</b>	Density Printout Template	See ch. 31.4
<u>J</u>	Enter Ticket Printout Template	See ch. 33.5
J.	Exit Ticket Printout Template	See ch. 33.5
Æ	Control Weighing Ticket Printout Template	See ch. 33.5
Æ.	Vehicle Scales Report Printout Template	See ch. 33.5
de la	Product Printout Template	{50} {51}
đ.	Operator Printout Template	{75} {76}
Æ.	Client Printout Template	{85} {86}
Ð	Warehouse Printout Template	{130} {131}
Ð	Package Printout Template	{80} {81} {82}
Æ	Vehicle Printout Template	{210} {211}
de la companya de la	Adjustment report printout template	See ch. 22.3

#### 16.3. Printouts activation

< Printouts activation> submenu enables activation/deactivation of demanded standards printout.

## **Procedure:**

- Enter < Inter Section 2015 Devices parameters group, following point 16 of this manual select "S Printer / Printouts activation",
- Activate/deactivate demanded standard intended for printout.

#### Where:



- Inactive standardActive standard

#### 16.4. Barcode scanner

The balance allows for cooperation with a barcode scanner. The scanner can be used for quick search of:

- Products,
- Operators,
- Clients,
- Packages,
- Warehouses,
- Dosing process,
- Formulation,
- Universal variables,
- Lot number,
- Batch number.

Configuration of communication can be configured in:

" SETUP / 💦 Devices / 🕇 Barcode reader".

#### Caution:

In submenu **Communication>** set the baud rate (default 9600b/sec). The detailed description of cooperation scale – barcode scanner can be found in **APPENDIX F** in this manual.

#### 16.4.1. Port for barcode scanner

#### Procedure:

• Enter < To Devices> according to ch.16 of this manual, choose " TBarcode reader / Port" and then set the appropriate value.

Barcode scanners can be connected to:

- RS232 (1),
- RS232 (2),
- USB.

## 16.4.2. Prefix / Suffix

Users can edit a prefix < Prefix> or / and suffix < Suffix> in order to adjust the program to accept transmission frames from the scanner.

#### Caution:

A special protocol is required in order the code be received by RADWAG equipment. It is required to program an appropriate prefix and suffix. Prefix – one byte 01 hexadecimally, suffix one byte 0D hexadecimally. The detailed description of cooperation scale - barcode scanner can be found in **APPENDIX F** in this manual.

## Procedure:

- Enter **T** Barcode Scanner> according to ch.16.3 of this manual,
- Chose parameter  $\overline{-14}$  **Prefix**> and then enter, using the screen keyboard, a required value (hexadecimal) and confirm it by pressing
- Chose parameter  $\langle \rightarrow \cup$  Suffix> and then enter, using the screen keyboard, a required value (hexadecimal) and confirm it by pressing ~

#### 16.4.3. Field selection

This option is connected with selecting data which the program will search after reading a barcode.

#### Procedure:

- Enter < Text Devices> according to ch.16 of this manual,
- Chose ... **TBarcode Scanner** / **Private Field selection**" and then the following list will be displayed:



Product Operator

Client

Package



• Select an item and then you can edit following parameters:

sode	Filtering	Declaring an item, according to which searching is supposed to be performed
	Offset	Setting the first significant character in code from which the comparison with items is performed during searching. All preceding characters are skipped
	Code length	Setting the number of characters to be taken for the search procedure counting form Offset
88	Start marker	Start marker declaration
	End marker	End marker declaration

#### Caution:

An exception from the above is **Formulation**>, which features an additional submenu **Ingredient**> containing the following parameters:

code Faire	Filtering         Declaring an item, according to which searching is supposed to be performed (options: None, Code)	
	Offset	Setting the first significant character in code from which the comparison with items is performed during searching. All preceding characters are skipped
	Code length	Setting the number of characters to be taken for the search procedure counting form Offset

88	Start marker	Start marker declaration
	End marker	End marker declaration

#### Inventory of items to be selected for filtering:

Record	Item for filtering	
Product	None, Name, Code, EAN Code	
Operator	None, Name, Code	
Client	None, Name, Code	
Package	None, Name, Code	
Source warehouse	None, Name, Code	
Target warehouse	None, Name, Code	
Dosing process	None, Name, Code	
Formulation	None, Name, Code	
Universal variable 1	None, Code	
Universal variable 2	None, Code	
Universal variable 3	None, Code	
Lot number	No, Yes	
Batch number	No, Vyes	

#### 16.4.4. Test

Operators, using parameter < Test, can verify if a barcode connected to the scale works properly.

#### Procedure:

- Enter submenu < T Barcode Scanner> according to ch. 16.3 of this manual,
- After entering parameter < Test> window < Test> is opened with an ASCII text box and HEX (hexadecimal) field,

• After scanning the code is entered to the ASCII field and HEX filed and at the bottom of the window a test result is displayed.

#### When:

- <Prefix> and <Suffix> declared in settings are the same as
   <Prefix> and <Suffix> in the read code then the test result is
   <Positive>,
- <**Prefix>** and **<Suffix>** declared in settings are not the same as **<Prefix>** and **<Suffix>** in the read code then the test result is **<Negative>**.

#### 16.5. Transponder card reader

Each time after turning on the device, it is possible to select (log in) the operator using a transponder card reader and a transponder card.

#### Caution:

In case of problems with reading transponder cards check the submenu

< Communication> and set appropriate baud rate (default 9600b/s).

#### 16.5.1. Com port for transponder card readers

#### Procedure:

 Enter group of parameters < Devices> according to chapter 16 of this manual, select , Transponder cards reader / Port" and set appropriate option.

The scale can communicate with the reader via following ports:

- RS232 (1),
- RS232 (2).

### 16.5.2. Procedure of attributing the card number to an operator

To use a transponder card to log on an operator the card needs to be ascribed to the operator in the database of operators.

#### Procedure:

- Connect the transponder card reader to the required communication port (RS 232 (1) or RS 232 (2)),
- Choose a communication port for the reader (see ch. 16.4.1 in this manual),
- In submenu < Communication> set the baud rate to the same as in the reader (default 9600b/s),
- Enter the database of operators and edit the selected operator going to the field < RFID Card Number>.
- After entering the field <RFD Card Number> you will see the editing field <Card Number> with the screen keyboard,
- Having approached the card to the reader the program automatically displays in editing field **<Card Number>** the number of read card,
- Confirm the number by pressing \_\_\_\_\_ and return to weighing.

#### 16.6. Additional display

#### 16.6.1. Additional display port

#### Procedure:

Enter parameters group < Devices> according to ch. 16 of this manual, select " Additional display / Port" and then choose an appropriate option from the list.

Communication with additional displays can be performed via following ports:

- RS232 (1),
- RS232 (2),
- Tcp.

## 16.6.2. Communication protocol frame

PUE 7.1 weighing indicator with following displays:

- WD display,
- WWG display.

To start cooperation of PUE 7.1 with displays go to parameter

< Sample> and define an appropriate communication protocol.

#### Procedure:

- Enter parameters' group < Devices> according to ch. 16 of this manual,
- Choose " Additional display / Sample" then the editing field
   Sample> with the screen keyboard appears,
- Inscribe the required frame template using the screen keyboard or choose the it from the list after pressing

## Specified templates for displays:

- {141} Protocol template for WD displays
- {142} Protocol template for WWG display
- Confirm the changes by pressing

#### Caution:

In default settings parameter **< Sample>** has ascribed **{141}** (display WD series).

# 16.7. Modbus RTU

**Modbus RTU** is a standard communication protocol determining means for exchange of information between two or more devices. **ModBus RTU** provides as fast data transfer as possible, wherein the data is monitored in order to provide that it is reliable.

#### Caution:

For detailed overview of memory map and of variables of Modbus RTU communication protocol go to chapter 38 of this manual.

## 16.7.1. Communication port

#### Procedure:

Enter < >> Devices> parameter group as described in chapter 16 of this manual, select " >> Modbus RTU / >> Port" and set respective value.

#### Available values:

- None,
- RS232 (1),
- RS232 (2),
- Tcp.

## 16.7.2. Address

#### Procedure:

- Enter < Devices> parameter group as described in chapter 16 of this manual,
- select "Modbus RTU / Address" and wait to see <Address> window featuring an on screen keyboard,
- enter determined address and press \_\_\_\_\_ button to confirm.

## 16.8. Advanced settings

**Advanced settings>** submenu enables declaration of printers cooperation with scales, cooperation of 1-3 printers may be declared.

#### Procedure:

- Enter parameters' group < Devices> according to ch. 16 of this manual,
- Select " Advanced settings / Number of printers", next set demanded number of printers (1, 2 or 3),
- <i> Devices> parameters group will automatically be extended with new positions.

# 17. DISPLAY

Users can adapt the main display and visible information to their needs. All parameters of the display can be found in the parameters' group **Display>**. Entering **Display>** can be made in two ways:

- Pressing seture and then: "Display",
- Direct pressing the workspace area of the main display (does not apply to the "home screen" and "settings display" of the CPG (Control of Prepacked Goods mode).

#### Inventory of parameters of the main display:



Text information

Button functions \*



Show all platforms

Bargraph

\*) - In case of the working mode CPG, the function keys are separately defined for:

- Home screen,
- Settings screen,
- Process screen.

## 17.1. Text strings



0.1.0		Display template	
0-1-0		Left displaying template	Data displayed in the workspace. Detailed description in point 17.1.1.
0-1-0		Right displaying template	
0		Font	Submenu on font settings.
	aa	Туре	Changing font type for text data displayed in the workspace. Available fonts: <b>Arial</b> , <b>Courier</b> .
	<mark>10</mark>	Font size	Declaring font size of text data displayed in the workspace. Available font size: Small, Medium, Large.
	10	Bold font	Bolded font for text data displayed in the workspace.
	áa	Tilt	Text data in the workspace in italics.
	o	Colour	Font colour for text data in the workspace. Available in 18 colours palette.
Ø		Background colour	Colour of the workspace background. Available in 18 colours palette.
		Set Default	Default settings for "Text data" submenu.

## 17.1.1. Display templates

The main window contains a workspace which displays optionally configured data specified for each working mode.

#### The workspace comprises three displaying templates:

- Displaying template,
- Left displaying template,
- Right displaying template.

The upper section of the workspace comprises a graphic information on which of the three templates is enabled. Changing of the template is carried out by dragging the workspace to the right or left.

Change of the displaying template is carried out in submenu:

Display / 📆 Text information". SETUP

## Procedure:

- While in an optional weighing mode enter submenu < Displav> in accordance with point 17 of this user manual.
- Select option < **77** Text information > and then a desired displaying • template, which is followed by displaying an editing field with is default content and an on-screen keyboard.
- Edit the content of the selected displaying template and accept it by pressing key.

# Caution:

There are additional buttons in the bottom line of the screen keyboard. They can be used while modifying a display template. :



Screen keyboard on/off



Reading a template from a file with format \*.lb (option enabled on plugging a portable data storage device to scale port)



Saving printout template in a file format \*.lb (option enabled on plugging a portable data storage device to scale port)



Selecting variables for a template from a list (list of variables is provided in the APPENDIX A of this user manual)

Clear the editing field

Default settings of a displaying template in each of the working modes:

CPG	Product: {50}	Code: {51}
Weighing:	<pre>{40:Product:,-15}{ {40:Tare:,-15}{9} {40:Gross:,-15}{8} {40:Number:,-15}{1 {40:Total:,-15}{16}</pre>	[11] }{11} !5}
Parts counting:	<pre>{40:Product:,-15}{ {40:Sample weight: {40:Net:,-15}{7}{1 {40:Tare:,-15}{9}}</pre>	;,-15}{35}{11} L1}
Percent setup:	<pre>{40:Product:,-15}{ {40:Sample weight: {40:Net:,-15}{7}{1 {40:Tare:,-15}{9}}</pre>	;,-15}{36}{11} L1}
Dosing:	Dosing process: {1	L75}
Formulation:		
Density:	Product: {50}	
Animal weighing:	{40:Tare:,-15}{9}{ {40:Gross:,-15}{8}	

## 17.2. Function keys

In submenu < Actions> users can set actions following keys:

- function keys,
- ? s

screen keys,

proximity sensors.

Function keys and proximity sensors are programmable specifically for each working mode. If a button has been attributed then it is equal to activating a function. If no function is assigned to a button or sensor then it remains inactive.

## Procedure:

- While in optional working mode go to submenu **Display>** in accordance with point 17 of this user manual,
- Choose < Button functions> and choose a required setting for a chosen button: F1, F2, F3, 9 screen buttons or proximity sensors.

## Default functions of buttons for working mode CPG:

Home screen	1	F1 Button	- Choose product
	<b>&amp;</b>	F2 Button	- Choose client
	1.	F3 Button	- Set tare
	е	Screen button 1	- Set control
Settings screen	1	F1 Button	- Choose product
		F2 Button	- Choose client
		F3 Button	- Set tare
	P	Screen button 1	- Local parameters
	G	Screen button 7	- Return to home screen
	~	Screen button 8	- Start
	~	Screen button 9	- Start
Process screen	\$	F1 Button	- Choose product
	8	F2 Button	- Choose client
	1	F3 Button	- Set tare
		Screen button 6	<ul> <li>Data on control in progress</li> </ul>
	¢ <sup>lill</sup>	Screen button 7	- Change: Workspace / chart
	*	Screen button 8	- Stop
	*	Screen button 9	- Stop

## Default functions of buttons for other working modes:

Weighir	ng:
---------	-----

\$
8
THIN THAN
9
-0123
IZABC
-0-
1
8
1
R
9
*
1
8
R
9

F1 Button	- Choose product
F2 Button	- Choose client
F3 Button	- Set tare
Screen button 1	- Local parameters
Screen button 2	- Set MIN and MAX
Screen button 3	- Choose package
Screen button 4	- Edit lot number
Screen button 5	- Edit batch number
Screen button 6	- C Statistics : Zero
F1 Button	- Choose product
F2 Button	- Choose client
F3 Button	- Set tare
Screen button 1	- Local parameters
Screen button 2	- Choose package
Screen button 3	- Insert unit mass
Screen button 4	- Estimate unit mass
Screen button 5	- Ascribe standard
F1 Button	- Choose product
F2 Button	- Choose client
F3 Button	- Set tare
Screen button 1	- Local parameters
Screen button 2	- Choose package

Parts counting:

Percent setup:

	9%	Screen button 3
	<b>%</b>	Screen button 4
Dosing:		F1 Button
	~	F2 Button
		F3 Button
	80	Screen button 1
		Screen button 2
	~	Screen button 3
	*	Screen button 4
	STOP	Screen button 5
Recipes:		F1 Button
	2	F2 Button
		F3 Button
	80	Screen button 1
		Screen button 2
	~	Screen button 3
	*	Screen button 4
	STOP	Screen button 5
	4	Screen button 6
	$\diamond$	Screen button 7
		Screen button 8
	-0123	Screen button 9
Density:	\$	F1 Button

tton 3	- Insert mass of sample
tton 4	- Estimate mass of sample
	- Select dosing process
	- Choose client
	- Set tare
tton 1	- Local parameters
tton 2	- Select dosing process
tton 3	- Start
tton 4	- Stop
tton 5	- Emergency stop
	- Select formulation
	- Choose client
	- Set tare
tton 1	- Local parameters
tton 2	- Select formulation
tton 3	- Start
tton 4	- Stop
tton 5	- Emergency stop
tton 6	- Previous component
tton 7	- Next component
tton 8	- Give mass
tton 9	- Edit lot number
	- Choose product

		F2 Button	- Choose client
	1	F3 Button	- Set tare
	P	Screen button 1	- Local parameters
		Screen button 2	- Determine liquid density
		Screen button 3	- Determine solid density
	*	Screen button 4	- Stop
Animal weighing:	\$	F1 Button	- Choose product
	2	F2 Button	- Choose client
		F3 Button	- Set tare
	80	Screen button 1	- Local parameters
	~	Screen button 2	- Start
Vehicle scale:	<b>M</b>	F1 Button	- Choose a vehicle
	2	F2 Button	- Choose client
	<b>[</b> ]	F3 Button	- Set tare
	Se .	Screen button 1	- Local parameters
		Screen button 2	- Choose transaction
		Screen button 3	- Choose transaction
	\$	Screen button 4	- Choose product
	\$	Screen button 5	- Choose product
	2	Screen button 6	- Choose client
	<u>&amp;</u>	Screen button 7	- Choose client
	*	Screen button 8	- Stop
	*	Screen button 9	- Stop

## Caution:

The list of functions that can be attributed to keys or buttons is listed in **APPENDIX B** of this manual.

## 17.3. Displaying platforms

If a scale is equipped with two platforms users can switch between platforms in three ways:

- By pressing the platform number on the scale screen,
- By pressing a formerly defined button  $\overline{AM}$  Change platform>.
- By activating in parameters all platforms that will be separately placed in the main window of the program. In that case platforms can be activated by pressing the area of this platform.

### Caution:

The procedure of attributing functions to buttons is described in ch. 17.2 of this manual.





- Displaying all platforms disabled
- Displaying all platforms enabled

## 17.4. Bargraph

A bargraph is a typical visualization procedure. It helps in quick weighing. It requires less concentration to read if a weighing is between minimum and maximum thresholds.

## 17.4.1. Bargraph type

To see the bargraph on the screen enable it in parameters.

## Procedure:

• Enter submenu "**Display / Bargraph**" in accordance with point 17 of this user manual,

• Select option **Bargraph type>** and set desired bargraph type.

#### Accessible bargraphs:

- Quick weighing,
- None (Bargraph is not displayed),
- Signalling checkweighing ranges,
- Linear,
- Control \*.
- \*) Applies to the **CPG** mode only. In the **CPG** mode other bargraph types are not accessible.

## 17.4.2. Bargraph "Fast weighing"

MAX	MIN, MAX thresholds working mode	Stable – signalling of MIN, MAX thresholds is previewed on exceeding LO threshold and reaching stable measurement result; Unstable – signalling of MIN, MAX thresholds is previewed on exceeding LO threshold
Ook	OK threshold working mode	<b>Stable</b> – signalling of OK thresholds is previewed on exceeding LO threshold and reaching stable measurement result; <b>Unstable</b> – signalling of OK thresholds is previewed on exceeding LO threshold
	Min threshold signalling colour	Colour selection for signalling MIN threshold. 18 colours palette available.
8	OK threshold signalling colour	Colour selection for signalling OK threshold. 18 colours palette available.
R	Max threshold signalling colour	Colour selection for signalling MAX threshold. 18 colours palette available.
	Gradient	Enabling / Disabling filling effect "Gradient" type.
Ø	Background colour	Colour selection of a bargraph background. 18 colours palette available.
¢	Frame colour	Colour selection of bargraph frame. 18 colours palette available.

• The bargraph consists of 8 red fields and three green fields.



• The green fields signal weighments between MIN and MAX threshold, where:

**MIN** = the minimum threshold of acceptable weighment - LO **MAX** = the maximum threshold of acceptable weighment - HI

- If a measurement is over the MIN (to the value of 1/3 of MIN-MAX) the green field with a triangle on the left is visible. If the measurement is between 1/3 and 2/3 of MIN-MAX the rectangular green field is visible. If the measurement is between 2/3 of MIN-MAX and MAX a green field with a triangle on the right is visible.
- If the mass value is below the MIN threshold red fields with red arrows on the left are visible. The lower mass value the more red arrows are visible.
- If the mass value is over the MAX threshold red fields with red arrows on the right are visible. The higher mass value the more red arrows are visible.

Thresholds MIN and MAX are on the borders between red and green fields.

## 17.4.3. Bargraph "Signalling of checkweighing ranges"

Settings of "Signalling checkweighing ranges" bargraph are accessible

in submenu "**Display / Bargraph / The Signalling checkweighing ranges**":

MAX	MIN, MAX thresholds working mode	<b>Stable</b> – signalling of MIN, MAX thresholds is previewed on exceeding LO threshold and reaching stable measurement result; <b>Unstable</b> – signalling of MIN, MAX thresholds is previewed on exceeding LO threshold
-----	----------------------------------	---

Cok	OK threshold working mode	Stable – signalling of OK thresholds is previewed on exceeding LO threshold and reaching stable measurement result; Unstable – signalling of OK thresholds is previewed on exceeding LO threshold
<b>S</b>	Min threshold signalling colour	Colour selection for signalling MIN threshold. 18 colours palette available.
8	OK threshold signalling colour	Colour selection for signalling OK threshold. 18 colours palette available.
	Max threshold signalling colour	Colour selection for signalling MAX threshold. 18 colours palette available.
Z	Gradient	Enabling / Disabling filling effect "Gradient" type.
Ő	Background colour	Colour selection of a bargraph background. 18 colours palette available.
	Frame colour	Colour selection of bargraph frame. 18 colours palette available.

• This type of bargraph comprises one green and 2 red fields.



- **The left red field** signals that the load on the pan is lower than the minimum weighing threshold (**Min** threshold);
- The central green field signals that the load on the pan is within the set required interval for the weighed product (OK value between Min and Max thresholds);
- **The right red field** signals that the load on the pan is greater than the maximum weighing threshold (**Max** threshold).

## 17.4.4. Bargraph type: "Linear"

Settings of "Linear" bargraph are accessible in submenu

"
Display / 
Bargraph / 
Linear":

	Min threshold signalling colour	Colour selection for signalling MIN threshold. 18 colours palette available.
8	OK threshold signalling colour	Colour selection for signalling OK threshold. 18 colours palette available.
	Max threshold signalling colour	Colour selection for signalling MAX threshold. 18 colours palette available.
00	Min Max range background colour	Background colour selection for MIN, MAX range of the bargraph. 17 colours palette available.
	OK range signalling colour	Background colour selection for OK range of the bargraph. 18 colours palette available.
1	Gradient	Enabling / Disabling filling effect "Gradient" type.

The bar graph represents in a linear way the measuring range of a scale.

In addition, the bar graph can indicate weighing thresholds MIN, MAX, if they have been determined:

- Signalization of mass below the value set in MIN threshold:
- Signalization of mass within MIN and MAX values of thresholds:
- Signalization of mass exceeding the value set in MAX threshold:

### 17.4.5. "Control" bargraph

The "**Control**" bargraph is operated only in the working mode  $< \bigcirc$  **CPG**>.

	•	

The bargraph features signalization points of:

- Nominal mass **Qn** declared for a product,
- MIN, MAX thresholds if such are declared,
- Mass value for **Qn-T**,
- Mass value for Qn-2T,
- Mass value for **Qn+T**,
- Mass value for **Qn+2T**.

#### Where:

**Qn** – nominal mass **T** – T error **2T** – double T error

Signalling mass below set value of Qn-2T:



- Signalling mass between the values of **Qn-2T** and **Qn-T**:
- Signalling mass between the value of **Qn-T** and **Qn+T**:



The bargraph field between the above values gets automatically rescaled and it is additionally marked by a "**magnifier**" pictogram visible in graph's left corner.

• Signalling mass between the value of **Qn+T** and **Qn-2T**:

• Signalling mass above the set value of **Qn+2T**:

#### Caution:

In case of additional declaring the values for **MIN**, **MAX** limits, the "**control**" bargraph refers to the **MIN**, **MAX** limits and the nominal mass, but without displaying the errors for **T** and **2T**.



## **18. INPUTS / OUTPUTS**

PUE 7.1 weighing indicator are equipped with 4 inputs / 4 outputs. To adjust software to the users needs configure inputs outputs in the submenu

in the submenu < Inputs / Outputs>:

- Indicator inputs,
- indicator outputs.

In order to enter submenu **Serve** and then: **"Serve** Inputs / Outputs>, press

## 18.1. Configuration of inputs

#### Procedure:

- Enter < i Inputs / Outputs> according to ch. 18 of this manual,
- Choose < Inputs> and enter the selected input you will see a list of functions to ascribe,
- Choose the required function from the list and return to weighing saving the changes according to ch. 12.2 of this manual.

#### Caution:

The list of functions to ascribe to inputs are described in **APPENDIX B** of this manual. By default inputs have no ascribed functions **<None>**.

## 18.2. Configuration of outputs

Ascribing a function to the output enables the output at the same time. If an output has no ascribed function it is disabled.

#### Procedure:

- Enter < Inputs / Outputs> according to ch. 18 of this manual,
- Choose < Outputs> and enter the required output, then you will see the list of functions:

None	Output disabled	
Stabile	Stable weighing result over LO threshold value	
MIN stable	Stable weighing result below the MIN threshold	
MIN non-stable	Non-stable weighing result below the MIN threshold	
OK stable	Stable weighing result between MIN and MAX thresholds	
OK non-stable	Non-stable weighing result between MIN and MAX thresholds	
MAX stable	Stable weighing result over the MAX threshold	
MAX non-stable	Non-stable weighing result over the MAX threshold	
Zero	Stable weighing result zero net	
Confirmation of cycle completion *	Signal that confirms that a cycle of dosing has been completed (the defined amount)	
Zero	Zero weighing result ("zero" indication)	
! OK unstable	Unstable weighing result out of OK threshold	
! OK stable	Stable weighing result within OK threshold	
Measurement saved	Signal for measurement record confirmation - OUT programmed to be active for 500 [ms]	
Tarring completed	Signal for tarring operation confirmation - OUT programmed to be active for 500 [ms]	
Zeroing completed	Signal for zeroing operation confirmation - OUT programmed to be active for 500 [ms]	
Error	Error message displayed	
PGC – pending weighing process	Signal for awaiting for weighing performed within PGC control process	

\*) Not applicable to "Standard" software.

• Choose the required function from the list and return to weighing saving the changes according to ch. 12.2 of this manual.

#### Caution:

By default all outputs have no function attributed – setting <None>.

## **19. AUTHORIZATION**

The submenu **Authorization>** is accessible only while being logged in as the **Administrator**. In this group of parameters access levels can be outlined.

To enter submenu < Authorization>, press and then:



#### 19.1. Anonymous Operator

The program allows to attribute the authorization access level to an operator who does not perform the log-in procedure (anonymous operator).

#### Procedure:

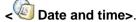
Enter < Authorization> according to ch. 19 of this manual, choose < Anonymous Operator>, and then set the authorization access level.

#### Accessible authorization levels:

None, Operator, Advanced Operator, Administrator.

### 19.2. Date and time

Default settings allow a logged-in **Administrator** to change settings of date and time. Software however allows to change the access level to this option:



#### Procedure:

• Enter parameters' group < Authorization> according to ch.

19 of this manual, choose **We Date and time>**, and then set the parameter.

#### Accessible authorization levels:

None, Operator, Advanced Operator, Administrator.

#### Caution:

Setting **<None>** allows free access to settings of date and time (without the need of Logging in).

#### 19.3. Printouts

Default settings of the scale allows a logged on **Administrator** to edit printout templates. Software allows to change the access level to option **< Printouts>**.

#### Procedure:

• Enter parameter group < Authorization> according to ch. 19 of this manual, choose < Printouts>, and set appropriately.

#### Access levels to printouts that can be set:

None, Operator, Advanced Operator, Administrator.

#### Caution:

When you choose setting **<None>** printout templates can be changed even without Logging on.

### 19.4. Databases edition

It is possible to set the access levels to the following databases:

- Database of Products,
- Database of Clients,
- Database of Formulations,
- Database of Dosing processes,
- Database of Packages,
- Database of Warehouses,
- Database of Vehicles,
- Database of Labels,
- Database of Images,
- Database of Identification processes,
- Weighing counter,
- Delete older data.

### Procedure:

 Enter parameters' group < Authorization> according to ch. 19 of this manual, choose < Databases edition>, and then set the parameter.

## Accessible authorization levels:

None, Operator, Advanced Operator, Administrator.

#### Caution:

Setting **<None>** allows free access to settings of date and time (without the need of Logging in).

## 19.5. Delete older data

Scales default settings allow for cancellation of older data kept in **Reports>** submenu. To do it the user must log in as an **Advanced Operator** 

(NOTE: the software allows for changing the access level to **Control** Delete older data> option).

### Procedure:

Enter parameters' group < Authorization> according to ch. 19
 of this manual, choose: " Databases edition / Delete older data", and then set the parameter.

### Accessible authorization levels:

None, Operator, Advanced Operator, Administrator.

#### 19.6. Set element from the database

The user may set authorization levels for scales operator when it comes to selection of particular database positions by the operator:

- Products,
- Clients,
- Formulas,
- Dosing processes,
- Packaging,
- Warehouse,
- Vehicles,
- Identification processes,
- Lot number,
- Batch number.

#### Procedure:

• Enter parameters' group < Access level> according to ch. 19 of this

manual, select **Set element From the database>** and then set the appropriate option.

## Accessible authorization levels:

None, Operator, Advanced Operator, Administrator.

## Caution:

Setting **<None>** allows free access to selection of a particular database position (without the need of logging in).

## 19.7. CPG

The user may set authorization levels when it comes to modification of the following local parameters values of **<CPG>** operating mode:

- Batch number,
- Number of batches,
- Number of samples,
- Average tare estimation,
- Tare,
- Density.

## Procedure:

• Enter parameters group < Access level>, according to ch. 19 of this manual, select < CPG> and then set a right option.

## Accessible authorization levels:

None, Operator, Advanced Operator, Administrator.

# 20. UNITS

Scale, in submenu < Units> enables selecting:

- Declaring accessibility of the weighing units,
- Declaring the start unit,
- Determining two user defined units (custom units),
- Changing the value of g-cor (the value of gravitational acceleration force).

To enter submenu < units>, press and then: "<sup>[1]</sup>

## 20.1. Units accessibility

Submenu < [16] Accessibility> enables declaring weighing units that should be accessible for selecting in the weighing window after pressing the weighing unit pictogram.

### Procedure:

- B [ct]
- Enter submenu < IM Units> in accordance with ch. 20 of this user manual,
- Select option < [International Accessibility> which opens a window with a list of available weighing units with their accessibility attribute.

### Where:

- $\swarrow$
- Weighing unit enabled
- Weighing unit disabled
- Set required accessibility criterion for the weighing units and exit to weighing mode.

## 20.2. Start unit

### Procedure:

- Enter submenu < ID Units> in accordance with ch. 20 of this user manual,
- Select option < Initial Start units> and choose a start unit from displayed list of available weighing units.

## Possible selection:

- none
- gram [g]
- kilogram [kg]
- carat [ct]
- pound [lb]
- ounce [oz] \*
- Newton [N] \*

\*) - weighing unit inaccessible in a verified scale

- Exit to main menu with procedure of saving changes,
- On restarting the scale, the instrument operates with enabled start unit.

## Procedure:

- Enter submenu < Units> in accordance with ch. 20 of this user manual,
- Select option < [International content of the select option of the following parameters:</li>

00285	Multiplier	Multiplier of scale's adjustment unit
	Name	Unit name (Max 3 characters)

- Exit to main menu with procedure of saving changes,
- Press symbol of the new weighing unit visible in the weighing window, which activates list of available weighing units with new custom unit added at the end of the list.

### Caution:

The procedure of defining the second custom unit <[1] Defined unit 2> is equal to the procedure described above.

## 20.4. Acceleration of gravity

Parameter < [10] Acceleration of gravity> eliminates the changes of gravitational acceleration force at different latitudes and altitudes in case of weighing process with application of "Newton" [N] weighing unit.

## Procedure:

- Enter submenu < Units> in accordance with ch. 20 of this user manual,
- Select option < Intimation Acceleration of gravity> which opens an editing window < Acceleration of gravity> with a numeric keyboard,
- Insert the new value of acceleration of gravity for the place of use and accept it by pressing key,
- Exit to main menu.

# 21. OTHER PARAMETERS

There is a group of parameters different from others which influence the operation of the scale. They are gathered in group **Others**> e.g. language, beep etc. To enter **Others**>, press and then:

## 21.1. Languages

## Procedure:

• Enter submenu **Others**> according to ch. 21 of this manual, choose **Language**> and set the parameter.

## Accessible languages:

• Polish, English, German, French, Russian, Spanish, Czech, Hungarian, Estonian, Latvian, Italian, Greek, Turkish, Thai, China, Roman.

## 21.2. Setting date and time

Users can set date and time that are visible in the main window of the display. Entering the edit window of date and time can be made in two ways:

- Pressing the field "date and time" in the top bar of the main screen,
- Enter: "SETUP / Others / Date and Time /

After entering the setting of date and time the screen keyboard appears. Set year, month, day, hour, minutes and confirm by pressing

" SETUP / Others / Date and Time" submenu contains additional functions that serve for defining date and time format:

Icon	Name	Value	Description
1200	Date format	yyyy.MM.dd *	Selection of date format. Possible values: d.M.yy, d.M.yyyy, d/M/yy, dd.MM.yy, dd.MM.yyyy, dd.MMM.yyy, dd/MM/yy, dd/MM/yyyy, dd-MM-yy, dd-MM-yy, M/d/yy, M/d/yyyy, MM/dd/yy, MM/dd/yyyy, yy/MM/dd, yy-M-dd, yy-MM-dd, yyyy.MM.dd, yyyy-M-dd, yyyy-MM-dd.
Q	Time format	HH:mm:ss **	Selection of time format. Possible values: H.mm.ss, H:mm:ss, H-mm-ss, HH.mm.ss, HH:mm:ss, HH-mm-ss, H.mm.ss tt, H:mm:ss tt, H-mm-ss tt, HH.mm.ss tt, HH:mm:ss tt, HH-mm-ss tt, h.mm.ss tt, h:mm:ss tt, h-mm-ss tt, hh.mm.ss tt, hh:mm:ss tt, h-mm-ss tt
ALL	2013.03.29	14:32:09	Date and time preview, declared formats taken into account.

\*) – For date format: y – year, M – month, d – day

\*\*) - For time format: H - hour, m - minute, s - second

## Caution:

Parameter **Vertical Date and Time>** is accessible in the scale menu depending on the authorization access level set in the related parameter.

## 21.3. Sound signal

#### Procedure:

• Enter **Others**> according to ch. 21 of this manual, **Beep**> and set accordingly.

### Settings:

None Buttons	<ul><li>Sound for buttons and proximity sensors disabled</li><li>Sound for buttons enabled</li></ul>
Sensors All	<ul><li>Sound for proximity sensors enabled</li><li>Sound for buttons and proximity sensors enabled</li></ul>

## 21.4. Screen volume

The user can control volume level being an effect of touching the screen, the volume can be modified within **0%** - **100%** range. Default value of the volume level is **0%**.

## Procedure:

- Enter Others> submenu as described in chapter 21 of this manual,
- Select < Screen volume> parameter, < Screen volume> editing window with an on screen keyboard is displayed,
- Enter required volume level value in [%] and press \_\_\_\_\_ button to confirm.

## 21.5. Screen brightness

Scale user can change brightness of the screen in the range between **0%** and **100%**.

## Caution:

The default screen brightness is set to 90%.

#### Procedure:

- Enter submenu
- Select < Screen brightness> parameter, <Screen brightness> editing window with an on screen keyboard is displayed,
- Enter required screen brightness value in [%] and press \_\_\_\_\_ button to confirm.

## 21.6. Touch panel calibration

Touch panel calibration is required when inappropriate operation is recognized. E.g. the reaction in a different place than the touching point.

### Procedure:

- Enter submenu Others> according to ch. 21 of this manual,
- Select < Touch Screen Calibration> and then an editing field appears,
- Using a thin and soft pointer press (keep pressed for some time) in the point where the cross appears, after indicating the 4<sup>th</sup> place confirm changes by pressing

## 21.7. Energy saving mode

The user can activate energy saving mode.

### Procedure:

Enter submenu Others> according to ch. 21 of this manual, select
 Energy saving mode> parameter and set appropriate option.

#### Where:

None	-	Energy saving mode off
Screen dimming	-	Changing screen brightness
Screensaver	-	Activating screen blanking mode
Slideshow	-	Activating slideshow mode

## Caution:

Active screen saving mode is conditioned by:

- Active Screen timeout> parameter (read chapter 21.8 of this manual),
- Home screen of the scale displayed,
- Zero indication.

## 21.8. Screen timeout

The user can specify how much time it shall take before sleep mode activates. By default the value is set to **0[s]** (parameter inactive).

## Procedure:

- Enter submenu Cothers> according to ch. 21 of this manual,
- Select **Construction** Screen timeout> submenu, **Construction** window with an on screen keyboard is displayed,
- Enter required time value in [s] and press \_\_\_\_\_ button to confirm.

## 21.9. Proximity sensor

The user can specify sensitivity for proximity sensors operation (sensors operation dependant on distance between the sensor and operator's hand).

### Procedure:

• Enter submenu <br/>
Others> according to ch. 21 of this manual, select<br/>
Proximity sensor> parameter and set appropriate option.

#### Where:

0	-	Sensors operation disabled
1 ÷ 9	-	Sensitivity values range (the higher value, the broader sensors response range)

## 21.10. Logging in required

Logging in required> parameter must be active if a logging operation is to be carried out by an operator after the device have been turned on.

## Procedure:

Enter submenu Others> according to ch. 21 of this manual, select
 Logging in required> parameter and then set the appropriate option.

#### Where:



- Inactive logging required
- Active logging required

## 21.11. Start logo

Submenu **Start logo**> allows to substitute a "start" graphic file of a scale with another one located on a memory stick.

#### Procedure:

- Put a memory stick into USB port of a scale,
- Enter submenu: " Others / Start logo" according to ch. 21 of this manual,
- Enter < 1000 Start logo> to open content of a memory stick main folder,
- Chose the desirable graphic file and wait until scales program automatically returns to the < Start logo> submenu. Chosen graphic will be displayed.

Set Default> option enables the user to get back to the default "Start logo".

#### Caution:

Maintained file formats are \*.jpg, \*.png, with optimal (max.) resolution of 640x480 pixels.

#### 21.12. Error information preview time

Submenu < Error information preview time> enables user to declare for how long information about errors is to be displayed.

#### Procedure:

• Enter submenu Conters> according to ch. 21 of this manual, select

parameter **C** Error information preview time> and set the appropriate option.

#### Where:

- 1 [s] Displaying an information about errors for 1 [s]
- 3 [s] Displaying an information about errors for 3 [s]
- 5 [s] Displaying an information about errors for 5 [s]

- 10 [s] Displaying an information about errors for 10 [s]
- Max Displaying an information about errors until it has been confirmed with ✓ button.

## 21.13. Export / import of settings

The user can export/import scale settings (printout templates, user parameters) using flash memory stick.

### Procedure for settings export:

- Connect flash memory stick to USB port of your scale,
- Enter **, Chers /** Export" submenu, settings are exported automatically to flash memory stick plugged to scale USB port.
- Upon completed procedure the following message is displayed: "Operation completed successfully".

### Procedure for settings import:

- Connect flash memory stick to USB port of your scale,
- Enter " Others / Import" submenu, settings are imported automatically from flash memory stick plugged to scale USB port.
- Upon completed procedure the following message is displayed: "Operation completed successfully".

## 22. USER ADJUSTMENT

An option only for non-verified scale

Scales require to recalculate internal divisions to more suitable ones (e.g. g, kg etc.). In order to do this they require an adjustment factor. It is adjusted during the adjustment procedure using a mass standard. Adjustment should be carried out if weighing a standard mass shows a different mass value.

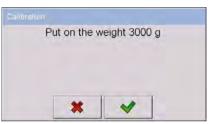
To enter < User Adjustment>, press key and then: "User Adjustment".

## 22.1. Adjusting procedure

- Enter submenu < User Adjustment > according to ch. 22 and select: " Adjustment",
- After entering the parameter the following message box appears:



- Take the load off the pan of platform 1,
- Press button . The following message appears during adjusting start mass: **"Evaluation of starting mass**",
- After the procedure has been completed the following message box appears:



• Place determined mass on pan of platform 1 and then select



• After the procedure of adjustment factor determination following command appears:



Accept the message box by pressing key and return to weighing mode.



< Setting of start mass> parameter allows to adjust start mass of platform 1.

#### Caution:

The factory adjustment process for platforms 2, 3, 4 is analogical to the one described above.

#### 22.2. Start mass adjustment

It is possible to adjust only a start mass, it helps to correct the start zero when the span does not change.

#### Procedure:

- Enter submenu < User Adjustment > according to ch. 22 and select: " Setting of start mass",
- After entering the parameter the following message box appears:



- Take the load off the pan of platform 1,
- Press button \_\_\_\_\_. The following message appears during adjusting start mass: "Evaluation of starting mass",

• After the procedure has been completed the following message box appears:



Accept the message box by pressing key and return to weighing mode.

### 22.3. Report from adjustment process

Parameter < Report printout> enables activating the function of automatic printout of a report from adjustment process on a printer plugged to the scale.

#### Procedure:

• Enter submenu < III User Adjustment> in accordance with ch. 22

of this user manual, select parameter < Report printout> and set its appropriate value.

#### Where:



- Automatic report printout switched off
- Automatic report printout switched on

#### Caution:



/ *Adjustment report Printout template*" enables optional modification of report template (see ch. 16.2.3 of this user manual).

## 22.4. Adjustment track record

Each completed adjustment process is automatically saved in scale's database in submenu < Adjustment track record>.

In order to enter submenu < Adjustment track record >, press key, and: " User Adjustment / Adjustment track record". Files comprising reports have names with time and date when the process was performed.

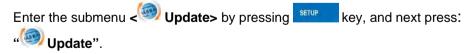
## List of data for a carried out adjustment process:

	Date	Data of carried out operation
2	Operator	Operator name
-	Nominal Mass	Mass of adjustment weight
X	Platform number	Platform number on which an operation was performed

The user can print data on a specific entry by pressing Sing key, located in the top bar of software's window.

## 23. SOFTWARE UPDATE

A user of the scale can carry out ON-LINE updating of the software version using Ethernet network or an external data storage device connectable to the USB port of the terminal.



## 23.1. ON-LINE updating

## Caution:

- 1. ON-LINE updating requires access to a global INTRANET network.
- 2. Before updating the software, go to scale's submenu:

"Communication , " Ethernet" and set transmission parameters for compatible with the client's local network.

## Procedure:

- Enter submenu < Update> in accordance with point 23 of this user manual.
- Software version on server> which reads Select parameter < software version and its availability date on RADWAG server.

#### Caution:

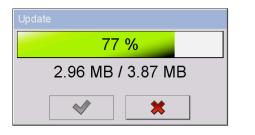
In case of no connection with the global network Intranet or incorrect settings of Ethernet parameters, the scale displays the following

message: "We connection".

Update From server> which displays Go to parameter < the following message:



 Accept the message by pressing key which is followed by displaying the updating progress window:



• After downloading the update press an active key which is followed by displaying a message:



• Accept the message by pressing key. The terminal shall restart with update installing procedure.

## 23.2. Update from pen drive

#### Procedure:

- Copy file "**update.pue71**" containing the current software version onto the external data storage device (to the main catalogue),
- Connect the data storage device to terminal's USB port,
- Go to submenu < Update> in accordance with point 23 of this user manual,
- Go to parameter < Update From pen drive> which displays the following message: "Update?",

#### Caution:

In case the data storage device is not connected to the terminal's USB port and/or there is no **"update.pue71**" file in the main catalogue of the pen drive, the software displays the following message **"Update error**".

• Accept the message by pressing key which automatically starts the updating process. On its completion the terminal displays the following message:

Informatio		
i		be effective on device restart the device?
	*	~

 Accept the message by pressing key. The terminal shall restart with update installing procedure.

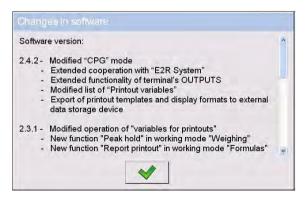
### 23.3. Changes in software

Parameter < Changes in software> enables acquiring data on changes present in the updated software version.

#### Procedure:

On completing the software updating procedure go to parameter

Changes in software> which opens an information window
Changes in software>:



# 24. SPECIAL FUNCTIONS OF WORKING MODES

Scale can operate in following work modes:

8	Weighing		
000 0000	Counting pieces		
<u> </u>	Deviations		
Å	Dosing		
	Formulation		
е	CPG		
<b>1</b>	Density		
	Weighing animals		
	Vehicle scale		
Work modes can be configured in <b>&lt; Working Modes&gt;</b> .			
To enter su	Ibmenu < Working Modes>, press and then:		

"🗳 Working Modes".

The settings of specific working modes provide access to special functions adjusting operation of the instruments to client's individual needs.

## Caution:

- 1. First left screen button (local settings) in the main window of every working mode is ascribed to access settings of current mode.
- 2. The change in on mode results in the same change for other working modes working modes.

Part of the special functions have global effect, i.e. they are applicable to most of accessible working modes (except for working modes: Formulation, Dosing, Vehicle scale), as presented on below table:

	Weighing	Parts counting	Percent setup	Weighing animals	Density	CPG
Save Mode	+	+	+	-	+	+
Down-weighing	+	+	+	-	-	-
Checkweighing	+	+	+	+	+	-
Tare mode	+	+	+	+	+	-
Labelling mode	+	+	+	+	-	-
Statistics	+	+	+	+	+	+
Differential weighing	+	-	-	-	-	-
Min 2, Max 2 thresholds active	+	-	-	-	-	-
Peak hold	+	-	-	-	-	-
Information about saved measurement	+	+	+	-	-	+
Ingredient weight entered manually	+	+	+	-	-	-

Other special functions are related directly to a specific working mode, and they are described in further part of this user manual.

## 24.1. Working modes accessibility

Submenu < Accessibility> enables declaring presence of scale's working modes in the user menu after pressing a pictogram with a working mode located in the left corner of the top bar in the main window.

#### Procedure:

- Enter group of parameters **Working modes>** in accordance with point 24 of the user manual,
- Select option < Accessibility> which opens a list with available working modes and their accessibility attribute.

## Where:



- Working mode enabled
- Working mode disabled

• Set accessibility attribute for each of the working modes and return to weighing mode.

#### 24.2. Save mode

Depending on setting parameter **Save Modes** users can send data from the scale to an external device.

#### Procedure:

- Enter parameters group < Working modes> according to ch. 24 of this manual,
- Enter the required mode and choose **Save Mode**> then choose the required mode.

#### Accessible options:

Manual every stable	-	Manual printout of each stable weighing result for mass measurement over <b>-LO-</b> threshold
Manual first stable	-	Manual printout of the first stable weighing result for mass measurement over <b>-LO-</b> threshold
Automatic first stable	-	Automatic printout of the first stable weighing result for mass measurement over <b>-LO-</b> threshold
Automatic last stable	-	Automatic printout of the last stable weighing result for mass measurement below <b>-LO-</b> threshold
Semi-automatic every - stable	-	Manual printout of each weighing result for mass measurement over <b>-LO-</b> threshold – awaiting for a stable result
Semi-automatic first - stable	-	Manual printout of the first weighing for mass measurement over <b>-LO-</b> threshold – awaiting for a stable result

#### 24.3. Down-weighing

Software allows to weigh in the "down-weighing" mode. It consist in putting the load on the pan and taking off/removing portions of it with concurrent saving weighments equal to the portions taken off the pan.

### Procedure:

- Enter parameters group < Working Modes> according to ch. 24 of this manual,
- Enter the required working mode and choose < Down-weighing> and then set the required option.

### Accessible options:

- Traditional weighing
- Down-weighing mode

# 24.4. Checkweighing

In case of enabling the checkweighing mode, printouts are performed only when a weighing is between **MIN** and **MAX** thresholds that have been defined before.

### Procedure:

- Enter parameters group **< Working Modes>** according to ch. 24 of this manual,
- Enter the required working mode and choose **Checkweighing**> then set the required option.

### **Options:**



- Every weighing is recorded
- Only weighments between MIN, MAX are recorded.

# 24.5. Tare mode

This function enables users to set parameters for tarring.

### Procedure:

Enter parameters group < Working Modes> according to ch. 24 of this manual,

• Enter the required working mode and choose **Tare mode**> and then set the required option.

### **Options:**

Single	-	Basic tare mode. The set (chosen) tare value is overwritten after entering a new value
Current sum	-	Summing up tare values of product and package together with manually inscribed tare. After next setting of product or package tare the entered tare value is disabled
Total sum	-	Summing up all subsequently entered tare values
Autotare	-	Automatic tare mode together with mode <sum all="" of=""></sum>
Each measurement	-	Automatic tarring for each accepted measurement result.

# 24.6. Labelling mode

Labelling mode can be initiated together with every working mode. The labelling system is intended to print labels for marking weighed goods e.g. a packing process. The program can print standard labels for single products, cumulative labels for sticking to bulk containers and cumulative labels for cumulative labels for sticking to the large transport containers holding bulk containers.

In submenu **< (Constraints and Constraints and** 



Number of labels

No. of cumulative labels

No. of CC labels

C label automatic triggering

CC label automatic triggering

# 24.6.1. Setting of the number of labels to print

In the parameter **< Image: Number of labels>** user defines the amount of labels. They are printed on the printer connected to the weight.

### Procedure:

- Enter parameters group < Working Modes> according to ch. 24 of this manual,
- Enter the required working mode and choose: "Labelling mode / Number of labels" then the editing field <Number of labels> with the screen keyboard is opened,
- Choose the required number of labels and confirm by pressing

# 24.6.2. Setting of the number of cumulative labels to print

In the parameter < The No. of cumulative labels> define the amount of sum labels. They are printed on connected printer.

### Procedure:

- Enter parameters group < Working Modes> according to ch. 24 of this manual,
- Enter the required working mode and choose: " Labelling mode /

No. of cumulative labels", then the editing field </br>
(No. of cumulative labels) with the screen keyboard is opened,

Enter the required number of cumulative labels and confirm by pressing

### 24.6.3. Setting of the number of CC labels to print

In the parameter **No. of CC labels>** define the amount of total sum labels to print. They are printed on connected printer.

# Procedure:

- Enter parameters group < Working Modes> according to ch. 24 of this manual,
- Enter the required working mode and choose: " Labelling mode /

**No. of CC labels**", then the editing field **<No. of CC labels>** with the screen keyboard is opened,

 Enter the required number of cumulative labels and confirm by pressing

# 24.6.4. Automatic triggering of cumulative labels

Users have access to the function of automatic triggering of printing

cumulative labels after setting parameters < m Mode> and

< Threshold>.

# Procedure:

- Enter < Working modes> parameter group as described in chapter 24 of this manual,
- Enter the required working mode and choose: "Labelling mode / C label automatic triggering / Mode" and then set the required option:
  - None Cumulative label printout is initiated by pressing
  - Mass Cumulative label printout is initiated by exceeding the value set in parameter < Threshold>. The value is treated as the total from single weighments,
  - Number Cumulative label printout is initiated by exceeding the value set in parameter < Threshold>. The value is treated as the number of single weighment.
- \*) Manual printing of cumulative labels can be done in two ways depending on the button used:



Printing followed by zeroing label counter or the total mass

Printing without zeroing label counter or the total mass

By default setting button is accessible in the bottom part of the display but activating the button can be done in submenu:

serue / IIII Display / Actions"

(see ch. 17.2 of this manual).

For automatic printout of cumulative labels counters and total mass variables are always zeroed.

Confirm the changes by pressing \_\_\_\_\_ and go to parameter

Threshold> then <Threshold> window appears with the screen keyboard,

- Set the appropriate value for automatic triggering cumulative labels:
  - If parameter < Mode> is set to <Mass> then enter the required value of total mass to exceed in order to print the C label,
  - If parameter < Mode> is set to <Number> use the screen keyboard to enter the required counter value as a threshold to trigger off printing C labels.
- Confirm the changes introduced by pressing

# 24.6.5. Automatic triggering cumulative labels of cumulative labels

Users have access to the function of automatic triggering of printing cumulative labels of cumulative labels after setting parameters

**Mode**> and **Threshold**>.

# Procedure:

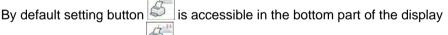
• Enter **Working modes>** parameter group as described in chapter 24 of this manual,

- Enter the required working mode and choose: "Labelling mode /
   CC label automatic triggering / Mode" and then set the required option:
  - None Cumulative label of cumulative labels printout is initiated by pressing and or ,
  - Mass Cumulative label of cumulative labels printout is initiated by exceeding the value set in parameter < Threshold>. The value is treated as the total from single weighments,
  - Number Cumulative label of cumulative labels printout is initiated by exceeding the value set in parameter 
     Threshold>. The value is treated as the number of single weighments,
- \*) Manual printing of cumulative labels can be done in two ways depending on the button used:



Printing followed by zeroing label counter or the total mass

Printing without zeroing label counter or the total mass



but activating the button is ubmenu:

setur / Display / Actions" (see ch. 17.2).

For automatic printout cumulative labels of cumulative (CC) labels counters and total mass variables are always zeroed.

• Confirm the changes by pressing \_\_\_\_\_ and go to parameter

Threshold> then <Threshold> window appears with the screen keyboard,

- Set the appropriate value for automatic triggering CC labels:
  - If parameter < Mode> is set to <Mass> then enter the required value of total mass to exceed in order to print the CC label,

 If parameter < Mode> is set to <Number> use the screen keyboard to enter the required counter value as a threshold to trigger off printing CC labels.

Confirm the changes introduced by pressing

# 24.7. Statistics

All statistics are continuously updated after each measurement is saved in the scale memory. Statistics can be calculated globally (does not depend on the selected product) or separately for every product from the product

database. It can be set in parameters **Statistics**>.

# Procedure:

- Enter **Working modes>** parameter group as described in chapter 24 of this manual,
- Enter the required working mode and choose **Statistics** and then set the required option.

### **Options:**

Global - global statistics, Product - statistics for every product.

### Caution:

In case of operation with **Statistics** set to **Product** bear in mind that after restarting, only statistics of the last weighed product are recovered.

# 24.8. Differential weighing

Function **Differential weighing>** enables analysing mass changes of one or more samples. To do it start mass of a sample must be estimated, next the sample undergoes various processes during which some components of the sample are subtracted or added. Finally the sample is weighed again (differential weighing). The scales calculates the difference between two mass values (weighment I and weighment II).

# 24.8.1. Local settings

Local settings for < Differential weighing> function are to be accessed in submenu: Working modes / Weighing / Differential weighing:

A-B	Activation Activation of differential weighing function (V - function active, V - function inactive)		
ABC	Batch portion type	Batch type, for differential weighing: Value – differential weighing is realized according to declared as measuring series batch value. Filter – differential weighing is realized according to filter and batch value declared as a measuring series value.	
†corte ↓ zame	Filtering	Filter type declaration, differential weighing is realized according to this filter. <b>Values:</b> Product, Client, lot number, batch number, source warehouse, target warehouse, packaging. Parameter <b><filtering></filtering></b> is not accessed if <b><batch portion="" type=""></batch></b> parameter value is set to <b><value></value></b> .	
	Charge	Measuring series value for differential weighing	

# 24.8.2. Reporting realized processes of differential weighing

Report of each realized process of differential weighing is saved to database

Differential weighments reports>, date and hour of an executed process is the file name. To view list of data for a process of differential weighing see point 35.5.8 of this manual.

# 24.9. Peak hold

The scale enables measuring the maximum force influencing the weighing pan.

# Procedure:

• Enter **Working modes>** parameter group as described in chapter 24 of this manual,

• Enter the required working mode and choose **Peak hold>** and then set the required option.

#### Where:



- Scale operates in standard weighing mode
- Scale operates with mode forcing lock of maximum indication on the display, i.e. peak hold.
- On loading the weighing pan with changeable force, the displays locks the indication of the maximum measured force. The locked value is signalled by red colour of the displayed value.
- Remove load from the weighing pan.
- Before carrying out the following measurement press \_\_\_\_\_\_button.

### 24.10. Information about saved measurement

The user can activate message informing on the fact that a particular weighing result has been recorded in a database, the message is displayed each time after performed measurement.

### **Procedure:**

- Enter submenu < Working modes> according to ch. 24 of this manual,
- Enter "Weighing" mode and activate option: < Information about saved measurement>,
- Each time after completed measurement the message <**Measurement** saved> is displayed.

### Caution:

The message is displayed as long as value of **C** *Error information preview time>* parameter specifies (read point 21.12 of this manual).

# 24.11. Packaging quantity query

The user can use packaging weight multiplier function. To do it parameter:

Ingredient weight entered manually> must be activated.

### Procedure:

- Enter submenu < Working modes> according to ch. 24 of this manual
- Enter "Weighing" mode and activate option: < Ingredient weight entered manually>,
- Each time the user selects record of particular packaging stored within a database of packages, <Enter no. of packages> window with an on screen keyboard is displayed,
- Upon entering particular packaging quantity value, weight value equal to declared multiplied value of packaging is displayed along with *Net* and symbols.

# 25. WORKING MODE - WEIGHING

The **Weighing>** mode is the standard working mode allowing to perform weighments and saving them in the database

< Weighings / Alibi>.

# 25.1. Starting the working mode

The **Weighing>** mode is the standard working mode. If a user has changed the operating mode to another follow the actions below:

- While in the main window press the icon with mode name placed on the top bar on the left then submenu comprising all accessible working modes </br>
- Choose **Weighing>**, program automatically returns to the main window displaying icon in the top bar.

# 25.2. Local setting of a working mode

Local setting of a working mode **Weighing>** are accessible on pressing a hot key **Local parameters>**:

2	Save Mode	Detailed description in ch. 24.2 of the user manual
8	Down-weighing	Detailed description in ch. 24.3 of the user manual
¥	Checkweighing	Detailed description in ch. 24.4 of the user manual
a B B B	Tare mode	Detailed description in ch. 24.5 of the user manual
	Labelling mode	Detailed description in ch. 24.6 of the user manual
allina	Statistics	Detailed description in ch. 24.7 of the user manual
A-B	Differential weighing	Detailed description in ch. 24.8 of the user manual
MAX	Peak hold	Detailed description in ch. 24.9 of the user manual
	Information abort saved measurement	Detailed description in ch. 24.10 of the user manual
×?	Ingredient weight entered manually	Detailed description in ch. 24.11 of the user manual

# 26. WORKING MODES – PARTS COUNTING

Parts counting is working mode allowing to count pieces on the basis of the standard unit mass of a single piece set on the scale or fetched from the database.

# Caution:

If parts counting is performed in an additional container it should be tarred.

# 26.1. Starting the working mode

### Procedure:

• While in the main window press in the top bar, then you will see a submenu **<Working Modes>** comprising a list of modes,

Choose < Parts counting >, program automatically returns

to the main window displaying icon  $\stackrel{\hbox{\scriptsize loc}}{=}$  in the top bar,

• The weight unit is automatically changed to "**pcs**" and two screen buttons on the right side appear:



Enter part mass

Estimate part mass

# 26.2. Local settings of the working mode

Local settings of the working mode **Area Parts counting >** are accessible on pressing a hot key **Cocal parameters**:

SMP	Automatic correction of reference mass	Detailed description in ch. 25.2.1 of the user manual
MIN	Minimum reference mass	Detailed description in ch. 25.2.2 of the user manual
M	Save Mode	Detailed description in ch. 24.2 of the user manual
S	Down-weighing	Detailed description in ch. 24.3 of the user manual
80	Checkweighing	Detailed description in ch. 24.4 of the user manual
4 8 3	Tare mode	Detailed description in ch. 24.5 of the user manual
	Labelling mode	Detailed description in ch. 24.6 of the user manual
<u>alltin.</u>	Statistics	Detailed description in ch. 24.7 of the user manual
	Information abort saved measurement	Detailed description in ch. 24.10 of the user manual
×?	Ingredient weight entered manually	Detailed description in ch. 24.11 of the user manual

# 26.2.1. Automatic correction of reference mass

It concerns the < A Parts counting> working mode

Working mode < Barts counting> comprises a special function

**Automatic correction of reference mass>**, that can be used for correcting the unit mass **SMP>**. To enable the function in parameters you need to:

• Enter parameter group < Working modes> according to ch.

24 of this manual, choose: **Bearts counting / Some Automatic** correction of reference mass" and set appropriate option.

# **Options:**



- Automatic correction of reference mass disabled
- Automatic correction of reference mass enabled

Function < Automatic correction of reference mass> in mode Automatic correction of reference mass> in mode automatic counting > is enabled at the moment of estimating the sample quantity and signalled by displaying <PCS> and <SMP> (single part/piece mass) on the top part of the display.

# There are four criteria of working "Automatic correction of reference mass" function:

- 1. equilibrium should be reached,
- 2. quantity of parts/pieces should be increased,
- 3. added quantity of parts/pieces should not be greater than double number of parts/pieces on the pan,
- 4. the new sample can be different from the old sample by  $\pm$  0.3 of pcs (absolute value),

If a user recognises that the sample quantity is adequate the unit mass (single piece mass) can be saved (see ch. 26.6 of this manual) and disable the function by pressing

# Caution:

While the parts counting function is active the functionality of *d* button is changed. Pressing *d* boos not result in printing and saving weighments.

### 26.2.2. Minimum reference mass

It concerns the < Berts counting > working mode

Users before beginning the procedure of single piece mass evaluation can declare "**minimum reference mass**" i.e. minimum total weight of all pieces put on the scale pan expressed in reading divisions.

### Procedure:

- Enter parameter group < Working modes> according to ch. 24 of this manual,
- Choose " Parts counting / Min Minimum reference mass" and then set an appropriate value.

Accessible settings: 1 d, 2 d, 5 d, 10 d.

# Caution:

While the procedure of evaluation the mass of single piece the mass of all pieces put on the pan is lower than the value declared in parameter

"MR Minimum reference mass", the following warning message will be displayed: < Too low sample mass>.

# 26.3. Setting a reference unit by entering known piece mass

# Procedure:

- Enter mode < Parts counting> according to ch. 26.1 of this manual,
- Press (enter piece mass), then an editing field is displayed
   **Reference Unit>** with the screen keyboard,
- Enter a value and confirm it by pressing \_\_\_\_\_, which causes starting
   Parts counting > with automatic setting the reference unit.

### Caution:

- In case of entering a reference unit higher then the maximum weighing range of the main scale the program will display a message box: <Value too high>,
- 2. In case of entering the single piece mass lower than 0.1 d, the program will display a message box: **<Value to small>**.

# 26.4. Setting a reference unit by weighing a sample

### Procedure:

- Enter mode < Parts counting> according to ch. 26.1 of this manual,
- If pieces are weighed in a container it needs to be put on the pan and tarred,
- Press (estimate piece mass), then the editing field is displayed
   **Reference Quantity>** together with the screen keyboard,
- Enter a value and confirm it by pressing \_\_\_\_\_, then the following message is displayed: **Put pieces: xx>** (where **xx** the value entered before),
- Put the declared quantity of pieces on the pan and when the result is stable (symbol ) confirm it by pressing
- The program automatically calculates reference unit mass and causes starting < Parts counting >.

# Caution:

- The total mass of all pieces put on the weight pan cannot be greater than the weighing range;
- The total mass of all pieces put on the weight pan cannot be less than the value declared in parameter **"Minimum reference mass"** (see section 26.2.2). If the condition above is not fulfilled the scale displays the message **<Too low sample mass>**;
- The mass of one unit may not be less than 0.1 of reading division of the scale. If this condition is not fulfilled the scale displays the message: <Too low piece mass>.

# 26.5. Setting the reference mass by entering single piece mass directly to the database

After selecting a product from the product database a mass of single piece from the field **<Mass>** is used.

### Procedure:

- While in < A Parts counting > press
- Using 
   or 
   choose a product and confirm it by pressing

### Caution:

The selected product has to have declared unit mass (single piece mass).

# 26.6. Inscribing the unit mass to the database

The unit mass can be described a unit mass the following way:

- a) Estimate the unit mass (see 26.2 and 26.3),
- b) Enter the products database
- c) Keep the finger pressed on the required position then a context menu is displayed,
- d) Choose option **<Ascribe standard>**, then the standard unit mass is attributed to the product in the field **<Mass>**.

# Caution:

Attributing a standard to a selected product is also possible by programmable button. Setting programmable buttons is described in ch. 17.2 of this manual The list of functions is described in **APPENDIX B** of this manual.

# 27. WORKING MODES - PERCENT SETUP (DEVIATIONS)

The program allows to check weighments in deviations (in %) around an outlined standard mass. The standard mass can be outlined by weighing or entering it by a user.

# 27.1. Starting the operating mode

# Procedure:

- While in the main window press in the top bar of the window then you will see a submenu **<Working Modes>** comprising a list of modes,
- Choose mode < Choose mode < Deviations>, the program will automatically

returns to the main window displaying icon in the top bar,

• The weight unit is automatically changed to "%" and two screen buttons on the right side appear:



Enter reference mass

Estimate reference mass

# 27.2. Local settings of the working mode

Local settings of the working mode **Constitutions** are accessible on pressing a hot key **Constitutions** and **Constitution**.

2	Save Mode	Detailed description in ch. 24.2 of the user manual
	Down-weighing	Detailed description in ch. 24.3 of the user manual
8	Checkweighing	Detailed description in ch. 24.4 of the user manual
483	Tare mode	Detailed description in ch. 24.5 of the user manual
	Labelling mode	Detailed description in ch. 24.6 of the user manual
allin.	Statistics	Detailed description in ch. 24.7 of the user manual
	Information abort saved measurement	Detailed description in ch. 24.10 of the user manual
×?	Ingredient weight entered manually	Detailed description in ch. 24.11 of the user manual

# 27.3. Reference unit mass estimated by weighment

# Procedure:

- Enter Content Deviations> according to ch. 27.1 of this manual,
- If the standard is to be weighed in a container, the container needs to be put on the pan and tarred,
- Press (Estimate standard mass), then a message is displayed:
   <Put standard>,
- Put the load on the pan. After stabilization the result is taken as a standard (symbol 
  ). Confirm it by pressing 
  ,
- At the same time the weight unit is changed to (w %).

# 27.4. Reference unit mass inscribing into the memory

# Procedure:

- Enter < Deviations> according to ch. 27.1 of this manual,
- Press (Give piece mass), then an editing field is displayed **Give piece mass>** together with the screen keyboard,
- Enter a value and confirm by pressing
- At the same time the weight unit is changed to (w %).

# 28. WORKING MODES - DOSING

**A Dosing>** mode enables carrying out filling and dosing processes of goods on scales featuring a scales of Y series. The working mode enables manual and automatic dosing on a single or simultaneously on many weighing platforms.

# 28.1. Starting the working mode

# Procedure:

- While in main window of the software, press on-screen key, located in the top bar of the window, which opens submenu

   Working Modes> containing the list of available working modes,
- Select working mode < A Dosing>, the software automatically returns to displaying the main window, and the top bar indicates the pictogram

of a selected working mode  $\square$ ,

• Automatically the following on-screen key are enabled:



# 28.2. Dosing process structure

All activities related to the dosing process can be carried out from

the level of scale. Each dosing process  $< \Delta >$  contains:

- Its name <
- code <

Each of the weighing platforms can have its specific dosing process. The database of dosing processes has the same searching mechanisms for a specific record in a database as other terminal databases. A dosing process can be searched in a database by:

- the name of a dosing process < </li>
- the code of a dosing process <

Processes carried out on different weighing platforms operated by the same terminal, can also be dependent on each other, e.g.: dosing on weighing platform 2 can be initiated only on completing dosing on weighing platform 1, which is confirmed by a signal from appropriate sensor.

### 28.3. Local setting of a working mode

Local settings for the working mode  $< \Delta$  **Dosing**> are accessible on pressing a hot key < **box Local parameters**>:

<u> </u>		Ask for multiplier	Causes setting a question for dosing process multiplier, i.e. the number which is used to multiply the values of mass of all components.
<b>8</b> 2?		Ask for number of cycles	Causes setting a question on number of dosing process cycles, i.e. number of repetitions of the same process.
		Confirm batching ingredients manually	Causes enabling manual confirmation by pressing "Enter/Print" key on terminal's keyboard for each weighing process.
× →		No. of weighments for calculating the correction	Determines the number of recent measurements which are analysed for calculating automatic correction in dosing
auto		Automatic cycle	Enables an already initiated process to be performed in a cyclic manner
		Global	Global settings of dosing process
	Ŷ	Batching outputs	Enables setting the outputs for dosing (fine dosing in case of two-step dosing process)
	9	Bulk batching output	Enables setting outputs for bulk dosing in case of two-step dosing process
	← <mark>∎</mark> →	Correction	Enables determining global value of correction for all weighing platforms
	MAX ←∎	Maximum correctional value	Enables determining maximal value of correction, which can be automatically determined for all weighing platforms

Global> settings are dedicated for the process of creating simple dosing processes, e.g.: dosing a single ingredient on all weighing platforms.

### 28.4. Description of functions and setting dosing process

While creating dosing process, the user has access to the following functions:

lcon	Short cut	Function	Description
5I	[DH]	Dose manually	Function recalling manual weighment of dosing process ingredient (manual dosing)
	-10	Mass	Mass of an ingredient to be dosed
	₽	Min	MIN threshold for dosing process ingredient
		Мах	MAX threshold for dosing process ingredient
	*	Product	Dosing process ingredient uploaded from Products database
	<b>(</b> \$\$\$)	Down-weighing	Enables switching on checkweighing mode (weighing on minus)
	[DA]	Automatic batching	Function enabling automatic weighment (automatic dosing). The function enables controlling outputs dedicated for dosing process.
	-	Mass	Mass of an ingredient to be dosed
	195	Mass for fast dosing	Mass of an ingredient for bulk dosing (in case of two-step dosing process)
	٣	Product	Dosing process ingredient uploaded from Products database
	<b>(</b>	Down-weighing	Enables switching on checkweighing mode (weighing on minus)
•	[0]	Outputs	Function enabling setting the status of terminal's outputs for controlling peripheral devices plugged to those outputs. Accessible settings: None – output disabled; "0" – output with low status; "1" – output with high status.

$\bigcirc$	נדו]	Delay	Function determining interval between carrying out the following dosing process steps. The function determines pending time for the following step counted in seconds.
	$\odot$	Time	Determination of pending time counted in seconds
	1	Description	Text description of an interval displayed on terminal's touch panel
-0-	[Z]	Zero	Zeroing the weighing platform, equal to operation of the $\rightarrow 0 \leftarrow$ function key on the terminal's front panel
-T-	[T]	Tare	Tarring the weighing platform, equal to operation of the $\rightarrow T \leftarrow$ function key on the terminal's front panel
Ŧ	[ST]	Set Tare	Tare setting function, equal to operation of the <set tare=""> function key on the terminal's front panel</set>
2	[CM]	Weight condition	Weight condition function determining time in which the following step of dosing process on a weighing platform should be carried out, e.g.: the following step is carried out if mass (net or gross) placed on the weighing platform is below the value set in threshold.
	Þ	Threshold	Value of mass set in threshold for the condition
		Mass	Kind of determined mass for threshold (net or gross)
	Weight condition		Weight condition – ">=" or "<"
<b>-</b> 0?	[CI]	Input condition	Conditional function, determining when the following step should be carried out, depending on status of terminal's input. Each input can take the following status: None – input disabled; "0" – input with low status; "1" – input with high status; "" – input with increasing tendency (status change from low to high, e.g.: the moment of pressing a key); "N" – input with decreasing tendency (status change from high to low, e.g.: the moment of releasing a key)
<b>.</b>	[EM]	Give mass	Function activating a so called: "mass in hand" – ingredient's mass of a dosing process supplied in ready packages with precisely determined mass. The given mass is added to weighed ingredient's mass, e.g.: ingredient to be weighed = 21,8 kg, weighed amount 1,8 kg placed on the scale, and 20 kg inserted manually.

	[ET]	Give number of batching repetitions	Function determining quantity of batches of weighed ingredient, that is added to a dosing process. Mass of a single batch is determined in a product selected from the database (Products database – field Mass). Product's mass is multiplied by a specific value, and such determined mass is added to weighing process. The function is applicable for weighing products in batches.
-	[F] Set flags		Function determining a condition (characteristic point) in dosing process. The function enables conditional carrying out another step in dosing process. Setting the characteristic point (signal flags) in connection with condition flags enables mutual conditioning of different processes on different weighing platforms.
2	[CF] Flags condition		Conditional function determining criteria for events, which have to occur in order to carry out the following step in dosing process.
	[DG] Gravitational dosing		Function activating operation of automatic weighment (automatic dosing), with option of dosed mass flow measurement.
	🏄 Mass		Mass of a component which is to be dosed-out
	Percent		Mass threshold, given as a percentage [%], automatic dosing is realized within this threshold
	3	Product	Dosing process component selected from product database
	Time correction		Time correction $\pm$ of closing a valve during the dosing process, given as $\ensuremath{\left[\text{ms}\right]}$
	10 (a) + Pello %	Insensibility threshold	Permissible error $\pm$ of dosed-out mass, given as a percentage [%]
	Min/s	Minimal flow	Minimal flow value given as [g/s] or [kg/s] for an initiated algorithm of gravitational dosing
		Weighing in minus	Allows for turning on weighing in minus mode

### 28.5. Creating a new dosing process

Creating a new dosing process is initiated by specifying its name and code, followed by determining processes on each of the weighing platforms.

### Procedure:

Press seture key and select option **Value** by a provide the seture option **Appendix** by a provide the seture option of the seture option of the seture option optinto optinto option optinto option option optintooption option opti

menu  $\rightarrow$  then select < A Dosing processes>,

- In order to create a dosing process, press < Add> key, and confirm creating a new record in dosing process database,
- Specify name < <sup>[]</sup> > and code < <sup>[]</sup> > by pressing corresponding hot keys, and inserting a name and a code using an on-screen keyboard,
- Select weighing platform on which the dosing process is created, e.g.: < Platform 1>.
- By pressing < Add> key design a sequence of the dosing process to be carried out on a weighing platform no. 1, and next select one of available process functions (se table in point 28.4).
- There is a possibility of modifying an already designed process adding or deleting a single step in a process, e.g.: in order to add an element in a process, press and hold for 4 seconds an element before which a new step should be added. Drop-down menu with available options is displayed

Edit Add Delete Cancel

• Press "Add" and define new element of the process.

### 28.6. Instances of dosing processes

# 28.6.1. Instance 1 – Manual dosing process of 4 ingredients on 2 weighing platforms

### Description:

A dosing process contains 4 ingredients, which are weighed on two weighing platforms:

- Weighing Platform 1: ingredients: Flour and Sugar
- Weighing Platform 2: ingredients: Seasoning and Water

Dosing process includes a condition, according to which before adding an ingredient "Water", all other ingredients have to be dosed. The condition is marked with signal flags, which determine dosing process between the weighing platforms, in a way which orders dosing Water ingredient as the last one. The whole process is described below in tables, separately for each weighing platform.

**Dosing process name:** Instance 1 **Dosing process code:** 1111

### Dosing process from a terminal level:

lcon	Step	Value	Description
$\bigcirc$	1. [TI] Delay	[5s] Place empty container	Pending for loading an empty container for the first product
-0?	2. [CI] Input condition	Input 1 – "/"	Input 1 has to take increasing tendency – press function key confirming loading a container
-T:	3. [T] Tare	Tare	Tarring the weighing platform no. 1
51	4. [DH] Dose manually	1 kg [Flour]	Manual weighing of product "Flour" to obtain 1 kg mass
0	5. [TI] Delay	[5s] Unload container with product	Pending for unloading the container with weighed product from the weighing platform
-0?	6. [CI] Input condition	Input 4 – "/"	Input 4 has to take increasing tendency – press function key confirming unloading a container from the weighing platform
-0-	7. [Z] Zero	Zero	Zeroing the weighing platform no. 1

### Platform 1:

0	8. [TI] Delay	[5s] Place empty container	Pending for loading an empty container for the second product
-0?	9. [CI] Input condition	Input 1 – "/"	Input 1 has to take increasing tendency – press function key confirming loading a container
1.	10. [T] Tare	Tare	Tarring the weighing platform no. 1
51	11. [DH] Dose manually	0,2 kg [Sugar]	Manual weighing product "Sugar" to obtain 0,2 kg mass
$\bigcirc$	12. [TI] Delay	[5s] Unload container with product	Pending for unloading the container with weighed product from the weighing platform
-o?	13. [CI] Input condition	Input 4 – "/"	Input 4 has to take increasing tendency – press function key confirming unloading a container from the weighing platform
-0-	14. [Z] Zero	Zero	Zeroing the weighing platform no. 1
	15. [F] Set flags	Set signal flag 1	Setting the characteristic point of the process, which is a condition for carrying out part of the process on the second weighing platform
•	16. [O] Outputs	Output 1 – "1"	Input 1 takes the high status ("1") – signal confirming carrying out the dosing process on the weighing platform no. 1 is lit up

# Platform 2:

lcon	Step	Value	Description
$\bigcirc$	1. [TI] Delay	[5s] Place empty container	Pending for loading an empty container for the third product (the first product on the 2 weighing platform)
¢.	2. [CI] Input condition	Input 9 – "/"	Input 9 has to take increasing tendency – press function key confirming loading a container
1	3. [T] Tare	Tare	Tarring the weighing platform no. 2
6IL	4. [DH] Dose manually	0,2 kg [Seasoning]	Manual weighing product "Seasoning" to obtain 0,2 kg mass
$\bigcirc$	5. [TI] Delay	[5s] Unload container with product	Pending for unloading the container with weighed product from the weighing platform
¢.	6. [CI] Input condition	Input 12 – "/"	Input 12 has to take increasing tendency – press function key confirming unloading a container from the weighing platform
-0-	7. [Z] Zero	Zero	Zeroing the weighing platform no. 2

2	8. [CF] Flags condition	Signal flag 1 – "1"	Checking condition, whether signal flag 1 is set to value "1" – i.e. checking whether desired part of the process has been already realized on the weighing platform no. 1. If Yes, then dosing process on the second weighing platform shall continue.
->	9. [O] Outputs	Output 1 – "0", Output 12 – "1"	Output 1 is set to low status – the signal for completing dosing process on the weighing platform no. 1 is switched off; output 12 takes the high status – the main water valve is opened, for manual dosing of water ingredient.
51	10. [DH] Dose manually	2 kg [Water]	Manual weighing product "Water" to obtain 2kg mass
<b>•</b>	11. [O] Outputs	Output 12 – "0"	Output 12 is set to low status – the main water valve is closed
0	12. [TI] Delay	[5s] Unload container with product	Pending for unloading the container with weighed product from the weighing platform
•	13. [CI] Input condition	Input 12 – "/"	Input 12 can take increasing tendency – press function key confirming unloading a container from the weighing platform
<b>•</b>	14. [O] Outputs	Output 9 – "1"	Output 9 is set to high status ("1") – signal confirming carrying out the dosing process on the weighing platform no. 2 is lit up
$\bigcirc$	15. [TI] Delay	[5s] Dosing process completed	Displaying a text message on the terminal confirming completion of dosing process.

Completing dosing process causes switching off all outputs of the terminal.

# 28.6.2. Instance 2 – Automatic dosing of 2 ingredients on 2 weighing platforms

# **Description:**

The dosing process consists of 2 ingredients which will be weighed on 2 weighing platforms:

- Weighing Platform 1: ingredient Flour
- Weighing Platform 2: ingredient Water

The dosing process is carried out automatically, and includes a condition, that the dosing sequence is strictly determined – dosing of "Water" ingredient can be initiated only on completing the dosing process of ingredient "Flour".

The condition is marked with signal flags, which determine formulation making process between the weighing platforms, in a way which orders dosing Water ingredient as the second one. The whole process is described below in tables, separately for each weighing platform.

**Dosing process name:** Instance 2 **Dosing process code:** 2222

### Dosing process from a terminal level:

### Platform 1

Icon	Step	Value	Description
2	1. [CM] Weight condition	Gross<0.1 kg	Condition checking, unless the weighing platform is loaded with a mass exceeding 100 g
-01	2. [Z] Zero	Zero	Zeroing the weighing platform no. 1
$\bigcirc$	3. [TI] Delay	[5s] Open valve Flour	Pending for opening main valve of the container with "Flour"
	4. [DA] Automatic batching	1,2 kg [Flour]	Automatic dosing of product "Flour" to obtain 1 kg mass in bulk dosing mode (bulk dosing and fine dosing valves are opened – Outputs 1 and 2), and 0,2 kg mass is dosed using fine dosing valve only –fine dosing valve is opened on Output 1 (for two-step dosing process)
$\bigcirc$	5. [TI] Delay	[3s] Close valve "Flour "	Pending for closing the main valve of the container "Flour"
•	6. [O] Outputs	Output 11 – "1"	Output 11 takes high status ("1") – signal confirming carrying out the dosing making process on the weighing platform no. 1 is lit up
	7. [F] Set flags	Signal flag 1 – "1"	Setting the characteristic point of the process, which is a condition for carrying out part of the process on the second weighing platform

Dosing on the first weighing platform is carried out in two-steps, as for ingredient "Flour" the outputs are set for two-step dosing – see Products database.

# Platform 2

Icon	Step	Value	Description
2	1. [CF] Flags condition	Signal flag 1 – "1"	Checking condition, whether signal flag 1 is set to value "1" – i.e. checking whether desired part of the process has been already realized on the weighing platform no. 1. If Yes, then dosing process on the weighing platform no. 2 shall start.
2	2. [CM] Weight condition	Gross<0.1 kg	Condition checking, unless the weighing platform is loaded with a mass exceeding 100 g
-0-	3. [Z] Zero	Zero	Zeroing the weighing platform no. 2
$\bigcirc$	4. [TI] Delay	[5s] Open valve Water	Pending for opening main valve of the container with "Water"
	5. [DA] Automatic batching	2,2 kg [Water]	Automatic dosing of ingredient "Water" to obtain 2,2 kg mass in single-step dosing mode – Output 6 controls the dosing valve
$\bigcirc$	6. [TI] Delay	[5s] Close valve Water	Pending for closing the main valve of the container "Water"
	7. [O] Outputs	Output 12 – "1"	Output 12 takes high status ("1") – signal confirming carrying out the dosing process on the weighing platform no. 2 is lit up
$\bigcirc$	8. [TI] Delay	[5s] Dosing process completed	Displaying a text message on the terminal confirming completion of dosing process.

Additionally, in automatic dosing process, additional setting of dosing outputs for dosed ingredients have to be made – see Products database settings.

### 28.6.3. Instance 3 – Mixed dosing process

### **Description:**

A dosing process contains 4 ingredients, which are weighed on two weighing platforms:

- Weighing Platform 1: ingredients Flour, Sugar and Seasoning,
- Weighing Platform 2: ingredients: Water

Dosing process is carried out manually and automatically, and it incudes a condition that the dosing sequence is strictly determined – dosing of "Water" ingredient can be initiated only on completing the dosing process of ingredient "Flour" and "Sugar". Ingredient "Seasoning" will be added as the last one to the dosing process.

The condition is marked with signal flags, which determine formulation making process between the weighing platforms, in a way which orders dosing "Water" ingredient is dosed in an appropriate time. The whole process is described below in tables, separately for each weighing platform.

**Dosing process name:** Instance 3 **Dosing process code:** 3333

### Dosing process from a terminal level:

#### Platform 1:

lcon	Step	Value	Description
$\bigcirc$	1. [TI] Delay	[5s] Place container Flour on the weighing platform	Pending for loading container "Flour" on the weighing platform no. 1
<b>?</b> .	2. [CI] Input condition	Input 1 – "/"	Input 1 has to take increasing tendency – press function key confirming loading a container
1	3. [T] Tare	Tare	Tarring the weighing platform no. 1
5x	4. [DH] Dose manually	1 kg [Flour]	Manual weighing product Flour to obtain 1 kg mass
$\bigcirc$	5. [TI] Delay	[7s] Unload container with product	Pending for unloading the container with "Flour"
Þ.	6. [CI] Input condition	Input 4 – "/"	Input 4 has to take increasing tendency – press function key confirming unloading a container from the weighing platform
•	7. [O] Outputs	Output 1 – "1"	Signal on completing dosing ingredient "Flour"
-0-	8. [Z] Zero	Zero	Zeroing the weighing platform no. 1
$\bigcirc$	9. [TI] Delay	[5s] Place container Sugar on the weighing platform	Pending for loading container "Sugar" on the weighing platform no. 1
Ŷ.	10. [CI] Input condition	Input 1 – "/"	Confirm loading of container "Sugar"

-1-	11. [T] Tare	Tare	Tarring the weighing platform no. 1
51	12. [DH] Dose manually	0,4 kg [Sugar]	Manual weighing product Sugar to obtain 0,4 kg mass
$\bigcirc$	13. [TI] Delay	[5s] Unload container with product	Pending for unloading the container with "Sugar"
-o?	14. [CI] Input condition	Input 4 – "/"	Input 4 has to take increasing tendency – press function key confirming unloading a container from the weighing platform
•	15. [O] Outputs	Output 2 – "1"	Signal on completing dosing ingredient "Sugar"
-0-	16. [Z] Zero	Zero	Zeroing the weighing platform no. 1
•?	17. [CI] Input condition	Input 5 – "1"	Confirm pouring ingredients to a mixer
1	18. [F] Set flags	Signal flag 1 – "1"	Setting the characteristic point of the process, which is a condition for carrying out part of the process on the weighing platform no. 2
•	19. [O] Outputs	Output 5 – "1"	Lighting up a signalling device confirming pouring the ingredients to the mixer
2	20. [CF] Flags condition	Signal flag 1 – "1" Signal flag 2 – "1"	Pending for automatic dosing of water on the weighing platform no. 2
$\bigcirc$	21. [TI] Delay	[5s] Place container Seasoning on the weighing platform	Pending for loading container "Seasoning" on the weighing platform no. 1
<b>\$</b> .	22. [CI] Input condition	Input 1 – "/"	Confirm loading of container "Seasoning"
1	23. [T] Tare	Tare	Tarring the weighing platform no. 1
SI	24. [DH] Dose manually	0,25 kg [Seasoning]	Manual weighing product Seasoning to obtain 0,25 kg mass
$\bigcirc$	25. [TI] Delay	[5s] Unload container with product	Pending for unloading the container with "Seasoning"
÷.	26. [CI] Input condition	Input 4 – "/"	Input 4 has to take increasing tendency – press function key confirming unloading a container from the weighing platform
•	27. [O] Outputs	Output 3 – "1"	Signal on completing dosing ingredient "Seasoning"
	28. [TI] Delay	[10s] Dosing completed	Displaying a text message on the terminal confirming completion of dosing process

# Platform 2:

lcon	Step	Value	Description
<b>N</b> .	1. [CF] Flags condition	Signal flag 1 – "1"	Checking condition, whether signal flag 1 is set to value "1" – i.e. checking whether desired part of the process has been already realized on the weighing platform no. 1. If Yes, then dosing process on the weighing platform no. 2 shall start.
1	2. [T] Tare	Tare	Tarring the weighing platform no. 2
$\bigcirc$	3. [TI] Delay	[5s] Open valve Water	Pending for opening main valve of the container with "Water"
	4. [DA] Automatic batching	2 kg [Water]	Automatic dosing of ingredient "Water" to obtain 2 kg mass in single-step dosing mode – Output 6 controls the dosing valve (set for Water in Products database)
$\bigcirc$	6. [TI] Delay	[5s] Close valve Water	Pending for closing the main valve of the container "Water"
•	7. [O] Outputs	Output 12 – "1"	Output 12 takes high status ("1") – signal confirming carrying out the dosing process on the weighing platform no. 2 is lit up
	8. [F] Set flags	Signal flag 1 – "1" Signal flag 2 – "1"	Setting the characteristic point of the process, which is a condition for carrying out part of the process on the weighing platform no. 1
0	8. [TI] Delay	[10s] Dosing completed	Displaying a text message on the terminal confirming completion of dosing process

An instance of mixed dosing (manual and automatic) has been extended by signalling its corresponding phases to present the possibilities of the working mode **<Dosing>**.

### 28.7. Reporting of completed dosing processes

On completing each dosing process, the terminal automatically generates a report on that process.

Caution:

Submenu: <sup>4</sup> Devices / Printer / Printouts / Dosing report printout template" enables optional modifying of the report template (see ch. 16.2.3 of this user manual).

# Default form of the report from dosing template:

```
Dosing process
{40:Start date:,-25}{180}
{40:End date:,-25}{181}
{40:Name:,-25}{175}
{40:Code:,-25}{176}
{40:Status:,-25}{182}
{40:Measurements:,-25}
[185:(50,-20) (7)(11)
(40:Nominal Mass:,-25)(186)(11)
(40:Difference:,-25)(187)(11)
}{40:Mass:,-25}{184}{11}
```

The report from each completed process is simultaneously saved in the

database of **Report from dosing>**, where the files are named by their date and hour of process execution and dosing process status. List of data for the dosing process – see ch. 35.5.2 of this user manual.

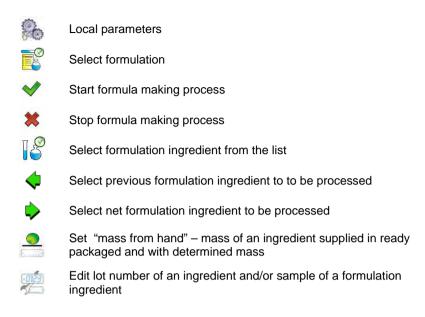
# 29. WORKING MODES – FORMULATION

**Formulation>** is a working mode designed for creating formulations of products on a scale.

# 29.1. Starting the working mode

### Procedure:

- While in main window of the software, press on-screen key, located in the top bar of the window, which opens submenu < Working Modes> containing list of available working modes,
- Select working mode < Formulation >, the software automatically returns to displaying the main window, and the top bar indicates the icon of selected working mode ,
- Automatically the following on-screen keys are enabled:



# 29.2. Local setting of a working mode

Local settings for the working mode < Formulation > are accessible on pressing a hot key < Local parameters>:

<mark>≣</mark> ⊾×?	Ask for multiplier	Causes setting a question for formulation multiplier, i.e. the number which is used to multiply the values of mass of all formulation components.
<b>\$</b> ?	Ask for number of cycles	Causes setting a question on number of formulation cycles, i.e. number of repetitions of the same formulation.
	Confirm batching ingredients manually	Causes enabling manual confirmation by pressing "Enter/Print" key on terminal's keyboard for each weighing process.
483	Automatic tare	Enable automatic tarring of mass at the moment of process start and mass of each following ingredient after the sampling process.
	Ingredient control	Enable control mode of an ingredient being part of a formulation. The " <b>Ingredient control</b> " mode orders giving correct ingredient code before its weighing process.

	Portion weighing	Enable portion weighing mode of a formulation for a random number of portions (samples) until obtaining a target mass.
Đ	Report printout	Enable automatic printout of a formulation report after completing the formula ma king process

### 29.3. Creating a new formulation

#### Procedure:

- Press serve key and select option < Databases> from main menu → then select < Formulation>,
- In order to create a formulation, press < Add> key, and confirm creating a new record in formulation database.

### List of data specified for a new formulation:

	Name	Formulation name
6	Code	Formulation code
6	Ingredients	Defining formulation ingredients
	Number of ingredients	Previewing number of ingredients in a formulation
*	Formulation mass	Previewing total mass of a formulation
ABC	Type of charge *	Type of a measuring series for a formulation
1 2 3	Charge	A measuring series of a formulation

\*) - the charge type is definable as one of three values:

None Function disabled	
Global	Charge is carried out globally for the complete formulation
By ingredient	Charge is carried out sequentially for each ingredient

 After entering a selected weighing platform add the formulation ingredients one by one by pressing < Add> key.

	Name	Name of an ingredient in a formulation
G	Code	Code of an ingredient in a formulation
<b>\$</b>	Product	An ingredient of a formulation selected from the database of products
1	Mass	Mass of an ingredient
₩di +	Deviation type	Declaring the deviation type: the measuring unit fo an active weighing platform or the value in [%]
- 20	Low deviation	Low deviation of an ingredient's mass
+ 20	High deviation	High deviation of an ingredient's mass
<b>~</b>	Dispensing	Enabling down-weighing (weighing to minus) mode
	Platform	Assigning weighing platform number to an ingredient
80	Dispensing	Enabling down-weighing (weighing to minus)mode

### List of data created for an ingredient of a formulation:

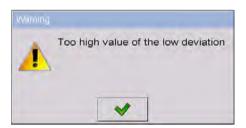
1) – In case of selecting an ingredient from the database of products the software displays the following message:



2) – in case of declaring mass of an ingredient, and when the mass exceeds the maximum capacity of a weighing platform, the software displays the following message:



3) – in case of declaring the value of the low deviation as greater than the declared ingredient mass, the software displays the following message:



4) – in case the sum of ingredients mass and the value of high deviation are exceeding the maximum capacity of a weighing platform, the software displays the following message:



- On entering the required data press key which is equal to creating a new ingredient and adding it to the formulation composition.
- A created entry on the list comprises: the following number on the list, ingredient's name (selected from the database of products) and mass to be weighed.
- The software enables modifying an existing list of ingredients, i.e. adding or deleting an ingredient, e.g. in order to add an ingredient press and hold for about 4 seconds an entry on the list before which the ingredient should be added. The following menu with below content is displayed:

# Edit Add Delete Cancel

- Press "Add" and define a new ingredient of a formulation.
- After specifying all ingredients of a formulation go back to the main window

by pressing key.

# 29.4. Formula making process

Starting the formula making process requires that the authorization (access level) of the logged user is sufficient to start the process.

# Caution:

- Starting the process requires that the logged user has access level at least of an *<operator>*. If the logged user or anonymous operator have access level set to *<none>* then on process start the software displays a message: *<Unauthorized access >*.
- 2. The Logging procedure is described in point 11 of this user manual, and the procedure of determining the access level for scale users is described in point 19 of this user manual.
- Press an on-screen button <sup>III</sup> to select a required formulation.
- Enter to scale's memory general parameters on the working mode (in accordance with point 29.20f this user manual),
- After returning to the main window of the < Formulation> mode press the on-screen function key (process start),
- If the ingredient control mode is enabled, then the scale software opens an editing window <**Ingredient control**> with a numeric keyboard and an editing field for entering a correct code of the weighed ingredient using a barcode scanner. Weighment of each following ingredient requires giving its corresponding code.

#### In case when:

- 1. The inserted code of the current ingredient is incorrect, and the ingredient is in formulation composition, the software displays the following message: <Incorrect Ingredient Code. Ingredient already in formulation content. Go to this ingredient?>. Accept this message by pressing key. The software goes to the weighing process of the ingredient. If key is pressed, the software returns to displaying the editing window <Ingredient control > featuring the numeric keyboard for entering the correct code of an ingredient.
- 2. The inserted code of the current ingredient is incorrect, and the ingredient is not in the formulation composition. The software displays a message: **No ingredient with specified code. Abort?>**. On accepting the message by pressing key the software goes to another ingredient on the list. If key is pressed then the software returns to displaying the editing window **<Ingredient control>** featuring the numeric keyboard for entering the correct code of an ingredient.
- If the inserted code of the current ingredient is correct, then the software displays a message: <Correct Ingredient code> and goes to ingredient's weighing process.
- The workspace on the display indicates a bargraph denoting mass of a weighed ingredient of a formulation and the following information:

Process in progress: Test formulation Ingredient: 1/3 [Ingredient 1] Portion: 0 g / -500.0 g Charge: 1/10 Completed: 0%

#### Where:

Process in progress:	Process status		
Test formulation	Name of prepared formulation		
Ingredient: 1/3	Number of weighed ingredient / Total number of ingredients in a formulation		
[Ingredient 1]	Name of the weighed ingredient		
Portion: 0 g	Current mass of the weighed ingredient		

Portion: -500.0 g	Current deviation from the reference mass
Charge: 1 / 10	Number of weighed charge / Total number of charges
Completed: 0%	Process progress

#### Caution:

- If on process start the weighing platform is loaded, the software will indicate message <Load appropriate product> while trying to accept a measurement.
- If a user tries to accept the following weighed mass without changing mass of the load placed on the weighing platform, the software displays a message <Load appropriate product>,
- If a user tries to accept mass of a portion while the parameter <
   <ul>
   Portion weighing> is disabled then the software displays the following message <Load appropriate product>,
- If a user tries to accept an exceeded value of permissible ingredient mass, then the software displays the following message <Permissible value of ingredient mass exceeded. Recalculate ingredients?>. On

rejecting the message by pressing \_\_\_\_\_ key the software returns to the

previous step. On accepting the message by pressing <u>w</u> key the software automatically recalculates mass of the ingredients proportionally to the exceeded value of mass and returns to formulation making process.

• If a user tries to accept an unstable mass indication, the software displays a message <**Measurements unstable>**.

A user can abort the formula making process at optional moment by pressing an on-screen function key **X** (process stop) located in the bottom bar of the terminal's display.

#### 29.5. Reporting from completed formula making processes

On completing each formula making process, the terminal automatically generates a report on that process.

Caution:

Submenu: **Submenu: Printer / Printouts / Formulation report printout template**" enables optional modifying of the report template (see ch. 16.2.3 of this user manual).

#### Default form of the report template from formula making process:

The report from each completed formula making process is simultaneously

saved in the database of **Reports From Formulation>**, where the files are named by their date and hour of process execution and formulation status. List of data for the formula making process – see ch. 35.5.3 of this user manual.

# 30. WORKING MODE - CPG (CONTROL OF PREPACKED GOODS)

Working mode **CPG>** enables carrying out a control of prepacked goods (single stand of network) that is supported by database containing list of products and operators. A control started from a scale is completed automatically after checking an appropriate quantity of packages (samples).

The scale allows for connecting it with a PC computer featuring computer software **E2R SYSTEM** and thus forming a multiposition (network) system. Each scale in the network system is an independent weighing stand, and data on the control process is sent to the computer software on the real time basis.

The computer software enables real time acquiring data from each connected scale. The system allows for starting a control process from the scale or from the level of computer software.

The acquired data allow for carrying out a quality control of manufactured packaged goods for:

- Compatibility with the Regulation by the Central Office of Measures of 3 April 1997 on the requirements for a quality control of prepacked goods

   by random selecting measurement results and sending them to the procedure of control of prepacked goods,
- Compatibility with an internal quality control system of an organization.

## Caution:

Establishing a connection of a scale with the **E2R System>** is described in ch. 16.1.5 of this manual.

## 30.1. Starting the working mode

#### Procedure:

- While in main window of the software, press an on-screen key, located in the top bar of the window, which opens submenu *<Working* Modes> containing the list of available working modes,
- Select working mode < CPG>, the software switches to displaying the home screen of the enabled working mode:



#### Where:



Entering control settings window

# 30.2. Control settings mode window

#### Caution:

Before entering the control settings mode carry out Logging procedure, as described in ch. 11.1 of this manual.

Press button located at the bottom of the **CPG**> mode home screen which opens control settings window:

e	PG	Admin	2013.01.24 15:10:49
4	Product	None	1
ABC	Lot number		_=
		G	

#### Where:

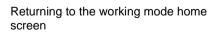


Selecting product from the database



Declaring number of the controlled batch

Working mode local settings





Control start

# 30.3. Local setting of a working mode

Local settings of the working mode **CPG**> are accessible on pressing a hot-key **CPG**> are accessible on pressing

	Save mode	Detailed description in ch. 24.1 of the user manual
$\underline{\underline{O}}_{12}$	Number of accessible controls	Enabling simultaneous carrying out two control processes (see ch. 30.12 of this manual)
1288C	Ask for batch number	Function triggering providing batch number before the start of control
0	Password required	Enabling the parameter requires Logging in to the scale before each entering the mode settings window
	Saving notification window	Protection preventing record of unreliable results of controlled product measurement. Value expressed as deviation [%] form nominal weight of controlled product.
	Information about saved measurement	Detailed description in ch. 24.10 of the user manual

# 30.4. Editing a product to be controlled

A product is edited in submenu " SETUP

# Caution:

In case the scale cooperates with a computer software **E2R Systems** editing the databases from the scale level is blocked. Editing and exporting product records to the scales is carried out from the level of computer software.

/ Satabases".

# Procedure:

- Enter submenu " SETUP / **Databases**",
- Enter database < Products> and press required product record.

# List of data definable for a control:

Pictogram		Data name	Description
		Name	Product name
G		Code	Product code
1		Mass	Product nominal mass
483		Tare	Product tare value (set automatically on selecting a product from the database)
е		CPG	-
		CPG mode	Control type: Non-destructive Average Tare, Non-destructive Empty-Full, Destructive Full- Empty, Destructive Empty-Full
	123	Lot size	Declaring quantity of a controlled batch (Maximum value 999999)
		Charge	Measuring series to be controlled: Non- destructive Empty-Full, Destructive Full-Empty, Destructive Empty-Full
	[ct]	Unit	Product's weighing unit: [g] or [ml]
		Density	Product density (range of entered values has to contain between 0,1g/cm <sup>3</sup> and 5g/cm <sup>3</sup> )
		Quantity of packages	Declaring quantity of packages to be controlled for determining average tare (for control type "non-destructive average tare")
	<b>T</b>	Cyclic displaying of average tare	Turning on 💜 / turning off 🏹 an option of cyclic estimation of average tare for a product.
	E.	Interval of average tare determination [h]	Value of time determining frequency of tare control during a process of product control. This means that estimation of average tare for a product will be carried out in accord with declared interval.
	E.	Remind about measurement every [min]	Activating message reminding about need of next measurement performance
		Internal control	Submenu for defining internal criteria of a control (see table below)

# • List of data for internal criteria

Internal control	Enabling / disabling internal control
Sample quantity	Quantity of a product sample
Error value [- T]	Value of negative permissible error <b>–T</b> , set in a weighing unit determined for the product. Measurements below the <b>Qn-T</b> value will be comprehended as defective.
Error value [+ T]	Value of positive permissible error <b>+T</b> set in a weighing unit determined for the product. Measurements above the <b>Qn+T</b> value will be comprehended as defective.
Quantity of disqualifying samples [Qn – 2T]	Number of recorded negative errors <b>-2T</b> in a tested sample that disqualifies a control
Quantity of disqualifying samples [Qn + 2T]	Number of recorded positive errors <b>+2T</b> in a tested sample that disqualifies a control
Quantity of disqualifying samples [Qn – T]	Number of recorded negative errors <b>-T</b> in a tested sample that disqualifies a control
Quantity of disqualifying samples [Qn + T]	Number of recorded positive errors <b>+T</b> in a tested sample that disqualifies a control
Average limit value	Mode for calculating the average limit value (constant or automatic)
Average limit value [ - ]	Average limit value (negative) for a tested sample (refers to average limit value as a "constant")
Average limit value [ + ]	Average limit value (positive) for a tested sample (refers to average limit value as a "constant")
Factor value [- Wk]	Standard deviation multiplier for the average limit value (negative) determined in the automatic mode
Factor value [+ Wk]	Standard deviation multiplier for the average limit value (positive) determined in the automatic mode

## 30.5. Control start procedure

#### To start testing:

• An operator needs to be logged on with the authorization access level high enough to perform testing.

#### Caution:

The Logging on procedure is described in ch. 11. The procedure of outlining the authorization level is described in ch. 19 of this manual.

- Select a product to be tested with correctly determined data for the control process,
- Enter to scale memory general parameters on control mode (in accordance with ch. 30.2 and 30.3 of this manual),
- Remove load from the weighing pan,
- Press function hot-key (control start) located in the bottom bar of the settings window, which opens an information window on entered data:



where:



Abort control start

Control start

# Caution:

If before control start the operator:

- Does not remove a load from the weighing pan or other criteria for zeroing are failed (e.g. unstable weighing result) the scale displays a message: <Unable to start control. Zeroing error>,
- Does not log in or the logged operator is not authorized to carry out the control, the scale displays a message: <No authorization>,
- Does not select a product from the database, the scale displays a message: <Product not selected >,
- Does not declare batch quantity, the scale displays a message: <**Batch quantity not entered >**.

# 30.6. Control aborting procedure

After control start an operator can abort the control process in an optional

moment by pressing a function hot-key (control stop) located in the bottom bar of the control process window.

Pressing the (control stop) key is followed by displaying a message:



Pressing \_\_\_\_\_ key causes reuniting to the control process in progress.

Pressing <u>key</u> key causes terminating the control and returning to settings of the **CPG** mode.

Simultaneously, a control report with status **<Terminated>** is added to the database of **<O Controls>**.

# 30.7. Logging out from a control process in progress

## Procedure:

- While in control mode press pictogram with name of the logged operator located in the bottom bar of the display,
- The operator is automatically logged out and simultaneously a window <Insert Password> for Logging in is displayed with the name of the previously logged operator:

CEB				3	\$		<b>V</b>				2
1	2	3	4	5	6	7	8	9	0		Back
q	w	e	r	t	у	u	i	0	р	{	}
a	s	d	r	g	h	J	ĸ	i.	:	٠	Ente
Shift	z	x	c	v	b	n	m			t	

- Enter correct password and press key to automatically return to the control process in progress,
- Pressing key causes returning to the home screen of the CPG mode:



where:

Restart control

- information for an operator on a possibility to resume a control process in progress



- Control resuming button

- Pressing the button causes displaying a Logging in window **<Insert Password>** with the name of previously logged operator.
- After entering a correct password and accepting it by pressing key the scale automatically returns to the control process in progress.

# 30.8. Non-destructive average tare control mode

Before starting the control process the user can determine average tare by

weighing packages. The option is enabled by activating a function < Average Tare Estimation> in the CPG mode settings.

e cpg			Admin	2013.01.2 16:10:44
<b>→</b> 0+				<b>).()</b> g
Product:	Produc	t 1	Code: 1	L
0.257	0.00g		Max T = 1	Netto: 0.0g
X op	0.00g	-15g	n T = 0	Tara: Og
S	0.000g	21	Max $2T = 0$	Status:
		-30g	n 2T = 0	Positive OK
Place pag	ckaging			
			()	

Tare control process is accompanied by below window:

Where:

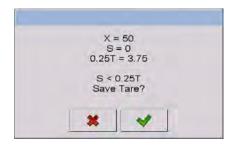
Product	<ul> <li>Product name</li> </ul>
•	<b>B</b> I ( I

Code - Product code

## Caution:

In order to carry out a product control using "**non-destructive average tare**" mode, in accordance with the regulation on standard deviation "**S**", the mass of packages is determined from at least **10** measurements, and the standard deviation cannot be greater than **0.25** of the maximum permissible negative error **T** for nominal mass of a package.

If an operator carries out the last measurement of the packaging mass, the software displays a summary of the process. Automatically, the system generates a report is saved in the scale database:



Pressing key causes moving to the control process without saving the determined average mass of a packaging in product record in the database.

Pressing key causes moving to the control process with simultaneous saving the determined average mass of a packaging in product record in the database.

During the control process in progress the software carries out real-time updating of measurement results and displays them in the corresponding fields for informing an operator on control result:



Where:

Product

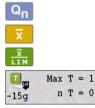
-	Name of the controlled product
---	--------------------------------

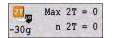
Code of the controlled product

Value of the disgualifying average

Nominal value of the controlled product Average mass of the controlled product

# Code





Characteristics of negative errors T in a sample: -15g – value of the negative error T, Max T – permissible number of the negative errors T, n T – actual number of the negative errors T Characteristics of negative errors 2T in a sample: -30g - value of the negative error 2T, Max 2T - permissible number of the negative errors 2T, n 2T - actual number of the negative errors 2T

Net	-	Net mass of the controlled product

 Tare
 Tare of the packaging

# Status Control status: positive, negative Put full Commands on control process with quantity of all measurements in a batch Data on a control process in progress Change of the workspace: numerical data / chart Control completion

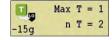
**Control status** 

Control status features a corresponding graphic interpretation:



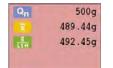
- positive,
  - negative (permitted to control sample 2)
  - negative

In case of status marked with pictogram  $\frac{1}{2}$  a corresponding workspace field changes its colour to yellow:



- Permissible number of negative errors T1 exceeded, but control of sample 2 permitted

In case of status marked with pictogram 🏁 a corresponding workspace field changes its colour to red:

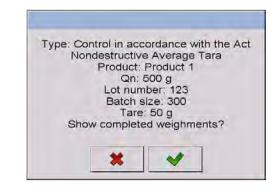


- Average mass of the controlled product below the value of the disqualifying average

#### Data on control process in progress

Pressing (1) key displays data on a control process in progress:





Pressing key causes returning to the control process in progress.

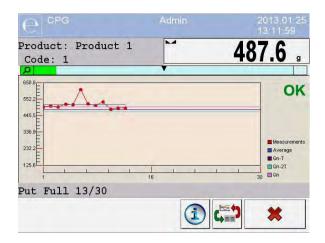
Pressing key causes moving to displaying a list of completed weighments:

0	CPG		5
*	1. 2013.01.24 16:38:17	522.8g	-
*	2. 2013.01.24 16:38:33	472.8g	
*	3. 2013.01.24 16:38:34	472.8g	
*	4. 2013.01.24 16:38:41	522.8g	
\$	5. 2013.01.24 16:38:42	522.8g	
*	6. 2013.01.24 16:38:43	522.8g	-

In order to return to the control process in progress press key.

#### Change of the workspace

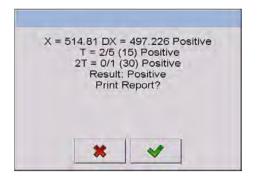
Pressing key causes displaying the workspace in a form of chart with measurement results:



Additionally, pressing the workspace area enables an operator to change its format (from a line chart to a bar chart):



After completing the control the scale generates a process summary, and the accomplished control is automatically saved in the scale database:

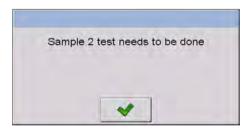


Pressing key causes printing a report on a printer connected to the scale. Pressing key causes returning to settings window of the working mode **CPG>** without printing a report.

## Caution:

In case the scale cooperates with the computer software **E2R Systems** the message on process summary does not contain a option for printing a report. The data on a control is automatically sent to the computer software with possibility of printing the report from the computer level.

If the test result is that the number of errors **T**, according to the regulations, requires expanding the sample. Operator is informed about it it the following message box:



Press and then some descriptions and boundary criteria are changed. After the test has been completed the test is summarized and the results are automatically saved in the database and the report can be printed on an attached printer.

#### Caution:

A pattern and example of the report from testing products are described in ch. 30.14 of this manual. A pattern and example of the report from estimating average tare are described in ch. 30.13 of this manual.

# 30.9. Performing non-destructive testing in mode Empty-Full

For mode **"Non-destructive Empty-Full**" a user sets the measurement "**charge**" in the product data. According to the set **"charge**" a message is shown that informs about putting empty packages first and then the same packages after they have been filled up in the same sequence:



#### Where:

# Product

# Code



- Name of the controlled product
- Code of the controlled product
- Nominal value of the controlled product
- Average mass of the controlled product
- Value of the disqualifying average
- Characteristics of negative errors **T1** in a sample (in accordance with ch. 30.6 of this manual)
- Characteristics of negative errors **2T1** in a sample (in accordance with ch. 30.6 of this manual)

Net

- Net mass of the controlled product

Tare	-	Tare of the packaging
Status	-	Control status (in accordance with ch. 30.6)
Put Empty 1/10	-	Commands on control process
(1/3)		Value of the measuring lot
Î	-	Data on a control process in progress (in accordance with ch. 30.6 of this manual)
	-	Change of the workspace: numerical data / chart (in accordance with ch. 30.6 of this manual)
	-	Control completion

After the test has been completed the test is summarized (see ch. 30.8) and the results are automatically saved in the database.

# Caution:

A pattern and example of the report from estimating average tare are described in ch. 30.14 of this manual.

# 30.10. Performing destructive testing in modes Empty-Full and Full-Empty

"**Destructive**" control process complying with the regulation, and independently on the batch size that exceeds 100 pcs., the size of a sample accepted by the software for control process is 20 pcs. Other control criteria are accepted as specified in the regulation.

After selecting from a list a product with set options for the destructive control with determined measuring "**lot**", and starting the control process, the software will display messages facilitating the control process (as in the case of control process described above).

Depending on the set control mode, the scale orders the following sequence of weighing products: "**empty-full**" or "**full-empty**".

#### Caution:

Remember to maintain the order for weighing products with packages and empty packages. It is important to the software that carries out mass calculations of products placed in a specific packaging. After the test has been completed the test is summarized (see ch. 30.8) and the results are automatically saved in the database.

#### Caution:

A pattern and example of the report from estimating average tare are described in ch. 30.14 of this manual.

# 30.11. Control in accordance with internal criteria

Select a product with correctly determined parameters for carrying out the control in accordance with the internal criteria (see ch. 30.4 of this manual).

After entering to scale memory general parameters of the working mode (in accordance with ch. 30.2 and ch. 30.3 of this manual), start control process

by pressing key (control start) located in the bottom bar of the mode settings window.

The scale automatically displays a window with data on set control parameters:



Accept the message box by pressing key which causes moving to the control process. During control process the software carries out real-time monitoring of the measurement results and displays them it the corresponding fields of the display for informing the operator on control result:

e cpg			Admin		2013.01.25 13:34:55
<b>→</b> 0+				0.	<b>O</b> g
Product:	Produc	t 1	Code:	1	
Qn	500g		Max T = 2	<b>A</b>	Max T = 2
ž	0.00g	-15g	n T = 0	+15g	n T = 0
1 LIM	0.00g	21.0	Max 2T = 2	<u></u>	Max 2T = 2
11M	0.00g	-30g	n 2T = 0	+30g	n 2T = 0
Put Full	1/300	Ne	t:0.0g	1	
			()		*
					~

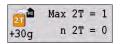
Where:

# Product

Code
------

Qn	
x	
$\frac{\overline{X}}{\text{LIM}}$	
LIM	

	Max T = 1
-15g	n T = 0
21	Max 2T = 0
-30g	n 2T = 0
<b>a</b>	Max T = 2
+15g	n T = 0



# Put Full 1/30

#### Net

Î

- Name of the controlled product
- Code of the controlled product
- Nominal value of the controlled product
- Average mass of the controlled product
- Value of the negative disqualifying average
- · Value of the positive disqualifying average
- Characteristics of negative errors **T** in a sample (in accordance with ch. 30.6 of this manual)
- Characteristics of negative errors **2T** in a sample (in accordance with ch. 30.6 of this manual)
- Characteristics of positive errors **T** in a sample: +15g - value of the positive error **T**, **Max T** - permissible number of the positive errors **T**, **n T** - actual number of the positive errors **T**
- Characteristics of positive errors **2T** in a sample: +**30g** - value of the positive error **2T**, **Max 2T** - permissible number of the positive errors **2T**, **n 2T** - actual number of the positive errors **2T**
- Command on control process
- Net mass of the controlled product
- Data on a control process in progress (in accordance with ch. 30.6 of this manual)



- Change of the workspace: numerical data / chart (in accordance with ch. 30.6 of this manual)
- Abort of control

After the test has been completed the test is summarized (see ch. 30.8) and the results are automatically saved in the database.

#### Caution:

A pattern and example of the report from estimating average tare are described in ch. 30.14 of this manual.

# 30.11.1. Abort of control - procedure

User may abort a control that is being carried out with internal criteria.

It may be done by pressing function key (abort control) in any chosen moment. This key is located in the bottom part of a process window. When the key is pressed the following message is displayed.



Pressing key means getting back to the control in progress. Pressing key means abort of the control. Abort of control results in getting back to **PGC** mode setting window.

A report on control will be saved to **<Controls>** database, report's status - **<Terminated>**.

# 30.11.2. Procedure of control completion

Completion of control realized in accordance with internal criteria may be carried out in two ways:

#### • Automatically

All samples control – number of controlled samples accordant with declared value in **<Sample quantity>** parameter. On completion of the control a process summary is generated (see point 30.8 of this manual). The control is automatically saved to database.

#### Manually

Pressing beforehand defined key (finish the control). When the key is pressed the following message is displayed.

Information		
i	Finis	h the control?
	*	~

key means getting back to the control in progress.

Pressing key means finish of the control. Finish of control results in getting back to **PGC** mode setting window.

#### Caution:

Pressing

Pattern and example of a report on control is described in point 30.14 of this manual.

# 30.12. Simultaneous carrying out two control processes

The scale enables carrying out two control processes at the same time. The option is enabled in:

 Go to local mode settings and set parameter < Number of accessible controls> to value 2 (two controls), • Change functions of the hot-keys for the following screens: home screen, settings and process screens. Enable hot-keys:



Entering the "**settings window**" of a control causes displaying data on a control identifying number of the enabled control:

e	PG [Control 1]	Log In	2013.01.25 14:22:19
•	Product	None	-
ABC	Lot number	123	_
			-
	12	R	~

#### Caution:

With a multiplatform scale, an operator using the parameter *W* Platform> ma has the option of assigning platform number to the current control.

After entering required data on a control and starting the control process, the scale also displays data identifying the number of the enabled control:

e cpc	G [Control 1]		Admin			3.01.25 26:24
<b>→</b> 0+				).(	)	g
Product	Produc	t 1	Code: 1	1		-
Qn	500g		Max T = 1	Net:	0.0g	
ž	0.00g	-15g	n T = 0	Tare:	0g	
X LTM	0.00g	21. -30q	$\begin{array}{rcl} \text{Max } 2\text{T} &= & 0 \\ \text{n} & 2\text{T} &= & 0 \end{array}$	Statu Posit		ок
Put Full	L 1/30	5				
•	2		1	¢==>	3	\$

#### Caution:

Processes:

- Control carrying out,
- Logging out during control in progress,
- Control termination,

are the same as in case of the above parts of this manual.

## 30.13. Report from estimating average tare

#### **Report example:**

```
Average Tare Report U/26/09/09/10/56/T
-----
Balance Type: WPY KTP
Max: 1.5/3 kg
              0.5/1 g
d=e:
Factory Number: 123589
2009.09.26 10:56:30
d=e:
Product:
              AQUABA SAUCE
Tare:
               7.9 g
Value 0.25T1: 3.75 g
Number of measurements: 10
Standard Deviation:
0.3162278
Test reault: Positive
Weighments:
1. 8.5 g
2. 7.5 q
3. 8.0 q
4. 8.0 g
5.8.0 g
6. 7.5 g
7.7.5 q
8.8.0g
9.8.0 g
10. 8.0 g
_____
```

#### **Report pattern:**

In submenu **Printouts>** users can edit the pattern of the average tare report (see ch. 16.2.3). The default pattern is shown below:

```
Average Tare Report {301}
                              -----
{40:Balance type:,-20}{44}
\{40: Max:, -20\}\{34\}
\{40: d=e:, -20\}\{33\}
{40:Factory number:,-20}{32}
{40:Date:,-20}{295}
{40:Product:,-20}{50}
{40:Tare:,-20}{54} g
{40:Value 0.25T1:,-20}{298} g
{40:Number of measurements:,-20}{299}
{40:Standard deviation:,-20}
{297}
{40:Result:,0}{296}
{40:Measurements:,-20}
{300}
  {143:0c}
```

#### 30.14. Report from product testing

#### **Report example:**

CPG Report U/26/09/09/10/59

Balance Type:	WPY KTP
Max:	1.5/3 kg
d=e:	0.5/1 g
Factory Number:	123589
Start date:	2009.09.26 10:55:28
End date:	2009.09.26 10:59:53
Operator:	Jan Kowalski
Product:	AQUABA SAUCE
Batch Number:	123/09

```
Nominal Mass:
                  520 a
Tare:
                   7.9 q
Tl error border:
                  15 g
2T1 error border:
                   30 q
Batch quantity:
                   100
Number of measurements: 30
Number of T1 errors: 0
Number of 2T1 errors: 0
Min:
                   518 g
Max:
                   529.5 g
Average:
                   519.9833 q
Total:
                   15599.5 g
Limit of the average: 518.9138 g
Standard Deviation: 2.159515
CPG mode:
Non-destructive Average Tare
Result: Positive
Measurements:
1. 518.0 g
2. 520.5 q
3. 529.5 q
4. 520.0 g
5. 521.0 g
6. 518.0 q
7. 519.0 g
8. 519.0 q
9. 519.0 g
10. 521.0 g
11. 521.0 g
12. 521.0 q
13. 521.0 q
14. 520.0 g
15. 521.0 q
16. 518.0 g
17. 518.0 q
18. 518.0 g
19. 518.5 g
20. 518.5 g
21. 518.5 g
22. 519.0 g
23. 519.0 q
24. 519.0 g
25. 519.0 g
26. 521.0 g
27. 521.0 g
28. 521.0 g
29. 521.0 g
30. 521.0 g
```

\_\_\_\_\_

#### **Report pattern:**

In submenu **Printouts>** users can edit the pattern of the average tare report (see ch. 16.2.3). The default pattern is shown below:

```
CPG Report {279}
                            _____
{40:Balance type:,-20}{44}
\{40: Max:, -20\}\{34\}
{40:d=e:,-20}{33}
{40:Factory number:,-20}{32}
{40:Start date:,-20}{261}
{40:End date:,-20}{262}
{40:Operator:,-20}{75}
{40:Product:,-20}{50}
{40:Batch number:,-20}{260}
{40:Nominal Mass:,-20}{53}{278}
{40:Tare:,-20}{54}g
{40:T1 error border:,-20}{266}{278}
{40:2T1 error border:,-20}{267}{278}
{40:Batch quantity:,-20}{264}
{40:Number of measurements:,-20}{265}
{40:Number of T1 errors:,-20}{268}
{40:Number of 2T1 errors:,-20}{270}
40:Min:,-20}{272}{278}
{40:Max:,-20}{273}{278}
{40:Average:,-20}{274}{278}
{40:Total:,-20}{271}{278}
{40:Limit of the average:,-20}{275}{278}
{40:Standard deviation:,-20}{276}
{40:CPG mode:,-20}
{58}
{40:Result:,0}{263}
{40:Measurements:,-20}
{277}
      {143:0c}
```

# 31. WORKING MODES – DENSITY

Working mode < Density> enables determining density of solids, liquids and materials of high viscosity. The density is determined on basis of Archimedes principle, according to which any floating object displaces its own weight of fluid. The density mode also enables utilizing a pycnometer for determining density of liquids.

# 31.1. Starting the working mode

# Procedure:

- While in main window of the software, press on-screen key, located in the top bar of the window, which opens submenu **<Working Modes>** containing list of available working modes,
- Select working mode < Density>, the software automatically returns to displaying the main window, and the top bar indicates the icon of selected working mode,
- Simultaneously, the workspace of the display indicates a message: <**Start estimating density>**.

# 31.2. Local setting of a working mode

Local settings for the working mode < Density> are accessible on pressing a hot key < Local parameters>:

<b>6</b>	Standard liquid	Function dedicated for determining the standard liquid. There are three options: water, alcohol and other. If option "other" is selected, then its density should be specified. In case of the other two types of liquids, their density values are implemented in the software
	Temperature	Parameter of the standard liquid inserted by the scale user. Declared temperature of the standard liquid automatically determines its density based on a table of liquid densities. In case of the liquid type "Other", the temperature parameter is not applicable, the density value is inserted manually
(B)	Standard liquid density	Parameter designed for manual determining the density of standard liquid in [g/cm <sup>3</sup> ]
	Sinker volume	Parameter implemented for manual determining the volume of a sinker expressed [cm <sup>3</sup> ]

<b>MA</b> 2855	Ask about sample number	Function ordering inserting number of a sample before initiating the test procedure
	Pycnometer mass	Parameter designed for manual determining mass of a pycnometer expressed in [g]. If inserted value is equal to "0" then on test procedure start, the pycnometer mass shall be measured.
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Pycnometer density	Parameter intended for manual determining volume of the pycnometer expressed in [cm <sup>3</sup> ]
(ct) (b) (g) (g)	Unit	Weighing unit set to read the measurement result. This weighing unit is used for presenting measurement result, data in reports, databases and summaries.
M.	Save mode	Detailed description in ch. 24.2 of the user manual
	Checkweighing	Detailed description in ch. 24.4 of the user manual
483	Tare mode	Detailed description in ch. 24.5 of the user manual
allins	Statistics	Detailed description in ch. 24.7 of the user manual

## 31.3. Carrying out density determination procedure

Working mode < Density> enables determining density in 4 different methods, depending on material which density should be measured.

<u>Methods of density determination:</u> Liquid, Solids, Pycnometer, Porous material.

#### 31.3.1. Determining density of liquids

Density of liquid is determined by measuring mass of a sinker with determined volume. First, the sinker has to be weighed in the air, and then in liquid of which the density should be measured.

The difference between the two measurements is displacement weight, which is used by scale software to calculate the density of tested liquid. Before starting the measurement, the sinker's volume should be inserted to scale's memory. The sinker's volume is given on its hook.

#### Process course:

- Press < box Local parameters> key to enter the setting of local parameters in density mode.
- Press < Sinker volume> in order to insert the volume of the sinker (given in [cm<sup>3</sup>]) which is immersed in the tested liquid.
- On specifying the parameters exit to main menu of the density mode by pressing key.
- In order to start density determination of liquid, press

Determine liquid density> key, using a pre-defined hot keys on terminal's display.

#### Caution:

If in the local parameters, <<sup>DD265</sup> **Ask about sample number>** function is enabled, then on initiating the process, the system asks for inserting the number of tested sample. The inserted sample number is linked to the process data and saved in the database.

- The first phase of the density determination of liquid is measurement of sinker's mass in the air. Place the sinker on the scale's weighing platform. On obtaining stable measurement result, accept it by pressing key.
- Next, place on scale's weighing platform tested liquid with immersed sinker. On obtaining stable measurement result, carry out the measuring process, and accept it by pressing key.
- On carrying out the second measurement, the scale determines density of tested liquid and indicates the result on terminal's display. If the user needs a report from the density determination process, it

can be printed on a plugged printer by pressing key. The density determination process is then completed.

A report from density determination of liquid is saved in < P</li>
 Density> database. The report is named by process date.

# 31.3.2. Determining density of solids

Density of solids is determined by weighing a solid object in two different medium: in the air and in auxiliary liquid with determined density. The difference between the two measurements is displacement weight, which is used by scale software to calculate the density of tested solid.

Before starting the measurement select < b Local parameters> menu and choose < Standard liquid> to be utilized in the density determination process. Also determine the temperature of the auxiliary liquid. Declaring the temperature of the auxiliary liquid enables matching its density to a table of liquid densities. In case of selecting liquid type "Other", its density value should be specified in parameter < Standard liquid density>. Here, the < Temperature> parameter is specified only for information purpose of the

< Temperature> parameter is specified only for information purpose of the report.

#### Process course:

- Press < baseline Local parameters> key to enter the setting of local parameters in density mode.
- Press < Standard liquid> key to select the auxiliary liquid used for the density determination procedure. If the auxiliary liquid is other than "Water" or "Alcohol", then select "Other" from the available list.
- Press < I Temperature> key and specify the temperature of the auxiliary liquid [°C]. Accept inserted value by pressing wey.
- If "Other" liquid has been selected, then press < Standard liquid density > and insert the density value of the auxiliary liquid expressed in [g/cm<sup>3</sup>] for the specified temperature of the measurement.
- On specifying the parameters exit to main menu of the density mode by pressing key.
- In order to start density determination of a solid, press < Determine solid density> key, using a pre-defined hot keys on terminal's display.

## Caution:

If in the local parameters, <<sup>00285</sup> **Ask about sample number>** function is enabled, then on initiating the process, the system asks for inserting the number of tested sample. The inserted sample number is linked to the process data and saved in the database.

- The first phase of the density determination of solid, is measurement of the solid object in the air. Place the object on the scale's weighing platform. On obtaining stable measurement result, accept it by pressing key,
- Next, in the auxiliary liquid place scale's weighing platform with immersed tested solid object. On obtaining stable measurement result, carry out the measuring process, and accept it by pressing
   key,
- On carrying out the second measurement, the scale determines density of tested solid and indicates the result on terminal's display. If the user needs a report from the density determination process,

it can be printed on a plugged printer by pressing key. The density determination process is then completed.

 A report from density determination of solids is saved in < Density> database. The report is named by process date.

# 31.3.3. Determining density of pycnometer

Pycnometer- it is a glass vessel which enables precise measurement of liquid mass at a precisely determined volume. A measurement method applying a pycnometer is one of the simplest means of determining density of liquids (densimetric method).

The key component of a pycnometer is a ground-in stopper with dumped capillary tube, which allows easy observation of the level of liquid contained in the vessel. Before the measurement process, the pycnometer is intentionally overfilled with tested liquid, then it is closed tightly with a stopper and thermally stabilized.

The excess of liquid pouring through the capillary tube is removed with an absorbent paper. Then, the vessel is immediately placed on a scale, and its mass is determined as quickly as possible. During the mass measurement, due to contraction of the volume of liquid its level usually decreases in the capillary tube, but this does not matter if at the time of placing instrument on the scale, it was completely filled and had correct temperature. Small diameter of the capillary tube prevents evaporation of the liquid from the vessel, and therefore it does not affect the measurement

the liquid from the vessel, and therefore it does not affect the measurement result.

Before starting the density determination using a pycnometer, data on its volume and mass should be inserted to scale's memory. If pycnometer's mass is not specified in the local parameters, than the process starts with determining mass of an empty pycnometer.

#### Process course:

- Press < box Local parameters> key to enter the setting of local parameters in density mode.
- Press < Pycnometer mass> key to insert the mass of a pycnometer used for determining density of tested liquid. Pycnometer's mass is expressed in grams [g]. Accept inserted value by pressing key.
- Press < Pycnometer volume> to specify the volume of the pycnometer used for determining density of tested liquid. The volume is expressed in grams [cm<sup>3</sup>]. Accept inserted value by pressing
   key.
- Press < I Temperature> key and specify the temperature in which the test of liquid density determination is carried out. The temperature

value is expressed in [°C]. Accept inserted value by pressing key. The temperature serves here for information purpose, and it is placed on reports from carried out processes.

- On specifying the parameters exit to main menu of the density mode by pressing key.
- In order to start density determination using a pycnometer, press
   Determine pycnometer density> key, using a pre-defined hot keys on terminal's display.

#### Caution:

If in the local parameters, <<sup>00285</sup> **Ask about sample number>** function is enabled, then on initiating the process, the system asks for inserting the number of tested sample. The inserted sample number is linked to the process data and saved in the database.

- The first phase of density determination process is weighing a pycnometer (if its mass has been determined as "0" in the local parameters) place an empty pycnometer on scale's weighing platform. On obtaining stable measurement result, accept it by pressing key. If mass of a pycnometer has been determined in parameter < Pycnometer mass>, then this phase of the process is omitted,
- Then place on the scale's weighing platform a pycnometer filled with liquid. On obtaining stable measurement result, carry out the measuring process, and accept it by pressing they,
- On carrying out the measurement of the pycnometer with tested liquid, the scale determines the density of the liquid, and the density determination result is indicated on terminal's display. If the user needs a report from the density determination process, it can be printed on a plugged printer by pressing \_\_\_\_\_ key. The density determination process is then completed.
- A report from density determination using a pycnometer is saved in < Density> database. The report is named by process date.

## 31.3.4. Determining density of a porous body

Determining density of a porous body is carried out in three phases:

- Weighing a porous body in the air,
- · Weighing in the air of a porous body impregnated with oil,
- Weighing in auxiliary liquid of a porous body impregnated with oil.

In case of porous objects, it is necessary to carry out an oil bath, which fills and closes the pores of the material before its actual weighing in the auxiliary liquid.

#### Process course:

- Press < baseline Local parameters> key to enter the setting of local parameters in density mode.
- Press < Standard liquid> key to select the auxiliary liquid used for the density determination procedure. If the auxiliary liquid is other than "Water" or "Alcohol", then select "Other" from the available list.
- Press < I Temperature> i key and specify the temperature of the auxiliary liquid [°C]. Accept inserted value by pressing key.
- If "Other" liquid has been selected, then press < Standard liquid density> insert the density value of the auxiliary liquid expressed in [g/cm<sup>3</sup>] for the specified temperature of the measurement.
- On specifying the parameters exit to main menu of the density mode by pressing key.
- In order to start density determination of porous body, press < Determine porous body density> key, using a pre-defined hot keys on terminal's display.

#### Caution:

If in the local parameters, <<sup>00285</sup> **Ask about sample number>** function is enabled, then on initiating the process, the system asks for inserting the number of tested sample. The inserted sample number is linked to the process data and saved in the database.

- The first phase of the density determination of a porous body in the air. Place the object on the scale's weighing platform. On obtaining
  - stable measurement result, accept it by pressing
- Then immerse the tested porous body in oil to fill its pores. Place the tested porous body impregnated with oil on scale's weighing platform. On obtaining stable measurement result, carry out the

measuring process, and accept it by pressing key,

 In the third step, weight the tested porous object impregnated with oil in the auxiliary liquid. Place the tested object in the auxiliary liquid, on scale's weighing platform and immerse both in the auxiliary liquid. On obtaining stable measurement result, carry out the measuring

process, and accept it by pressing key,

• On carrying out the third measurement, the scale automatically determines the density of the porous body, and indicates the result on terminal's display. If the user needs a report from the density determination process, it can be printed on a plugged printer by

pressing wey. The density determination process is then completed,

A report from density determination of a porous body is saved in
 Density> database. The report is named by process date.

#### 31.4. Reporting from completed density determination processes

On completing each density determination process, the scale's software automatically generates a report.

#### Caution:



#### Default form of the report from density determination template:

Density
<pre>{40:Operator:,-25}{75} {40:Start date:,-25}{155} {40:End date:,-25}{156} {40:Standard liquid:,-25}{158} {40:Method:,-25}{157} {40:Weighing 1:,-25}{165} {40:Weighing 2:,-25}{166} {40:Density:,-25}{162}{163}</pre>

The report from each completed density determination process is

simultaneously saved in the database of **Censity Reports**, where the files are named by their date and hour of process execution. List of data for the density determination process – see ch. 35.5.4 of this user manual.

T/°C	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10.	0.99973	0.99972	0.99971	0.99970	0.99969	0.99968	0.99967	0.99966	0.99965	0.99964
11.	0.99963	0.99962	0.99961	0.99960	0.99959	0.99958	0.99957	0.99956	0.99955	0.99954
12.	0.99953	0.99951	0.99950	0.99949	0.99948	0.99947	0.99946	0.99944	0.99943	0.99942
13.	0.99941	0.99939	0.99938	0.99937	0.99935	0.99934	0.99933	0.99931	0.99930	0.99929
14.	0.99927	0.99926	0.99924	0.99923	0.99922	0.99920	0.99919	0.99917	0.99916	0.99914
15.	0.99913	0.99911	0.99910	0.99908	0.99907	0.99905	0.99904	0.99902	0.99900	0.99899
16.	0.99897	0.99896	0.99894	0.99892	0.99891	0.99889	0.99887	0.99885	0.99884	0.99882
17.	0.99880	0.99879	0.99877	0.99875	0.99873	0.99871	0.99870	0.99868	0.99866	0.99864
18.	0.99862	0.99860	0.99859	0.99857	0.99855	0.99853	0.99851	0.99849	0.99847	0.99845
19.	0.99843	0.99841	0.99839	0.99837	0.99835	0.99833	0.99831	0.99829	0.99827	0.99825
20.	0.99823	0.99821	0.99819	0.99817	0.99815	0.99813	0.99811	0.99808	0.99806	0.99804
21.	0.99802	0.99800	0.99798	0.99795	0.99793	0.99791	0.99789	0.99786	0.99784	0.99782
22.	0.99780	0.99777	0.99775	0.99773	0.99771	0.99768	0.99766	0.99764	0.99761	0.99759
23.	0.99756	0.99754	0.99752	0.99749	0.99747	0.99744	0.99742	0.99740	0.99737	0.99735
24.	0.99732	0.99730	0.99727	0.99725	0.99722	0.99720	0.99717	0.99715	0.99712	0.99710
25.	0.99707	0.99704	0.99702	0.99699	0.99697	0.99694	0.99691	0.99689	0.99686	0.99684
26.	0.99681	0.99678	0.99676	0.99673	0.99670	0.99668	0.99665	0.99662	0.99659	0.99657
27.	0.99654	0.99651	0.99648	0.99646	0.99643	0.99640	0.99637	0.99634	0.99632	0.99629
28.	0.99626	0.99623	0.99620	0.99617	0.99614	0.99612	0.99609	0.99606	0.99603	0.99600
29.	0.99597	0.99594	0.99591	0.99588	0.99585	0.99582	0.99579	0.99576	0.99573	0.99570
30.	0.99567	0.99564	0.99561	0.99558	0.99555	0.99552	0.99549	0.99546	0.99543	0.99540

# 31.5. Table of density parameter for water

## 31.6. Table of density parameter for ethyl alcohol

T/°C	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10.	0.79784	0.79775	0.79767	0.79758	0.79750	0.79741	0.79733	0.79725	0.79716	0.79708
11.	0.79699	0.79691	0.79682	0.79674	0.79665	0.79657	0.79648	0.79640	0.79631	0.79623
12.	0.79614	0.79606	0.79598	0.79589	0.79581	0.79572	0.79564	0.79555	0.79547	0.79538
13.	0.79530	0.79521	0.79513	0.79504	0.79496	0.79487	0.79479	0.79470	0.79462	0.79453
14.	0.79445	0.79436	0.79428	0.79419	0.79411	0.79402	0.79394	0.79385	0.79377	0.79368
15.	0.79360	0.79352	0.79343	0.79335	0.79326	0.79318	0.79309	0.79301	0.79292	0.79284
16.	0.79275	0.79267	0.79258	0.79250	0.79241	0.79232	0.79224	0.79215	0.79207	0.79198
17.	0.79190	0.79181	0.79173	0.79164	0.79156	0.79147	0.79139	0.79130	0.79122	0.79113
18.	0.79105	0.79096	0.79088	0.79079	0.79071	0.79062	0.79054	0.79045	0.79037	0.79028
19.	0.79020	0.79011	0.79002	0.78994	0.78985	0.78977	0.78968	0.78960	0.78951	0.78943
20.	0.78934	0.78926	0.78917	0.78909	0.78900	0.78892	0.78883	0.78874	0.78866	0.78857
21.	0.78849	0.78840	0.78832	0.78823	0.78815	0.78806	0.78797	0.78789	0.78780	0.78772
22.	0.78763	0.78755	0.78746	0.78738	0.78729	0.78720	0.78712	0.78703	0.78695	0.78686
23.	0.78678	0.78669	0.78660	0.78652	0.78643	0.78635	0.78626	0.78618	0.78609	0.78600
24.	0.78592	0.78583	0.78575	0.78566	0.78558	0.78549	0.78540	0.78532	0.78523	0.78515
25.	0.78506	0.78497	0.78489	0.78480	0.78472	0.78463	0.78454	0.78446	0.78437	0.78429
26.	0.78420	0.78411	0.78403	0.78394	0.78386	0.78377	0.78368	0.78360	0.78351	0.78343
27.	0.78334	0.78325	0.78317	0.78308	0.78299	0.78291	0.78282	0.78274	0.78265	0.78256
28.	0.78248	0.78239	0.78230	0.78222	0.78213	0.78205	0.78196	0.78187	0.78179	0.78170
29.	0.78161	0.78153	0.78144	0.78136	0.78127	0.78118	0.78110	0.78101	0.78092	0.78084
30.	0.78075	0.78066	0.78058	0.78049	0.78040	0.78032	0.78023	0.78014	0.78006	0.77997

# 32. WORKING MODES – ANIMAL WEIGHING

Working mode < Animal weighing> enables weighing objects which do not stabilize if placed on scale's weighing platform and while carrying out weighing process. Weighing process is achieved by implementing parameter of time for stability of measurement, which is set in global parameters of the working mode. This working mode is mainly utilized for weighing different kinds of animals. The mode may be controlled automatically or manually – i.e. the weighing process is triggered manually or automatically.

## 32.1. Starting the operating mode

## Procedure:

- While in main window of the software, press on-screen key, located in the top bar of the window, which opens submenu **<Working Modes>** containing list of available working modes,
- Select working mode < Animal weighing >, the software automatically returns to displaying the main window, and the top bar

indicates the icon *solution* of selected working mode,

• Simultaneously, an additional hot key is activated on the far right side of the bottom tool bar:



Start animal weighing process

## 32.2. Local setting of a working mode

Local settings for the working mode < Animal weighing> are accessible on pressing a hot key < Local parameters>:

	Checkweighing	Detailed description in ch. 24.4 of the user manual
	Tare mode	Detailed description in ch. 24.5 of the user manual
	Labelling mode	Detailed description in ch. 24.6 of the user manual
<u>allin.</u>	Statistics	Detailed description in ch. 24.7 of the user manual

Mo	Averaging time	Declaration of process duration in seconds (from 1s to 90s) – measurements carried out in set time interval are used to calculate mean value, which is the result of the measurement
(Auto)	Automatic mode	Operation mode, in which the scale automatically begins the following measuring process, if the load placed on scale's weighing platform exceeds value of mass set in <b>LO</b> threshold.

## 32.3. Carrying out animals weighing procedure

- Enter the working mode < Animal weighing> according to ch. 32.1 of this user manual,
- Should the tested animal be weighed in a container, load the container of scale's weighing platform and tare its mass,
- On placing the tested animal on the scale's weighing platform (in the tarred container), press v key (Process start), which displays a message box indicating course of the process,
- The message box contains data on:
  - o Progress bar indicated in %,
  - Value of averaging time interval, set in local parameters,
  - key enabling aborting the process,
- On completing the measuring process, the value of measured result is locked in the message box,
- Confirm completing the process by pressing key.

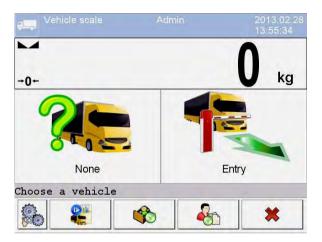
# 33. WORKING MODE – VEHICLE SCALE

Working mode **Vehicle Scale>** enables weighing trucks, determining mass of loads based on weighments carried out on entering and exiting a weighbridge.

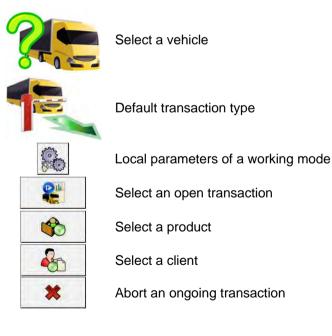
## 33.1. Working mode activating procedure

• When in the main software window press pictogram located in the top bar of the display which opens a submenu **<Working modes>** containing list of available working modes,

• Select working mode **Vehicle Scale>**, the software automatically returns to the main window:



#### Where:



## 33.2. Working mode local settings

The local settings of working mode **Center Scales** are accessed by pressing an hot-key **Center Scales**:

√ <b>~</b> ×→	Default transaction type	Selecting a default transaction type. Available settings: Entrance, Exit, Control weighment.
	Select vehicle	Declaring the means for selecting a vehicle. Available options: From list, From hand, By name, By code.
de la	Print report	Enabling automatic report printout on completing a vehicle transaction.

## 33.3. Vehicle transaction course

Starting a vehicle transaction, requires that a logged operator features appropriate access level for carrying out the transaction.

#### Caution:

In order to start a transaction, the access level of a logged user must be at least **<operator>**. IF the logged user or anonymous user feature access level **<none>** then on starting a transaction the software displays a message: **<No authorization>**.

An operator can carry out three types of transactions:

- Entrance,
- Exit,
- Control weighment.

## 33.3.1. Entrance / Exit transaction

Changes of transaction type are carried out by pressing



Entrance transaction

Exit transaction

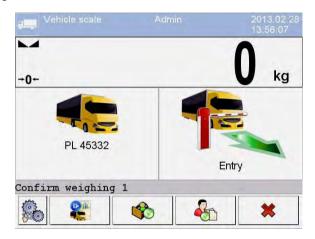
Procedures for carrying out an entrance transaction and an exit transaction are the same, therefore the further part of the user manual contains description of an entrance transaction only.

Before starting a transaction enter to scale memory general parameters of the working mode (see point 33.2 of this user manual).

#### Procedure:



Press hot-key to select a required vehicle, which opens the following window:



#### Where:



- A vehicle with saved registration number



- Transaction type (entrance)

**Confirm weighing 1** 

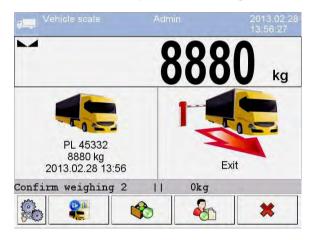
- A message for an operator. The scale waits for accepting the weighment on entrance

#### Caution:

- 1. Additionally, an operator can:
  - Assign a product to a transaction by pressing \_\_\_\_\_ button,
  - Assign a client to a transaction by pressing button.
- 2. Before starting a transaction, first an operator should select a vehicle to be weighed. Otherwise the scale displays a message



 After the vehicle enters onto the weighbridge (entrance), and stabilizing of the measuring result, accept the measurement by pressing ENTER/PRINT button, which opens the following window:



#### Where:



 A vehicle with saved registration number, accepted mass on entrance and time and date of entrance weighment



- Transaction type (exit)

Confirm weighing 2 - Message for an operator. The scale waits for accepting the exit weighment

- Mass of the load

• At the same time, a printer connected to the scale prints an "Entrance ticket".

#### Caution:

A default format of an "Entrance ticket" template is described in point 33.5 of this user manual.

• After the same vehicle enters onto the weighbridge (entrance) and stabilizing of measurement result, accept the measurement by pressing **ENTER/PRINT** button which opens a process summary window:

	1	1
PL 45332	8880 kg 2013.02.28	18880 kg 2013.02.28
	13:56 Load m	18:57 ass: 10000 kg

#### Caution:

The non-declared transaction items are represented by dashes, correspondingly denoting:

- Missing code assigned to a vehicle,
- Missing product assigned to a transaction,
- Missing client assigned to a transaction.
- At the same time, a printer connected to the scale prints a ticket "Exit ticket".

## Caution:

- 1. In case of declaring an automatic printout of a report, on completing a vehicle transaction the scale orders printing a "Report from Vehicle Scale" together with the printout of the "Exit ticket".
- 2. A default format of the printout template of the "Exit ticket" and a "Report from Vehicle Scale" are described in point 33.5 of this user manual.
- After accepting the summary window of the "Report from Vehicle Transaction" the software automatically returns to the main window.

## 33.3.2. Control weighment transaction

Changes of transaction type are carried out by pressing . where:



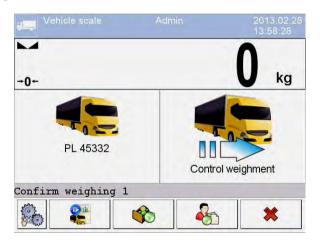
Entrance Exit

Control weighment

Before starting a transaction enter to scale memory general parameters of the working mode (see point 33.2 of this user manual).

## Procedure:

to select a required vehicle, which opens the Press hot-kev • following window:



Where:



- A vehicle with saved registration number





- Transaction type (control weighment)

Control weighment

Confirm weighing 1

- A message for an operator. The scale waits for accepting the control weighment

button.

## Caution:

Additionally, an operator should determine:

- Assign a product to a transaction by pressing \_\_\_\_\_\_ button,
- Assign a client to a transaction by pressing
- After the vehicle enters onto the weighbridge (control weighment) and stabilizing of the measuring result, accept the measurement by pressing **ENTER/PRINT** button, which opens a window on process summary:

21. (5000	
PL 45332	8880 kg
	2013.02.28
	13:58
	Load mass:

## Caution:

The non-declared transaction items are represented by dashes, correspondingly denoting:

- Missing code assigned to a vehicle,
- Missing product assigned to a transaction,
- Missing client assigned to a transaction,
- Missing value of load mass.
- At the same time, a printer connected to the scale prints a ticket "Control weighment ticket".

## Caution:

A default format of the printout template of the "Control weighment ticket" is described in point 33.5 of this user manual.

• After accepting the summary window of the "Report from Vehicle Transaction" the software automatically returns to the main window.

#### 33.4. Open transactions table

A scale user is able to start an optional number of transactions at the same time. All opened (unfinished) transactions are temporarily saved in the "table of opened transactions". A list of opened transactions to be completed is

accessed by pressing a hot-key located in the bottom bar of the scale display.

#### Caution:

If a user attempts to choose a vehicle for which a transaction is already opened, then the software displays a message box:



#### 33.5. Printout templates for an ongoing transaction

During ongoing vehicle transaction the user can print transaction tickets (reports) with the use of a printer connected to the scales.

#### List of standard printouts for "Vehicle scales" operating mode:

- Entrance Ticket Printout Template
- Exit Ticket Printout Template
- Control Weighment Ticket Printout Template
- Report from Vehicle Scale Printout Template:

## Default content of printout templates:

Entrance Ticket Printout Template:	Entrance ticket
	{40:Date:,-20}{4} {40:Vehicle:,-20}{210} {40:Mass on entrance:,-20}{7}{11}
	Signature
Exit Ticket Printout Template:	Exit ticket
	{40: Date:,-20}{4} {40: Vehicle:,-20}{210} {40: Mass on exit:,-20}{7}{11}
	Signature
Control Weighment Ticket Printout Template:	Control weighment ticket
	{40: Date:,-20}{4} {40: Vehicle:,-20}{210} {40: Mass:,-20}{7}{11}
	Signature
Report from Vehicle Scale Printout Template:	Report from Vehicle Scale
	<pre>{40:Start date:,-20}{213} {40:End date:,-20}{214} {40:Vehicle:,-20}{210} {40:Mass on entrance:,-20}{215}{11} {40:Mass on exit:,-20}{216}{11} {40:Mass of load:,-20}{217}{11} Signature</pre>

#### Caution:

"serup / M Devices / Printer / Printouts" submenu user can freely modify printout standards (see point 16.2.3 of this manual).

## 33.6. Executed transactions - reporting

Each completed transaction is automatically saved and stored in the database

## of **Reports from Vehicle Scale>**.

Each database record features the following data:

- Vehicle registration number,
- Transaction type (entrance, exit or control weighment),
- Transaction status (loading or unloading).

Additionally, the type and status of a transaction are marked by a corresponding colour:

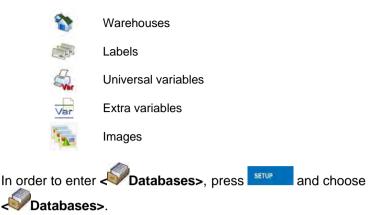
Green	- Transaction completed successfully
Yellow	<ul> <li>Transaction not completed</li> </ul>
Red	<ul> <li>Transaction aborted</li> </ul>

Detailed list of data for an executed vehicle transaction – see point 35.5.7 of this manual.

# 34. DATABASES

Scale databases hold different data:





## 34.1. Database configuration.

Databases configuration> submenu enables the user to:

- Set databases availability
- Categorize product
- Declare data operation for databases: product, operators, clients, extra variables
- Change databases records preview
- · Import databases from a memory stick to the scale
- Export databases to a memory stick

#### Caution:

Configuration can be executed by a user with "Administrator" authority.

## 34.1.1. Databases accessibility

Patabases accessibility> submenu allows to declare databases which are to be available for the user.

## Procedure:

- Enter submenu: " Databases / W databases configuration", according to ch. 34 of this manual,

#### Where:



- Accessible database
- Inaccessible database

#### 34.1.2. Categories

Categories> serves to divide product databases into folders (categories) in order to optimally group particular records.

To operate product categories **Product categories>** parameter needs

to be activated. The parameter is located in **"Databases configuration** 

#### How to create databases categories – procedure:

- Enter " Databases configuration/ Categories
   / Database of categories".
- Press button to see **<Create new record?>** message.
- Press \_\_\_\_\_ button to confirm, the program will automatically edit the new position field.
- Edit the **Name**> position and write a desired name of the category.

## Procedure of assigning a product to a category

- Following point 34 of this manual enter
- Enter < Products> database and choose a demanded record,
- Chose < Category> position to open categories that have already been created,
- Choose a demanded position and exit in order to start weighment.

## Caution:

Product that haven't been given a category are automatically located in a folder **Not assigned>**.

### 34.1.3. Database variables operation

The user can turn on/off operation of database variables for:

- Product database,
- Operators database,
- Clients database.

#### Procedure:

- Enter < Database configuration> submenu,
- Choose a demanded database to view a list of variables with accessibility attribute.

#### Where:



- Accessible variable
- Inaccessible variable
- Set accessibility of a demanded variable and exit in order to start weighment.

## 34.1.4. Change name of an extra variables database

The user can change a name of an extra variables chart (table) in the following cases:

- When using programmable buttons < Choose an extra variable>,
- When using < Choose an extra variable from database> function during an identification process.

#### Procedure:

- Enter submenu: "WDatabases configuration / Var Extra variables",
- Assign to a demanded variable the name of a database which will be shown when the above mentioned function is in use.

## 34.1.5. Change database records preview

Records preview> submenu allows to swap between two different views of the displayed records: "list" or "tiles".

#### Procedure:

- Change records view for a demanded database.

#### Where:



## 34.1.6. Databases export / import

The user can export/import all databases with the use of a memory stick.

#### Database export procedure:

- Put a memory stick into USB port of a scale,
- Enter: " **Database configuration / Export**" submenu to start automatic database export from scales to a memory stick.
- After the procedure has been completed a following message is displayed "**Operation completed successfully**".

#### Database import procedure:

- Put a memory stick into USB port of a scale,
- Enter: "**\*Database configuration /** Lass Import" submenu to start automatic database import from a memory stick.
- After the procedure has been completed a following message is displayed "Operation completed successfully".

## 34.2. Searching databases

Users can quickly search databases according to the following criteria:

- 🔏 Name,
- Code.

## 34.2.1. Quick name search

## Procedure:

- Enter *Important Enter* Enter *Important Enter Important Enter Important*
- Enter < Products>,
- Press M, then an editing field appears <Search by name> with the screen keyboard,
- Inscribe the name of a product or its part and press
- The program will automatically edit the required product.

## 34.2.2. Quick code search

## Procedure:

- Enter *Image* Databases> according to ch. 34 of this manual,
- Enter < Products>,
- Press <sup>1</sup>/<sub>2</sub>, then an editing field appears <Search by code> with the screen keyboard,
- Inscribe the name of a product or its part and press
- The program will automatically edit the required product.

## 34.3. Adding new items in databases

## Procedure:

- Enter *Image* Databases> according to ch. 34 of this manual,
- Enter database < Products>,
- Press , then the message is displayed: <Create new record?>,
- Confirm it by pressing \_\_\_\_\_, the program automatically enters edit window of a new record.

#### Caution:

Adding new records in databases is possible only by logged-in administrators.

## 34.4. Deleting items in databases

#### Procedure:

- Enter < Products>,
- Give a long press to the item, then the context menu is displayed,
- Press <Delete>, then a message is displayed:
   <Are you sure you want to delete?>,
- Confirm it by pressing

## Caution:

Deleting records in databases is possible only by logged-in administrators.

## 34.5. Printing items from databases

Users can print any record in databases.

## Procedure:

- Enter the submenu **V** Databases> according to ch. 34 of this manual,
- Enter < Products> and press the required item,

- After editing the required record press Sin the top bar of the display,
- If a printer is connected information about the selected product is printed.

#### Caution:

Default printout templates for printing records from different databases are described in ch. 16.2.3 of this manual.

#### 34.6. Context menu

Context menu enables the user to a quick access to database functions. Pressing a demanded database element (submenu) for about 2 seconds is required in order to activate a context menu.

Context menu for each of the databases displays the following list of functions:

Open	
Import	
Export	
Delete all	
Cancel	

#### Where:

Open	Opening a content of a folder
Import	Import of a database from a memory stick to a scale
Export	Export of a database to a memory stick
Delete all	Deleting all records of a particular database
Cancel	Cancelling (turning off) the context menu

The following list of functions will be displayed after activation of a context menu for one of a given database records:

Edit	
Delete	
Print	
Сору	
Cancel	

#### Where:

Edit	Edit record
Delete	Delete record
Print	Printout of information about a record
Сору	Make a record copy
Cancel	Cancel (turn off) the context menu

#### 34.7. Database edit window

The database edition can be performed by an administrator.

## 34.7.1. Operators' database

#### Procedure:

- Enter <>> Databases> according to ch. 34 of this manual,
- Enter < Operators> and press the required position.

#### Record of operator:

	Name	Operator name
<b>G</b>	Code	Operator code
9	Password	Password to log on (max. 16 characters)
×	Access level	Authorization access level
1,2n RFID	Card number	Transponder card reader for Logging on

9		Working modes	Assigning a working mode to an operator
	auto	Automatically	Automatic mode: Logging of a user automatically enables a working mode recently enabled by this user
	0 0 0 0 0	Change working mode	Permanent assigning a specific working mode to a logged operator. Setting "None" disables the function.
		Identification process	Assigning an identification process to a logging operator

## 34.7.2. Database of products

## Procedure:

- Enter Databases> according to ch. 34 of this manual,
  Enter Products>and press the required position.

## Product record:

N	Name	Product name
	Code	Product code
	EAN code	Product barcode
1	Mass <sup>1)</sup>	Nominal product mass
F→S S	Mass for fast dosing	Mass of an ingredient for bulk dosing (in case of two-step dosing process)
Ŷ	Batching outputs <sup>2)</sup>	Declaring numbers of outputs for fine dosing
9	Bulk batching output <sup>2)</sup>	Declaring numbers of outputs for bulk dosing
+∎+	Correction 1 <sup>2)</sup>	Value of dosing correction for weighing platform no. 1
+∎→	Correction 2 <sup>2)</sup>	Value of dosing correction for weighing platform no. 2
+∎→	Correction 3 <sup>2)</sup>	Value of dosing correction for weighing platform no. 3
+∎→	Correction 4 <sup>2)</sup>	Value of dosing correction for weighing platform no. 4

MAX	Maximum correction value <sup>2)</sup>	Maximal value of dosing correction
min	Min <sup>3)</sup>	Minimum mass for checkweighing
max	Max <sup>3)</sup>	Maximum mass for checkweighing
≥ tal + %	Deviation type <sup>4)</sup>	Declaring deviation type: measuring unit of a value in [%]
- 20	Low deviation <sup>4)</sup>	Low deviation from mass (mass of an ingredient in a formulation)
+ 20	High deviation <sup>4)</sup>	High deviation from mass (mass of an ingredient in a formulation)
483	Tare	Tare value (it is pre-set automatically after selecting a product)
Seal of the seal o	Price	Unit price
£\$€	Currency	Currency assigned to a product price
е	CPG mode <sup>5)</sup>	Submenu with data declared in the working mode CPG (see ch. 30.4 of this manual)
	Number of validity dates	Number of days to calculate expiry date
E.	Additional days of expiry period	Offset of number of days of assortment expiry date
E	Date	Constant product date
VAT	VAT	Value Added Tax in [%]
<b>\$1</b>	Ingredients	Dialogue box for entering ingredients
8	Label	Basic label template attributed to a product
	C Label	Cumulative label template attributed to a product
G II	CC Label	Cumulative of cumulative label template attributed to a product
	Category	Category assigned to a product
2	Image	Graphic (image) assigned to a product
	Identification process	Identification process assigned to a product

- Variable name dependant on an enabled working mode. In case of working modes: Weighing, Dosing, Formulation, Density, Animal weighing the variable takes the name: "Mass". In case of the working mode "Parts counting" the variable takes the name: "Part mass". In case of the working mode "Percent setup (Deviations)" the variable takes the name "Standard mass".
- 2) The variables accessible only in the working mode "Dosing".
- 3) The variable inaccessible for a product in the working mode "Formulation".
- 4) The variables accessible for a product only in the working mode "Formulation".
- 5) The variables accessible for a product only in the working mode "CPG".

#### 34.7.3. Database of clients

#### Procedure:

- Enter **Value** Databases> according to ch. 34 of this manual,
- Enter **Client>** and press the required position.

#### **Client records:**

	Name	Client's name
6	Code	Client's code
VAT	Tax ID	Client's tax ID
企	Address	Client's address
	Postal code	Client's postal code
-	City	Client's Town/City
%€	Discount	Client's discount
	Label	Client's label template

#### 34.7.4. Database of dosing processes

#### **Procedure:**

• Enter *Image Databases*> according to ch. 34 of this manual,

• Enter < 2020 Dosing processes> and press the required position.

	Name	Dosing process name
6	Code	Dosing process code
M	Platform 1	Weighing platform no. 1 determined for a specific terminal
×	Platform 2 *	Weighing platform no. 2 determined for a specific terminal
X	Platform 3 *	Weighing platform no. 3 determined for a specific terminal
X	Platform 4 *	Weighing platform no. 4 determined for a specific terminal

#### List of data for a selected dosing process:

\*) - number of weighing platforms depends on determined data in the terminal settings

#### 34.7.5. Database of formulations

#### Procedure:

- Enter < Databases> according to ch. 34 of this manual,
- Enter **Formulations>** and press the required position.

#### List of data for a specific formulations:

	Name	Formulation name
3	Code	Formulation code
3	Ingredients	Defining ingredients of a formulation
	Number of ingredients	Previewing number of created ingredients in a formulation
\$	Formulation mass	Previewing total mass of a formulation
ABC	Type of charge	Type of measuring charge of a formulation



#### 34.7.6. Database of PGC schedules

#### Procedure:

- Enter <>>> Databases> according to ch. 34 of this manual,
- Enter < Fime Schedules PGC> and press the required position.

#### List of data for selected PGC schedule:

<b>I</b>	Product	Assigning product to PGC schedule
123	Batch size	Specifying controlled batch quantity for PGC schedule
(III)	Date	Specifying PGC schedule start date
(III)	Cyclic control	Activating cyclic control
	Interval [min]	Specifying time interval in [min] for cyclic control

#### 34.7.7. Database of vehicles

#### Procedure:

- Enter Inter Inter
- Enter < Wehicles> and press the required position.

#### List of data definable for a vehicle:

	Name *	Name of a vehicle (registration number)
3	Code	Vehicle code

483	Tare	Vehicle tare value (set automatically when selecting a vehicle record from the database)
1.2.n RFID	Card no.	Transponder card number for selecting a vehicle
	Description	Additional vehicle description

\*) – When declaring means of selecting a vehicle "From hand", entering a new registration number causes automatic adding a new vehicle record to the database with a name corresponding to the registration number.

#### 34.7.8. Database of identification processes

#### Procedure:

- Enter <>>> Databases> according to ch. 34 of this manual,
- Enter < Plantification processes> and press the required position.

#### List of data for a selected identification process:

	Name	Identification process name
G	Code	Identification process code
auto	Repeat the process	Enables an already initiated identification process to be performed in a cyclic manner
	Process creator	Submenu used for defining (creating) an identification process

#### 34.7.9. Database of packages

#### Procedure:

- Enter *Databases*> according to ch. 34 of this manual,
- Enter < Packages> and press the required position.

#### Package record:

	Name	Package name
3	Code	Package code
-	Mass	Package weight (set automatically after choosing after choosing a package from the database)

## 34.7.10. Database of warehouses

#### Procedure:

- Enter <>>> Databases> according to ch. 34 of this manual,
- Enter < Warehouses> and press the required position.

#### Warehouse record:

	Name	Warehouse name
0	Code	Warehouse code
	Description	Additional warehouse description

#### 34.7.11. Database of labels

The database comprises templates of labels which users can attribute to products or clients to operate in labelling mode.

## Procedure of editing databases:

- Enter *Databases*> according to ch. 34 of this manual,
- Enter < Labels> and press the required position.

## Label record:

	Name	Label name
G	Code	Label code
	Label template*	Label printout template
5	Printer 1	Printer 1 printout declaration (default setting)
5	Printer 2	Printer 2 printout declaration
5	Printer 3	Printer 3 printout declaration

\*) Ways of designing and sending templates to a scale can be found in **APPENDIX C** of this manual.

## 34.7.12. Database of universal variables

The database includes templates of general purpose variables which user can attribute to screen function buttons  $\sqrt[3]{2}$ ,  $\sqrt[3]{2}$ ,  $\sqrt[3]{2}$ ,  $\sqrt[3]{2}$ ,  $\sqrt[3]{2}$ ,  $\sqrt[3]{2}$  in order to enter any alphanumeric text intended to be printed.

Additionally values of three first universal variables  $\sqrt[3]{3}$ ,  $\sqrt[3]{3}$  are stored in scales storage. If edited they will be saved in a record of an executed weighment.

## Caution:

The procedure of attributing functions to buttons is described in ch. 17.2 of this manual.

## Procedure of editing databases:

- Enter **Databases**> according to ch. 34 of this manual,
- Enter < Wir Universal variables> and press the required position.

### Universal variable record:

G	Code	Universal variable code
	Name	Universal variable name, used for printout and/or for a weighment record
8	Value	Universal variable value used for printout and/or for a weighment record

## 34.7.13. Extra variables database

The database includes templates of extra variables which user can attribute to screen function buttons **1**, **2**, **3**, **4**, **5** in order to enter any alphanumeric text intended to be printed.

#### Caution:

Procedure of defining screen function buttons is described in point 17.2 of this manual.

## 34.7.14. Images database

The database contains graphics that can be assigned to particular records of **Products>** database.

#### Creating a new record - procedure:

- Put a memory stick into USB port of a scale,
- Following point 34 of this manual enter: " Database / 🜆 Images",
- Press button to see <Create new record?> message,
- Press button to confirm, the program will automatically edit the new position.
- Enter **Name**> field and give a demanded name to a graphic.
- Select < March Image> option to open the main folder of a memory stick,

Choose the demanded graphic file. The program will automatically return to the previous submenu. The chosen graphic and name will be displayed in a

# < Market Strength - St

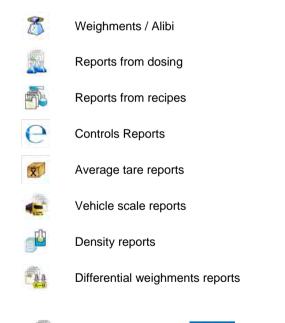
## Caution:

Maintained file formats are \*.jpg, \*.png, with the optimal (max.) resolution of 150x150 pixels, where:

- for a list record view an optimal resolution is 57x57 pixels;
- for a tile record view an optimal resolution is 133x133 pixels;

# 35. REPORTS

Software enables the following reports:



To enter **Reports>** menu press button, which is located in the window of the terminal, and choose **Reports>** option.

## 35.1. Reports configuration

Submenu < Report configuration> allows for:

- declaration of reports, which are to be accessible for the user,
- configuration of lot number and batch number,

#### 35.1.1. Reports accessibility

Submenu **Reports accessibility>** allows for declaration of reports that are to be accessible for the user.

#### Procedure:

- Enter submenu < Reports> according to ch. 35 of this manual,
- Select < Reports accessibility> to view a list of reports with the accessibility attribute.

#### Where:



- Accessible report
- Inaccessible report

## 35.1.2. Configuration of a lot number

#### Procedure:

- Enter submenu: " Reports / Reports configuration" according to ch. 35 of this manual,
- Select <00285 Lot number> and carry out the configuration.

#### List of data definable for a lot number:

N	Name	Change of the lot number name
	Template	Lot number template, allows using variables that are intended for a printout

# 35.1.3. Configuration of a batch number

# Procedure:

- Enter submenu: "PReports / Reports configuration" according to ch. 35 of this manual,
- Select < 2880 Batch number> and carry out the configuration.

# List of data definable for a batch number:

Z	Name	Change of the batch number name
	Template	Batch number template, allows using variables that are intended for a printout

# 35.1.4. Query for number of weighings to be deleted

The user with Administrator permissions level can delete (undo) recently

performed weighings using programmable button: < 20 Undo weighing>.

Reports configuration> submenu additionally allows to declare how many weighings are to be deleted. In order to specify number of weighings that are to be subjected to deletion process it is necessary to activate option:

< Ask for number of weighings to be deleted>.

# Procedure:

- Enter submenu: " Reports / Reports configuration" according to ch. 35 of this manual,
- Activate option Ask for number of weighings to be deleted>,
- Upon returning to home screen and pressing programmable button
   Undo weighing>, message: <Number of weighings to be deleted> with a numeric keyboard is displayed,
- Enter appropriate value (from 1 to 10) and press button for confirmation, message: <Number of deleted weighings: x> is displayed, where x – number of deleted weighings.

# Caution:

When:

- Some of the weighings that are to be deleted refer to any kind of report (report on dosing, report on formula, report on PGC control, report on vehicle scale, report on density, report on differential weighing) then the following message is displayed <**Number of deleted weighings: x.** Remaining weighings are report-related>.
- All of the weighings that are to be deleted refer to any kind of report (report on dosing, report on formula, report on PGC control, report on vehicle scale, report on density, report on differential weighing) then the following message is displayed < Operation not allowed. Weighings are reportrelated>.

# 35.2. Deleting older data

A user after Logging on as **administrator** can delete older position

in the database of weinghings < 20 Weighing / Alibi>.

#### Procedure:

- Enter the submenu < Reports> according to ch. 35 of this manual,
- Enter < Delete older data>, then an editing field is displayed <Give year> with the screen keyboard,
- Give a date before which data need to be removed and confirm it by pressing \_\_\_\_\_,

#### Caution:

If a user enters a date from the protected period the program displays a message box: **<Wrong value>**.

- After entering a date beside protected period the program displays a message box: **<Are you sure you want to delete?>**,
- After it is confirmed by the program will start removing data and after completing it displays the number of deleted records,
- Press <u>to leave</u>.

# 35.3. Weighment date search

# Procedure:

- Enter Z Weighing / Alibi>,
- Press <sup>1</sup>/<sub>10</sub>, then an editing field appears <**Specify year**> with the screen keyboard,
- Inscribe: year, month, day, hour, minute of weighing and confirm it by pressing \_\_\_\_\_.
- The program will automatically display the list of weighments putting at the top the position with the entered date.

# 35.4. Reports from weighment records

# Submenu < The Reports from weighing records > allows for:

- preview of data for particular weighments,
- data filtering,
- printout of a weighments report,
- preview and a printout of weighments diagram,
- export of weighments database to file,
- preview and edition of global weighing counter.

Each weighment sent from scales to a printer or to a computer is saved in weighments reports. The user may preview data of a particular weighment (see point 35.5.1 of this manual).

# 35.4.1. Filtering

The user may filter reports form carried out weighments. The reports will be printed with the use of a printer connected to scales.

# Weighments reports may be filtered according to:

- start date,
- end date,
- operator name,
- product name,
- client name,
- packaging name,
- MIN value,
- MAX value,
- lot number,
- batch number,
- source warehouse name,
- target warehouse name,
- result control,
- platform number.

# Procedure:

- Enter submenu: " Reports / Reports From weighing records / Filtering" according to ch. 35 of this manual,
- Enter a particular filter position and activate **<Filtering>** option.

#### Where:



- Active filtering
- Inactive filtering

# 35.4.2. Report printout

The user can print a report after executed weighing series. The reports will be printed with the use of a printer connected to scales.

# Procedure:

• Enter submenu: " Reports / Reports From weighing records" according to ch. 35 of this manual,

• Entering < Report printout> option enables automatic printout of a weighments report. The report can be printed with the use of a printer connected to scale.

Default value of a weighment report template:

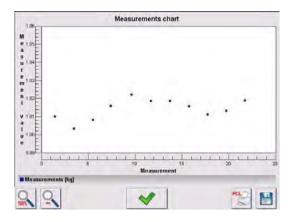
# Caution:

- Submenu: " Devices / Printer / Printout / Report From Weighments Printout Template" allows for free modification of a report template (see point 16.2.3 of this manual);
- If there is too much information printed (too many weighments) the program displays the following message <Process in progress>. Percentage (%) notification is added.

# 35.4.3. Weighments chart

For an executed weighment series < <sup>15</sup> Weighments chart> option generates and displays a diagram of measurements distribution in a **measurement value / measurement** coordinate system.

#### Example view of a diagram:



# Available options, located below the diagram:

0.	100% zoom of a diagram	
0	Zoom out, the diagram gets back to its previous size	
~	Display the previous window	
PCL	Print the diagram, use a PCL type printer	
	Save the diagram as a *.bmp file, save it to a memory stick connected to USB port	

# 35.4.4. Export a database to a file

An operator after a series of weighments can export a database to a file using a pen drive. Additionally, a user can select data to be exported.

#### Procedure:

- Connect a pen drive to USB,
- Enter submenu: "Reports / Weighing/Alibi" according to ch. 35 of this manual,

• Enter submenu: "Export database of weighments to a file / Data selection", which contains the following options:

lcon	Option	Default value
<b>R</b>	Automatically *	~
	Date and Time	<
\$	Mass	<
	Tare	<
00285	Lot number	<
1288C	Batch number	<
2	Operator	
<b>\$</b>	Product	×
	Client	<
	Package	<
1	Source warehouse	<
1	Target warehouse	×
8	Checkweighing	<
ð	Platform number	<
-00257-	Statistics: Number of measurements	× × ×
-02478-	Weighing counter	<
, Contraction of the second se	Trade settlement	× × ×
	Vehicle	<
Var	Universal variable	<b>~</b>
Var	Extra variable	<

Var	Custom variable: Value	<
Var	Custom variable: Name	<
min	Min	<
max	Max	<

\*) - Automatic selection of data to be exported (unfilled fields are omitted)

• After declaring data to be exported go back to the submenu

Export database of weighments to a file> and select option
Export>. The software automatically initiates exporting of the database of weighments.

# Caution:

In case a pen drive is not recognized after entering **< Export database** of weighments to a file> a message is displayed: **<Operation failed>**.

 After the operation has been completed: "Operation finished successfully" is displayed together with the file name (with extention \*.txt) created on the pendrive,

# Caution:

The file name consists of a database name and scale factory number, e.g. **<Weighments\_239800.txt>**.

• Disconnect the pendrive to USB.

# File template:

The created file comprises a table with columns separated by tabulation characters **<Tab>** in case to allow direct export to a spreadsheet **<Excel>**. The table features all data on a completed weighment record declared in

the submenu: "Selection".

# 35.4.5. Counter of weighments records

The counter of weighments records contains global number of completed weighments records carried out on the scale. The user can edit the counter of weighments records.

#### Caution:

Access to the editing of the **Weighing counter>** is conditioned by the accessibility settings for this parameter.

#### Editing procedure:

- Enter submenu < Reports> in accordance with point 35 of the user manual,
- Enter option < Weighing counter> which opens an editing window with the value of the counter of weighing records and an on-screen numeric keyboard.
- Insert desired value and accept it by pressing key.

# 35.5. Reports preview

# 35.5.1. Weighments / Alibi

#### Procedure:

- Enter < Reports> according to ch. 35 of this manual,
- Enter Keighments / Alibi> and press the required position.

#### Weighment record:

	Date	Weighment date
1	Mass	Weighment result
483	Tare	Tare value
1	Product	Product name
2	Operator	Operator name

	Client	Client name
00285	Lot number	Number of produced lot
12880	Batch number	Number of produced batch
	Source warehouse	Source warehouse name
1	Target warehouse	Target warehouse name
	Package	Package name
8	Checkweighing	A weighment threshold (MIN, OK or MAX)
×	Platform number	Platform number to perform weighments
-00257-	Statistics: Number of measurements	Statistics: Current number of measurements
-02478-	Weighing counter	Global counter of weighment records

**Trade settlement>** submenu will be created automatically in a weighment record when a chosen product is being weighed.

# List of < 🖑 Trade settlement> submenu data:

-	Mass	Weighment mass
	Mass of the unit	Unit mass of the product
Contraction of the second	Price	Unit price of the product
VAT	VAT	Percent Vat value of the product [%]
%€	Discount	Percent discount for the client [%]
-	Value	Net charge
VAT	Gross	Gross charge

# 35.5.2. Reports from dosing

# Procedure:

- Enter Reports> according to ch. 35 of this manual,
- Enter **<** Reports from dosing> and press the required position.

# List of data for a selected report from dosing:

8	Status	Status of correctness for a completed dosing process
	Start date	Start date of dosing process
	End date	End date of dosing process
	Dosing process	Name of completed dosing process
2	Operator	Operator preparing a dosing process
	Client	Client for which the dosing process is prepared
	Number of Measurements	Number of measurements within a completed dosing process

# 35.5.3. Reports from recipes

# Procedure:

- Enter < Reports> according to ch. 35 of this manual,
- Enter < Report from formulation> and press the required position.

# List of data for a specific report from a formulation:

2	Status	Status of correctness for a completed formulation
	Start date	Start date of formula making process

	End date	End date of formula making process
	Formulation	Name of completed formulation
~	Operator	Operator preparing a formulation
	Client	Client for which the formulation is prepared
₩Ç.	Number of Measurements	Number of measurements within a completed formulation making process

#### 35.5.4. Density reports

#### Procedure:

- Enter *Reports*> according to ch. 35 of this manual,
- Enter **Constity Reports>** and press the required position.

# List of data for a specific report from density determination process:

00285	Sample number	Number of sample for which the density is determined
	Start date	Start date of density determination process
(E)	End date	End date of density determination process
(C)	Density	Value of determined density
	Volume	Value of determined volume
<b>P</b>	Determination method	Method used in process of determining density
2	Operator	Operator carrying out density determination process
<b>\$</b>	Product	Product for which density is determined
5	Standard liquid	Standard liquid utilized during density determination process
	Standard liquid density	Density value assigned to the standard liquid

	Temperature	Temperature of the density determination process
	Sinker volume	Value of sinker's volume immersed in tested liquid
40	Weighing 1	Mass value of the 1 measurement
40	Weighing 2	Mass value of the 2 measurement
-	Weighing 3	Mass value of the 3 measurement
	Pycnometer mass	Value of pycnometer's mass utilized during density determination process
	Pycnometer density	Value of pycnometer's volume utilized during density determination process

# 35.5.5. Controls reports

Every control procedure performed on the scale is sent to a printer and saved in database **Controls Reports>**. Every saved control has its unique number given at the moment it is completed.

# Control number pattern:

# X / y y / M M / d d / H H / m m / s s, where:

X - Controle mode:

U – regulation compliant control,

W - Internal control

Z - control terminated by an operator,

yy – the last two digits of year,

MM - month,

dd - day,

HH - hour,

mm - minute of control completion,

ss - second of control completion.

Users can view data from subsequent controls.

# Procedure:

- Enter submenu < Reports> according to ch. 35 of this manual,
- Enter database < Controls Reports> and choose a required one.

#### Inventory of fields in every control:

ABC	Batch number	Batch number of tested goods
1	Status	Control Status/Result
	Start Date	Control beginning date
	End Date	Control finishing date
	Product	Tested product name
2	Operator	Operator performing the test
<u>àilltio</u>	x	Average value of weighments
<u>àillino</u> .	DX	Disqualifying average value
<u>aillino</u> .	S	Standard deviation
123	Batch quantity	Number of products in a batch for which a sample quantity is calculated
023	Sample quantity	Number of weighments to be performed

#### 35.5.6. Average tare reports

Before starting control **<Nondestructive Average Tare>** it is possible to perform the procedure of estimating average tare that consist in weighing empty packages. Every such procedure is automatically saved in database

**Average Tare Reports>**. Every report saved in the database is given a unique number after the procedure has been completed.

# Report number pattern:

# X/yy/MM/dd/HH/mm/ss/T, where:

X - Test mode:

U – regulation compliant test,

Z - test terminated by an operator,

yy – the last two digits of year, MM - month, dd - day, HH - hour, mm - minute of test completion, ss - second of test completion, T – average tare estimation.

Users can view data from subsequent average tare tests.

#### Procedure:

- Enter submenu < Reports> according to ch. 35 of this manual,
- Enter database < Average Tare Reports> and choose a required one.

#### Inventory of fields in the average tare database:

1	Product	Product name which packages are tested
8	Status	Test Status/Result
	Date	Date of performing procedure
483	Tare	The result
allina	S	Standard deviation
allina	0.25 T1	Condition to fulfill
023	Number of measurements	Number of measurements of subsequent packages
2	Operator	An operator name

# 35.5.7. Report from vehicle scale

# Procedure:

- Enter submenu < Reports> according to ch. 35 of this manual,
- Enter database < Vehicle Scale Reports> and choose a required one.

#### List of data for an individual report from vehicle scale:

	Vehicle	Vehicle registration number
	Status	Transaction status. Accessible values: Loading, Unloading
×+	Transaction type         Type of carried out transaction. Accessible values Entrance, Exit, Control weighment	
	Start date	Transaction start date
	End date	Transaction end date
-	Load mass	Mass of load on weighed vehicle
1	Mass on entrance	Mass of weighed vehicle on entrance
1	Mass on exit	Mass of weighed vehicle on exit
8	Operator	Operator carrying out a transaction process
	Client	Client assigned to a transaction
<b>\$</b>	Product	Product assigned to a transaction

# 35.5.8. Differential weighments reports

#### Procedure:

• Enter submenu < Reports> according to ch. 35 of this manual,

• Go to submenu **Differential weighments reports>** and press appropriate position.

		Start date         Start date of the differential weighing process	
		End date End date of the differential weighing process	
8		Weighing 1 *	List of data for an executed weighment 1
S		Weighing 2 *	List of data for an executed weighment 2
40		Difference Difference (absolute value) between weighment 1 and weighment 2. In case of processes consisting of more than two weighments this value is inaccessible.	
<u> </u>		StatisticsStatistical data of a differential weighing process. Submenu is available in case of a process consisting of more than two weighments.	
	<b>P</b> min	Weighing: Min	Minimal weighment value, the lowest value out of the whole series of measurement
	<b>h</b> max	Weighing: Max	Maximal weighment value, the highest value out of the whole series of measurement
		Average	Average value out of the whole series of measurement
	allin	Standard deviation	Average standard deviation out of the whole series of measurement

#### List of data definable for differential weighments report:

\*) – in case of process consisting of more than two weighments the data will be grouped in a folder **<Weighing records>**.

# **36. IDENTIFICATION PROCESSES**

The user can create his own scales operation algorithm and at the same time adjust the device to his needs (production department specific, production line, etc...).

This allows the user to register detailed weighment report with unique data being stored during the process. Through this it is possible to identify and localize faulty products (lot of products) of chain manufacturing processes.

# Identification processes can be carried out in the following working modes:

- weighment,
- items counting,
- deviations.

#### Identification processes can be activated by:

- programmable button,
- operator logging,
- product selection.

#### 36.1. Identification process – creation

Identification processes are designed in **< iii Identification processes** database.

#### Caution:

Process identification database mechanisms of edition and record finding are similar to other databases mechanisms.

# Procedure:

- Enter submenu: " Databases / Plantification processes",
- Press (1), to see
   Create new record?> message,
- Press to confirm, the program will automatically edit the new position.
- Fill in the required fields and go to < Process design> submenu,
- To set the process operation algorithm press < Add> and choose one of the available functions of the process (see point 36.2 to view the chart). Each of the functions is added one by one.

#### Caution:

It is possible to modify an already existing process. To add an element to the existing process press and hold for about 2 seconds the element before which the function is to be added. The following menu will be shown:

Edit Add Delete Cancel

#### 36.2. List of identification process functions

When designing the identification process the user can use the following functions (steps of a process):

lce	on	Function	Description
S		Select item from database	Function enabling to select the database demanded record
	ŷ	Databases	Database declaration procedure that allows to choose a record: product, operator, client, packaging, source warehouse, target warehouse, extra variable
	2	Selection mode	Position declaration procedure according to which the search is to be done. Possible positions: standard, name, code. In case of " extra variables" function is not available.
	Var	Assign to extra variable	Assignment of a extra variable chosen during the process to a particular extra variable of the weighment database reports. Possible values range from 1 to 5. Function available only in case of "extra variables" database.
		Initial position Declaration of initial position of database char displayed during the process of record search	
	m	Final position Declaration of final position of database chart. It i displayed during the process of record searching Setting 0 value results in display of the whole database chart.	
S		Set position taken form database	Function sets a demanded record taken from a particular database.
	ø	Databases	Declaration of a database for setting a record: product, client, packaging, source warehouse, target warehouse, lot number, batch number, extra variable, universal variable

	r		
	<b>I</b>	Product	Selection of a demanded position out of product chart (default database). This function is dependent form declared database.
8		Do a series of weighmentsFunction inducing execution of a particular weighments series.	
	007	Mode	Weighments series mode <b>Number</b> – execution of a particular number of weighments <b>Mass</b> – weighing-out a determined mass. <b>None</b> – no limit for number of weighings and no weight limit
		Threshold	Declaration of either weighing number or mass value, depending on the weighments series mode
		Set MIN and MAX	Function setting MIN, MAX thresholds of checkweighing
-0-		Zero	Function of platform zeroing, identical like $\rightarrow 0 \leftarrow$ button of the terminal
1		Tare	Function of platform tarring, identical like $\rightarrow T \leftarrow$ button of the terminal
00285		Edit lot number	Function editing a lot number
12880		Edit batch number	Function editing a batch number
i		Information window	Function inducing freely designed information window
		Name	Information window name, located at the top bar of the window
	<b>~</b>	Description	Information window description
	2	Image	Information window image. Possible choices: <
	A	Button	Declaration of buttons for an information window. Possible choices: "Ok" or "Ok   Cancel"
Var		Add custom variable	Function inducing a new custom variable. This variable is automatically saved in a report (weighments database) upon the end of a process.
	Var	Type of variable         Declaration of custom variable type. Possible choices: text variable, numeric variable.	
		Name Custom variable name.	
	Var	Assign to custom variable	Assigning of a custom variable to a proper custom variable of the weighing database reports. Possible values range from 1 to 255.
8		Edit product	Function inducing change (edition) of variables for a given product. It is omitted if during previous steps of the process the product has not been chosen.

			Declaration of type of product variable, which is to
		Type of variable	be edited: mass, price, number of days left before the expiry date, additional days of expiry period
•		Outputs	Function setting terminal outputs state, for control of peripherals. Possible values: None: - inactive output; "0" – low output state; "1" – high output state.
$\bigcirc$		Delay	Function setting intervals between steps of a dosing process. Function defines amount of time interval until the next step of a process, given in [s].
þ.		Input condition	Conditional function, determines when the next step of a process is to be executed, it depends on an input state of a terminal. Possible values: None – inactive input; "0" - low input state; "1" – high input state; "" – rising edge on input (change from low state to high state, eg.: the moment of pressing a button); "V" – trailing edge (change from high state to low state, eg.: the moment of releasing a button)
		Edit universal variable	Function activating edition of universal variable
	Var	Assign to universal variable	Assigning a universal variable to an appropriate universal variable in reports (database). Values: from 1 to 3.
		Button functions	Activating determined button function.
	0	Operation	Selecting button function.

#### 36.3. Identification process – activation procedure

Identification processes may be activated by:

- Programmable button,
- Operator logging,
- Product selection.

# 36.3.1. Activation by programmable button

Submenu < Button functions> allows for free configuration of programmable buttons (see point 17.2 of this manual).

# Procedure:

• For a chosen button set one of three functions:

	Select an identification process
	Select an identification process by name
code	Select an identification process by code

- Go back to the main window,
- Press programmable button and select an appropriate identification process to activate it.

# 36.3.2. Activation by operator logging

User may assign an identification process to an operator. It results in automatic start of a process right after the logging procedure has been carried out.

#### Procedure:

- Enter submenu: " Databases / Derators" and select an appropriate position,
- Go to < Identification process> field and select a demanded process, than go back to the main window.
- Log in as an earlier edited operator, and wait for an automatic activation of an identification process assigned to this operator to proceed.

# 36.3.3. Activation by product selection

User may assign an identification process to a product. It results in automatic start of a process right after a product has been selected out of a database.

#### Procedure:

- Enter submenu: " Databases / Products" and select an appropriate position,
- Go to < Identification process> field and select a demanded process, than go back to the main window,

• Out of a database select an earlier edited product, and wait for an automatic activation of an identification process assigned to this operator to proceed.

# 36.3.4. Example of process forming and its realization

#### Description:

User must get through the following balance operation algorithm:

- 1. Carry out the operator logging process with the use of a transponder card,
- 2. Give a shift number,
- 3. Zero scales,
- 4. Information window "Prepare a product to be weighed" (message 60[s]),
- 5. Select a product by EAN code, use a barcode scanner,
- 6. Give a present price of a product,
- 7. Out of a list select "Country of origin",
- 8. Select client code,
- 9. Out of a list select "Supplier country",
- 10. Give a lot number,
- 11. Give a batch number,
- 12. Information window "Start a weighing process".

#### Identification process forming:

- Create a new record **<iii Identification process>** according to point 36.1. of this manual,
- Go to submenu < Process creator> to create further steps of the process:

Step	Function	Description
1. Add custom variable	Variable type: numeric variable; Name: shift number; assign to custom variable 1	Displays "Shift number" dialog window for edition with a numeric keyboard
2. Zero	Zero	Automatic zeroing
3. Delay	Time: 60s; Description: Prepare a product to be weighed	Displays window "Prepare product to be weighed" for 60 seconds
4. Select item from database	Database: Product; selection mode: Standard; start position: 1; end position: 0	Displays list of products. Configuration and selection of data with the use of barcode scanner is described in point 16.3 of this manual.

5. Edit product	Variable type: Price	Displays window: "Record edition: product / price" with a numeric keyboard
6. Select item from database	Database: extra variable; assign to extra variable: 2; start position: 1; end position: 20	Displays chart of extra variable from position 1 to 20. Naming chart: "Country of origin" – see point 34.1.4 of this manual
7. Select item from database	Database: Client; selection mode: Code; start position: 1; end position: 0	Displays window: "Search by code".
8. Select item from database	Database: extra variable; Assign extra variable: 3; start position: 21; end position: 40	Displays chart of extra variables from position 21 to 40. Naming chart: "Supplier country" – see point 34.1.4 of this manual
9. Edit lot number	Edit lot number	Displaying "Lot number" dialog window with numeric keyboard
10. Edit batch number	Edit batch number	Displaying "Batch number" dialog window with numeric keyboard
11. Information window	Name: Information; Description: start weighing; Image: Information; Button: OK	Displaying "Start weighing process" information window

- Assign transponder card number to an appropriate operator, to do it follow point 16.4.2 of this manual,
- Assign a created identification process to an appropriate operator to do it follow point 36.3.2 of this manual,
- Log in with the use of a transponder card to automatically activate identification process assigned to the given operator,
- After weighing all unique data edited during weighing process will be saved to reports from weighing:
  - Mass,
  - Shift number,
  - Product name,
  - Product price,
  - Country of origin,
  - Client name,
  - Supplier country,
  - Lot number,
  - Batch number.

User may break the identification process or get back to its previous step.

#### In order to break identification process one must:

Press SETUP button of the main window of a process to see amessage:



Press ~

button to confirm and wait for the following window:



Press **Abort**> button.

button of an edit window or information window, press 🔕 × Press button of database data chart to see the following window:





Press < Abort> button.

# In order to get back to a previous step of a process one must:

Press <u>states</u> button of an edit window or information window, press <u>states</u> button of database data chart to see the following window:



- Press < List of steps> button to see the list of carried out steps,
- Select a given position (step) out of the list and wait, the program will automatically get back to a chosen step.

# **37. COMMUNICATION PROTOCOL**

# 37.1. General information

- Scales-terminal serial communication protocol serves for communication between RADWAG scales and peripheral device, it uses RS-232C and Ethernet 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.

# Caution:

Go to submenu: " *Devices / Porter / Port*" to declare communication port (see point 16.1.1 of this manual).

# 37.2. List of RS commands

Commands	Description of commands
Z	Zeroing
т	Tarring
от	Get tare value
UT	Set tare value
S	Send the stable result in basic unit
SI	Send the result immediately in basic unit
SIA	Send immediate results from all platforms in basic units
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
DH	Set lower threshold
UH	Set upper threshold
ODH	Read lower threshold
OUH	Read upper threshold
SS	Simulation of pressing ENTER/PRINT key
Р	Change platform
NB	Give balance serial number
SM	Set mass value of a single item
RM	Set reference mass value
BP	Activate sound signal
ОМІ	Give available working modes
OMS	Set working mode
OMG	Give current working mode
PC	Send all implemented commands

#### Caution:

- 1. Each command have to be terminated in CR LF;
- 2. The best Policy for communication is not sending another command until the former answer has been received.

#### 37.3. Respond message format

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 _ OK CR LF Command done		
ES_CR LF	Command not comprehended	
XX _ E CR LF	error while executing command – time limit for stable result exceeded (limit time is a descriptive parameter of the scale)	

After sending a request message you can receive:

**XX** - command name

\_ - substitutes spaces

#### 37.4. Command's description

#### 37.4.1. Zeroing

#### Syntax Z CR LF

Possible answers:

- Z\_A CR LF command accepted and in progress
- Z\_D CR LF command completed
- Z\_A CR LF command accepted and in progress
- Z\_^ CR LF command comprehended but zero range overflow appeared
- Z\_A CR LF command accepted and in progress
- Z\_E CR LF time limit for stable result exceeded
- Z\_I CR LF command comprehended but cannot be executed

#### 37.4.2. Tarring

#### Syntax: T CR LF

Possible answers:

- T\_A CR LF command accepted and in progress
- T\_D CR LF command completed
- T\_A CR LF command accepted and in progress
- T\_v CR LF command comprehended but tare range overflow appeared
- T\_A CR LF command accepted and in progress
- T\_E CR LF time limit for stable result exceeded
- T\_I CR LF command comprehended but cannot be executed

#### 37.4.3. Get tare value

Syntax: OT CR LF

#### Reply: OT\_TARA CR LF - command executed

#### Frame format:

1	2	3	4-12	13	14	15	16	17	18	19
0	Т	space	tare	space		unit		space	CR	LF

Tare - 9 characters justified to the right

**Unit** - 3 characters justified to the left

#### Caution:

Tare values are always send in adjustment unit.

#### 37.4.4. Set tare value

Syntax: UT\_TARE CR LF, where TARE - tare value

Possible replies:

UT_OK CR LF	- command completed
UT_I CR LF	- command correct, but not accessible at the moment
ES CR LF	- command incorrect (e.g. incorrect tare format)

#### Caution:

Use dots as decimal points in tare values.

#### 37.4.5. Send the stable result in basic unit

#### Syntax: S CR LF

Possible answers:

S_A CR LF S_E CR LF	<ul> <li>command accepted and in progress</li> <li>time limit for stable result exceeded</li> </ul>
S_I CR LF	- command comprehended but cannot be executed
S_A CR LF MASS FRAME	<ul> <li>command accepted and in progress</li> <li>mass value in basic unit is returned</li> </ul>

#### Frame format:

I	1	2-3	4	5	6	7-15	16	17	18	19	20	21
	S	space	stability	space	sign	mass	space		unit		CR	LF

#### Example:

S CR LF - computer command

S \_ A CR LF - command accepted and in progress

S\_\_\_\_\_8.5\_g\_\_CR LF – command done, mass value in basic unit is returned.

#### 37.4.6. Send the result immediately in basic unit

#### Syntax: SI CR LF

Possible answers:

SI_I CR LF	- command comprehended but cannot be executed at the moment

MASS FRAME - mass value in basic unit is returned

#### Frame format:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
S	I	space	stability	space	sign	mass	space	unit		CR	LF	

# Example:

**SICRLF** – computer command

SI\_?\_\_\_\_18.5\_kg\_CRLF - command done, mass value in basic unit is returned immediately.

# 37.4.7. Send immediate results from all platforms in basic units

Syntax: SIA CR LF

Possible answers:

**SIA I CR LF** - command comprehended but cannot be executed at the moment

MASS FRAME "P1" CR LF

MASS FRAME "P2" CR LF - mass values are immediately returned from all platforms in basic units

Frame format with mass from subsequent platforms as indicator reply:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
Ρ	n	space	stability	space	sign	mass	space	unit		CR	LF	

n - weighing platform number

mass - 9 characters justified to the right

unit - 3 characters justified to the left

# Example:

Let us assume that both platforms are connected to scale.

SIACRLF – computer command

P1\_?\_\_\_\_118.5\_g\_\_CRLF

P 2 \_ \_ \_ \_ 3 6 . 2 \_ k g \_ CR LF - command done, mass values from both platforms are returned in basic units

# 37.4.8. Send the stable result in current unit

Syntax: SU CR LF

Possible answers:

SU_A CR LF SU_E CR LF	<ul> <li>command accepted and in progress</li> <li>timeout while waiting for stable results</li> </ul>
SU_I CR LF	- command comprehended but cannot be executed
SU_A CR LF MASS FRAME	<ul> <li>command accepted and in progress</li> <li>mass value in current unit is returned</li> </ul>

#### Frame format:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
S	U	space	stability	space	sign	mass	space	unit		CR	LF	

#### Example:

S U CR LF - computer command

S U \_ A CR LF - command accepted and in progress

SU\_\_\_\_172.135\_N\_\_CRLF - command done, mass

value in current unit is returned.

#### 37.4.9. Send the result immediately in current unit

#### Syntax: SUI CR LF

Possible answers:

SUI\_I CR LF - command comprehended but cannot be executed

MASS FRAME - mass value in current unit is returned immediately

#### Frame format:

Ī	1	2	3	4	5	6	7-15	16	17	18	19	20	21
	S	U	Ι	stability	space	sign	mass	space		unit		CR	LF

#### Example:

**SUICRLF** – computer command

SUI?\_-\_\_58.237\_kg\_CRLF - command executed and mass returned

# 37.4.10. Switch on continuous transmission in basic unit

# Syntax: C1 CR LF

Possible answers:

C1_I CR LF	- command comprehended but cannot be executed
C1_A CR LF MASS FRAME	<ul> <li>command comprehended and in progress</li> <li>mass value in basic unit is returned</li> </ul>

#### Frame format:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
S	Ι	space	stability	space	sign	mass	space	unit		CR	LF	

# 37.4.11. Switch off continuous transmission in basic unit

#### Syntax: C0 CR LF

Possible answers:

- C0\_I CR LF command comprehended but cannot be executed
- C0\_A CR LF command comprehended and executed

# 37.4.12. Switch on continuous transmission in current unit

#### Syntax: CU1 CR LF

Possible answers:

CU1_I CR LF	- command comprehended but cannot be executed
CU1_A CR LF	- command comprehended and in progress
MASS FRAME	<ul> <li>mass value in current unit is returned</li> </ul>

#### Frame format:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
S	U	Ι	stability	space	sign	mass	space		unit		CR	LF

# 37.4.13. Switch off continuous transmission in current unit

#### Syntax: CU0 CR LF

Possible answers:

- CU0\_I CR LF command comprehended but cannot be executed
- CU0\_A CR LF command comprehended and executed

#### 37.4.14. Set lower threshold

Syntax: DH\_XXXXX CR LF, where: XXXXX - mass format

Possible answers:

DH_OK CR LF	- command executed
ES CR LF	- command not comprehended (wrong mass format)

#### 37.4.15. Set upper threshold

Syntax: UH\_XXXXX CR LF, where: XXXXX - mass format

Possible answers:

UH\_OK CR LF - command executed ES CR LF - command not comprehended (wrong mass format)

#### 37.4.16. Read lower threshold

Syntax: ODH CR LF

Possible answers: DH\_MASA CR LF - command executed

#### Frame format:

1	2	3	4-12	13	14	15	16	17	18	19
D	Н	space	mass	space		unit		space	CR	LF

Mass - 9 characters justified to the right

Unit - 3 characters justified to the left

# 37.4.17. Read upper threshold

Syntax: OUH CR LF

Possible answers: UH\_MASA CR LF - command executed

#### Frame format:

1	2	3	4-12	13	14	15	16	17	18	19
U	Н	space	mass	space		unit		space	CR	LF

Mass - 9 characters justified to the right

Unit - 3 characters justified to the left

#### 37.4.18. Simulation of pressing ENTER/PRINT key

#### Syntax: SS CR LF

Sending a command **S S CR LF** to a scale causes automatic saving of a weighing record in the database and simultaneous activating a declated printout template.

#### Caution:

While sending the command to a scale, all criteria for successful measurement execution have to be met, i.e. result control, stable mass indication, etc.

#### 37.4.19. Change platform

Syntax: **PN CR LF**, where **N** – number of platforms (1 to 4)

Possible answers:

PN_OK CR LF	- command completed
PN_I CR LF	- command correct, but not accessible at the moment
ES CR LF	- command incorrect (e.g. incorrect number of platforms)

#### 37.4.20. Give balance serial number

Syntax: NB CR LF

Possible answers:

NB_A_"x" CR LF	- command understood, returns serial number
NB_I CR LF	- command understood but not accessible at this moment

x – serial number of the device (inserted in between inverted commas)

#### Example:

**NB CR LF** – give serial number **NB\_A\_"123456" CR LF** – serial number of the device – 123456

#### 37.4.21. Set mass value of a single item

Syntax: SM\_XXXXX CR LF, where: \_ - space, XXXXX - mass format

Possible answers:

SM_OK CR LF	- command understood
SM_I CR LF	- command understood but not accessible at this moment (e.g. mode other than "Parts counting")
ES CR LF	- command not recognised (mass format incorrect)

#### Notice:

Command supported for "Parts counting" mode exclusively.

#### 37.4.22. Set reference mass value

Syntax: RM\_XXXXX CR LF, where: \_ - space, XXXXX - mass format

Possible answers:

RM_OK CR LF	- command understood
RM_I CR LF	- command understood but not accessible at this moment (e.g. mode other than "Deviations")
ES CR LF	<ul> <li>command not recognised (mass format incorrect)</li> </ul>

#### Notice:

Command supported for "Deviations" mode exclusively.

## 37.4.23. Activate sound signal

## Syntax: BP\_TIME CR LF

**Where:** \_ - space, **TIME** – parameter, decimal specifying how long shall the sound last, parameter given in [ms]. Recommended range <50 - 5000>.

Possible answers:

BP_OK CR LF	- command carried out, BEEP sound signal activated
BP_I CR LF	- command understood but not accessible at this moment
ES CR LF	- no parameter or incorrect format

### Example:

**BP\_350 CR LF** - activate BEEP for 350 [ms] **BP\_OKCR LF** - BEEP activated

### Notice:

- 1. If value greater than the permissible high limit is given, than BEEP sound is operated for the maximum permissible amount of time.
- 2. BEEP sound activated via BP command is inhibited if in-course of its activation the sound is activated by means of other device: keypad, touch panel, proximity sensors.

### 37.4.24. Give available working modes

Syntax: OMI CR LF

Possible answers:

OMI CR LF n_Mode name CR LF	
OK CR LF	- command carried out, accessible working modes returned
OMI_I CR LF	- command understood but not accessible at this moment

**Mode name** – parameter, working mode name, inserted in between inverted comas. The name takes form given on a particular balance display, it is provided in a currently selected language.

n – parameter, decimal value determining working mode number

## Working modes list:

- 1 Weighing
- 2 Parts Counting
- 3 Deviations
- 4 Dosing
- 5 Recipes
- 6 Weighing Animals
- 7 Density
- 17 Control of packaged goods PGC
- 20 Comparator
- 21 Vehicle scale

## Notice:

Working modes numbering is identical for each kind of balance. The numbers are assigned to working modes names. Some balances give only the number as a response.

## Example:

OMI CR LF	- give accessible working modes
OMI CR LF	- accessible working modes are given
2_"Parts Counting" CR LF	- number + name
4_"Dosing" CR LF	
5_"Recipes" CR LF	
OK CR LF	<ul> <li>command carried out</li> </ul>

### 37.4.25. Set working mode

Syntax: OMS\_n CR LF

**Where: n** – parameter, decimal value determining working mode number. To see detailed description go to OMI command.

Possible answers:

OMS_OK CR LF	- command carried out
OMS_I CR LF	- command understood but not accessible at this moment
OMS_E CR LF	<ul> <li>error in-course of command execution, no parameter or incorrect format</li> </ul>
	or incorrect format

Example:

OMS_2 CR LF	- set working mode "Parts counting"
OMS_OK CR LF	- working mode "Parts counting"

### 37.4.26. Give current working mode

Syntax: OMG CR LF

Possible answers:

OMG_n_Mode name CR LF	- command carried out, current working mode given
OMG_I CR LF	- command understood but not accessible at this
	moment

**Mode name** – working mode name, presented in a form that is displayed for a particular device type, written in a currently selected language.

**n** – parameter, decimal value determining working mode number. To see detailed description go to **OMI** command.

### Example:

OMG CR LF- give current working mode OMG\_2\_Parts counting CR LF – balance operates in working mode "Parts counting"

### 37.4.27. Send all implemented commands

Syntax: PC CR LF

Possible answers:

PC\_A\_"Z,T,S,SI,SU,SUI,C1,C0,CU1,CU0,DH,ODH,UH,OUH,OT,UT,SIA, SS,PC,P1,P2,P3,P4,NB,SM,RM,BP,OMI,OMS,OMG" – command executed, the indicator have sent all the implemented commands.

## 37.5. Manual printouts / automatic printouts

Users can general manual or automatic printouts from the scale.

- Manual printouts can be performed after loading the pan and stabilizing indication by pressing .
- Automatic printouts can be performed only after loading the pan and stabilizing indication.

### Format frame:

the scale after pressing

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

Stability character	[space] if 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
command	3 characters justified to the left
Example:	
1832.0_0	<b>CR LF</b> – the printout generated from

## **38. MODBUS RTU COMMUNICATION PROTOCOL**

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The terminal PUE 7.1 enables complete operation of programmable controllers (PLC), which communicate through Modbus protocol class 0. The terminal in a network using modbus standard operates as slave on an accessible interfaces, *RS232* or *Ethernet*. According to the standard, Modbus class 0, the device uses two functions:

• Read multiple registers (fc 3), for cyclic readout of signals from the weighing module,

• Write multiple registers (fc 16), for cyclic record of the weighing module statuses.

The superordinate unit (master):

- Cyclically reads inputs signals from the terminal PUE 7.1,
- Cyclically saves outputs status to the terminal PUE 7.1.

## Functions of Modbus communication with the terminal PUE 7.1:

- Mass readout
- Reading current measuring unit
- Reading status
- Tarring
- Zeroing
- Setting and reading tare value
- Setting and reading LO threshold value
- Setting and reading Min threshold value
- Setting and reading Max threshold value
- Reading inputs status
- Setting outputs status
- Selecting an operator,
- Selecting a product,
- Selecting a client,
- Selecting a packaging,
- Selecting a source warehouse,
- Selecting a destination warehouse,
- Selecting a formulation,
- Setting the status of dosing process
- Reading the status of dosing process
- Setting LOT number
- Process stopping,
- Process starting,
- Saving / Printing,

#### 38.1. Memory map

#### 38.1.1. Output address

Address	0	1	2	3	4	5	6	7	8	9
Offset										
0	M 1	M 1	M 1	M 1	T 1	T 1	T 1	T 1	J 1	J 1
1	S 1	S 1	LO 1	LO 1	LO 1	LO1	M 2	M 2	M 2	M 2
2	T 2	T 2	T 2	T 2	J 2	J 2	S 2	S 2	LO 2	LO 2
3	LO 2	LO 2	М З	М З	М З	М З	Т3	Т3	Т3	Т3
4	J 3	J 3	S 3	S 3	LO 3	LO 3	LO 3	LO 3	M 4	M 4
5	M 4	M4	T 4	T 4	T 4	T 4	J 4	J 4	S 4	S 4
6	LO 4	LO 4	LO 4	LO 4	ST	ST	SW	SW	MIN	MIN
7	MIN	MIN	MAX	MAX	MAX	MAX	-	-	-	-
8	-	-	-	-	LOT	LOT	LOT	LOT	0	0
9	А	А	K	K	OK	OK	MZ	MZ	MD	MD
10	RC	RC	-	-	-	-	-	-	-	-

#### Where:

- M Mass for a platform, 4 bytes, float
- T Tare for a platform, 4 bytes, float
- J Current measuring unit of a platform, 2 bytes, word
- Platform status, 2 bytes, word
- LO Lo threshold of a platform, 4 bytes, float
- ST Process status, 2 bytes, word
- MIN MIN threshold, 4 bytes, float
- MAX MAX threshold, 4 bytes, float
- LOT LOT number, 4 bytes, dword
- Operator, 2 bytes, word
- A Product , 2 bytes, word
- K Client, 2 bytes word
- OK Package, 2 bytes, word
- MZ Source warehouse, 2 bytes, word
- MD Destination warehouse, 2 bytes, word
- RC Formulation, 2 bytes, word
- ST Process status, 2 bytes, word
- SW Inputs status, 2 bytes, word

## 38.1.2. Input address

Address Offset	0	1	2	3	4	5	6	7	8	9
0	С	С	СР	СР	Ρ	Ρ	Т	Т	Т	Т
1	LO	LO	LO	LO	SW	SW	MIN	MIN	MIN	MIN
2	MAX	MAX	MAX	MAX	-	-	-	-	-	-
3	-	-	LOT	LOT	LOT	LOT	0	0	А	А
4	К	К	OK	OK	MZ	MZ	MD	MD	RC	RC

#### Where:

CP P T LO SW MIN MAX LOT O A K OK MZ MD	<ul> <li>command, 2 bytes, word</li> <li>command with a parameter, 2 bytes, word</li> <li>Actual platform, 2 bytes, word</li> <li>Tare for a platform, 4 bytes, float</li> <li>Lo threshold of a platform, 4 bytes, float</li> <li>Outputs status, 2 bytes, word</li> <li>MIN threshold, 4 bytes, float</li> <li>LOT number, 4 bytes, float</li> <li>LOT number, 4 bytes, word</li> <li>Operator, 2 bytes, word</li> <li>Product, 2 bytes, word</li> <li>Client, 2 bytes, word</li> <li>Package, 2 bytes, word</li> <li>Destination warehouse, 2 bytes, word</li> <li>Formulation, 2 bytes, word</li> </ul>
--	---

## 38.2. Description of variables

### 38.2.1. Output variables

Readout of output variables enables obtaining data on instrument's status.

### Notice:

All output values, except for mass, are displayed in adjustment/calibration unit.

## List of output variable:

Name of output variable	Address	Length [word]	Data type
Mass platform 1	0	2	float
Tare platform1	4	2	float
Unit platform 1	8	1	word
Status platform 1	10	1	word
Lo platform 1	12	2	float
Mass platform 2	16	2	float
Tare platform 2	20	2	float
Unit platform 2	24	1	word
Status platform 2	26	1	word
Lo platform 2	28	2	float
Mass platform 3	32	2	float
Tare platform 3	36	2	float
Unit platform 3	40	1	word
Status platform 3	42	1	word
Lo platform 3	44	2	float
Mass platform 4	48	2	float
Tare platform 4	52	2	float
Unit platform 4	56	1	word
Status platform 4	58	1	word
Lo platform 4	60	2	float
Process status (Stop, Start)	64	1	word
Input status	66	1	word
Min	68	2	float
Max	72	2	float
LOT number	84	2	word
Operator	88	1	word
Product	90	1	word
Client	92	1	word
Package	94	1	word
Source warehouse	96	1	word
Destination warehouse	98	1	word
Formulation / Dosing	100	1	word

- mass mass value in current unit is returned,
- tare tare value in calibration/adjustment unit is returned,
- unit determines current (displayed) measuring unit:

Byte no. Unit		В5	В4	В3	B2	B1	В0	Dec
g	gram	0	0	0	0	1	0	1
kg	kilogram	0	0	0	0	0	1	2
ct	carat	0	0	0	1	0	0	4
lb	pound	0	0	1	0	0	0	8
oz	ounce	0	1	0	0	0	0	16
Ν	Newton	1	0	0	0	0	0	32

## For instance:

Byte no	B5	B4	B3	B2	B1	B0
Value	0	0	0	0	1	0

Scale use kilogram [kg].

• status – determines scale's status

Status bytes	Task	Dec
0	correct measurement (no error message from scale)	1
1	stable measurement	2
2	scale in zero indication	4
3	scale tarred	8
4	scale in second measuring range	16
5	scale in third measuring range	32
6	scale reports NULL error	64
7	scale reports LH error	128
8	scale reports FULL error	256

## For instance:

byte no.	B8	B7	B6	B5	B4	B3	B2	B1	B0
value	0	0	0	0	1	0	0	1	1

The scale does not report an error, the measurement is stable in the second measuring range.

- LO the value of LO threshold in calibration/adjustment unit is returned.
- Process status determines the status of dosing process

Decimal value of		byte no.		
a variable (Dec)	process status	B1	B0	
0	process disabled (inactive)	0	0	
1	dosing start	0	1	
2	dosing stop	1	0	
3	end of dosing process	1	1	

• Inputs status – determines the status of inputs in a terminal PUE7:

Input no.	12	11	10	9	8	7	6	5	4	3	2	1	Decimal value of a variable (Dec)
OFF	0	0	0	0	0	0	0	0	0	0	0	0	0
ON	1	1	1	1	1	1	1	1	1	1	1	1	4094

- **MIN** set value of **MIN Threshold** (in calibration/adjustment unit) is returned.
- MAX set value of MAX Threshold (in calibration/adjustment unit) is returned.
- Lot number response is the value of lot number (numeric range 0 2147483647).
- **Operator** response is the value of a logged operator (numeric range 0 32767).
- **Product** response is the value of a selected product (numeric range 0 32767).
- **Client** response is the value of a code of a selected client (numeric range 0 32767).
- **Packaging** response is the value of a code of a selected packaging (numeric range 0 32767).

- **Source warehouse** response is the value of a code of a source warehouse (numeric range 0 32767).
- **Destination warehouse** response is the value of a code of a destination warehouse (numeric range 0 32767).
- **Formulation** response is the value of a code of a selected formulation (numeric range 0 32767).

### 38.2.2. Input variables

Saving the input variables into the terminal PUE 7.1 enables controlling module's operation.

### Notice:

All input values are set in reaction to calibration/adjustment unit.

Name of input variable	address	length [word]	data type					
Command	0	1	word					
Complex command	2	1	word					
Complex command parameters								
Platform	4	1	word					
Tare	6	2	float					
LO limit	10	2	float					
Output status	14	1	word					
Min	16	2	float					
Max	20	2	float					
Lot number	32	2	word					
Operator	36	1	word					
Product	38	1	word					
Client	40	1	word					
Packaging	42	1	word					
Source warehouse	44	1	word					
Destination warehouse	46	1	word					
Formulation / Dossing	48	1	word					

• **command** – basic command. Setting of an appropriate command's byte is directly responsible for carrying out a task, in accordance with below table:

command bytes	task	Dec
0	scale zeroing	1
1	scale tarring	2
5	dosing process start	32
6	dosing process stop (emergency stop)	64

### For instance:

0000 0000 0010 0000 - command carried out, dosing process start

• **complex command** - Setting of an appropriate command's byte is directly responsible for carrying out a task, in accordance with below table:

command bytes	task	Dec
0	setting tare value	1
1	setting LO threshold value	2
2	setting outputs status	4
3	setting MIN threshold value	8
4	setting MAX threshold value	16

### For instance:

**0000 0000 0000 0010** – command carried out, LO threshold set to value given in LO parameter (address 10); See Table "Input variables".

### Notice:

A complex command requires setting an appropriate address parameter from 6 to 28. See table "Input variables".

- **Platform** complex command parameter: number of a weighing platform.
- tare complex command parameter tare value (in calibration / adjustment unit).

- LO complex command parameter LO threshold value (in calibration / adjustment unit).
- **outputs status** complex command parameter determining outputs status of a terminal PUE 7.1 series.

0	utput statu	IS		byte no		Dec
Out3	Out2	Out1	B2	B1	B0	Dec
OFF	OFF	OFF	0	0	0	0
OFF	OFF	ON	0	0	1	1
OFF	ON	OFF	0	1	0	2
OFF	ON	ON	0	1	1	3
ON	OFF	OFF	1	0	0	4
ON	OFF	ON	1	0	1	5
ON	ON	OFF	1	1	0	6
ON	ON	ON	1	1	1	7

- MIN complex command parameter MIN threshold value (in calibration / adjustment unit).
- MAX complex command parameter MAX threshold value (in calibration / adjustment unit).
- Lot number complex command parameter: the value of lot number (numeric range 0 2147483647).
- **Operator** complex command parameter: the value of a code of a logged operator (numeric range 0 32767).
- **Product** complex command parameter: the value of a code of a selected product (numeric range 0 32767).
- **Client** complex command parameter: he value of a code of a selected client (numeric range 0 32767).
- **Packaging** complex command parameter: he value of a code of a selected packaging (numeric range 0 32767).
- **Source warehouse** complex command parameter: he value of a code of a selected source warehouse (numeric range 0 32767).

- **Destination warehouse** complex command parameter: he value of a code of a selected destination warehouse (numeric range 0 32767).
- **Formulation** complex command parameter: response is the value of a code of a selected formulation (numeric range 0 32767).

#### Notice:

A command or a a command with a parameter is carried out once on detecting the setting of a corresponding bit. If it is necessary to repeat a command with the same bit, then first it has to be zeroed.

### For instance:

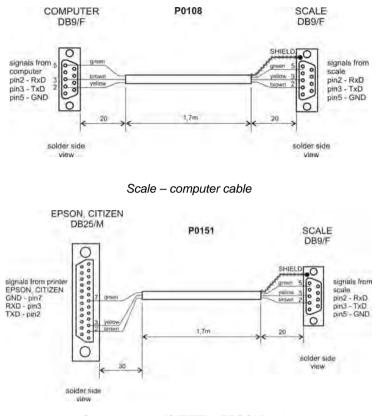
command	address 1	address 0
tarring	0000 0000	0000 0010
zeroing command bytes	0000 0000	0000 0000
tarring	0000 0000	0000 0010

## **39. COOPERATION WITH PERIPHERAL DEVICES**

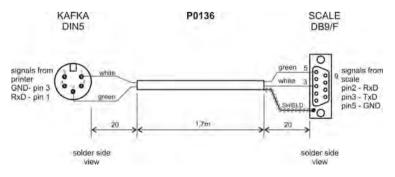
Scale can cooperate with the following devices:

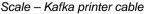
- Computer,
- Receipt printer,
- Label printer,
- Additional display,
- Barcode scanner,
- Any peripheral device with the compatible ASCII protocol.

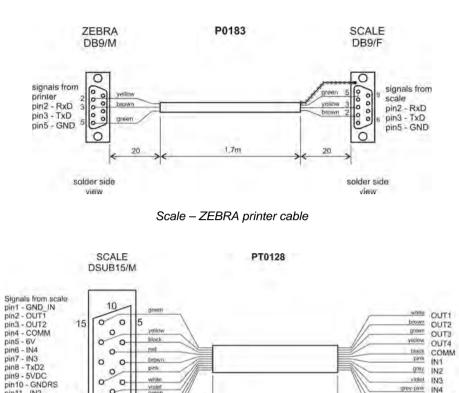
## **40. DIAGRAMS OF CONNECTION CABLES**



#### Scale - printer (CITIZEN, EPSON) cable









Dive GND\_IN

red +5VDC

70

#### Caution:

pin11 - IN2 pin12 - IN1

pin13 - RxD2

pin14 - OUT4 pin15 - OUT3 0

0

6

solder side VIEW

11 0 0 green blue

grey-pink

Cable "scale – Ethernet" is a standard network cable with RJ45 connectors on both sides.

# 41. TECHNICAL PARAMETERS

## 41.1. Scales of WLY series

Technical data:	WLY 1/D2	WLY 2/D2	WLY 6/D2	WLY 10/D2	WLY 20/D2
	-	-	M	-	-
Maximum capacity	1kg	2kg	6kg	10kg	20kg
Minimum capacity	-	-	5g	-	-
Reading division [d]	0,01g	0,01g	0,1g	0,1g	0,1g
Verification interval [e]	-	-	1g	-	-
Tare range	-1kg	-2kg	-6kg	-10kg	-20kg
Repeatability	0,03g	0,03g	0,1g	0,3g	0,3g
Linearity	±0,03g	±0,03g	±0,1g	±0,3g	±0,3g
OIML Class		-	11		-
Stabilization time			3s		
Pan size			195 x 195mm		
Operation temperature			+15°C to +30°C	)	
Storage temperature			-25°C to +70°C	;	
Atmospheric humidity		10÷85	% RH no conde	nsation	
Ingress protection rating			IP 43		
Power supply		100÷240	0VAC 50/60Hz -	- 12VDC	
Display		Ę	5,7" touch scree	n	
Interfaces	2xUSB, 2x	RS232, Etherne	et, 4 Inputs / 4 C	Outputs, WIFI 2	,4GHz b,g,n
Net / Gross weight			2,7 / 3,6kg		
Package dimensions		49	90 x 300 x 150n	nm	

	WLY 6/F1/R	WLY 12/F1/R	WLY 30/F1/R	WLY 60/C2/R	WLY 120/C2/R
Technical data:	WLY 6/F1/K	WLY 12/F1/K	WLY 30/F1/K	WLY 60/C2/K	WLY 120/C2/K
	M	-	-	M	-
Maximum capacity	6kg	12kg	30kg	60kg	120kg
Minimum capacity	5g	-	-	50g	-
Reading division [d]	0,1g	0,2g	0,5g	1g	2g
Verification interval [e]	1g	-	-	10g	-
Tare range	-6kg	-12kg	-30kg	-60kg	-120kg
Repeatability	0,1g	0,6g	1,5g	1g	6g
Linearity	±0,1g	±0,6g	±1,5g	±1g	±6g
OIML Class	11		-	II	-
Pan size		300 x 300mm		400 x 5	500mm
Stabilization time			3s		
Operation temperature		+	+15°C to +30°	С	
Storage temperature		-	-25°C to +70°0	0	
Atmospheric humidity		10÷85%	6 RH no conde	ensation	
Ingress protection rating	IP 43				
Power supply	100÷240VAC 50/60Hz – 12VDC				
Display	5,7" touch screen				
Interfaces	2xUSB, 2xRS232, Ethernet, 4 Inputs / 4 Outputs, WIFI 2,4GHz b,g,n				
Net / Gross weight	5,2 / 6kg 12,5 / 15kg			15kg	
Package dimensions	570 x 390 x 170mm 720 x 580 x 220mm		x 220mm		

## 41.2. Scales of WPY series

Technical data:	WPY 0,6/D2	WPY 1,5/D2	WPY 3/D2	WPY 6/D2	
	M	м	M	м	
Maximum capacity	0,6kg	1,5kg	3kg	6kg	
Minimum capacity	4g	10g	20g	40g	
Reading division [d]	0,2g	0,5g	1g	2g	
Verification interval [e]	0,2g	0,5g	1g	2g	
Tare range	-0,6kg	-1,5kg	-3kg	-6kg	
Repeatability	0,2g	0,5g	1g	2g	
Linearity	±0,2g	±0,5g	±1g	±2g	
Stabilization time	2s				
OIML Class					
Pan size	195 x 195mm				
Operation temperature	-10°C to +40°C				
Storage temperature	-25°C to +70°C				
Atmospheric humidity	10÷85% RH no condensation				
Ingress protection rating	IP 43				
Power supply	100÷240VAC 50/60Hz – 12VDC				
Display	5,7" touch screen				
Interfaces	2xUSB, 2xRS232, Ethernet, 4 Inputs / 4 Outputs, WIFI 2,4GHz b,g,n				
Net / Gross weight	2,7 / 3,6kg				
Package dimensions	490 x 300 x 150mm				

	WPY 6/F1/R	WPY 15/F1/R	WPY 30/F1/R	WPY 30/C2/R	WPY 60/C2/R
Technical data:	WPY 6/F1/K	WPY 15/F1/K	WPY 30/F1/K	WPY 30/C2/K	WPY 60/C2/K
	M	M	M	M	M
Maximum capacity	6kg	15kg	30kg	30kg	60kg
Minimum capacity	40g	100g	200g	200g	400g
Reading division [d]	2g	5g	10g	10g	20g
Verification interval [e]	2g	5g	10g	10g	20g
Tare range	-6kg	-15kg	-30kg	-30kg	-60kg
Repeatability	2g	5g	10g	10g	20g
Linearity	±2g	±5g	±10g	±10g	±20g
Pan size	300 x 300mm 400 × 500mm				500mm
Stabilization time	2s				
OIML Class					
Operation temperature	-10°C to +40°C				
Storage temperature	-25°C to +70°C				
Atmospheric humidity	10÷85% RH no condensation				
Ingress protection rating	IP 43				
Power supply	100÷240VAC 50/60Hz – 12VDC				
Display	5,7" touch screen				
Interfaces	2xUSB, 2xRS232, Ethernet, 4 Inputs / 4 Outputs, WIFI 2,4GHz b,g,n				
Net / Gross weight		5,2 / 6kg		12,5	/ 15kg
Package dimensions	570 x 390 x 170mm 720 x 580 x 220mm				

	WPY 150/C2/K	WPY 300/C2/K	WPY 150/C3/K	WPY 300/C3/K
Technical data:	WPY 150/C2/R	-	-	-
	M	M	М	м
Maximum capacity	150kg	300kg	150kg	300kg
Minimum capacity	1kg	2kg	1kg	2kg
Reading division [d]	50g	100g	50g	100g
Verification interval [e]	50g	100g	50g	100g
Tare range	150kg	-300kg	150kg	-300kg
Repeatability	50g	100g	50g	100g
Linearity	±50g	±100g	±50g	±100g
Stabilization time		2s		
OIML Class		I	II	
Pan size	400 × 5	500mm	500 × 1	700mm
Operation temperature		-10°C to	o +40°C	
Storage temperature		-25°C to	o +70°C	
Atmospheric humidity		10÷85% RH no	o condensation	
Ingress protection rating		IP	43	
Power supply		100÷240VAC 50/60Hz – 12VDC		
Display		5,7" touch screen		
Interfaces	2xUSB, 2xRS2	2xUSB, 2xRS232, Ethernet, 4 Inputs / 4 Outputs, WIFI 2,4GHz b,g,n		
Net / Gross weight	12,5 /	12,5 / 15kg 20,5 / 26,8kg		
Package dimensions	720 x 580 x 220mm 820 x 640 x 260mm			

## 41.3. Scales of WLY/KTP series

Technical data:	WLY 0,6/1,2/KTP/D2	WLY 3/6/KTP/D2	WLY 6/12/KTP/D2	
	M	M	M	
Maximum capacity	0,6 / 1,2kg	3 / 6kg	6 / 12kg	
Minimum capacity	5g	25g	50g	
Reading division [d]	0,1 / 0,2g	0,5 / 1g	1 / 2g	
Verification interval [e]	0,1 / 0,2g	0,5 / 1g	1 / 2g	
Tare range	-1,2kg	-6kg	-12kg	
Repeatability	0,1 / 0,2g	0,5 / 1g	1 / 2g	
Linearity	±0,1 / 0,2g	±0,5 / 1g	±1 / 2g	
Stabilization time	3s			
OIML Class				
Pan size	195 x 195mm			
Operation temperature	+15°C to +30°C			
Storage temperature	-25°C to +70°C			
Atmospheric humidity	10÷85% RH no condensation			
Ingress protection rating	IP 43			
Power supply	100÷240VAC 50/60Hz – 12VDC			
Display	5,7" touch screen			
Interfaces	2xUSB, 2xRS232, Ethernet, 4 Inputs / 4 Outputs, WIFI 2,4GHz b,g,n			
Net / Gross weight	2,7 / 3,6kg			
Package dimensions	490 x 300 x 150mm			

	WLY 6/12/KTP/F1/R	WLY 12/30/KTP/F1/R	WLY 60/KTP/C2/R	WLY 60/120/KTP/C2/R
Technical data:	WLY 6/12/KTP/F1/K	WLY 12/30/KTP/F1/K	WLY 60/KTP/C2/K	WLY 60/120/KTP/C2/K
	M	M	M	Μ
Maximum capacity	6 / 12kg	12 / 30kg	60kg	60 / 120kg
Minimum capacity	50g	100g	0,5kg	0,5kg
Reading division [d]	1 / 2g	2 / 5g	10g	10 / 20g
Verification interval [e]	1 / 2g	2 / 5g	10g	10 / 20g
Tare range	-12kg	-30kg	-60kg	-120kg
Repeatability	1 / 2g	2 / 5g	10g	10 / 20g
Linearity	±1 / 2g	±2 / 5g	±10g	±10 / 20g
Stabilization time		39	6	
OIML Class				
Pan size	300 x 3	300mm	400 >	< 500mm
Operation temperature		+15°C to	o +30°C	
Storage temperature		-25°C to	+70°C	
Atmospheric humidity		10÷85% RH no	condensation	
Ingress protection rating		IP 4	43	
Power supply	100÷240VAC 50/60Hz – 12VDC			
Display	5,7" touch screen			
Interfaces	2xUSB, 2xRS232, Ethernet, 4 Inputs / 4 Outputs, WIFI 2,4GHz b,g,n			
Net / Gross weight	5,2 / 6kg 12,5 / 15kg			5 / 15kg
Package dimensions	570 x 390 x 170mm 720 x 580 x 220mm			30 x 220mm

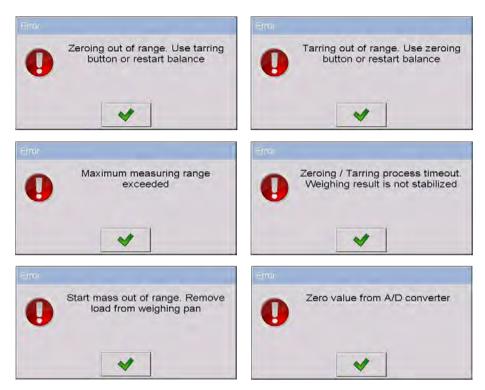
## 41.4. Scales of WPY/KTP series

Technical data:	WPY 0,6/1,5/KTP/D2	WPY 1,5/3/KTP/D2	WPY 3/6/KTP/D2	
	M	Μ	M	
Maximum capacity	0,6 / 1,5kg	1,5 / 3kg	3 / 6kg	
Minimum capacity	4 / 10g	10 / 20g	40 / 40g	
Reading division [d]	0,2 / 0,5g	0,5 / 1g	1 / 2g	
Verification interval [e]	0,2 / 0,5g	0,5 / 1g	1 / 2g	
Tare range	-1,5kg	-3kg	-6kg	
Repeatability	0,2 / 0,5g	0,5 / 1g	1 / 2g	
Linearity	±1 / 2g	±1 / 2g	±1 / 2g	
Stabilization time	2s			
OIML Class	=			
Pan size	195 × 195mm			
Operation temperature	-10°C to +40°C			
Storage temperature	-25°C to +70°C			
Atmospheric humidity	10÷	85% RH no condensation		
Ingress protection rating	IP 43			
Power supply	100÷240VAC 50/60Hz – 12VDC			
Display	5,7" touch screen			
Interfaces	2xUSB, 2xRS232, Ethernet, 4 Inputs / 4 Outputs, WIFI 2,4GHz b,g,n			
Net / Gross weight	2,7 / 3,6kg			
Package dimensions	490 x 300 x 150mm			

	WPY 3/6/KTP/F1/K	WPY 6/15/KTP/F1/K	WPY 15/30/KTP/F1/K	
Technical data:	WPY 3/6/KTP/F1/R	WPY 6/15/KTP/F1/R	WPY 15/30/KTP/F1/R	
	M	M	M	
Maximum capacity	3 / 6kg	6 / 15kg	15 / 30kg	
Minimum capacity	20 / 40g	40 / 100g	100 / 200g	
Reading division [d]	1 / 2g	2 / 5g	5 / 10g	
Verification interval [e]	1 / 2g	2 / 5g	5 / 10g	
Tare range	-6kg	-15kg	-30kg	
Repeatability	1 / 2g	2 / 5g	5 / 10g	
Linearity	±1 / 2g	±2 / 5g	±5 / 10g	
Stabilization time	2s			
OIML Class				
Pan size	300 × 300mm			
Operation temperature		-10°C to +40°C		
Storage temperature		-25°C to +70°C		
Atmospheric humidity	10	0÷85% RH no condensat	ion	
Ingress protection rating	IP 43			
Power supply	100÷240VAC 50/60Hz – 12VDC			
Display	5,7" touch screen			
Interfaces	2xUSB, 2xRS232, Ethernet, 4 Inputs / 4 Outputs, WIFI 2,4GHz b,g,n			
Net / Gross weight	5,2 / 6kg			
Package dimensions	570 x 390 x 170mm			

	WPY 15/30/KTP/C2/K	WPY 30/60/KTP/C2/K		
Technical data:	WPY 15/30/KTP/C2/R	WPY 30/60/KTP/C2/R		
	M	M		
Maximum capacity	15 / 30kg	30 / 60kg		
Minimum capacity	100 / 200g	200 / 400g		
Reading division [d]	5 / 10g	10 / 20g		
Verification interval [e]	5 / 10g	10 / 20g		
Tare range	-30kg	-60kg		
Repeatability	5 / 10g	10 / 20g		
Linearity	±5 / 10g	±10 / 20g		
Stabilization time	2s			
OIML Class	III			
Pan size	290 × 360mm			
Operation temperature	-10°C to	o +40°C		
Storage temperature	-25°C to	o +70°C		
Atmospheric humidity	10÷85% RH n	o condensation		
Ingress protection rating	IP	43		
Power supply	100÷240VAC 50/60Hz – 12VDC			
Display	5,7" touch screen			
Interfaces	2xUSB, 2xRS232, Ethernet, 4 Inputs / 4 Outputs, WIFI 2,4GHz b,g,n			
Net / Gross weight	12,5 / 15kg			
Package dimensions	720 x 580 x 220mm			

# 42. ERROR MESSAGES



## 43. ADDITIONAL EQUIPMENT

### Accessories:

- KAFKA printer cable P0136,
- Computer cable P0108,
- EPSON printer cable P0151,
- Thermal printer KAFKA,
- Dot matrix printer EPSON,
- Label printer CITIZEN,
- Additional display in plastic casing WD- 4/1,
- Large size display (2") WWG-2,
- Transponder card reader CK-01,
- Barcode scanner LS2208,

- Current loop in plastic casing AP2-1,
- Handle for measuring indicator in plastic casing PUE-7-32,
- PC keyboard.

## Computer programs:

- "E2R System" computer program,
- "PGC Viewer" computer program,
- "LABEL EDITOR R02" computer program,
- "DATABASE EDITOR PUE 7-HY" computer program,
- "RAD-KEY" computer program,
- "PW-WIN" computer program.

## 44. APPENDIX A – Variables for printouts

## 44.1. Inventory of variables

### Caution:

Every variable needs to be included in brace brackets e.g.  $\{x\}$ , where x - variable number.

A list of variables accessible in the system for defining printout templates and data displayed in the workspace of scale's screen:

Symbol	Description
{0} <sup>1)</sup>	Standard printout in adjustment unit
{1} <sup>1)</sup>	Standard printout in current unit
{2}	Date
{3}	Time
{4}	Date & Time
{5}	Mathematical function
{6}	Net mass in current unit
{7}	Net mass in adjustment unit
{8}	Gross mass
{9}	Tare
{10}	Current unit
{11}	Adjustment unit
{12}	Minimum threshold
{13}	Maximum threshold
{14}	Lot number

{15}	Statistics: Number
{16}	Statistics: Sum
{17}	Statistics: Average
{18}	Statistics: Minimum
{19}	Statistics: Maximum
{20}	Cumulative of Cumulative Statistics: Quantity
{21}	Cumulative of Cumulative Statistics: Sum
{22}	Cumulative of Cumulative Statistics: Average
{23}	Cumulative of Cumulative Statistics: Min
{24}	Cumulative of Cumulative Statistics: Max
{25}	Mass: lb
{26}	Checkweighing
{27}	Value to pay
{28}	C Value (cumulative amount to pay)
{29}	CC value (cumulative of cumulatives amount to pay)
{30}	Gross (amount to pay + VAT)
{31}	Platform number
{32}	Factory Number
{33}	Scale division
{34}	Range
{35}	Counting pieces: Sample weight
{36}	Deviations: Sample weight
{37}	Statistics: Standard deviation
{38}	CC Statistics: Standard deviation
{39} <sup>2)</sup>	Universal variable: Value
{40}	Text information
{41}	Batch number: Value
{42}	Statistics: Weighing counter
{43}	Platform mass
{44}	Balance type
{45}	Parts counting: Sample size
{46}	CC Statistics: Number of measurements
{47}	Statistics: Gross sum
{48}	CC Statistics: Gross sum
{49}	Universal variable: Name
{50}	Product: Name
{51}	Product: Code

{52}	Product: EAN Code
{53}	Product: Mass
{54}	Product: Tare
{55}	Product: Unit price
{56}	Product: Min
{57}	Product: Max
{58} <sup>3)</sup>	Product: Testing Prepackages mode (CPG)
{59}	Product: Number of validity days
{60}	Product: VAT
{61}	Product: Date
{62}	Product: Expiry Date
{63} <sup>3)</sup>	Product: Density
{64} <sup>4)</sup>	Product: Ingredients
{65}	Product: Description
{66}	Product: Low deviation
{67}	Product: High deviation
{68}	Product: Category
{69}	Product: Expiry Date 1
{70}	Product: Expiry Date 2
{75}	Operator: Name
{76}	Operator: Code
{77}	Operator: Access level
{80}	Package: Name
{81}	Package: Code
{82}	Package: Mass
{85}	Client: Name
{86}	Client: Code
{87}	Client: Tax ID
{88}	Client: Address
{89}	Client: Postal code
{90}	Client: City
{91}	Client: Discount
{100}	Report From weighments: Measurements
{101}	Filter of weighments report: Start date
{102}	Filter of weighments report: End date
{103}	Filter of weighments report: Product
{104}	Filter of weighments report: Operator

{105}	Filter of weighments report: Client	
{106}	Filter of weighments report: Package	
{107}	Filter of weighments report: Min	
{108}	Filter of weighments report: Max	
{109}	Filter of weighments report: Lot number	
{110}	Filter of weighments report: Batch number	
{111}	Filter of weighments report: Target warehouse	
{112}	Filter of weighments report: Source warehouse	
{113}	Filter of weighments report: Checkweighing	
{114}	Filter of weighments report: Platform number	
{115}	Report From weighments: Number of weighments	
{116}	Report From weighments: Totalized weighments	
{117}	Report From weighments: Value	
{118}	Report From weighments: Gross	
{119}	Report From weighments: Average	
{120}	Report From weighments: Min	
{121}	Report From weighments: Max	
{122}	Report From weighments: Vehicle scale	
{130}	Source Warehouse: Name	
{131}	Source Warehouse: Code	
{132}	Source Warehouse: Description	
{135}	Target warehouse: Name	
{136}	Target warehouse: Code	
{137}	Target warehouse: Description	
{140}	Net mass in adjustment unit: Total	
{141}	Additional display: WD	
{142}	Additional display: WWG	
{143}	Hex	
{144}	Hex UTF8	
{145}	Partial mass	
{146}	Gross mass in current unit	
{147}	Tare in current unit	
{148}	Lot number: Name	
{149}	Batch number: Name	
{152}	Custom variable: Name	
{153}	Custom variable: Value	
{155}	Density: Start date	

{156}	Density: End date
{157}	Density: Method
{158}	Density: Standard liquid
{159}	Density: Standard liquid density
{160}	Density: Temperature
{161}	Density: Sinker volume
{162}	Density
{163}	Density: Unit
{164}	Density: Sample number
{165}	Density: Weighing 1
{166}	Density: Weighing 2
{167}	Density: Weighing 3
{168}	Density: Volume
{169}	Density: Pycnometer mass
{170}	Density: Pycnometer density
{175}	Dosing process: Name
{176}	Dosing process: Code
{177}	Dosing process: Cycle number
{178}	Dosing process: Number of cycles
{180}	Dosing report: Start date
{181}	Dosing report: End date
{182}	Dosing report: Result
{183}	Dosing report: Number of measurements
{184}	Dosing report: Total
{185}	Dosing report: Measurements
{186}	Measurements: Nominal mass
{187}	Measurements: Difference
{205}	Adjustment track record: Nominal Mass
{206}	Adjustment track record: Platform number
{209}	Vehicle: Operator
{210}	Vehicle: Name
{211}	Vehicle: Code
{212}	Vehicle: Description
{213}	Vehicle scale: Start date
{214}	Vehicle scale: End date
{215}	Vehicle scale: Entry mass
{216}	Vehicle scale: Exit mass

{217}	Vehicle scale: Load mass
{218}	Vehicle scale: Transaction type
{219}	Vehicle scale: Status
{220}	Recipe: Name
{221}	Recipe: Code
{222}	Recipe: Cycle number
{223}	Recipe: Number of cycles
{224}	Recipe: Process progress
{225}	Recipe: Process progress in %
{226}	Recipe: Ingredient name
{227}	Recipe: Difference
{228}	Recipe: Portion
{229}	Recipe: Nominal mass
{230}	Recipe: Number of current ingredient
{231}	Recipe: Number of ingredient
{232}	Recipe: Number of current manufacturing unit
{233}	Recipe: Number of manufacturing unit
{234}	Recipe: Status
{235}	Recipe: Low deviation
{236}	Recipe: High deviation
{237}	Recipe: Ingredient code
{240}	Recipe: report: Start Date
{241}	Recipe: report: End Date
{242}	Recipe: report: Result
{243}	Recipe: report: Number of measurements
{244}	Recipe: report: Total
{245}	Recipe: report: Measurements
{246}	Measurements: Nominal mass
{247}	Measurements: Difference
{248}	Recipe report: Ingredient code
{249}	Recipe report: Ingredient weight entered manually
{260}	CPG Report: Batch Number
{261}	CPG Report: Start date
{262}	CPG Report: End date
{263}	CPG Report: Result
{264}	CPG Report: Lot quantity
{265}	CPG Report: Number of Measurements

{266}	CPG Report: T1 error border
{267}	CPG Report: 2T1 error border
{268}	CPG Report: Number of T1 errors
{269}	CPG Report: Acceptable number of T1 errors
{270}	CPG Report: Number of 2T1 errors
{271}	CPG Report: Total
{272}	CPG Report: Min
{273}	CPG Report: Max
{274}	CPG Report: Average
{275}	CPG Report: Limit of the average
{276}	CPG Report: Standard deviation
{277}	CPG Report: Measurements
{278}	CPG Report: Unit
{279}	CPG Report: Report Number
{280}	CPG Report: Value of T1 error [+]
{281}	CPG Report: Value of 2T1 error [+]
{282}	CPG Report: Number of T1 errors [+]
{283}	CPG Report: Permissible number of T1 errors [+]
{284}	CPG Report: Number of 2T1 errors [+]
{285}	CPG Report: Permissible number of 2T1 errors
{286}	CPG Report: Permissible number of 2T1 errors [+]
{287}	CPG Report: Navigating bar
{288}	CPG Report: Qualifying number of T1 errors
{289}	CPG Report: Tare
{290}	CPG Report: Average limit value [+]
{291}	CPG Report: Note
{292}	CPG Report: Density
{295}	Average Tare Report: Date
{296}	Average Tare Report: Result
{297}	Average Tare Report: Standard deviation
{298}	Average Tare Report: 0.25T1
{299}	Average Tare Report: Number of Measurements
{300}	Average Tare Report: Measurements
{301}	Average Tare Report: Report Number
{302}	Average Tare Report: Average Tare
{303}	Average Tare Report: Note
{320}	Identification process: Name

{321}	Identification process: Code
{330}	Differential weighing: Start date
{331}	Differential weighing: End date
{332}	Differential weighing: Number of weighments
{333}	Differential weighing: Measurements
{334}	Differential weighing: Measurement
{340}	Extra variable: Name
{341}	Extra variable: Value
{342}	Extra variable: Code
{350}	EPSON paper cutting
{351}	EPSON polish signs
{352}	Additional display: PUE7
{353}	IP Address
{354}	Code Page
{355}	Day-of-year
{356}	Number of packages
{357}	Mass to be dosed
{358}	Smart Connect
{359}	Working mode
{360}	Printer: Allergens start [pl]
{361}	Printer: Non allergens start [pl]
{362}	Printer: Allergens end
{363}	Printer: Allergens start [de]
{365}	Printer: Non allergens start [de]
{366}	Printer: Allergens start [es]
{367}	Printer: Non allergens start [es]
{368}	Printer: Allergens start [fr]
{369}	Printer: Non allergens start [fr]
{398}	Weighing

## Caution:

- 1) Variables {0} and {1} is terminated by CR LF, i.e. the cursor is moved to the beginning of the next line by default,
- 2) In case of variable {39}, each position from the database (1,2-n) is formatted as follows: Position 1 {39:1}, Position 2 {39:2}, etc.
- **3)** In case of variable {64}, each line (L1-Ln) is formatted according to the template: Line 1 {64:L1}, Line 2 {64:L2}, etc.

## 44.2. Formatting variables

Users can format numeric, text and date variables intended for displaying or printing out.

### Different format commands:

- Justification to the left,
- Justification to the right,
- Setting the number of characters for printout / display,
- Declaration of the number of digital places for numeric variables,
- Date&Time formatting,
- Formatting numeric variables for EAN13 codes,
- Formatting numeric variables and dates for EAN128/GS1-128 codes.

Character	Description	Example
3	Separates variables from format strings	<b>{7,10}</b> – Net mass in adjustment unit situated in 10-character string justified to the right.
-	Minus sign or justification to the left	{7,-10} - Net mass in adjustment unit situated in 10-character string justified to the left
:	Proviides formatting or separates hours, minutes and seconds	<ul> <li>{7:0.000} - Net mass in adjustment unit always with three decimal places ;</li> <li>{3:hh:mm:ss} - Present time in the format : hours : minutes : seconds</li> </ul>
•	The first dot in the format string determines the location of the decimal separator in the formatted value; any additional dot characters are ignored.	{55:0.00} – Unit price always with two decimal places; {17:0.0000} – Average value form weighments with four decimal places;
F	The number is converted to a string of the form "-ddd.ddd" where each 'd' indicates a digit (0-9). The string starts with a minus sign if the number is negative.	<ul> <li>{7:F2} - Net mass in adjustment unit always with two decimal places.</li> <li>{7,9:F2} - Net mass in adjustment unit always with two decimal places in 9-character string justified to the right.</li> </ul>
V	Formatting mass and derivatives for EAN13 codes	<b>{7:V6.3}</b> - Net mass for EAN13 (6-character code) with three decimal characters
Т	Formatowanie masy i wielkości pochodnych do masy w kodzie EAN128	<b>{7:T6.3}</b> – Net mass for EAN128/GS1-128 with two decimal places.

## Format characters:

/	Date separator between days, months and years	{2:yy/MM/dd} – Present date formatted as: year - month - day, where yy represents two less significant digits of year.
١	"Escape" character removing formatting function form next character to allow it to be used as a character in a text string.	{2:yyVMMVdd} – Present date formatted as yesr / month / day; {2:yy\:MM\:dd} –Present date formatted as: year : month : day. In case of necessity of using "\" as literal it should be preceded by another escape character "\\".

## Format examples:

Symbol	Description
{7:V6.3}	Net mass for EAN 13 (6-character code)
{7:V7.3}	Net mass for EAN 13 (7-character code)
{27:V6.3}	Net amount to pay for EAN 13 (6-character code)
{27:V7.3}	Net amount to pay for EAN 13 (7-character code)
{7:T6.3}	Net mass for EAN 128/GS1-128
{16:T6.3}	Cumulative net mass for EAN 128/GS1-128
{21:T6.3}	Cumulative of cumulative net mass for EAN 128/GS1-128
{25:T6.3}	Net mass in lb for EAN 128/GS1-128
{8:T6.3}	Gross mass for EAN 128/GS1-128
{55:T6}	Product price for EAN 128/GS1-128
{2:yyMMdd}	Date for EAN 128/GS1-128
{61:yyMMdd}	Product date for EAN 128/GS1-128
{62:yyMMdd}	Expiary date for EAN 128/GS1-128
{16:V6.3}	Cumulative net mass for EAN 13 (6-character code)
{16:V7.3}	Cumulative net mass for EAN 13 (7-character code)
{28:V6.3}	Total/cumulative amount to pay for EAN 13 (6-character code)
{28:V7.3}	Total/cumulative amount to pay for EAN 13 (7-character code)
{21:V6.3}	Cumulative of cumulative net mass EAN 13 (6-character code)
{21:V7.3}	Cumulative of cumulative net mass EAN 13 (7-character code)
{29:V6.3}	Total/cumulative of cumulative amount to pay EAN 13 (6-character code)
{29:V7.3}	Total/cumulative of cumulative amount to pay EAN 13 (7-character code)

## 44.3. Mathematical function

Extended functionality of the mathematical functions with use of a variable **<{5} Mathematical function>** enables carrying out an optional operation on numbers and variables available on the list. The basic available mathematical functions are:

- Adding (+)
- Subtracting (-)
- Multiplying (\*)
- Dividing (/)

The additional functionality provides using in the calculation the existing variables, thus enabling acquiring mass from a specified weighing platform, and its processing in a desired way.

## An example:

{5: ([43:1] + [43:2]) / 2}

The above application of a variable **<{43} Platform mass>** causes acquiring mass from a weighing platform determined in the formatter (:1 and :2), and their dividing by 2 which enables taking the average mass from both weighing platforms. Use of the brackets enables carrying out the operation in an appropriate sequence and in accordance with basic mathematical principles.

### Caution:

Variables in the structure of the mathematical operations are noted in square brackets [] and not as previously in {} brackets.

Additionally, a operator can use the advanced functions enabling extended means of data modification. The advanced functions are used in a form of text marker and arguments in brackets:

- round (numeric value, rounding precision (number)) rounding
- abs (numeric value) absolute value
- sin (numeric value) sine
- cos (numeric value) cosine
- tan (numeric value) tangent
- sqrt (numeric value) radical
- pow (numeric value, power base (number)) power
- log (numeric value) logarithm
- log10 (numeric value) logarithm base 10

## Caution:

A numeric value is comprehended as an optional number or an optional mathematical operation that returns a numeric value.

There are additional functions that modify the text values, and they can also operate on numbers that are converted to text:

- remove ("text value", initial place (number), quantity of characters to be removed (number)) – a return is a residue after deleting a part of the text value, from the initial point to a determined quantity of characters. In case the third parameter is not specified the text value will be deleted till its end.
- substring ("text value", initial place (number), quantity of characters to be copied (number)) – a return is copied text value from the initial point to a quantity of characters to be copied. In case the third parameter is not specified the text value will be copied till the end.
- to lower ("text value") a return is a complete text value in small letters.
- to upper ("text value") a return is a complete text value in capital letters.
- replace ("text value", old text, new text) a return is a text with replaced letters of parts of the text, determined in the second and their parameter.

## Caution:

The text values are put in quotation marks " ".

## Examples:

**remove ("Text sample",11)** – the operation causes returning a text value: "Text sample".

**to upper ("Text sample")** – the operation causes returning a text value "TEXT SAMPLE".

**replace ("Text sample", "text ", "text")** - the operation causes returning a text value "Text sample".

**replace ("2.000","0","1")** - the operation causes returning a text value "2.111". The value can be used for standard mathematical calculations, where it will be converted "on the fly" in case the operation requires it.

# 45. APPENDIX B – Functions of programmable buttons

lcon	Function name
<b>ø</b> t	ENTER
•	Zero
1	Tare
	Enter tare
1	Parameters
	Local Parameters
The max	Set MIN and MAX
5	Statistics (cumulative) : Print and zero
5	Statistics (cumulative) : Print
-0-	Statistics (cumulative) : zero
Se .	Statistics (cumulative of cumulative): Print and zero
5	Statistics (cumulative of cumulative): Print
-0-	Statistics (cumulative of cumulative): zero
-0123	Edit lot number
12RBC	Edit batch number
~	Start
*	Stop
2	Choose an operator

20	Choose an operator by name
	Choose an operator by code
	Choose a product
	Choose a product by name
<b>\$</b>	Choose a product by code
0	Choose a package
(Tame)	Choose a package by name
Conde	Choose a package by code
	Choose a client
name	Choose a client by name
	Choose a client by code
	Choose a source warehouse
	Choose a source warehouse by name
	Choose a source warehouse by code
	Choose a target warehouse
	Choose a target warehouse by name
	Choose a target warehouse by code
	Change working mode
<u></u>	Counting pieces: Specify piece mass
<b>3</b>	Counting pieces: Estimate piece mass

	Counting pieces: Ascribe standard
5	Counting pieces: Quantity of sample - 5 pcs
10	Counting pieces: Quantity of sample - 10 pcs
20	Counting pieces: Quantity of sample - 20 pcs
50	Counting pieces: Quantity of sample - 50 pcs
<u>9%</u>	Deviations: Specify sample mass
<b>9%</b>	Deviations: Estimate sample mass
STOP	Emergency stop
<b>800</b>	Chute permission
OFF	Disable tare
ON	Restore tare
kg	Change unit
Δ·Δ	Change platform
Var 1	Edit universal variable 1
Var 2	Edit universal variable 2
Var 3	Edit universal variable 3
	Select dosing process
name	Select dosing process by name
	Select dosing process by code

	Select formulation
Formate Trame	Select formulation by name
Code	Select formulation by code
	Ingredients
	Determine liquid density
	Determine solid density
	Determine pycnometer density
<b>1</b>	Determine porous body density
Ę.	Edit number of labels
	Edit number of C labels
	Edit number of CC labels
	PGC – Change: Workspace / chart
е	PGC: Set control
G	PGC: Return to home screen
V	PGC: Average tare start
Î	PGC: Data on control in progress
	PGC: Edit note
×	PGC: Finish control
<b>e</b>	Choose a vehicle

0	
name	Choose a vehicle by name
code	Choose a vehicle by code
<b>U</b>	Choose a vehicle "manually"
	Start entry transaction
4	Start exit transaction
	Choose transaction
	Choose traceability process
name	Choose traceability process by name
code	Choose traceability process by code
	Print Screen
1	Select platform 1
<b>2</b>	Select platform 2
3	Select platform 3
4	Select platform 4
Var	Choose an extra variable no 1
Var 2	Choose an extra variable no 2
Var 3	Choose an extra variable no 3

Var	Choose an extra variable no 4
Var 5	Choose an extra variable no 5
1	Zero platform 1
2	Zero platform 2
3	Zero platform 3
4	Zero platform 4
1	Tare platform 1
2	Tare platform 2
3	Tare platform 3
4	Tare platform 4
R	Undo weighing
00.251	Increase accuracy
~	Select record from the database

# 46. APPENDIX C – Label template

A label template can be created in 2 ways:

- From the terminal level using variables,
- Using PC software EDYTOR ETYKIET R02. A created project needs to be saved as an **"Ib**" file then copied on a pen drive that can be connected to the terminal. Finally transfer the file to the database in the scale.

While a label is in the database of labels it can be ascribed to products or/and clients in order to work in labelling mode.

## 46.1. Designing a label from the terminal level

## Procedure:

- Enter <>>> Databases> according to ch. 34 of this manual,
- Enter < Labels> and press on the required position.
- After entering < Label template> an editing field with the screen keyboard appears
- Modify the existing template using the list of variables accessible after pressing
- Confirm changes by pressing

## Caution:

In the bottom line of the screen keyboard there are additional buttons that help to modify a label template:



On-screen keyboard on / off

Read label templates from \*.lb files (see – ch. 45.3)

Saving printout template in a file format \*.lb (option enabled on plugging a portable data storage device to scale port)

Select variables for the display template (inventory of variables can be found in APPENDIX A)

Clearing the editing field

## 46.2. Designing a label on a computer

## Example:

Let us create a label template for the label below:



#### Caution:

The installer of **EDYTOR ETYKIET R02** is accessible to download on website: **www.radwag.com.** on the overlap: Products / Measuring indicators / PUE 7.1.

#### Procedure:

3. Run computer program **LABEL EDITOR R02**, then the main window of the program is displayed:



#### Caution:

Prior to designing a label a new project needs to be created with initial printer and label settings. A description of creating new projects can be found in instruction manual "Label Editor R02" accessible in the program menu: "Info / User manual".

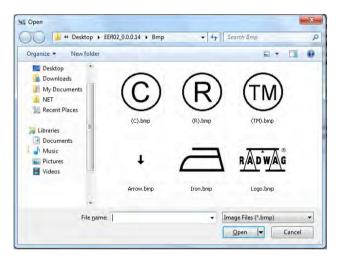
 In order to add a text to the label chose < Abc Text> from the list of objects and then click on the workspace of label, then window <Text field settings> opens:

Location		Size			Orientation	
X: 12.4	mm	Width:	0.0	mm	Standard	O Down
Y; 13.1	mm	Height:	E.0-	mm	O Up	O Reversed
Font				-		
TrueType	*	Arial		8	✓ B I	ld: 50

- 5. Type the required text in the box at the bottom of the window: PORK CHARCUTERIE SMITH&SMITH Ltd and press to confirm, then the text is put automatically on the label,
- In order to add a variable to the label chose < {x,x<sub>2</sub>} Variable> from the list of objects and then click on the workspace of label, then window 
   Variable settings> opens:

Variable settings ocation	Size		Orientation	
X: 11.9 mm	Width: 0.0	mm	<ul> <li>Standard</li> </ul>	O Down
Y: 8.4 mm	Height: 0.3	mm	O Up	O Reversed
ont				
ГгиеТуре 💉	Arial	<b>v</b> 8	✓ B I	ld: 50
ariable				
Static text				•
Moving upwards	Moving downwards		Insert	Delete
Codes	Formatter	Value	Name	
	_			1
¢				

- 7. From list **<Variable>** chose variable type **"4 Date and time"** and press **Insert**, then the variable is placed in the table of variables show below.
- 8. Confirm it by pressing **Confirm**, then the variable is automatically placed on the label.
- 9. Place the rest of variables and constant texts on the label in the same way,
- 10.In order to put an image on the label chose < Image> from the list of objects and then click on the workspace of label, then window < Open> opens:



11.Chose one and press **<Open>**, then the image is placed on the label.

#### Caution:

Graphic images placed on the label can be printed only when they are downloaded to the printer memory. It is described in the instruction manual "Label Editor R02" accessible in the program menu on the overlap: "Info / User manual".

12. In order to add a barcode to the label chose **Barcodes** and then click on the workspace of label, then window **Barcode settingss** opens:

Location	Size	Orientation	
X: 13.25 mm	Width: 18.75	mm 💿 Standard	O Down
Y: 12.88 mm	Height: 11.25	mm O Up	O Reversed
Barcode			
1D 🖌 E	EAN13		1
Line width			
Thick: 2	~	Narrow: 2	~
/ariable			
Static text			1
Moving upwards	Moving downwards	Insert	Delete
Codes	Formatter Value	Name	
	001		
¢			
¢			

- 13. Chose **<Barcode>** from the list e.g. **EAN-13**.
- 14. Chose from list **<Variable>** item **"7 Net mass in adjustment unit"** and press **Insert**, then the variable is placed in the table of variables show below.
- 15. In column **<Formatter>** type:**V6.3** (mass in EAN13 as a 6-digit code with 3 decimal places).
- 16. Confirm the entered item by pressing **Confirm**, then the barcode is automatically placed on the label.
- 17. Save the created pattern choosing from the menu "File / Export \*.lb".

#### Caution:

Recorded templates of labels in files with \*.**Ib** extension are not editable. This is advisable to record designs of labels in files with \*.**Iab** extension as well (software menu: File / Save as...) to use/edit the designs of labels in the future.

## 46.3. Saving label templates in the scale

#### Procedure:

- A label template \*.Ib created in EDYTOR ETYKIET R02 needs to be copied to a pen drive,
- Connect the pen drive to USB in the scale,
- Enter: "SETUP / Databases / Labels" and press the required item,
- Enter < Label templates>, then an editing field and the screen keyboard appears,
- Press single to open a window showing files on the pen drive,
- Select the required \*.Ib file. It is automatically copied to the editing field,
- Confirm the changes by pressing

#### Caution:

If a pen drive is not recognized by the system button similar will remain inactive.

## 46.4. Attributing a label to a product

#### Procedure:

- Enter < Products> and press the required item,
- Enter < Inter Label>, then the database of labels is open with the list of all labels,
- Choose the required label. The program automatically ascribes the label to the product.

#### 46.5. Attributing a label to a client

#### Procedure:

- Enter Databases> according to ch. 34 of this manual,
- Enter < I clients> and press the required item,
- Enter < Inter Label>, then the database of labels is open with the list of all labels,
- Choose the required label. The program automatically ascribes the label to the client.

#### 46.6. Printing labels

#### Procedure:

- While in the main window choose a product (button <sup>F1</sup> or a client (button <sup>F2</sup>) that has attributed a label,
- Place a load on the pan and wait for La then press
- The label is printed on a printer connected to the scale.

#### Caution:

- Labels can be attributed to products or/and clients. After pressing
   a label is printed on a connected printer, provided
   a selected client or product has an ascribed label.
- 2. Users can perform the test label printout see ch. 34.5 of this manual.

## 47. APPENDIX D - CITIZEN printer setting

Baud rate	: 9600b/sec
Parity control	: No
Number of data bits	: 8bit
Number of stop bits	: 1 bit
Flow control	: No
IEEE 1284	: ON

Information printed by the printer via RS232:

[Interface Menu]RS-232C Baud rate: 9600bpsRS-232C Parity: NoneRS-232C Length: 8 bitRS-232C Stop bit: 1 bitRS-232C X-ON: NoIEEE 1284: On

The way of generating the setup printout and setting CITIZEN printers are described in manuals attached to printers or present on the website of the manufacturer.

## 48. APPENDIX E - ZEBRA printer setting

Baud rate – 9600b/sec Parity control – none No of data bits – 8bit No of stop bits – 1 bit

Information printed by the printer via RS232:

Serial port : 96, N, 8, 1

The way of generating the setup printout and setting ZEBRA (Eltron) printers are described in manuals attached to printers or present on the website of the manufacturer.

# 49. APPENDIX F - Communication with barcode scanners

- For communication with barcode scanners RADWAG scales use RS232 interfaces and simplex transmission (one direction) without handshaking. Only two wires are required for assuring such a transmission. Used scanners should be equipped in such interface with disabled both hardware and software handshaking.
- Both scales and scanners have the possibility of setting of transmission parameters. Both devices are required to have the same parameters set : baud rate, number of data bits, parity control, stop bits. e.g. 9600,8,N,1 – baud rate 9600 bit/s, data 8-bits, no parity control, 1 stop bit.

- Barcode scanners can send additional information apart from the expected barcode e.g. symbology (type of barcode). It is advisable to disable such information because RADWAG devices and software do not use it.
- 4. Some RADWAG systems can omit unnecessary information by using parameters that mark the beginning and the length of the code required to analyse.
- A special protocol is required in order the code be received by RADWAG equipment. It is required to program an appropriate prefix and suffix. Prefix – one byte 01 hexadecimally, suffix one byte 0D hexadecimally.
- 6. Most barcode scanners allow to enable/disable different symbologies (barcode types).
- 7. Programming of scanners is usually performed by reading special barcodes or by using an external software tool.
- 8. Scanners marketed together with RADWAG systems are always configured according to the rules above.

Barcode with required prefix and suffix in hexadecimal format	Barcode without required –fixes in ASCII format	Code type
01 30 30 32 31 30 31 32 36 0D	00210126	EAN-8
01 30 31 32 33 34 35 36 37 38 39 0D	0123456789	2 of 5
01 43 4F 44 45 20 33 39 20 54 45 53 54 0D	CODE 39 TEST	CODE 39
01 31 31 30 31 32 33 34 35 36 37 38 39 31 0D	1101234567891	EAN-13
01 43 6F 64 65 20 31 32 38 20 54 65 73 74 0D	CODE 128 Test	CODE 128

## 50. APPENDIX G – Computer Program "PGC Viewer"

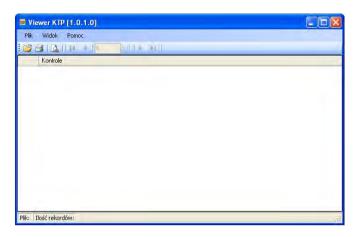
Computer program "**PGC Viewer**" is intended for viewing and printing reports from controls and average tare tests.

#### Caution:

Installation program **"PGC Viewer"** is recorded on the CD connected to this product.

#### **Operation description:**

• Run computer program "**PGC Viewer**". It starts with opening the following window:



#### **Button functions:**

- Open a controls or average tares database
- Print a report
- View a report
- Scroll the list of reports one position down
- Scroll the list of reports one position up
- Go to the last report
- Go to the first report
- Press *i*, then window <**Open>** appears in which the wanted database can be located (extension \*.tdb),
- Mark a report and click on <a href="https://www.ukachertainstein.com">Dtwórz</a>,
- The program automatically returns to the main window and in the field **<Tests>** the list of reports is displayed:

e v	liewer KTP [1.0.1.0]		
Plik	s Widok Pomoc		
1			
	Kontrole		
K.	RAPORT Z KONTROLI NR U/01/10/09/14/49		
	RAPORT Z KONTROLI NR Z/02/10/09/15/15		
	RAPORT Z KONTROLI NR U/20/11/09/07/08		
ile:	F:\Kontrole_236590.tdb Number of records: 3	-	

- Print the marked report on a connected printer by pressing 4
- Using button 🗳 view the selected report.

# MANUFACTURER

# OF ELECTRONIC WEIGHING INSTRUMENTS



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