TMX

MULTIFUNCTIONAL SCALES

USER MANUAL

ITKU-36-06-09-11-EN

TABLE OF CONTENTS

1. INTENDED USE

Scales of TMS series with TERMINAL E2R EWIDENCJA are intended to be used for measuring and at the same time recording the data in local database or on server. The application is especially important when the weighed products are not directly related one to another by any common data or they are not a part of the weighing process with its beginning and end, for example deal or order. The net of scales connected together enables transmitting the measurement results to the main database installed on server.

2. PRECAUTIONS

A. Please, read carefully this user manual and use the device according to its intended use;

B. Weighed loads should be placed in most possible central part of scale pan;

C. Do not clean the device with agents causing corrosion;

D. Gross mass of goods loaded on weighing pan should be lower than maximal capacity of the scale;

E. Do not leave heavy loads on the pan for long time;

F. In case of failure, scale power supply should be disconnected immediately;

G. Devices that are to be withdrawn from usage should be utilized according to the law regulations.

3. WARRANTY CONDITIONS

A. RADWAG is obliged to repair or exchange those elements that appear to be faulty because of production and construction reasons,

B. Defining defects of unclear origin and outlining methods of their elimination can be settled only in presence of a user and the manufacturer representatives,

C. RADWAG does not take any responsibility in case of damages or losses caused by non-authorized or inappropriate production or service procedures,

D. Warranty does not cover:

- Mechanical failures caused by inappropriate maintenance of the device or failures of thermal of chemical origin or caused by atmospheric discharge, overvoltage in mains or other random events,
- Cleaning service.

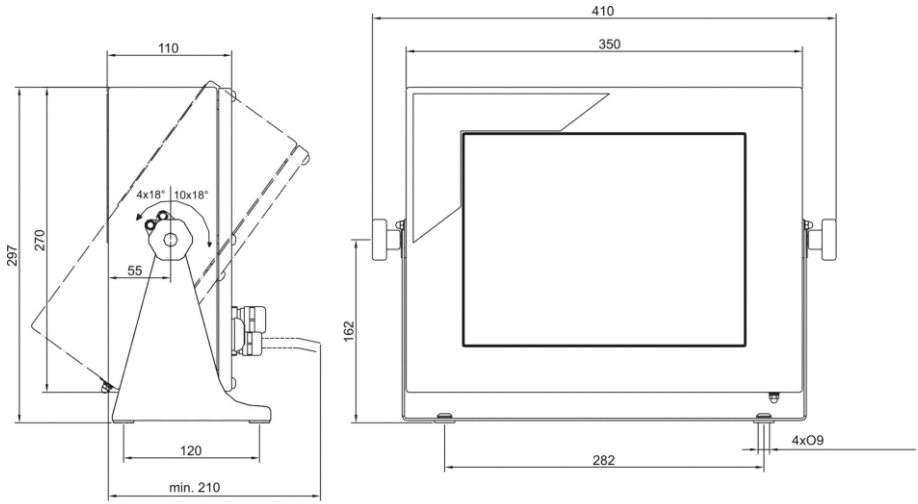
E. Warranty expires after:

- Access by an unauthorized service,
- Intrusion into mechanical or electronic construction of unauthorized people,
- Removing or destroying protection stickers.

F. The detailed warranty conditions are specified in warranty certificate.

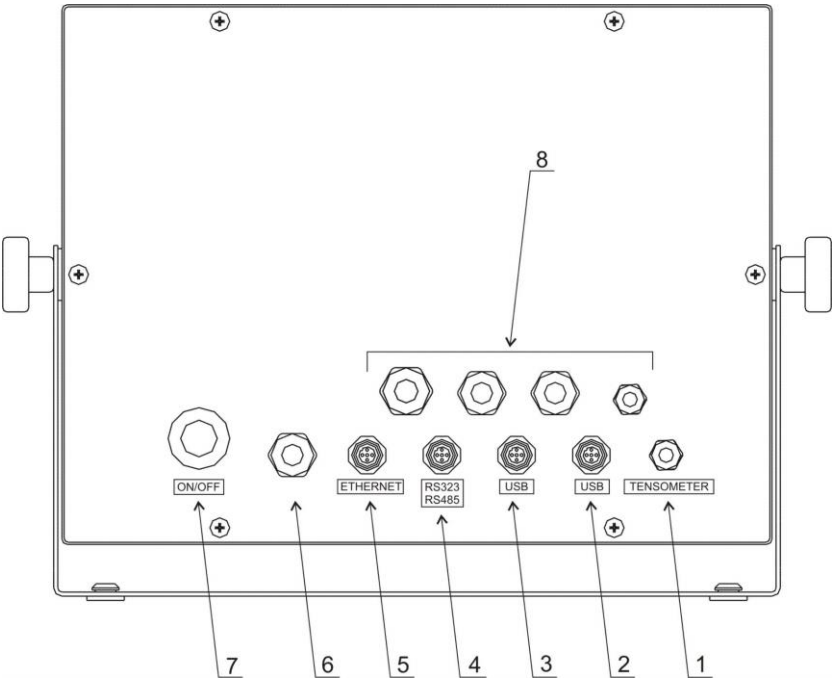
G. Authorized service line:+48 48 384 88 00 ext. 106 or 107.

4. MAIN DIMENSIONS



Main dimensions of PUE 5

5. DESCRIPTON OF CONNECTORS



Back side view of PUE 5

Connectors in standard version:

1 *Strain gauge cable gland*
2 *USB connector*
3 *USB connector*
4 *RS232, RS485 connector*
5 *Ethernet connector*
6 *Power cord cable*
7 *ON/OFF switch*
8 *Glands of optional equipment (8IN/8OUT, 4IN/4OUT, RS485 via gland, additional platform, etc)*

NOTICE:
All connectors can be used in any configurations.

6. UNPACKING AND ASSEMBLY

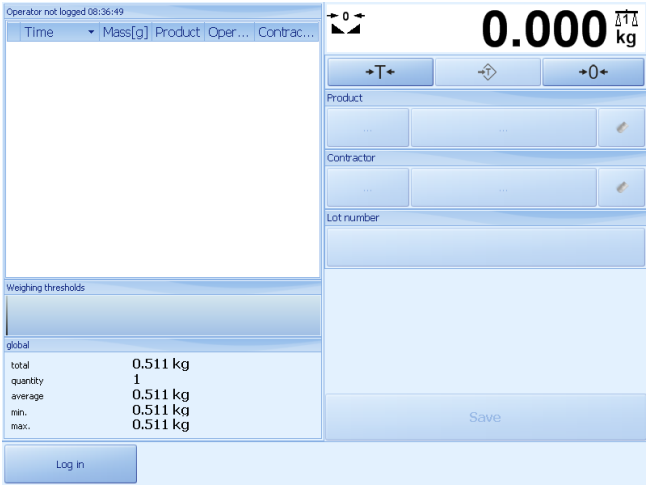
A. Remove the scale from the packaging,

B. Place the scale on even and hard surface far from heat sources,

C. Scale should be levelled by turning levelling foot. Levelling is correct if air bubble is in central position of level indicator located on scale's base.

7. GETTING STARTED

- Turn on the scale pressing the **ON/OFF** switch on the back side of the terminal. Then Windows loading will start.
- After the starting procedure, the main window of TERMINAL E2 EWIDENCJA application will be displayed automatically.



Notice:
The main programme's window view can be changed by choosing suitable setting options.

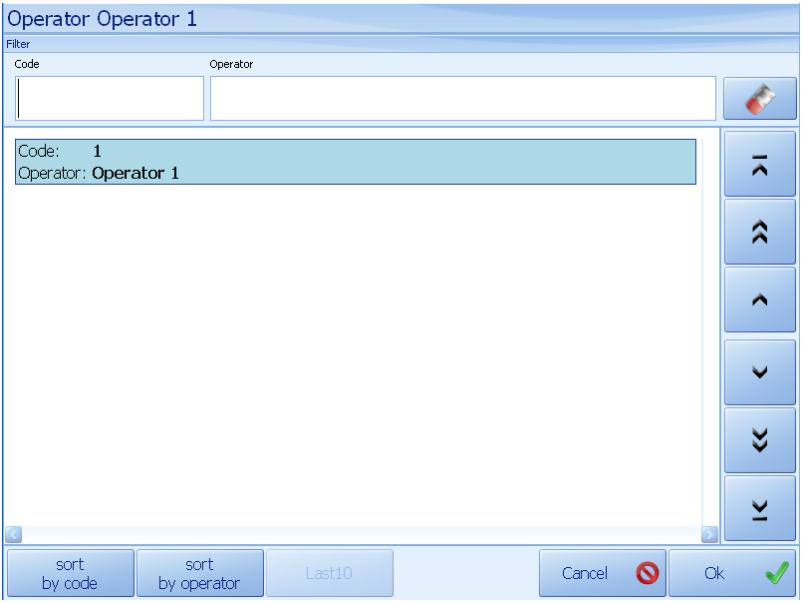
8. LOGGING ON

You have to log on every time you start the scale.

Caution:
Logging on is necessary in order to record weighing results and to choose article, contractor, wrappings, store, lot number from the database

Procedure:

- While in the main application window, press ”log in”, then this will appear:



- Press „Operator 1” , then the main window will appear and the information about the logged user will be shown in top-left corner of the application:

***Caution**:*
„Operator 1" has got the „administrator's" authority, what makes a scale's user have direct access to all the program functions. The application consists of four authority levels, which are described later in the manual.

In the information line the following can be found:

Log off time	-	Time of user's logging off or turning on terminal's applications
User's name Time of logging	-	User's name and the time of logging

9. SCALE WINDOW DISPLAY

9.1. View

The scale window is located in the upper right corner of the screen:

After the starting procedure the following symbols be displayed in scale's window:

- *0* - precise zero indication
- - measurement result is stable
- **kg** - weighing unit
- 1 - weighing platform number

If the pan is unloaded and there is no zero indication – click the zeroing button.

9.2. Buttons' functions

→0←	Zeroing of scale
→T←	Tarring
→T◇	Hand-operated tare entering

10. WEIGHING PROCEDURE

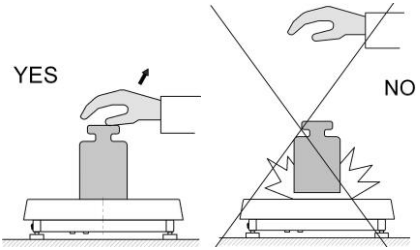
Put a load on the scale pan. When ◣◢ appears the result can be read.
In order to record the weighing result press:

Save

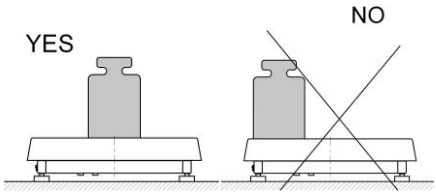
Caution:
To save the weighing result operator must be logged on and product must be chosen from database first.

In order to assure long-term operation and correct measurement results, follow the steps:

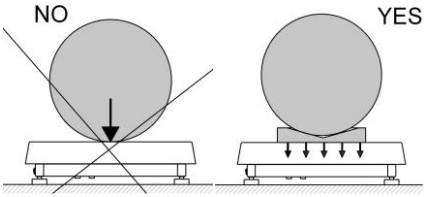
- Loads should be placed on the pan slowly and carefully in order to avoid mechanical shocks:



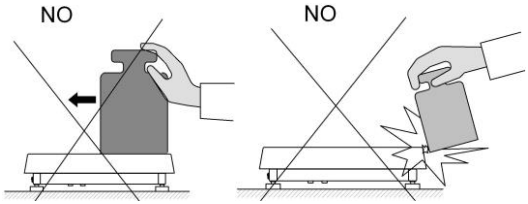
- Loads should be placed centrally on the pan (errors caused by eccentric weighing are outlined by standard PN-EN 45501 point 3.5 and 3.6.2):



- Do not load the pan with concentrated force:

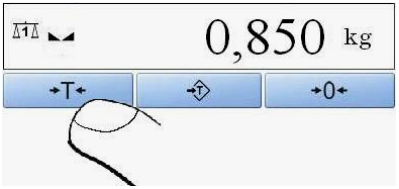


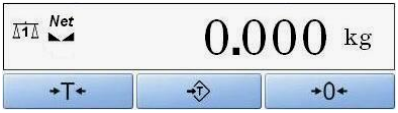
- Avoid side loads, particularly side shocks should be avoided



10.1. Tarring

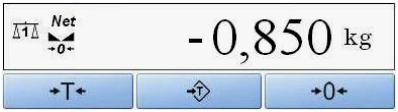
In order to get the net weight put the load on pan and press →T← when it is stable (zero is indicated and **Net** symbol appears in top left corner of weighing window).





After placing a load on the weight pan net mass will be shown. Tarring is possible within the whole range of the scale. While tarring, remember that the maximum capacity of scale should not be exceeded.

After unloading product and packing from the pan the display shows the tarred value with “minus” sign:



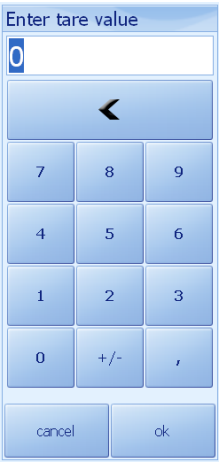
Notice:
*Tarring process cannot be performed while the display shows a negative or zero value. Then **Err3** will appear on weighing window display.*

10.2. Hand operated tare value entering

It is also possible to enter a tare value by hand.

Procedure:

- While in main window press [→T←], and you will see the following window:
- Using number buttons enter the required value and accept it by clicking [ok],
- The scale returns to weighing mode. The inscribed value will be preceded by **„–”**,
- Tarring can be applied at any time during weighing.
- Use button [<] to remove the previous value.



10.3. Zeroing of scale

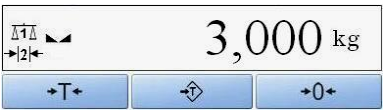
Press [→0←] in program’s weighing window to get zero indication. Symbols: →0← and ◣◢ will appear.

Zeroing is equivalent to setting a new zero point interpreted by the scale as the precise zero point. Zeroing can be performed only when display is stable.

Notice:
Zeroing is possible only within the range of ***±2%*** *of maximum scale's capacity. If the zero value is beyond this range,* ***Err2*** *message will be displayed.*

10.4. Weighing on two range scales

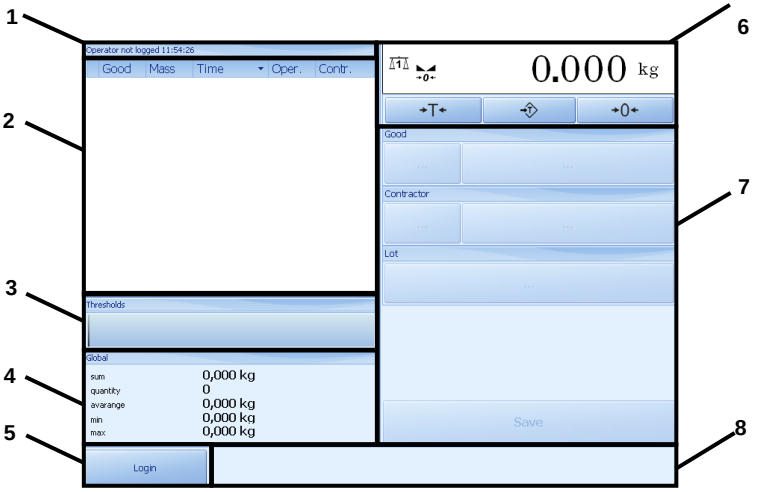
Switching between the **I range** and the **II range** weighing appears automatically without operator's presence when I range maximum value is exceeded. Starting II range weighing is indicated by →|2|← symbol in the top left corner of the scale window. When loading is eliminated the indication returns to zero value. Until then the scale remains in the **II range.**



Switching between the **II range** and the **I range** takes place automatically after loading elimination, when the indication returns to AUTOZERO range and symbol →0← appears. Then II range symbol disappears and weighing is performed again with the accuracy of the **I range**.

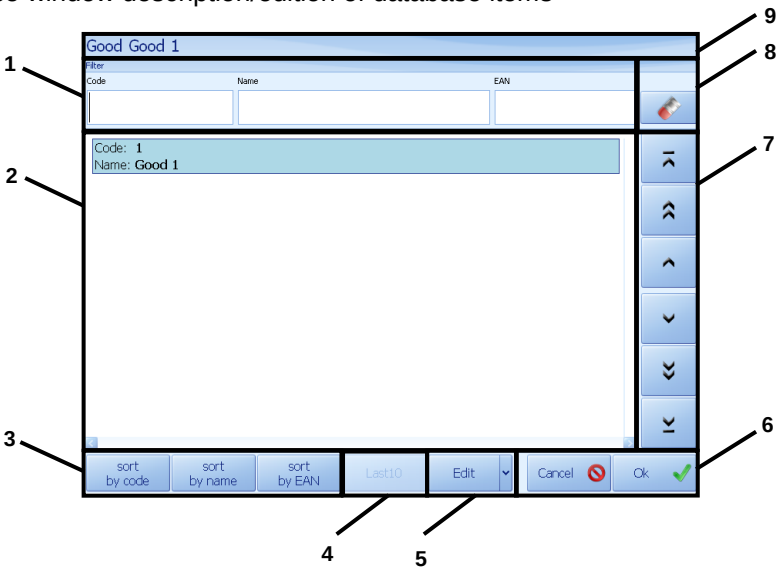
11. WINDOW NAVIGATION

MAIN PROGRAM'S WINDOW DESCRIPTION



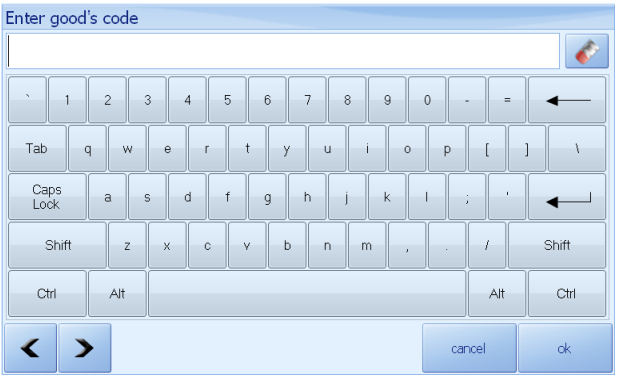
1 - Information line
2 - Recorded weighing results window
3 - Mass bar chart
4 - Database of statistics
5 - Log off/log on button
6 - Weight window
7 - Choosing items from database buttons
8 - Programmable buttons

Choice window description/edition of database items



1 - Displayed items filtering fields
2 - Database items displaying window
3 - Sorting buttons
4 - Ten latest displayed items button
5 - Addition/edition/elimination database items button
6 - Change approval/refusal or selection buttons
7 - Rewinding chosen items buttons
8 - Filtering cleaning
9 - Information window

Screen keyboard window



- Window clearing

- Cursor moving arrows

12. PRODUCT CHOICE

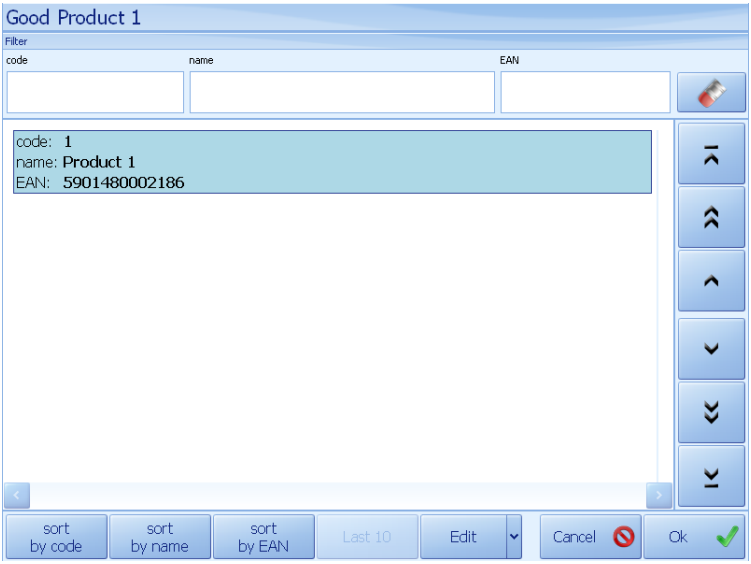
In the main program window the scale's user can choose product from database by name or code, as the picture shows:

To remove the selected product press  .

12.1. Choosing a product by name

Procedure:

- Start product choosing by name procedure according to point 12 of the manual and you will see the following:



- Choose the demanded product, then the program will automatically return to main window, where the product's code and name will appear in appropriate fields:

- In case of large number of products in the database, user can search:

  - by code
  - by name
  - by EAN code of product

As it is shown in the picture below:

- searching by code

- searching by name

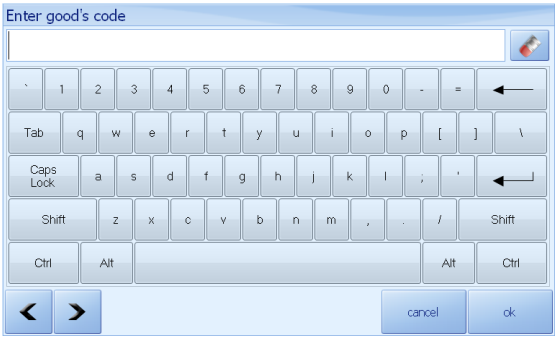
- searching by EAN code

In order to eliminate filtering of code, name and EAN fields, press  button.

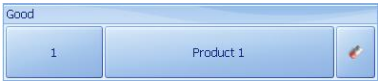
12.2. Choosing a product by code

Procedure:

- Enter the product choosing by code mode according to point 12 of the manual so you can see :

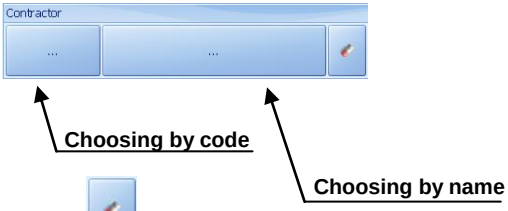


- Using the screen keyboard load the demanded product's code and accept it pressing  button.
- The program will automatically return to the main window, displaying code and name of the chosen product in appropriate fields.



13. CHOICE OF A CONTRACTOR

In the main application window scale's user can choose a contractor from database by code or product's name, according to the following picture:



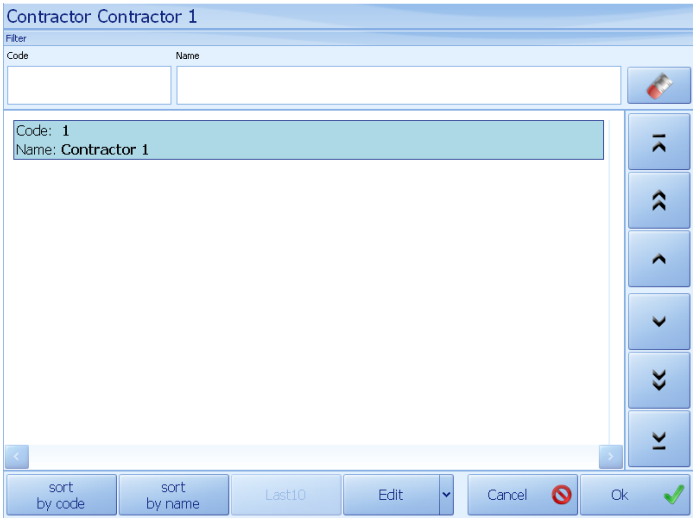
To remove a contractor press  .

CAUTION!
Contractor's choice window will be accessible after setting up its profile in the main application window, according to point 27.5.1 of the manual.

13.1. Contractor choosing by name

Procedure:

- Choose constructor choosing by name mode according to point 13 of the manual, then you will see the following:



- Press the required contractor's profile and the program will automatically return to the main window, displaying code and name of chosen contractor in appropriate fields:

- In case of large number of contractors in database, user can filter or search by:
  - contractor's code,
  - contractor's name

As it is shown in the picture below:

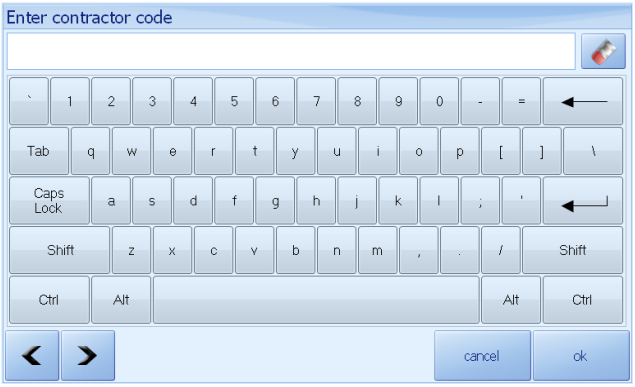
- Searching for contractor by code
- Searching for contractor by name

In order to eliminate code and name fields' filtering, press  button.

13.2. Contractor choosing by code

Procedure:

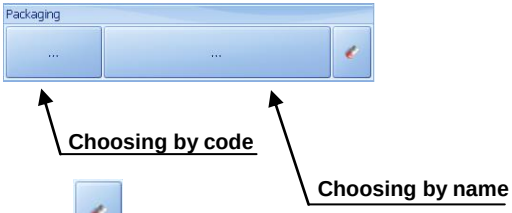
- Enter constructor choosing by code mode according to point 13 of the manual, so you can see the following:



- Using screen keyboard, load the required contractor's code, then accept it pressing  button.
- Program will automatically return to the main window, displaying the demanded contractor's code and name in appropriate fields.

14. CHOOSING A PACKING

In the main application window the user can choose a packing by its code or name as follows:



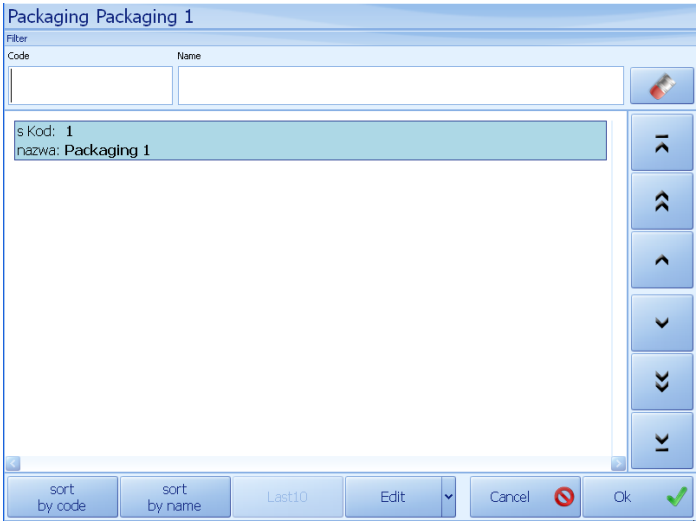
To remove a package press  .

Caution!
Packing choosing window will be accessible after setting up its profile in the main application window, according to point 27.5.1 of the manual.

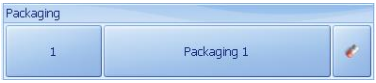
14.1. Choosing a packing by name

Procedure:

- Enter choosing a packing by name mode according to point 14 of the manual, so you can see the following:



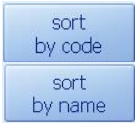
- Press required packing, then the program will return to the main window displaying code and name of the chosen packing



- In case of large number of packages in database user can filter or choose by:

  - code of packing,
  - name of packing,

As the picture shows:



- Searching packages database by code

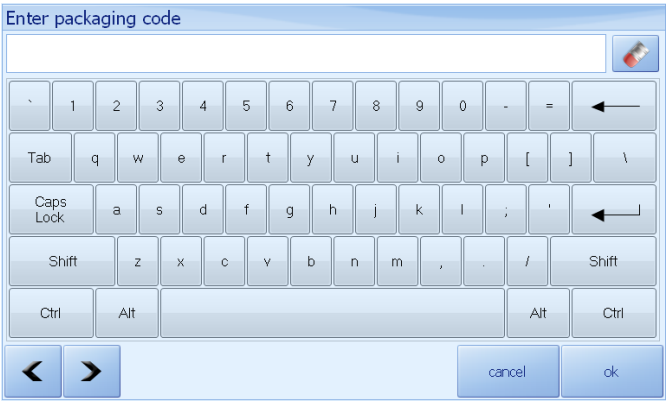
- Searching packages database by name

In order to eliminate code and name fields' filter, press  button.

14.2. Choosing a packing by code

Procedure:

- Enter choosing a packing by code mode according to point 14 of the manual so you can see the following:



- Using screen keyboard, enter the demanded code of packing and accept it pressing 

button
- The program will automatically return to the main window displaying code and name of chosen packing in appropriate fields.

15. STORE CHOOSING

User can choose a source and target store according to following picture

- Target store choosing

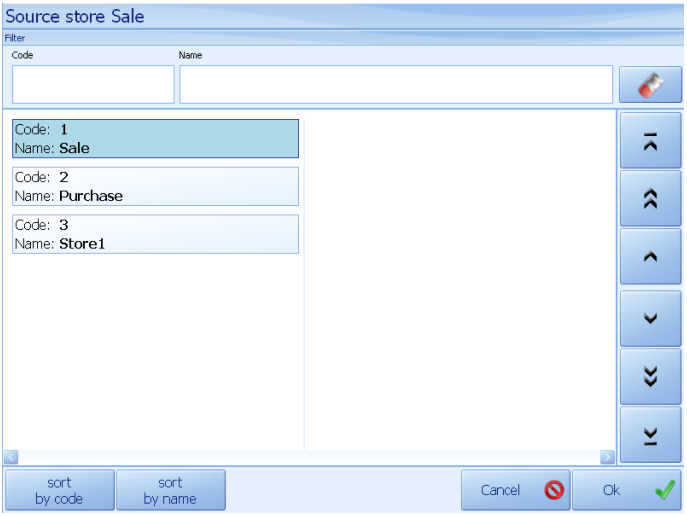
- Source store choosing

To remove a store/warehouse press  .

CAUTION!
Target and source store choosing window will be accessible after setting up its profile in the main application window according to point 27.5.1 of the manual.

Procedure:

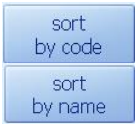
- Choose source or target store, then you will see the following:



- Choose demanded store, then the program will automatically return to main window, displaying name of chosen store in appropriate field:

- In case of large number of stores in database, user can filter or search by:
  - store's code
  - store's name,

As the picture shows:



- Searching stores' database by code

- Searching stores' database by name

In order to eliminate code and name fields' filter, press  button.

16. LOT CHOOSING

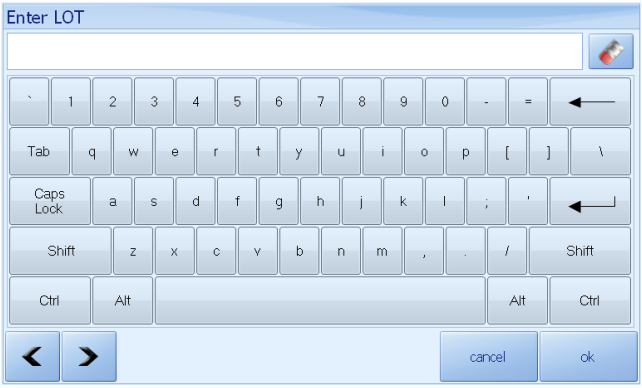
Scale's user can load a lot number for each weighing. In order to do that, Press the button appropriate for loading a lot number in the main application window.

Lot/batch window can be cleared by pressing  .

Caution!
Lot choosing window will be accessible after setting up its profile in main application window, according to point 27.5.1 of the manual.

Procedure:

- Load a lot number to keyboard window



- The program will automatically return to main window, displaying loaded lot number in appropriate field.

17. LOT 2 CHOOSING

User weight for each weighing can indicate the number of LOT 2.

Procedure for defining the LOT is the same as in paragraph 16 of the instructions.

18. QUANTITY NUMBER CHOOSING

Procedure:

In order to assign a weighting number which acts as a descriptive panel, press the main weight of responsibility for the introduction of a quantity.

Then, with the numeric keypad enter any number.

Entered number is displayed on the button and is stored in the weighing .

19. DATABASES

19.1. Access to databases edition

Procedure:

- While in database choice window, press 

button, then the following will be displayed:

19.2. Operators' database

Caution!
Operators' database edition is accessible in the program's options for logged user who has the administrator's or advanced authority. Operators' database can be also edited while user's change-logging.

Procedure:

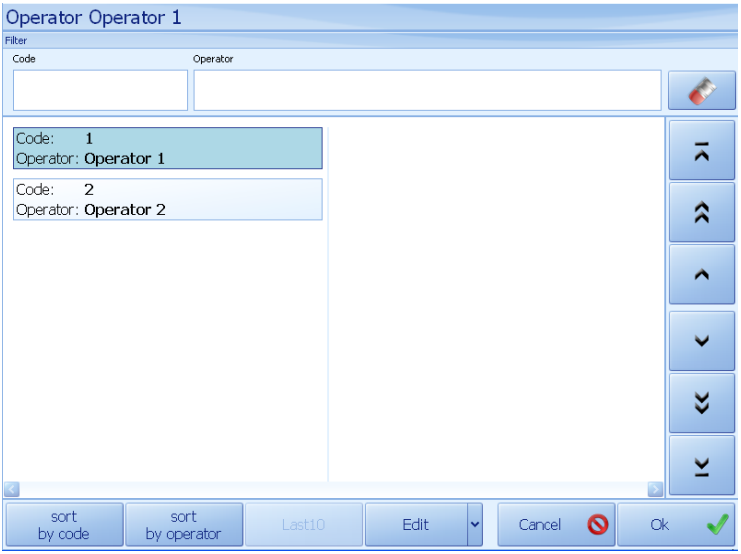
- In order to edit operators' database, press 

,
- Press 

in operator's log off window.
- Press ***Operators*** button in option window

- Press ***Operators 'edition*** button

- Access to operators' database window will be displayed:

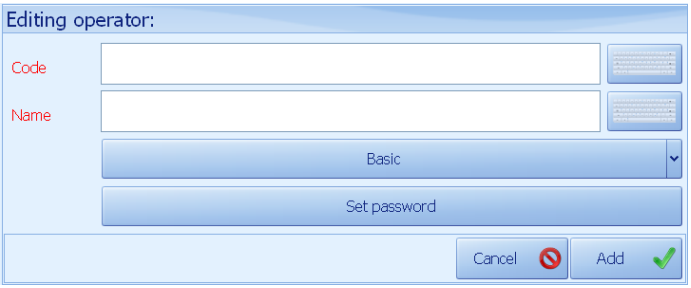


19.2.1. Adding an operator

Procedure:

- Enter the operators choosing window according to point 19.2 of the manual, then press:

according to point 19.1 of the manual, then, the following will be displayed:

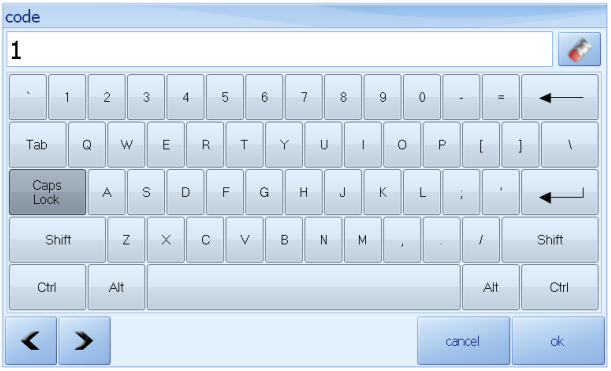


And as the picture shows:

name*	-	operator's name field
code*	-	operator's code field
authority	-	user's authority type
set up password	-	setting up user's password

***)** - filling in is obligatory

- Press text field or button  in order to load operator's data (code, name)



The buttons' functions:

- Approval of loaded new information

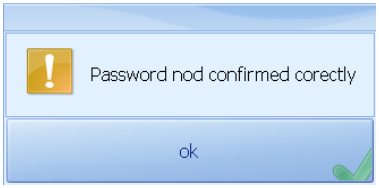
- Refusal of loaded new information

- After operator's code and name loading, set up authority level pressing a button below; choose an option from unrolled list:

- Set up operator's password, pressing 

. Using keyboard that appears on the terminal's screen, enter the password and accept it.

Caution!
You have to enter identical password twice, otherwise information about error will be displayed:



- In order to accept adding an operator press: 

,
- In order to refuse adding an operator press: 

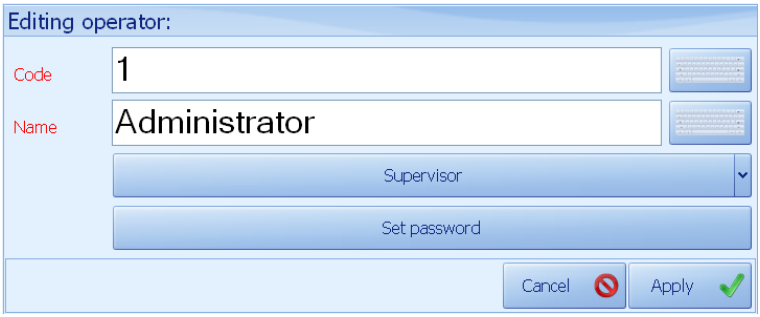
.

19.2.2. Editing an operator

Procedure:

- Enter operators choosing window according to point 19.2 of the manual, choose an operator you want to edit, then, according to point 19.1 of the manual, press:

this is what will appear on the screen:



Complete the fields according to information in point 19.2.1 of the manual

- In order to accept all changes, press 

,
- In order to refuse changes, press 

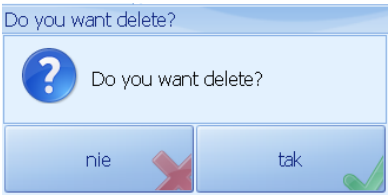
.

19.2.3. Eliminating an operator

Procedure:

- Enter operators choosing window according to point 19.2 of the manual, then according to point 19.1 press:

then the window will appear:

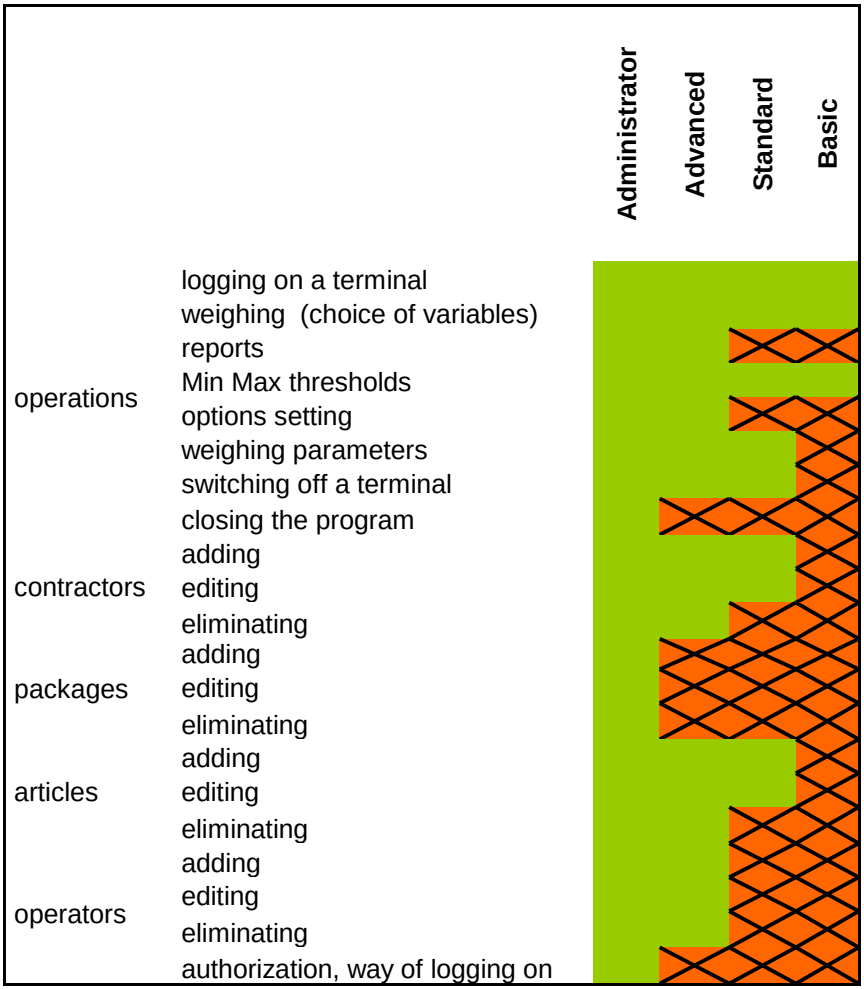


Accept eliminating an operator pressing: 

.

19.2.4. Operator's authority

Operators' authority table



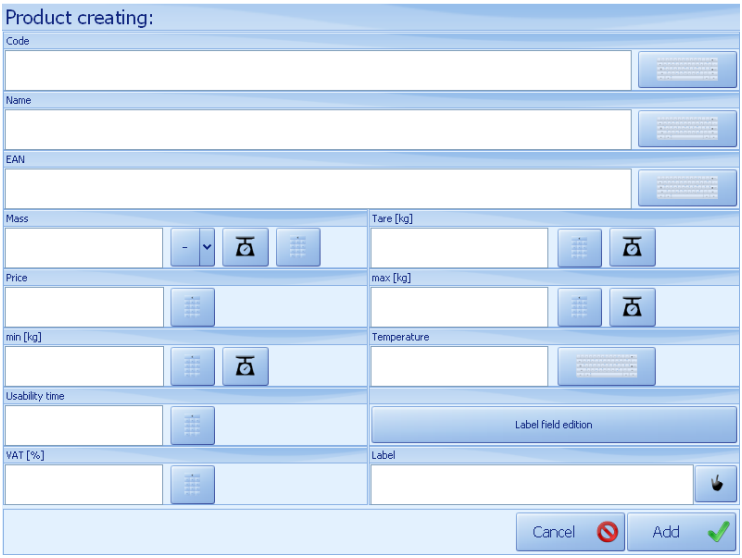
19.3. Base of products

19.3.1. Adding products

Procedure:

- Using product choosing by name button in main program window enter base of products, then, according to point 19.1 of the manual, press:

and this will appear:



- press:  button or text field in order to load data.
- in order to accept adding a product press: 

,
- in order to refuse changes press: 

.

Fields to be completed:

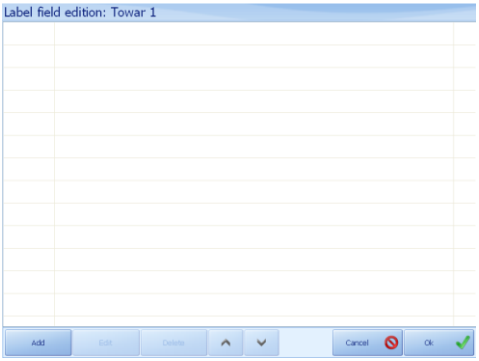
Name*	-	name of product
Code*	-	code of product
EAN	-	EAN bar code of product
Price	-	retail price of product
Mass	-	net weight
Tare	-	tare weight
Min	-	product's min threshold
Max	-	product's max threshold
Validity time	-	No of validity days of a product after the day of weighing
Temperature	-	Storage temperature (text field)
Edit Label Field	-	This field can hold any information about the product
VAT [%]	-	Interest rate of VAT
Label	-	File selection box printed labels for the goods

***)** – filling in is compulsory

Notice!

Using button  a barcode can be read directly from the label.
A barcode scanner allows quick product selection provided it is described by EAN code field.

Editing the window of ingredients

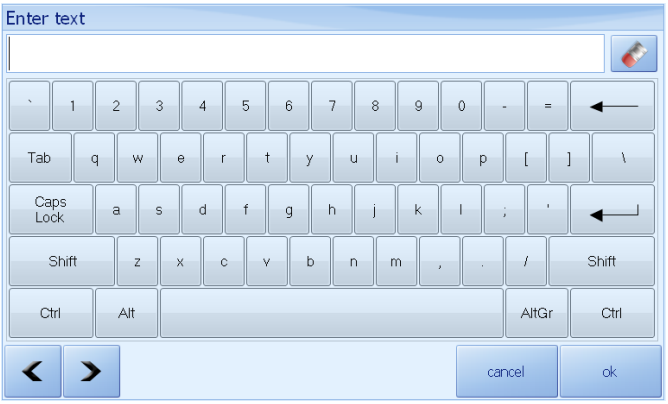


After pressing 

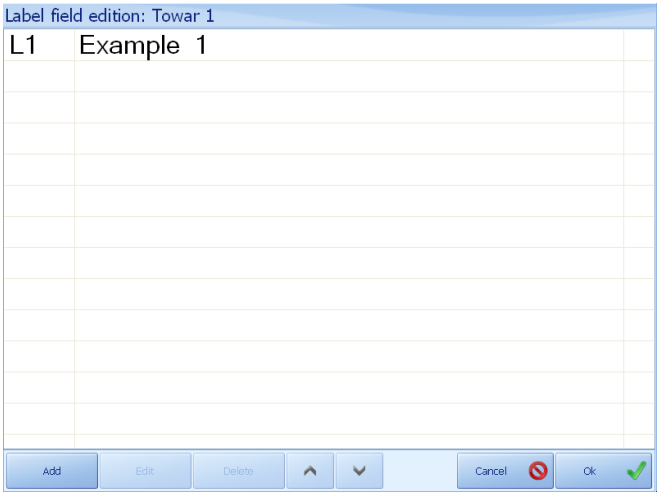
a window appears in which additional information can be inscribed e.g.: ingredients. Every line (L1-Ln) can be printed separately, see additional information in ch. 31.2.

In order to add this field press 

and then enter the text for the line.



The line is displayed in the window.



Functions of buttons in the window:

- Add a line
- Edit a line
- Delete a line
- Change line position
- Cancel changes

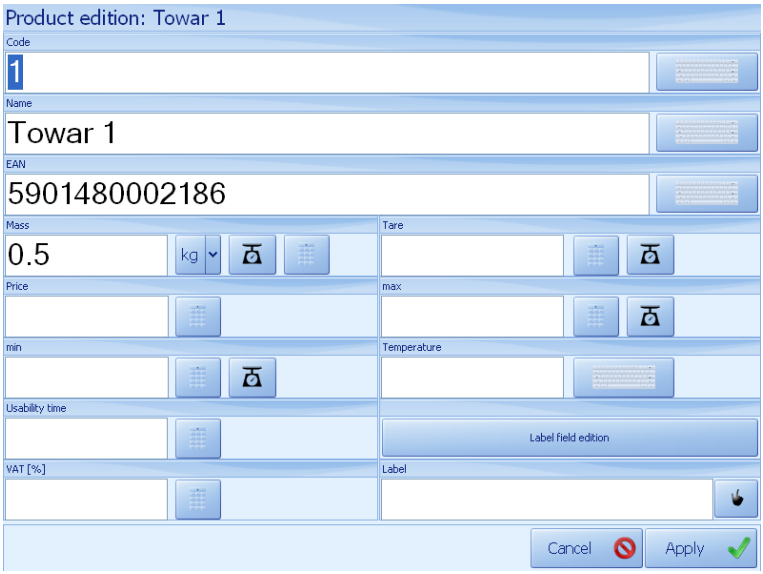
Confirm changes

19.3.2. Product's editing

Procedure:

- Using choosing product by name button in the main program window enter base of products, then choose product to be edited, and according to point 19.1 of the manual press:

then the following will be displayed:



Fill in the fields according to point 19.3.1 of the manual

- In order to accept changes, press 

,
- In order to refuse changes, press 

.

19.3.3. Product eliminating

Procedure:

- Using product choosing by name button in the main program window enter base of products, choose product to be eliminated, and then according to point 19.1 of the manual press:

chosen product will be eliminated.

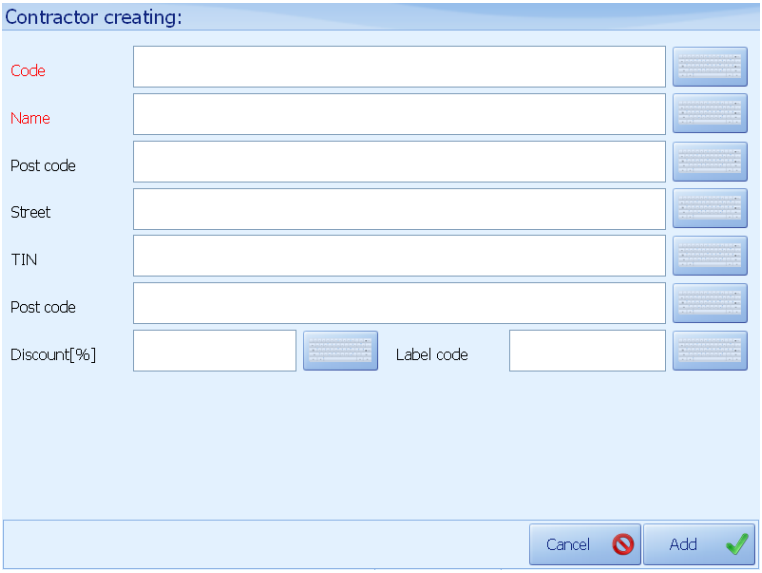
19.4. Contractors' base

19.4.1. Adding a contractor

Procedure:

- Using contractor choosing by name button in the main program window, enter contractors base, then according to point 19.1 of the manual press:

the following will appear:



- Press  button or text field in order to load data.
- In order to accept adding a contractor press:  ,
- In order to eliminate changes press  .

Fields to be completed:

Code*	-	product's code
Name*	-	product's name
Place of living	-	contractor's place of living
Street	-	street and number
TIN	-	tax identification number
Post code	-	post code
Discount [%]	-	discount assigned for contractor
Label code	-	code of label printed for contractor

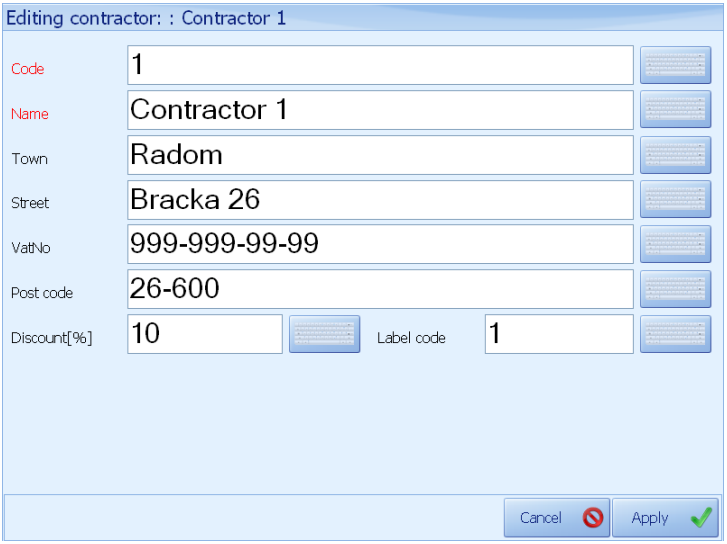
***)** - filling in is compulsory

19.4.2. Contractor's edition

Procedure:

- Using contractor choosing by name button in main program window, enter contractors base, choose a contractor to be edited, then according to point 19.1 of the manual press:

then the following will be displayed:



Complete the fields according to point 19.4.1 of the manual.

- In order to accept changes press 

,
- In order to refuse changes press 

.

19.4.3. Contractor's elimination

Procedure:

- Using contractor choosing by name button in the main program window, enter contractors' base, choose a contractor to be eliminated and according to point 19.1 of the manual press:

chosen contractor will be eliminated from database.

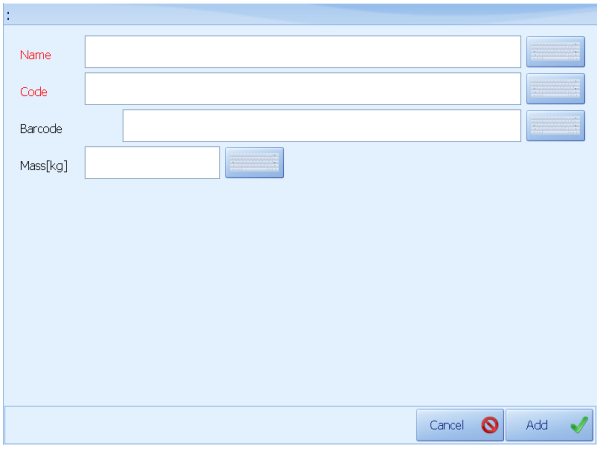
19.5. Base of packages

19.5.1. Adding a packing

Procedure:

- Using packing choosing by name button in the main program window, enter base of packing, then according to point 19.1 of the manual press:

the following will be displayed:



- Press  button or text field in order to load data

- In order to accept adding a packing press: 

,
- In order to refuse changes press: 

.

The spaces' meaning:

Name*	**-**	name of packing
Code*	**-**	code of packing
Barcode	**-**	bar code of packing
Mass [kg]	**-**	weight of packing

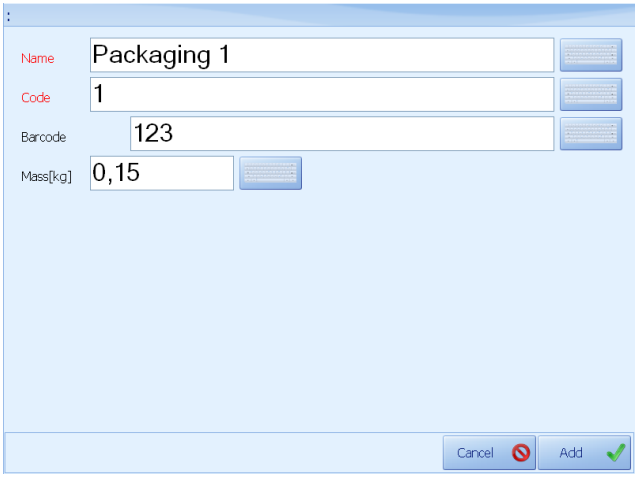
***)** - fill in obligatory

19.5.2. Packing's edition

Procedure:

- Using choosing a contractor by name button in the main program window, enter contractors database, choose a contractor to be edited, then , according to point 19.1 of the manual, press:

the following will be displayed:



complete the fields according to point 19.5.1 of the manual.

- In order to accept changes, press: 

,
- In order to refuse changes, press: 

.

19.5.3. Eliminating a packing

Procedure:

- Using choosing a packing by name button in the main program window, enter packages base, choose a packing to be eliminated and, according to point 19.1 of the manual, press:

chosen packing will be eliminated from database.

20. COUNTING PIECES

Standard software in weighing terminals PUE5 comprises an additional working mode – counting pieces. The database of weighings holds measurements in pieces of the same weight. If counting pieces is performed in an additional container it needs to be tarred before putting counting pieces into it.

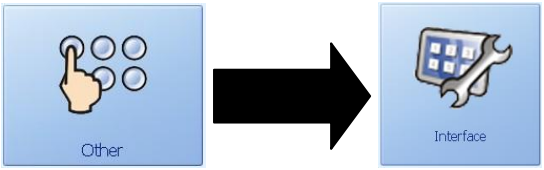
20.1. Enabling working mode

Procedure:

- While in the main window press 

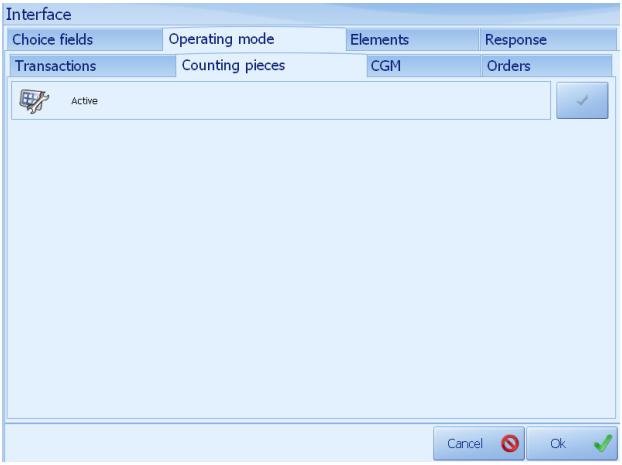
,
- While in the operator logout window press 

,
- Then press in sequence buttons:



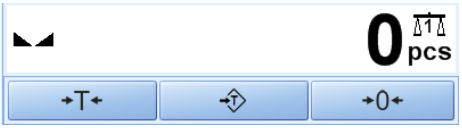
In the interface window tick **Counting Pieces.** You will see ✔.

In the interface window, select the **Operating modes** and **Counting pieces** tab, select **Active**.

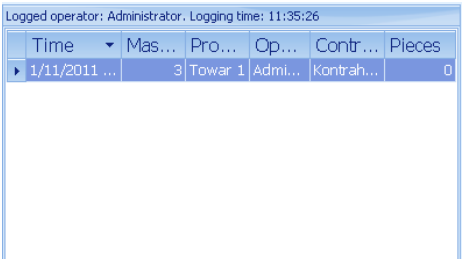


- Press Ok 2 times.
- The introduced changes are confirmed by pressing Apply,

The working mode is on when the pcs unit is on the display:



In the weighing window additional column **Pieces** appears apart from weighing
in **g**.

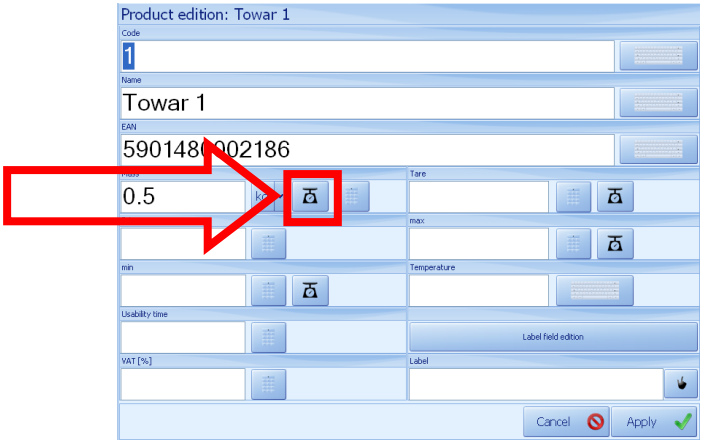


20.2. Setting reference unit mass

The reference unit mass can be set by estimating single piece mass in the main program window using a function key attributed to this function. Settings are described in ch. 27.5.2 of this manual.

After zeroing the platform put pieces on the pan and inscribe the quantity in field **Number of Pieces**. Single piece mass is estimated automatically.

The reference unit mass can be also set in the assortment database. After opening the window below press the button next to the mass field as shown below.



The third way of setting the reference mass is to inscribe its value in the field **Mass** in the window above.

21. TRANSACTIONS

PUE5 weighing terminals with the extended software version can operate in working mode transactions. The weighing process is connected with selling transactions – purchasing, production orders, servicing orders and stock management. A new transactions can be created on the terminal. It can be temporarily suspended or terminated.

Notice!
The full functionality of the transaction mode comprising stock management, reports, supervising transactions can be obtained in the E2R Transakcje program in PC version.

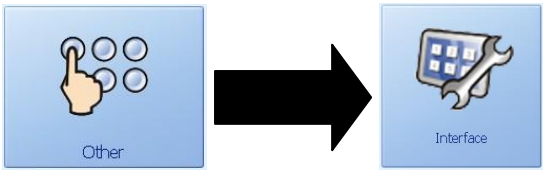
21.1. Starting working mode

Procedure:

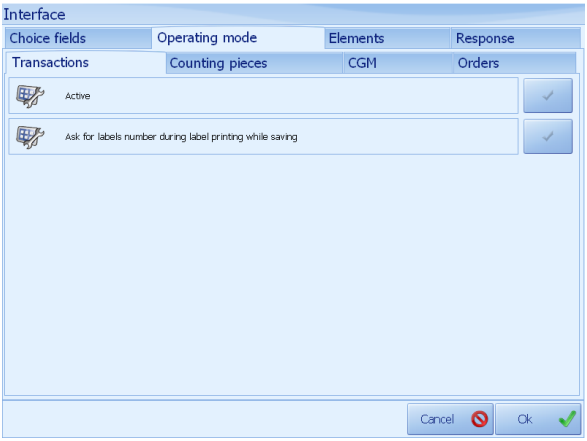
- While in the main window press 

,
- While in the operator logout window press 

,
- Then press in sequence buttons:



In the window of interface outlook tick **Transactions.** You will see ☑ next to it.



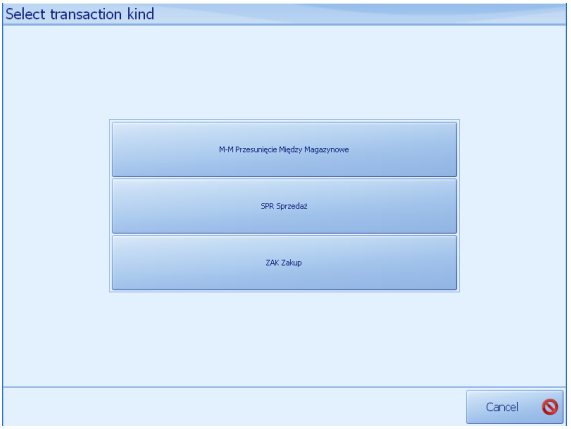
- Press  two times.

- Confirm the introduced changes by pressing  ,

21.2. Starting a transaction

There is button **new** in the main window to start a transaction.

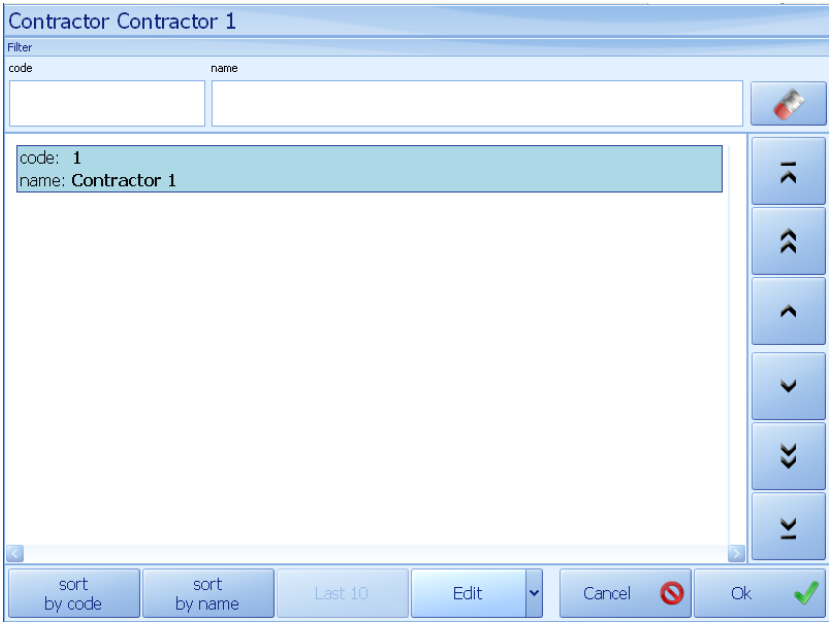
Choose transaction type.



Types of transaction:

M-M Transaction Between Warehouses	-	Moving a product from one warehouse to another.
SPR Sell	-	Transaction of selling that requires outlining of a contractor and a source warehouse.
ZAK Purchase	-	Transaction of buying that requires outlining of a contractor and a target warehouse.

The next step is to choose a contractor to be attributed to the transaction and a source or target magazine. When moving between warehouses contractors are not necessary. Only a source and target warehouses are required.



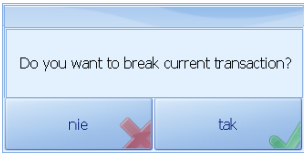
Accessible warehouses:

Code 1	**-**	**Sell**
Code 2	**-**	**Purchase**
Code 3	**-**	**Warehouse1**

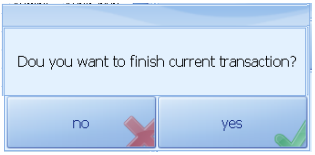
After choosing all necessary parameters in the main program window detailed transaction information appears and a transaction symbol is attributed. All weighings in the transaction are attributed to a given unique symbol.

A transaction in progress can be terminated or completed using an appropriate button **break** or **end**.
Suspending a transaction allows to postpone it until it is selected again. During a transaction is suspended other transactions can be created, continued or terminated.

To suspend a transaction press **yes** in the window below.



After a transaction is completed/closed new weighings cannot be performed within this transaction. Press **yes** to close the transaction.



21.3. Continuing a transaction

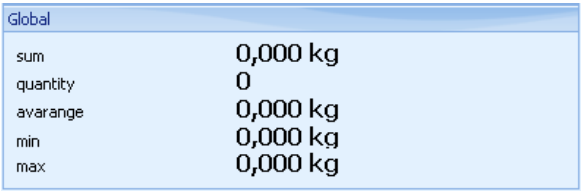
A transaction can be continued after pressing **continue** button in the main window.

From the list of transactions choose the one you want to continue and press **Ok**.

Until the transaction is closed it is accessible on the list of suspended transactions.

22. STATISTICS

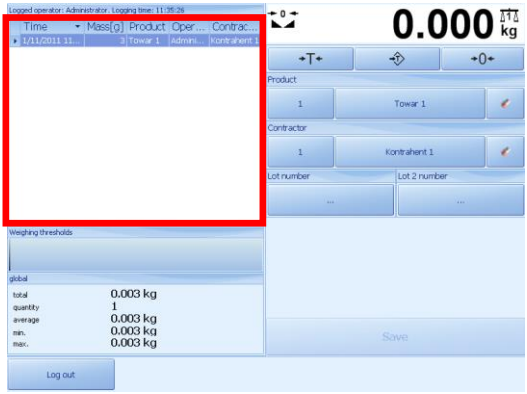
All the statistic data is regularly updated after loading each measuring data to scale's database. Data interlock can be seen in bottom left corner of the main program window.



Statistic data is updated globally irrespective of weighed product.

23. WEIGHING RECORDING

All weighing results are saved in MS SQL database, which is stored locally or on another weighing terminal or server.

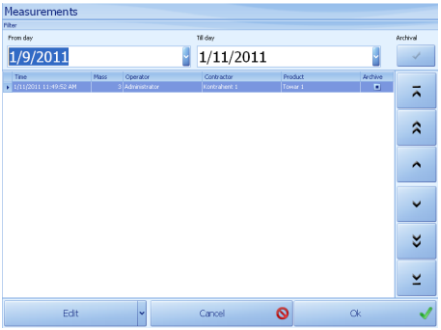


After pressing SAVE button, weighing result will be displayed automatically in the chart. The last twenty weighings are present on the list.

All weighings are displayed in grams in the table.
Additionally, user can sort certain columns increasingly or decreasingly, pressing chosen column's name.

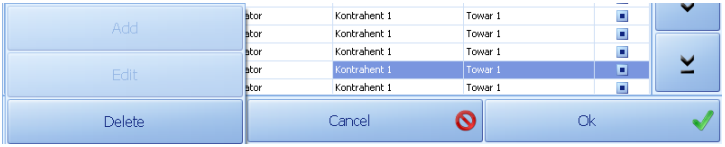
In **Terminal E2R Ewidencja** user with administrative privileges have access to the preview, or removal of weighings made with the reports by stating the following area.

The window displays all recorded measurements.
The **E2R SYSTEM** which is connected to the terminal window displays a few measurements only the current terminal.

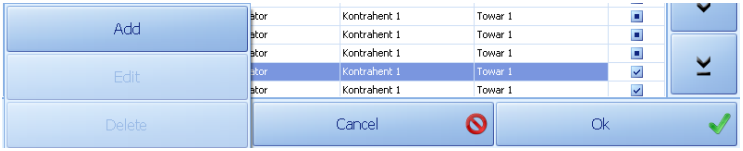


The primary filter, the filter weights is presented as of the date - to date. By default, when you start windows are presented last two days.

After selecting the weighing and selecting edit and delete, the weighting will be awarded as an archive which means that it will not be presented in the report.



Jeżeli ważenie zostało odznaczone przypadkiem jako archiwalne to za pomocą funkcji edytuj i dodaj, możemy wyłączyć status archiwalne i od tej pory ważenie będzie prezentowane w raportach.



24. PROGRAMMABLE BUTTONS

In the main program window user can choose out of 5 optionally configured function buttons.

Save button's function can be transmitted to **F1-F5** buttons or switched off.

25. LOGGING OFF

Log off button in the main program window is used for logging off and switching off the terminal. The options are accessible if the logged user has got administrator's or advanced authority.

To exit the operator's log off window, Press:

25.1. Logging off

Log off function is used when a scale's user is finishing his work and the terminal is not switched off.

Procedure:

- In order to log off an operator press: 

,
- Then press ***Log off*** button:

- Program will automatically return to its main window

CAUTION!
All functions that are necessary for weighing recording are inaccessible until the next logging.

25.2. Change-logging

Change-logging function is used when the first weighing terminal's user is finishing and next one is starting his work.

Procedure:

- In order to change-log an operator press: 

,

- Then press ***Change-log*** button:

- List of accessible users will be displayed; after one of users is chosen, the program returns to its main window automatically.

25.3. Switching off a terminal

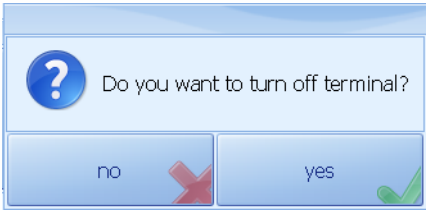
User can switch off a weighing terminal only if he is logged on.

Procedure:

- Press 

in the main program window,
- Then press ***Switch off terminal*** button*:*

- Accept switching off terminal choosing ***Yes***



- When the information ***„It is now safe to turn off your computer”*** is displayed, turn off scale's power pressing **ON/OFF** which is located on the back side of terminal's casing.

26. CHECKWEIGHING THRESHOLDS

In the main program's window user can see checkweighing thresholds' results (MIN,MAX) in a bar chart

Checkweighing thresholds data is taken from database of a product or programmed with function buttons described in point 27.5.2 of the manual.

27. PROGRAM'S OPTIONS

Procedure:

- In order to enter program's options, user with administrator's or advanced authority must be logged on.
- Press 

in program's main window,
- Press: 

in log off operator window ,

CAUTION!
Changes made in the options must be approved in the main window by button options 

.

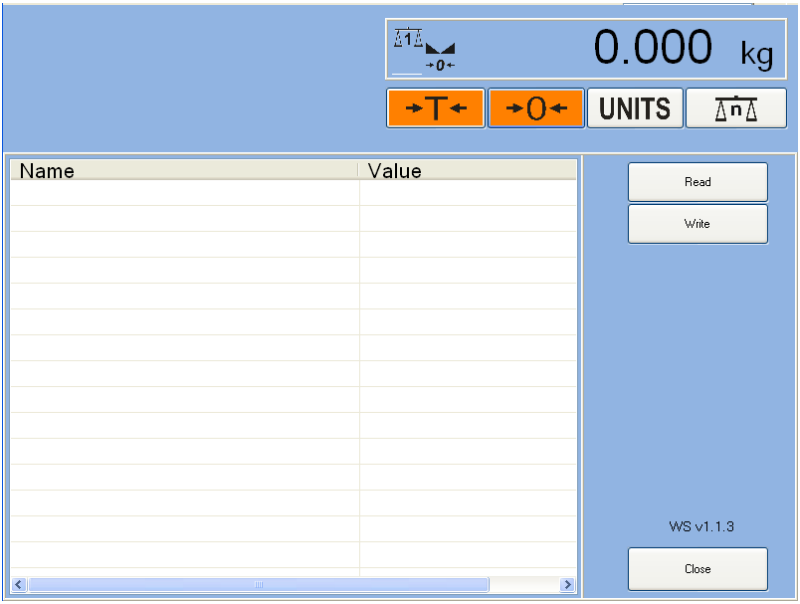
27.1. Weighing parameters

Setting up basic weighing parameters.

Procedure:

- Enter program's options according to point 27 of the manual, then press:

- Window with weighing parameters will be displayed automatically



Weighing Server program configuration platforms connected by weighing module **MW02** is described in point 24 of the manual.

27.2. Operators

The option enables operators' edition and setting logging and authorization mode.

- Enter program's options according to point 27 of the manual, then press:

Then the window with accessible operator's options will be displayed:

27.2.1. Operator's edition

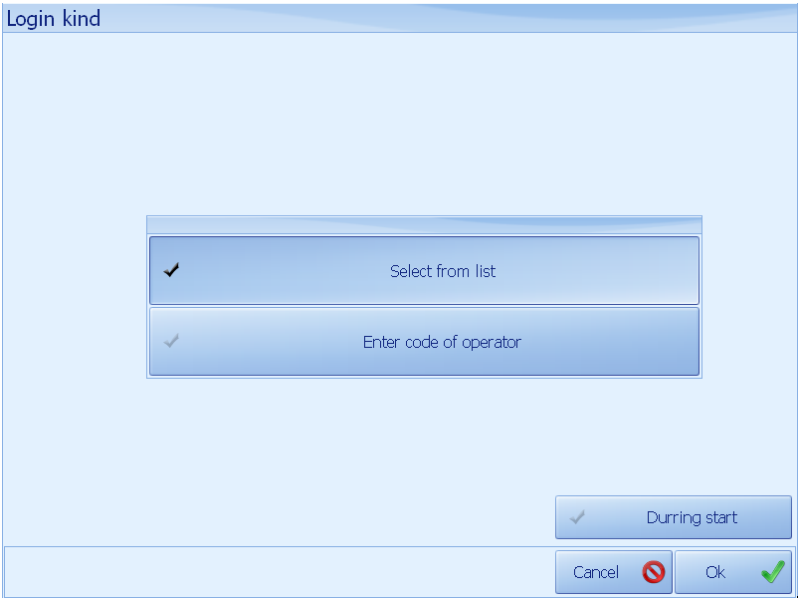
Edition, that is adding, changing or eliminating an operator has been described in point 19.2 of the manual.

27.2.2. Log on procedure

Procedure:

- Enter operator's options as instructed in point 27.2 of the manual, then press:

- Choose logging procedure:



Accessible option will be marked with ✔.

- in order to accept loaded changes, press: Ok,
- in order to refuse changes, press: Cancel.

Note that:

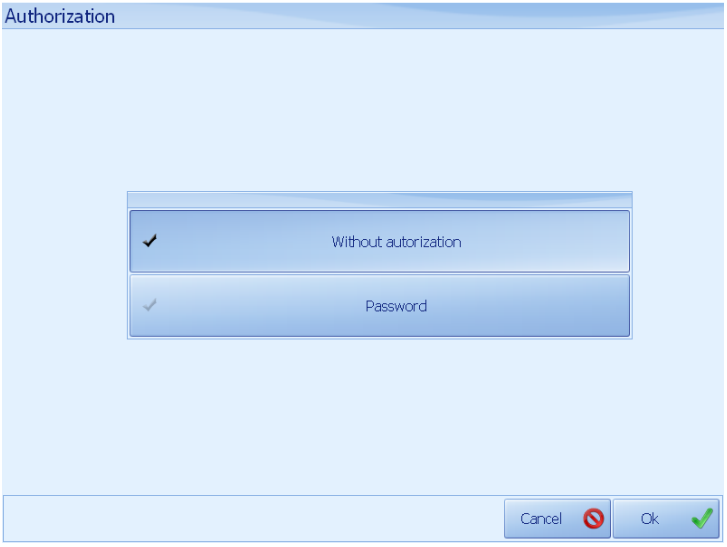
Select from list	-	While logging, user chooses operator's name or code from database and has access to list of all operators
Enter code operator	-	While logging, user is supposed to enter operator's code; he does not have access to the list of operators
During start	-	Switching on the option can cause a situation that while weighing meter is starting, logging window, with list of accessible users or operator's code entering window (up to the setting) can open automatically. Entering incorrect data can result in starting main program's window with no user logged on

27.2.3. Authorization

Procedure:

- Enter operator's options as instructed in point 27.2 of the manual, then press:

- Choose authorization mode:



- In order to accept changes, press: 

,
- In order to refuse changes, press: 

.

Note that:

Without authorization	-	In order to log on to a program, the user is supposed to enter chosen operator's password
Password	-	While logging, password entering option is not active

CAUTION!

*If **Without authorization** and **Select from list** point 27.2.2 options are accessible at the same time, then user with subordinated authority can log on one of administrator's accessible profiles, which enables him to get access to most of program's options.*

27.3. Devices

Devices option enables devices' and connected to weighing terminal interfaces' edition.

Procedure:

- Enter program's options as instructed in point 27 of the manual, then press:

- Accessible devices will be displayed in the window below:

27.3.1. Scales

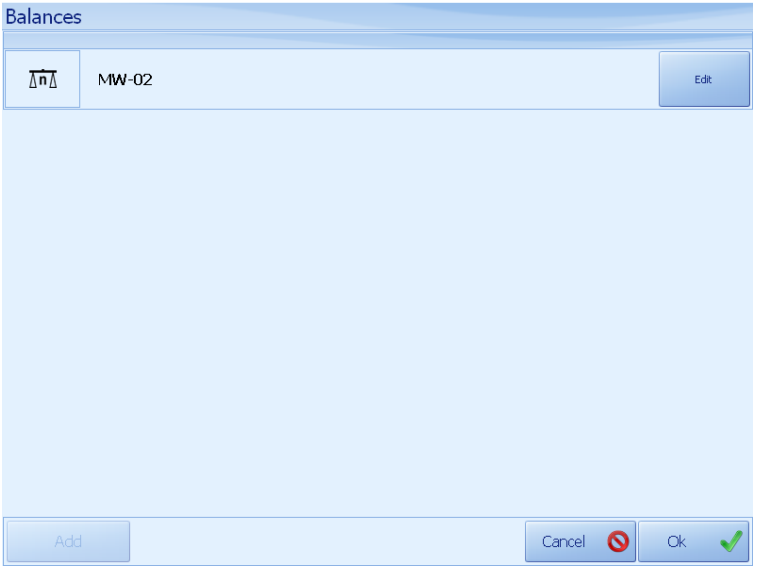
The option enables configuration of scales connected to the weighing terminal PUE5 with Ethernet or RS232/485.

Procedure:

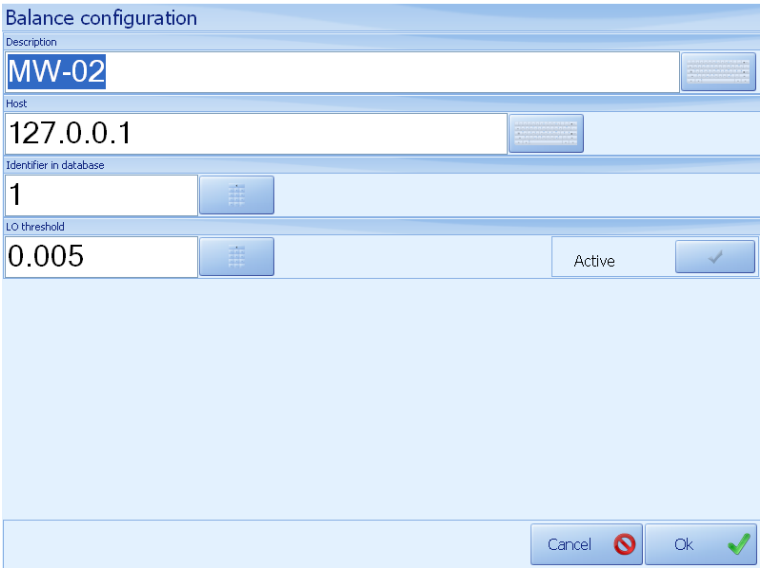
- Enter devices option as instructed in point 27.3 of the manual, then press:

- Choose a scale to be edited then press: 

.



- Set up appropriate data in parameter edition window



Note that:

Description	-	optional characteristics of scale
Host	-	host's IP address, default 127.0.0.1 specifies local computer's address,
Port	-	scale's port's number UDP/TCP
Database id	-	Platform's identification number
LO Threshold	-	LO threshold value for a particular platform.

LO Threshold parameter is related to the function of the automatic operation and control outputs.
For automatic operation, the measurement will not be saved to the database until an indication of not descend below the set threshold LO net.

27.3.2. Printer

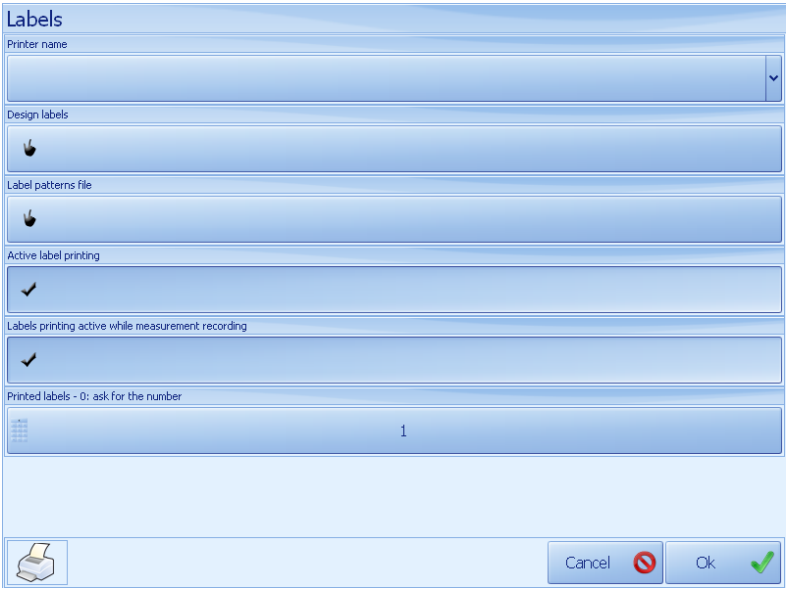
The option enables setting up labelling printer, which is installed in operational system. Additionally, it is possible to design a label for labelling printer and indicate saved label's file.

CAUTION!
Now it is possible to set up a printer which prints labels after ***Save*** *button in the main program's window has been pressed.*

Procedure:

- Enter devices options as instructed in 27.3 of the manual, then press:

- Then window of options accessible for designing and labelling printer prints setting will be displayed



- In order to accept changes press: 

,
- In order to refuse changes, press: 

.

Note that:

Name	-	Here you can choose labelling printer accessible in operational system. After printer has been installed in operational system, it will be added to the list automatically.
Design labels	-	Starting **Edytor Etykiet** program, used for label designing. To find out how the program works, read point 26 of the manual.
Label patterns file	-	Indicating recorded on local disc file which will be the printed label's pattern.
Active label printing	-	Label printing switching on /off options

Labels printing active while measurement recording	-	Additional options associated with printing labels, which allows you to disable printing of labels during the recording. Enable option to print labels for each record.
Printed labels	-	Number of printed labels, When set to 0, you write the part number printed labels.

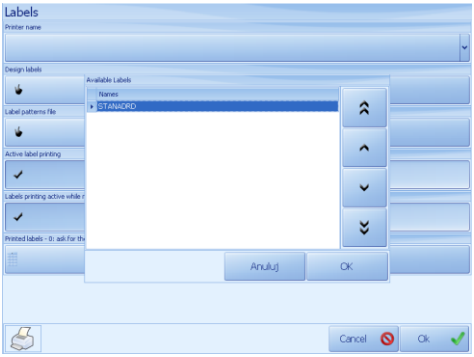
CAUTION!
Printing labels is available after setting the printer, the standard label and select the two options **Active printing**.

- **Select the number of labels**

If the parameter number of printed labels is set to 0 then the record appears in the following dialog choose the number of labels. Entering any number of prints the same number of labels.

- **Select the label template**

When a label indicating the file, remember that before it is placed in the location: C:\Program Files\RADWAG\Terminal E2R Ewidencja\lab. Labels saved in this folder should have the extension *. lb.



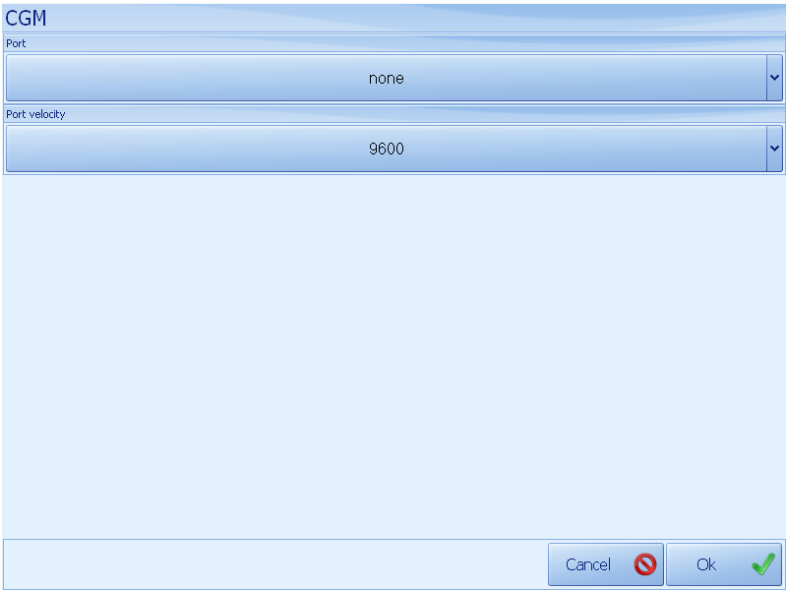
27.3.3. CGM – Apparatus for testing conformation

The program works with the apparatus to examine the conformation which allows registration at the weighing of information on meat quality. Hardware configuration requires you to set the communication port and speed.

Procedure:

- Enter devices option as instructed in point 27.3 of the manual, then press:

- You will then see a dialog where you can set the COM port to which the terminal device is connected.

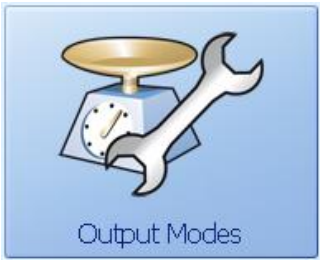


27.3.4. Output mode

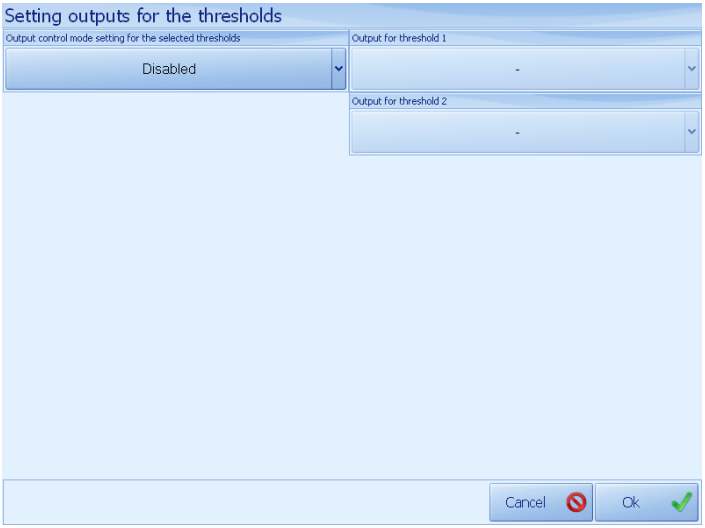
Output mode options allows you to configure the two selected outputs are activated depending on the current position in relation to 0, the threshold MIN and MAX currently selected item.
This feature can be used to control the process of dispensing the goods or alarm thresholds.

Procedure:

- Enter devices option as instructed in point 27.3 of the manual, then press:



- Then in the window, select one of the modes for thresholds and assign the starting threshold.

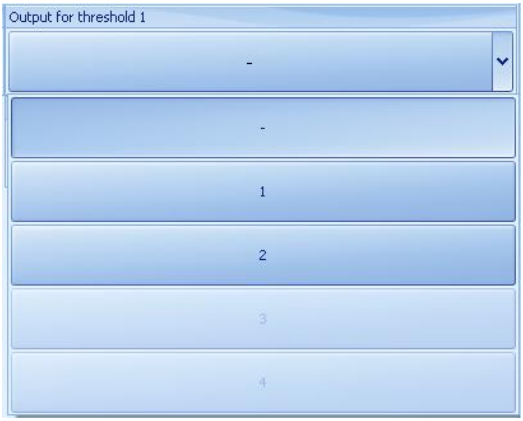


OUTPUT MODE	THRESHOLD	STATE OF MASS	Dosing rough	Dosing accurate
Threshold 1,2 to MIN	1	0 - MIN	1	1
Threshold 2 to MAX	2	MIN- MAX	0	1
Threshold 1 to MIN	1	0 - MIN	1	0
Threshold 1,2 to MAX	2	MIN- MAX	1	1
Threshold 1 to MIN	1	0 - MIN	1	0
Threshold 2 to MAX	2	MIN- MAX	0	1
0	1	0 - MIN	0	0
Threshold 1 from MIN	2	MIN- MAX	1	0
Threshold 1,2 from MAX	3	> MAX	1	1
0	1	0 - MIN	0	0
Threshold 1 from MIN	2	MIN- MAX	1	0
Threshold 2 from MAX	3	> MAX	0	1

CAUTION !

In the case of mode 3 release trigger outputs to turn off the third fret on the threshold dose MAX. Dosing process will be activated only when the mass reaches the platform MIN.

Thresholds can be attributed only to go free. In the case of occupied disable all the outputs assigned functions at the point **27.7.2**



After making changes to output mode, the new functionality will be allocated only to the newly selected item from the main program window. Select the product to test out.

27.4. Reports

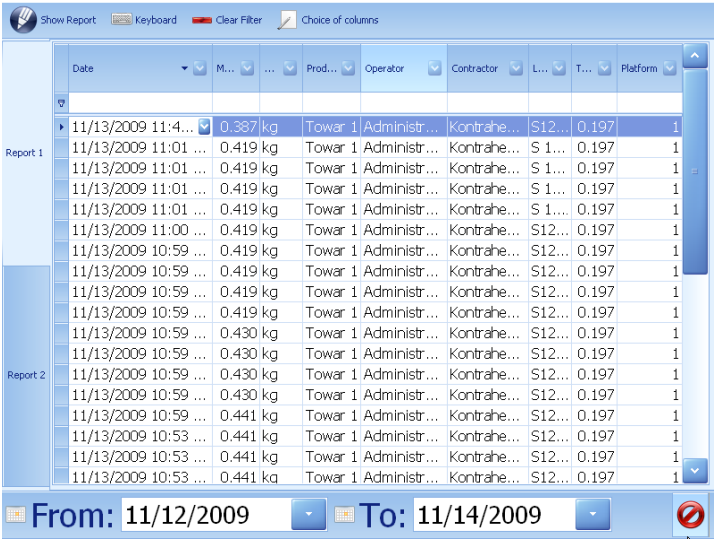
The option enables preparing and printing the weighing results report or write a report on the terminal disk in a file format PDF, XLS or CSV.

NOTE:
Versions of reports are described below 9.11.9.0. PUE5Reports.dll file reports is located at Terminal installed E2R.

Procedure:

- Enter the programme's options as instructed in point 27 of the manual, then press:

- Then the following window will be displayed. Last two days' weighing results will be shown in reports window:

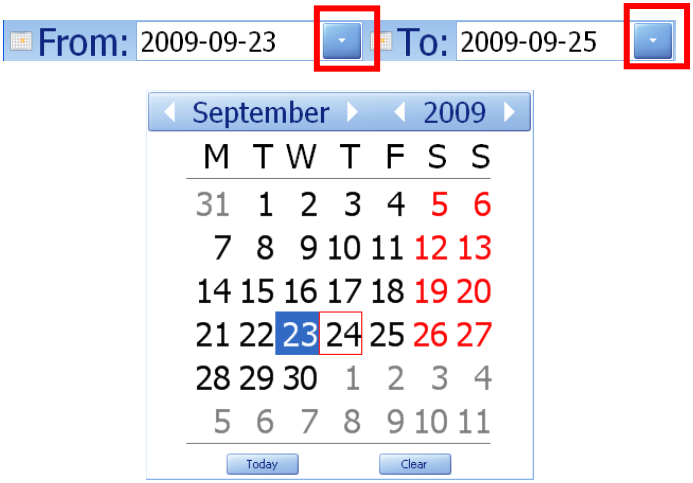


27.4.1. Date

Date is the main criterion of report preparing.

Procedure:

- Enter reports window as instructed in point 27.4 of the manual
- Set up the initial and final calendar date, using button placed near date field.



Calendar window will be closed after day has been chosen.

The fields enable following:

- choice of a month, button rewound ,

- Year setting, button operated ,

- current day quick date setting

- date clearing up

27.4.2. Laps

Using laps(**Report 1**, **Report 2**) located on the left, user sets various report displaying options.

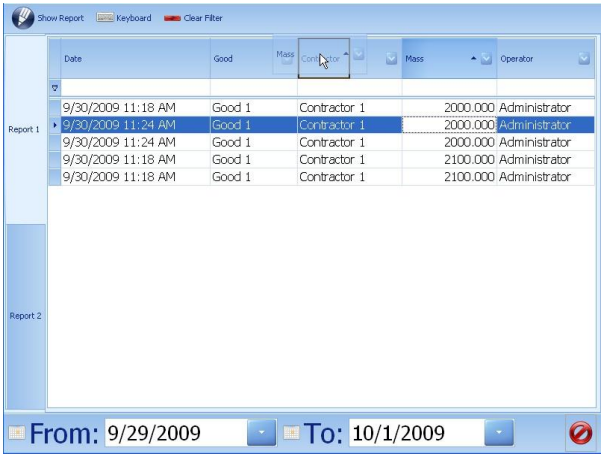
Following options can be used with laps

- column displaying order change
- column adding and eliminating from the view
- text field column filtering
- button column filtering
- increasing and decreasing column sorting

After exiting the programme, laps remain unchanged until return to default view function is used.

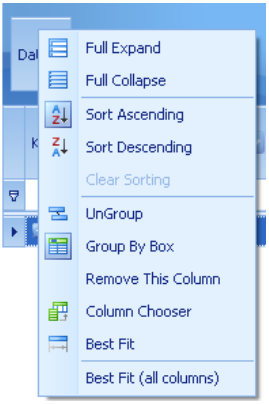
- **Column order changing**

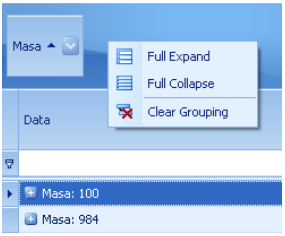
To change column displaying order, a certain column's name must be pulled over and placed on another column's name. The other column from now on will follow the column we needed to replace. The example below shows replacing **mass** column in such a way that as a result **contractor** column follows it:



- **Menu**

In order to get access to extended menu, you need to hold your finger a bit longer on a column.





Note that:

	Sort ascending	-	displaying all column's lines sorted increasingly
	Sorting descending	-	displaying all column's lines sorted decreasingly
	Clear sorting	-	sorting a column's lines elimination
	UnGroup	-	grouping of displayed lines according to chosen column; dividing results in grouping elimination
	Grouping field	-	switching on a grouping field, where columns' headings can be placed
	Remove This column	-	column's displaying elimination
	Column Chooser	-	turning on adjusting window, from which eliminated columns can be drawn
	Best Fit	-	automatic column's size matching
	Filter editing	-	starting an advanced options creator filtering
	Best fit (all columns)	-	automatic matching of all columns' size
	Full Expand *	-	grouped results rewinding

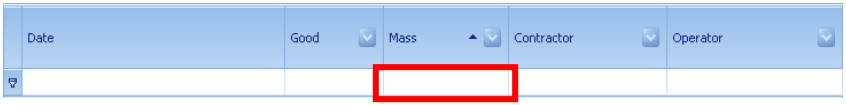
Full Collapse * - winding up all the results

Clear Grouping * - elimination of grouping accessible after choosing a grouping field

*) – options accessible if grouping field window is switched on

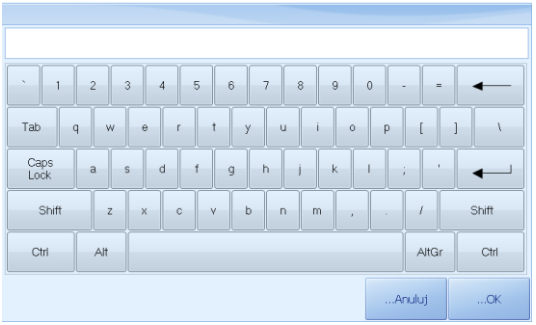
- **Columns filtering**

In order to filter a column's data, write down the needed phrase in first line:



Mark the first line and press: 

.

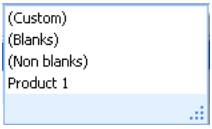


After having entered needed phrase, press: 

,

Records similar to the given phrase will be displayed in the column.

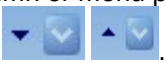
After pressing button  which is located near column's name, user can choose a filtering criterion from accessible list



In order to clear up loaded data displaying column filter, press 

in main window.

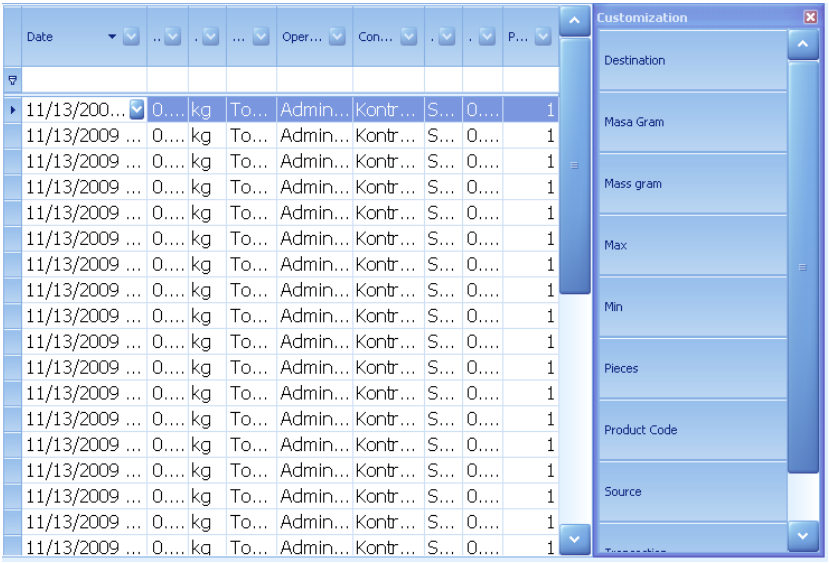
- **Sorting**

Sorting is possible after column or menu pressing . Sorting mode is displayed as changing sign:  .

- **Choosing columns**

Use the button 

to customization window of the drag on two sides of any column.



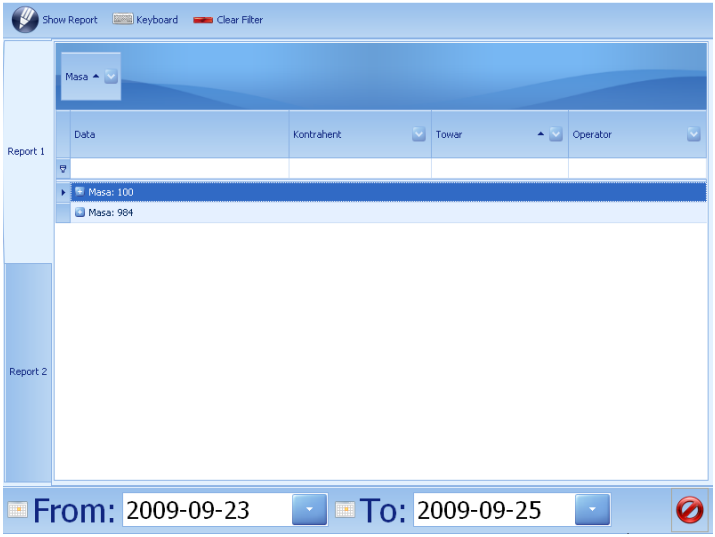
Available Columns:

Date	-	Date and time of weighing
Mass	-	Mass unit set on the basis of the goods

Mass Gram	-	Mass of weighing in gram unit
Masa unit	-	Mass unit set in the base of the product
Unit	-	Unit set up in the database of the product
Operator	-	Operator Name
Product	-	Product name
Contractor	-	Name of contractor
Tara	-	Tara
LOT	-	LOT, batch symbol
Platform	-	Number of platform
Destination	-	The name of the target store
Max	-	Threshold for the maximum weighted product
Min	-	Threshold for the minimum weighted product
Pieces	-	Number of pieces
Product code	-	Product code
Transaction	-	Symbol transactions
Source	-	Name of the source magazine

27.4.3. Print monitoring

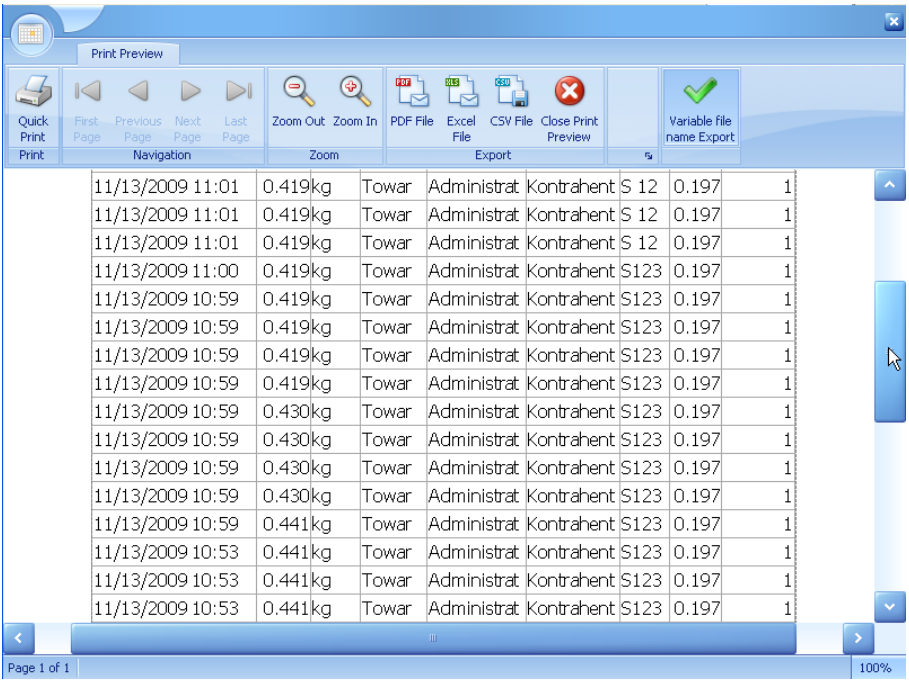
Before printing, optionally: grouping, filtering and sorting of the information displayed in window can be done. Eliminated columns will not be displayed in reports.



After having prepared appropriate report, press: 

.

In print monitoring window, ready report view will be displayed:



Buttons displayed in the window:

	quick print	-	sending a document directly to default printer
	first page	-	passing on to the first report's page
	previous page	-	passing on to the previous report's page
	next page	-	passing on to the next page
	last page	-	passing on to the last report's page
	zoom out		zoom out in order to see larger space of the page

	zoom in	zoom in in order to see enlarged part of the report
	print monitoring closing	closing the report print monitoring
	PDF File	- Export to PDF file format
	Excel File	- Export to XLS file format
	CSV File	- Export to CSV file format
	Variable name file export	- Variable export file name
		- Constant export file name

27.4.4. Export to a file

Adequately prepared the report print to a printer installed in the operating system. In the absence thereof, the report can be exported to a file in one of three available file formats, ie, PDF, XLS and CSV.
All exported reports are stored on your terminal in **C:\RadwagExport**.

With a button **Variable name file export** you can export the file name to save the report with different name which contains the date or file name to generate a constant - data.pdf, data.csv, data.xls.

Note:
If you select the file name has all the previously saved results are deleted and inserted in their place are new.

27.4.5. Programme closing

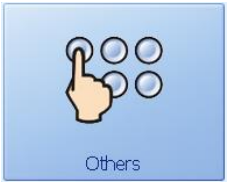
To exit report window, press:  .

27.5. Others

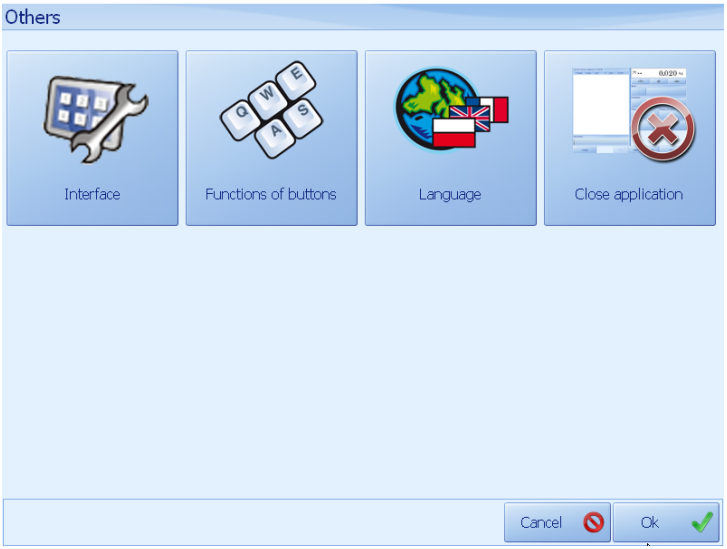
The option enables interface view, functional buttons, language and various program's options configuration.

Procedure:

- Enter program's options as instructed in point 27 of the manual, then press:



- Choose demanded option from **Others** window



27.5.1. Interface view

User can modify main program's window, that is, turning on/turning off certain elements which can be seen in the main window.

Fields of the main screen:

- contractor choosing button
- packing choosing button
- target store button
- source store button
- lot number loading button,
- lot 2 number loading button,
- entered quantity loading button,

Elements of the main screen:

- statistics windows,
- bar chart windows,

Operating mode of the main screen:

- transactions,
- counting pieces,
- CGM,
- Orders.

Response - features:

- Tarring after saving,
- Ask about product usability offset while saving,
- Clear Entered Quantity After Print,
- Autoprint.

The importance of the buttons***:***

 - Function not acrive

 - Function active

Procedure:

- Enter **Others** options as instructed in point 27.5 of the manual, then press:

- Choose elements (functions) of main program window from interface view window.

- In order to accept changes press: 

,
- In order to refuse changes, press: 

.

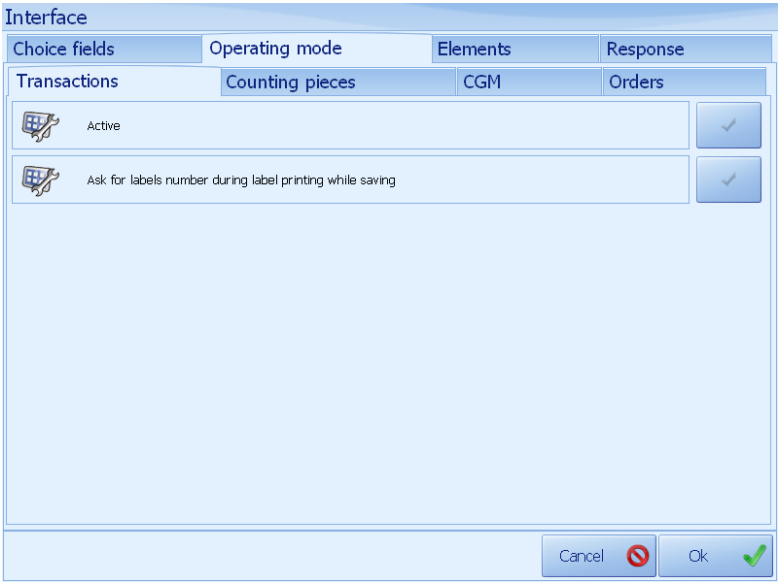
27.5.1.1. Choice fileds

Buttons in the column **Required** select the required parameters for the right of the main window while writing manual or automatic. This is equivalent to the need to fill some fields in the main window.

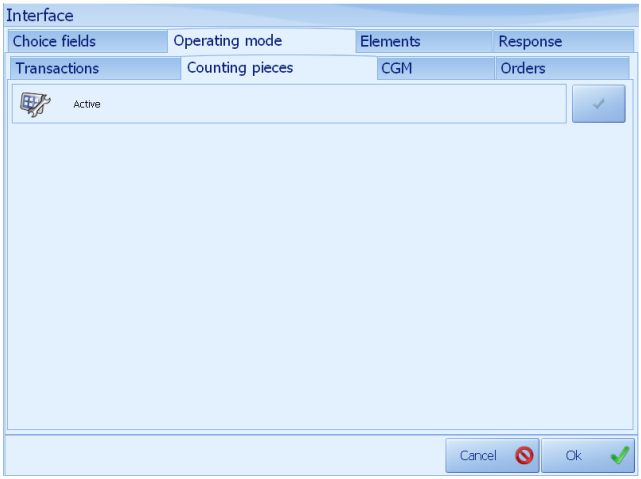
Buttons in the column **Visible** meet accessibility (visibility) of the button in the main window.

27.5.1.2. Operating mode

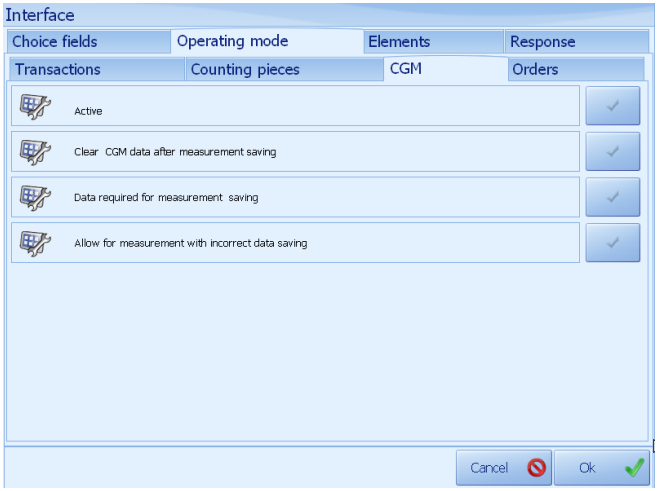
Tab transactions module provides transaction activation button in the main terminal and the function of enforcing the window displays the number of record labels each time you weigh.



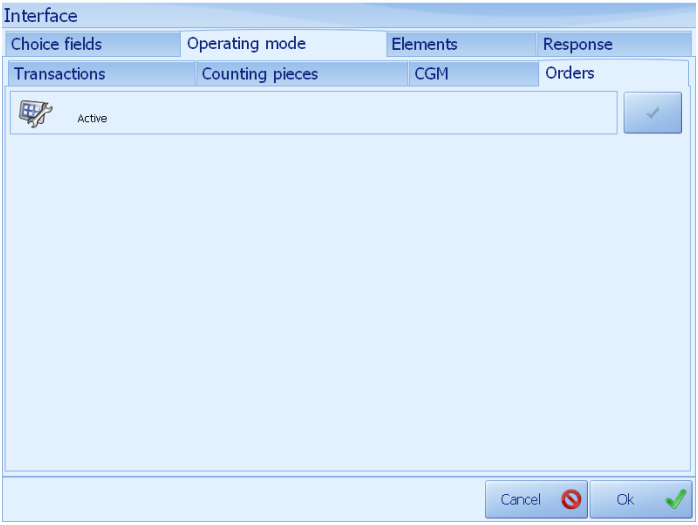
Counting pieces Tab provides activation counting module in the main terminal.



Tab CGM provides activation of cooperation with the camera module to study conformation in the main terminal.
CGM option to remove the data after saving measure allows for the cleaning of the information in the main window after recording.
Optional data entry required for measuring input forces from the camera when saving measure.
This option allow you to record the measurement with incorrect data for testing purposes we allow you to record a measurement with misinformation.

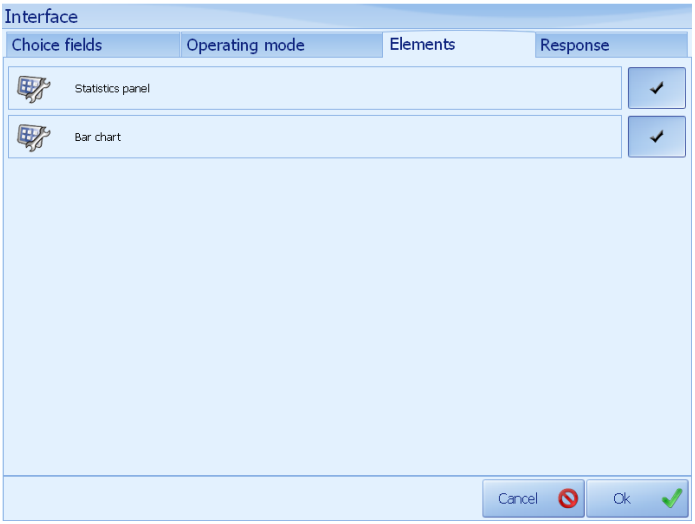


Orders tab allows you to order, including the module which is an extension module for transaction orders sent from the E2R transactions from your PC.



27.5.1.3. Elements

On the elements of statistics and activate the panel bar graph, in the main window.

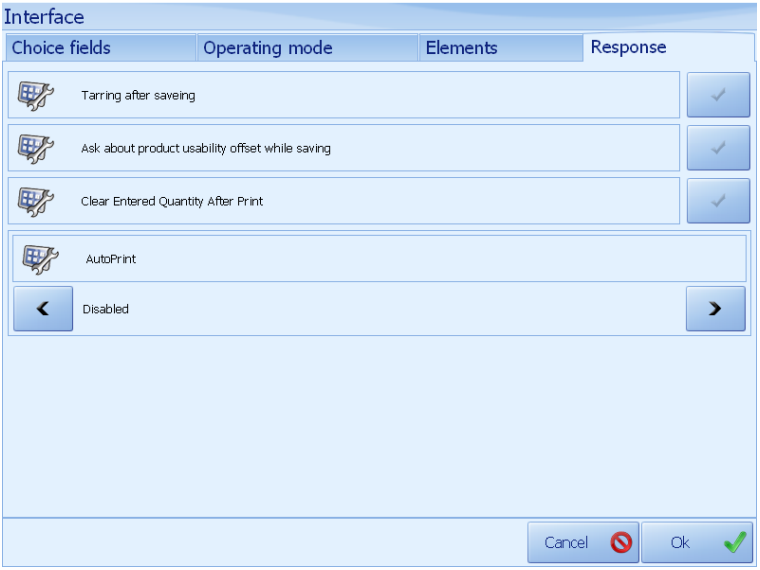


27.5.1.4. Response

On the behavior can activate the functions performed by the program.
Tarring after saving allows you to automatically tare the platform after each measurement record.
Ask to offset the suitability of the goods during the recording allows you to display a window during the recording in which the operator can extend the product's shelf. To the days of the goods listed in the database will be added to the number of days entered in the window.
Reset function introduced after the entry number allows you to remove value from the previous measurement for the number of units entered.
Autosave feature lets you record to a database of measurements without operator intervention on the panel weight.

Autoprint functions:

Disabled	-	Disabled
Last Stable Above Lo	-	Record last stable weight measurement before descending below the LO
First Stable Above Lo	-	Write the first stable measurement above the threshold LO.



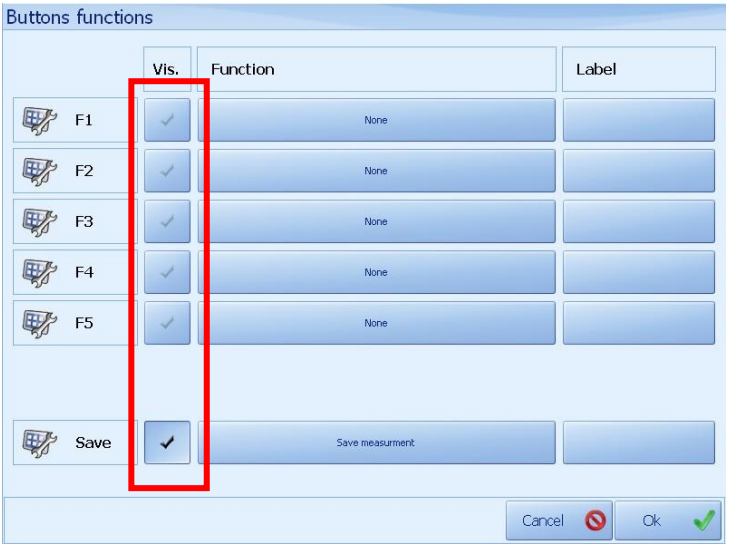
27.5.2. Buttons' functions

User is able to configure main program's window programmable (functional) buttons.

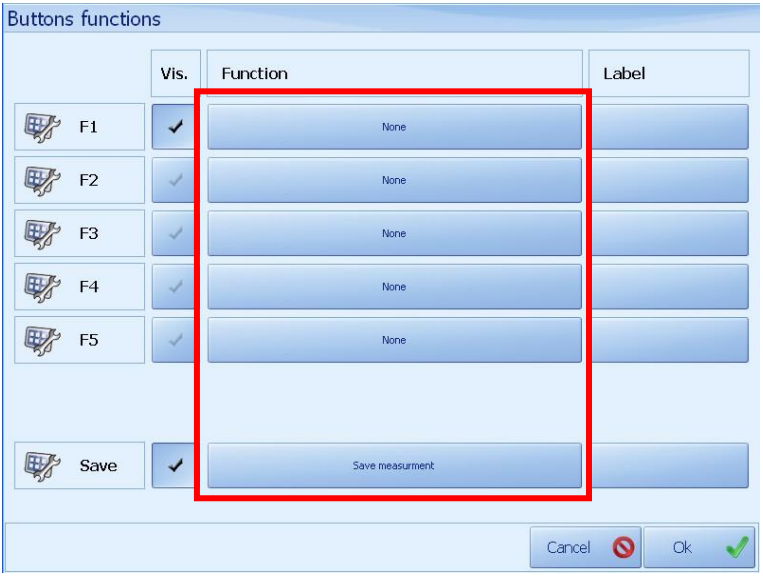
Procedure:

- Enter **Others** option as instructed in point 27.5 of the manual, then press:

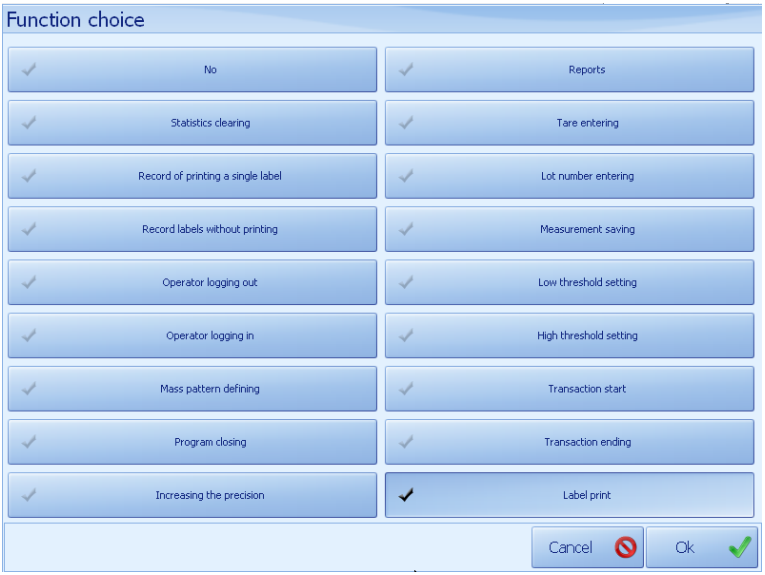
- From **Buttons' Functions** window choose visibility of main program's window buttons.



- After choosing button's visibility, choose adequate function:



- In function choosing window, choose one of accessible functions:

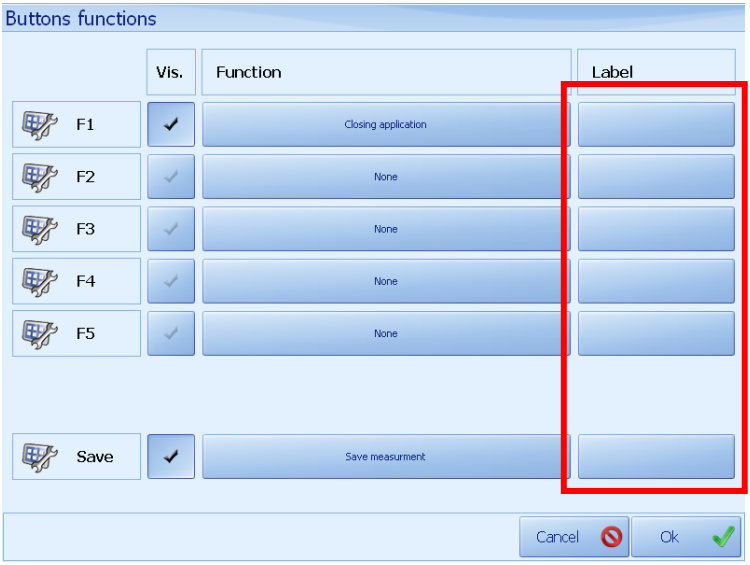


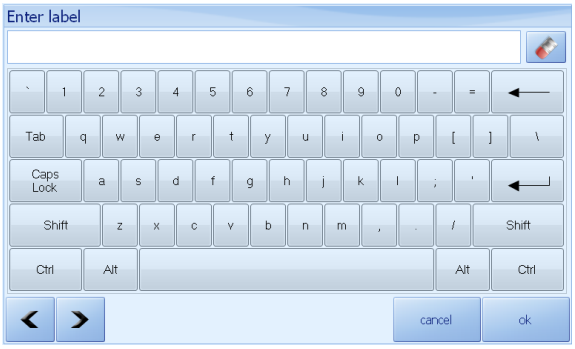
- To accept the changes, press: 

,
- To refuse the changes, press: 

.

- After having chosen button's function, enter button's label.





- In order to accept changes press: 

,
- In order to refuse changes, press: 

.

Accessible functions list:

- No
- statistics clearing,
- Record of printing a single label,
- Record label without printing,
- Operator's logging off,
- Operator's logging on,
- Mass pattern definig
- Closing program,
- Increasing the precision,
- Reports,
- Tare loading,
- Lot number entering,
- Measurement saving,
- minimum threshold setting,
- maximum threshold setting
- creating a transaction,
- terminating a transaction.
- Label print

27.5.3. Language

Program is accessible in following language versions:

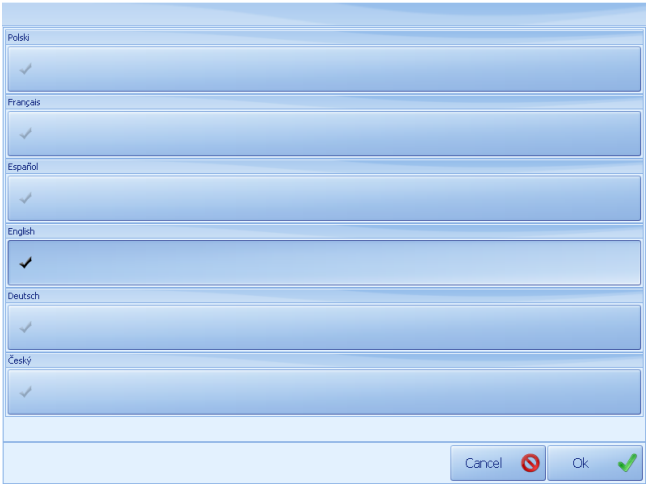
- Polish
- English
- German
- French
- Czech
- Spanish

Procedure:

- Enter **Others** option as instructed in point 27.5 of the manual, then press:

- Choose required language and accept it pressing: 

,



CAUTION!
Changing program's language version does not influence Weighing Server (weighing parameters window) or Label Editor (label designing) language versions.

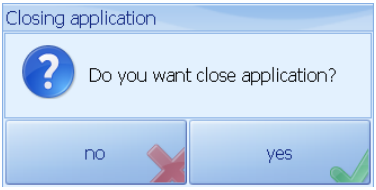
27.5.4. Application closing

Program's closing and passing to Windows XP Embedded operational system are accessible in other options.

Procedure:

- Enter **Others** option as instructed in point 27.5 of the manual, then press:

- Accept the choice in application closing window.



27.6. Alibi

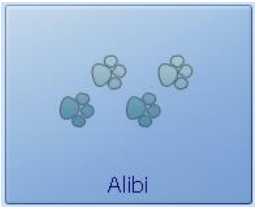
E2R Terminal has the ability to save records of weighings in a place independent of the SQL database.
Configuration options are available for the administrator and power user has access to view content.

Weighing saved in the Alibi include:

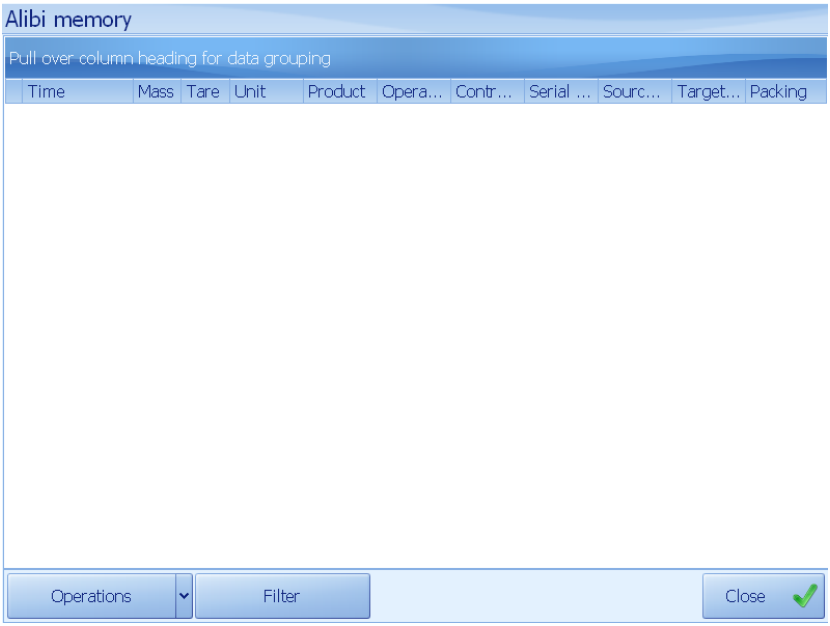
- Time,
- Mass,
- Tare,
- Unit,
- Product name,
- Operator name,
- Contractor name,
- Serial number,
- Source stock,
- Target stock,
- Packaging.

Procedure:

- Enter **Others** option as instructed in point 27.5 of the manual, then press:



- In the full terminal window will appear weighing Alibi memory.



- Using the Actions you access to options related to memory Alibi.

27.6.1. Enabling write memory Alibi

Enabling the Alibi is pressing the select button, Operations and Active record measurements as described below.

The importance of the buttons*:*

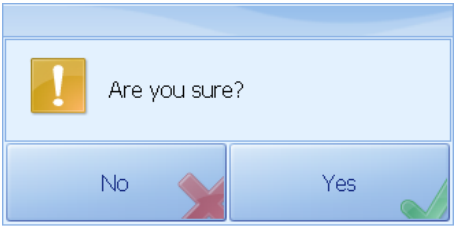
 - Function not acrive

 - Function active

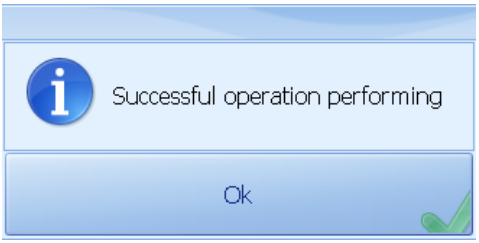
27.6.2. Deleting a measurement of memory Alibi

Button to clear the complete measurements, measurements removes the set has secured days. The program allows you to record multiple measurements with the number is only limited at the time of removal.

When you delete a measurement will be displayed:

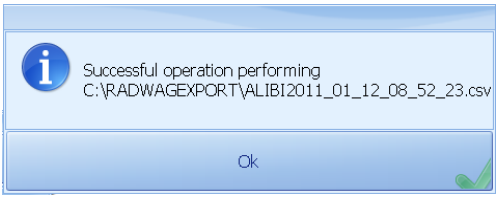


Successful removal of measurements outside the specified range will be confirmed by the message:



27.6.3. Export measurements alibi to a csv file

All listed measurements are saved to a file in *. csv separated by semicolons. Each time a record will be confirmed following message.

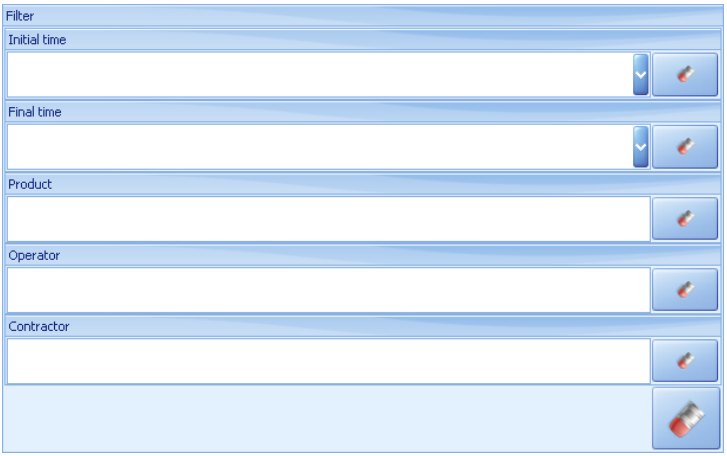


27.6.4. Filter

In the main window of measurements stored in the Alibi is available filtering and grouping of records.

To this end, hit the button 

, and then in the window below the box indicate that you want to search and view the memory window Alibi.



Deleting a filter for a particular field means of a button 
and the button below allows you to remove a filter to all fields.

27.7. IN/OUT configuration

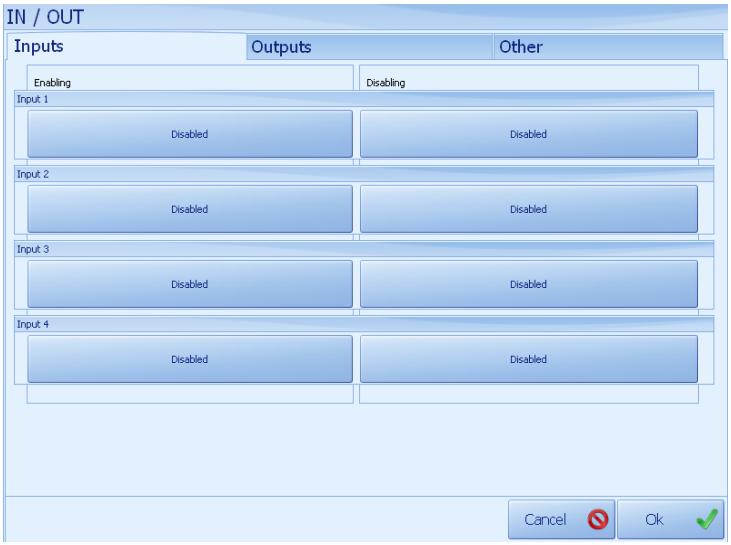
For terminal equipped PUE5 derived I / O configure their operation.

Procedure:

- Enter **Others** option as instructed in point 27.5 of the manual, then press:

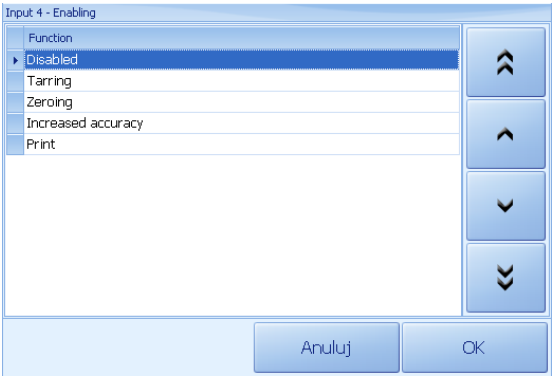
27.7.1. Inputs configuration

On the input we can assign a specific function to the selected input depending on its activation or deactivation. The assignment of the input is activated by pressing work or until you reach the input signal. The assignment of the work input is activated when the button is released, or when the input signal disappears.



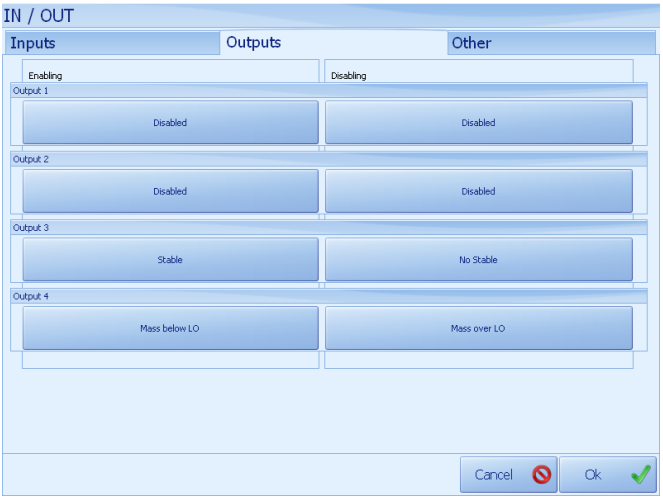
The list of available functions assigned to the input:

- Disabled,
- Tarring,
- Zeroing,
- Increased accuracy,
- Print.



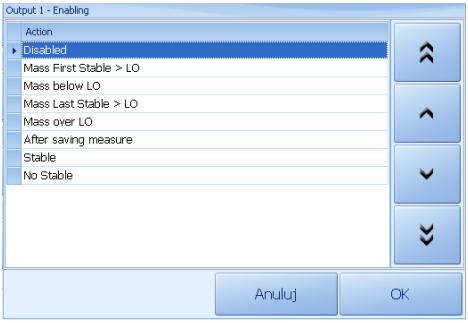
27.7.2. Outputs configuration

On the output assign specific functions activating or inactivating the selected output. The assignment of the output activation will produce a signal at the output. The assignment of the deactivation of the output will disable the output.



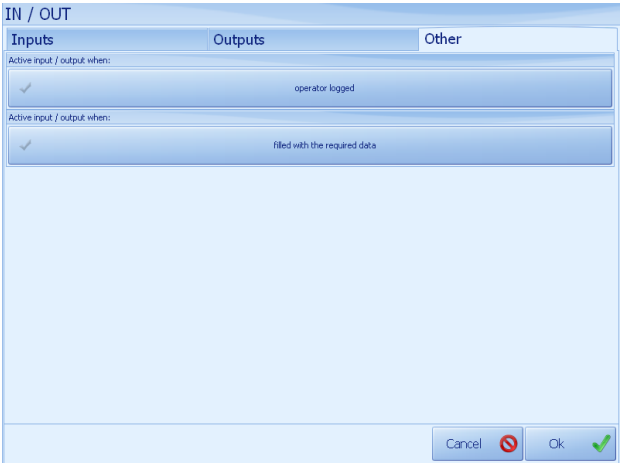
The list of available functions assigned to the input:

- Disabled
- Mass first stable > LO
- Mass below LO
- Mast last Stable > LO
- Mass over LO
- After saving measure
- Stable
- No Stable



27.7.3. Other options

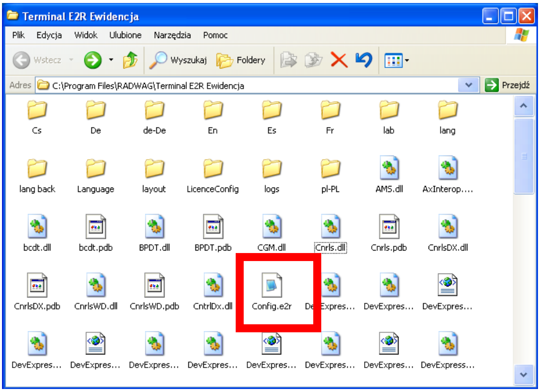
On the other options are available concerning the terms of inputs / outputs that can make the operator from having to log in, or completion of all required data.



28. CONFIGURATOR PROGRAM

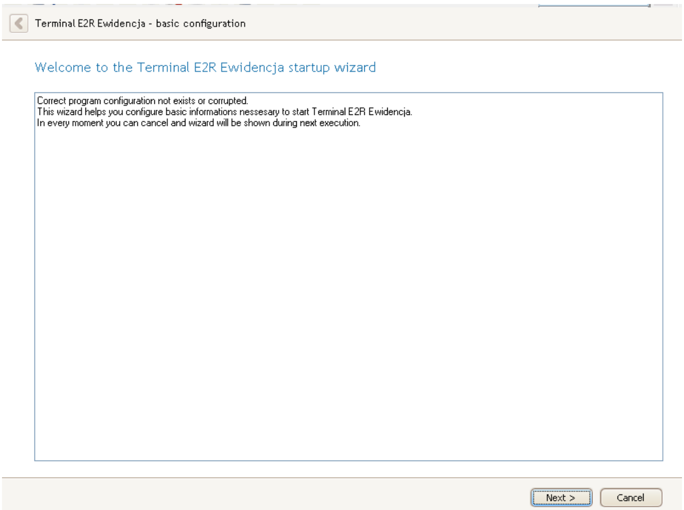
28.1. Basic Configuration

Terminal to Terminal PUE5 E2R records that has the settings allow you to work in the local SQL database.
If the terminal is designed for networking, need to change the factory settings. To run the setup file Config.e2r delete the folder **C:\Program Files\RADWAG\Terminal E2R Ewidencja** in the file that contains all the necessary terminal settings.

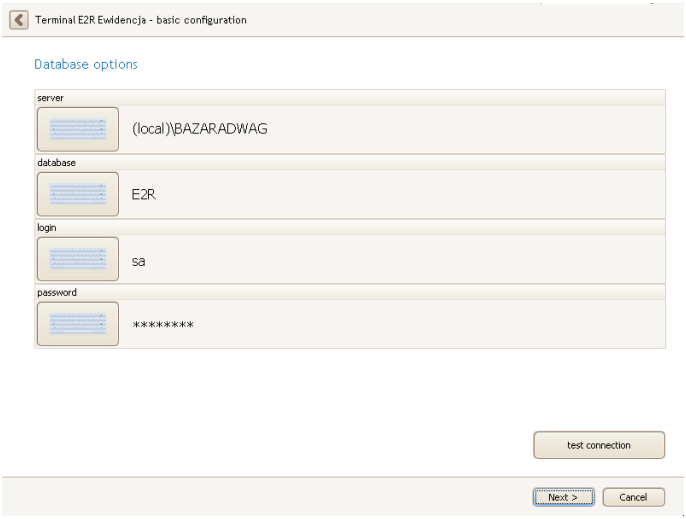


In the following startup screen, press 

.



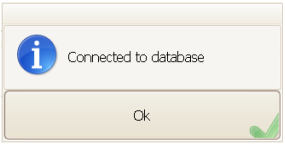
The next window allows you to enter server parameters and settings.



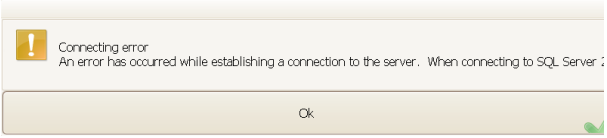
Where:

Server	-	Name or IP of the server and SQL instance E2R SYSTEM works for instance BAZARADWAG
Database	-	The name of the database, by default **E2R**
Login	-	Login to the SQL database, by default **sa**
Password	-	The password for the SQL database, by default **radwag**
test connection	-	Button for checking the connection to the set parameters of the database.

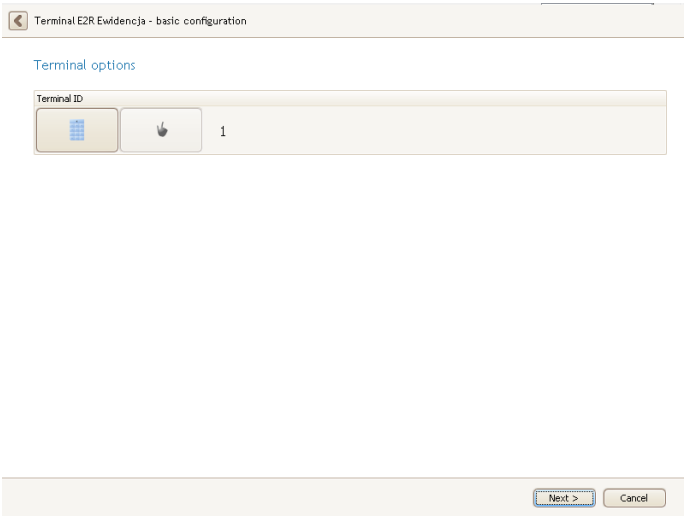
Window proper connection to the database.



Window indicating that the lack of connection to the database.

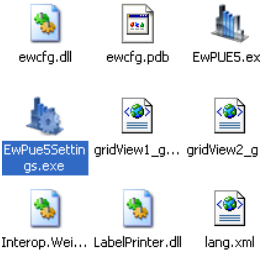


The window definition ID for terminal, which is unique in the case of terminal operation in the system E2R. Once fully configured, restart the program.



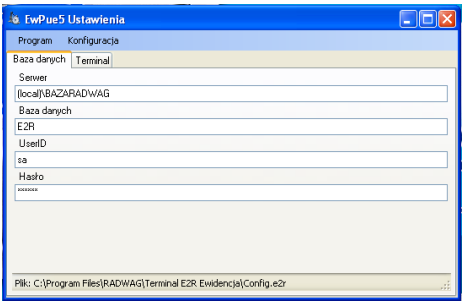
28.2. External configuration

In parallel with basic configurator that runs when the file is missing Config.e2r in the program folder. EwPue5Settings.exe program is available in the program folder.



In the configuration, get access to change the parameters stored in a config.e2r - number, weight and data on the SQL database.

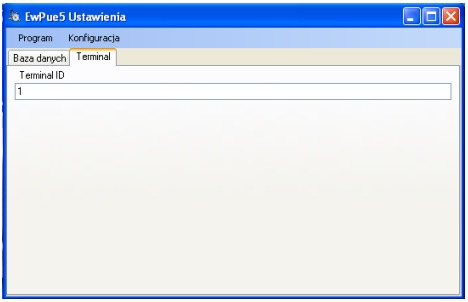
Window settings SQL database.



Where:

Serwer	-	Name or IP of the server and SQL instance E2R SYSTEM works for instance BAZARADWAG
Baza danych	-	The name of the database, by default **E2R**
UserID	-	Login to the SQL database, by default **sa**
Hasło	-	The password for the SQL database, by default **radwag**

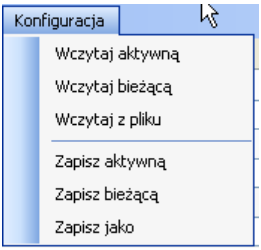
The settings window of the terminal.



Where:

Terminal ID	-	ID of another terminal in the database, you must have a unique number to the network at work.

Options for loading and saving configuration can be found in the Configuration menu.



Where:

Wczytaj aktywną	-	Load configuration from file Config.e2r
Wczytaj bieżącą	-	Load re-opened for the configuration of the (active) file
Wczytaj z pliku	-	Load configuration from the selected file
Zapisz aktywną	-	Writing configuration settings to a file Config.e2r
Zapisz bieżącą	-	Writing configuration settings to the opened for the (active) file
Zapisz jako	-	Writing configuration settings to the selected file

Terminal E2R Records is working on the active configuration file Config.e2r. Created configuration files with the extension *. e2r may be downloaded and saved as the active configuration.

29. WEIGHING PARAMETRES SETTING

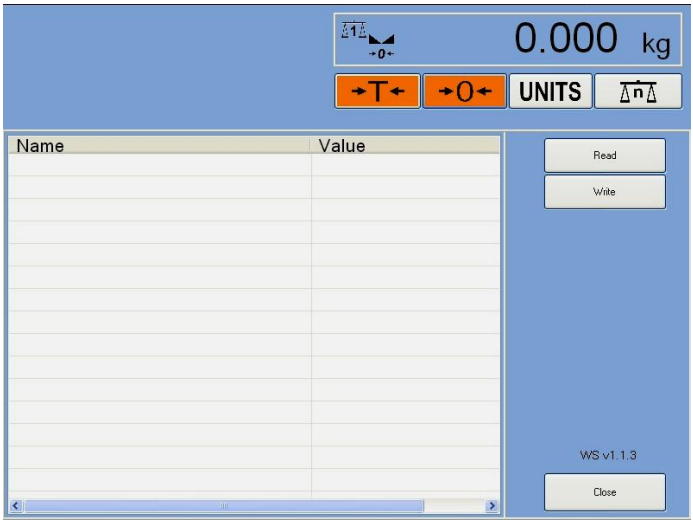
User can change basic weighing setting using **Weighing Server** program.

29.1. Weighing Server program starting

Start scale software as instructed in point 27.1 or proceeding as follows:

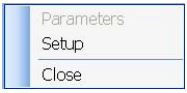
- Press the **START** button on the bottom taskbar,
- press **Programs**,
- press **RADWAG**,
- press **Weighing Server**, click it

Window program **Weighing Server** will be open:



29.2. List of software menu

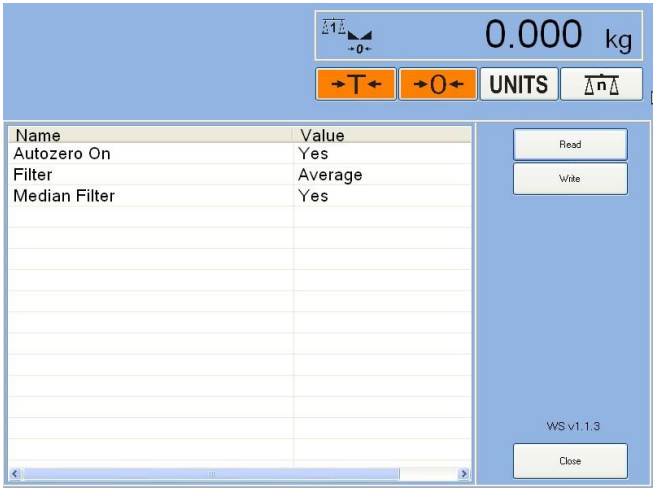
Hold finger for about 2 s on scale software window, menu list of accessible software will be displayed:



29.3. Parameters of scale software

29.3.1. Readout of parameters

To read out scale parameters press: Read, scale software will indicate parameters list accessible for edition:



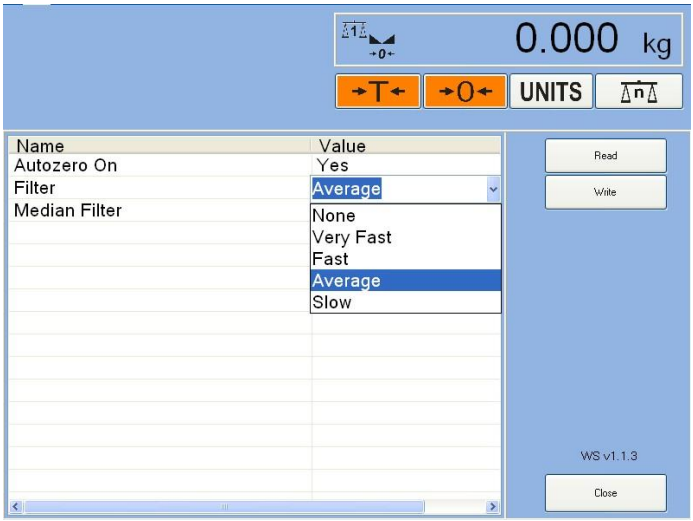
29.3.2. Save changes procedure

After having changed the parameters, save the values by pressing: Write. When saving procedure is finished scale software will display message:

29.4. Setting a filtering level

Procedure:

- Readout parameters according to point 29.3.1 of the manual,
- Press and rewind ***Filter*** parameter value window.



After selecting required parameter value save changes according to point 29.3.2 of the manual.

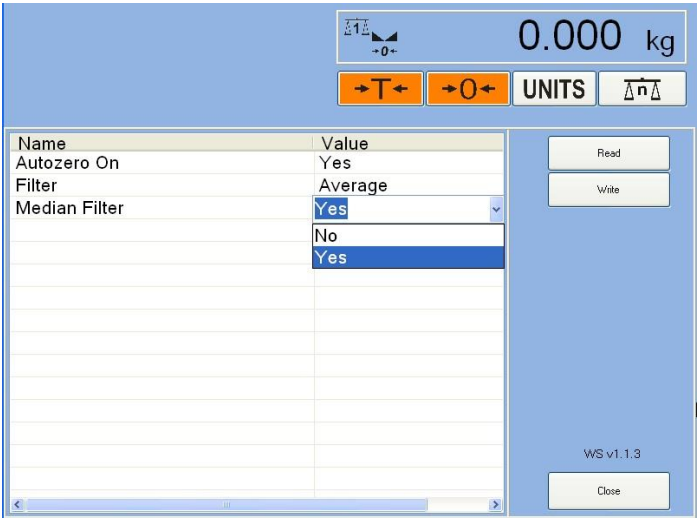
Notice:
The higher filtering level the longer scale stabilization time.

29.5. Median filter

This filter eliminates short pulse disturbances (for example: mechanical shocks).

Procedure:

- Readout parameters value according to point 29.3.1 of the manual,
- Press and then rewind “Median Filter” parameter value window.



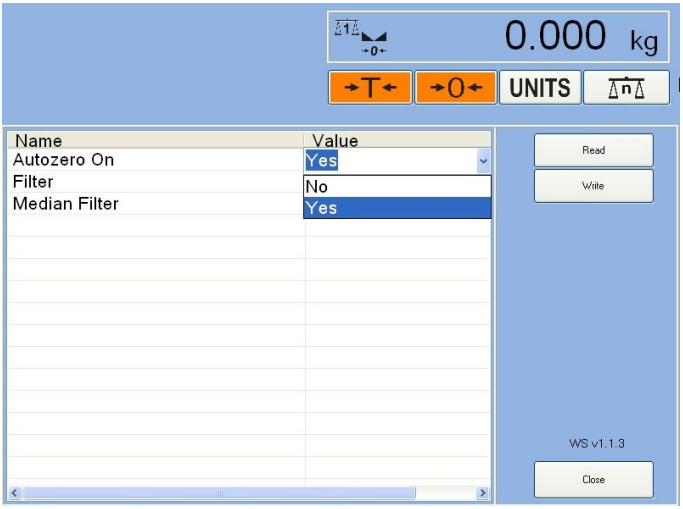
After selecting the required value save changes according to 29.3.2 of the manual.

29.6. Autozero function

The autozero function has been introduced in order to assure precise scale's indications. This function controls and corrects **„0"** indication. While the function is active it compares the results successively with constant frequency. If results differ less than the declared value of autozero range, for example 1unit, the scale will be automatically zeroed and the stability result markers and zero indicator →0← will be displayed. When AUTOZERO function is active, each measurement starts with precise zero. In particular cases the function can disturb measuring process. For example when product is loaded very slowly on scale pan (pouring), **Autozero** system can influence real weighing results.

Procedure:

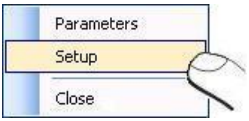
- Readout parameters value according to 29.3.1 of the manual,
- Press, then rewind **Autozero** parameter window.



After selecting the required parameter value save changes according to 29.3.2 of the manual.

29.7. Scale software settings

After starting program menu list (see point 29.2 of manual) press with finger option **<Settings>**:



Scale software will display settings window:

Accept change of parameters value with key: OK.

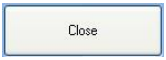
Notice:
Additional weighing platform module MW02 is working on port **COM2**.

Languages available:

- Auto - Setting language version compatible with the version of the operating system.
- Polish
- English
- German

Set the address track to the software keyboard on:
C:\Program Files\screen keyboard\KEYBOARD_mini.exe

29.8. Closing WeighingServer program

In order to exit the program press the button: 

on the main window.

30. ERROR MESSAGES

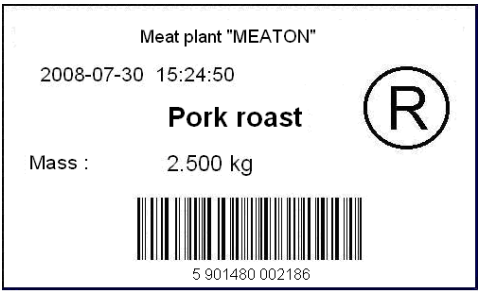
Err2	-	Value beyond zero range
Err3	-	Value beyond tare range
Err8	-	Exceeded time of tarring / zeroing operation
null	-	Converter zero value
FULL	-	Measurement range exceeding
LH	-	Initial mass error, indication beyond (from -5% to +15% range of initial mass)

31. LABEL DESIGNING

Computer program **EDYTOR ETYKIET R01** is used for label patterns making. First a label pattern is saved as a file with **"lb"** extension, then it is set in Terminal E2R Ewidencja program.

Example:

Setting in a scale a pattern adequate for the following label:



31.1. Label pattern making

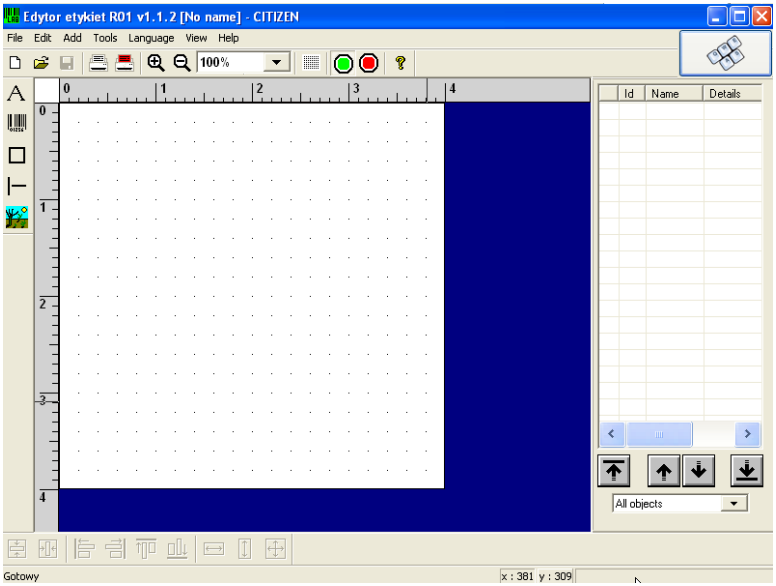
Procedure:

1. Start **EDYTOR ETYKIET R01** computer program as instructed in point 29.3.2. or operational system according to the following description:

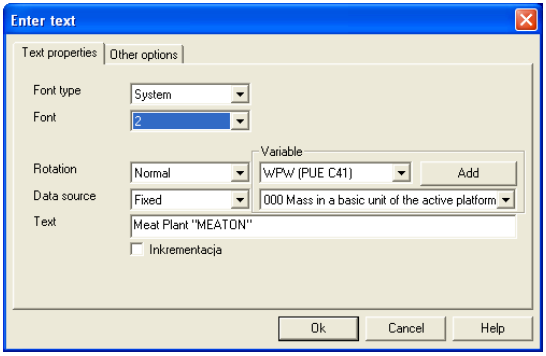
- press **START** on the bottom task bar
- indicate **Programs** option,
- choose **RADWAG** option,
- choose **Edytor Etykiet R01**,
- click **Edytor Etykiet R01** symbol.

2. While starting, the following window will appear:

3. Choose type of printer connected with scale, press: OK then the main program's window will be displayed



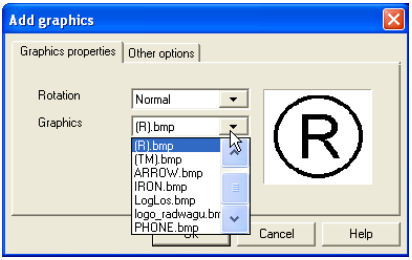
4. In order to add text to a label, click  on the left task bar, then following window will be displayed



5. Start the keyboard pressing:  located in top right part of the screen.

6. In **<Text>** space enter the text: Meat Plant „MEATON”, accept with OK and place it on label using appropriate type size.

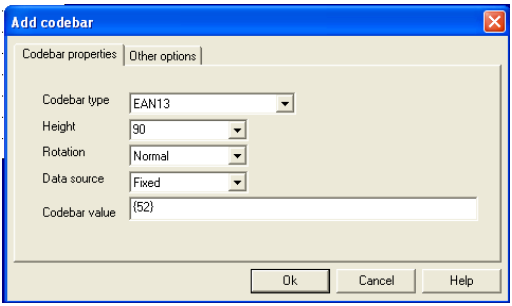
7. Click again on  and in the window „Enter text” insert **{4}**, and confirm by pressing  and place the required variable in the right place on the label,
8. Place other constant texts and demanded variables on the label as instructed above.
9. Click  and in „Load graphics” window rewind**<Graphics>** list:



10. Choose required **<*.bmp>**, accept with  and put graphics in appropriate label place

Caution:
<*.bmp>*located on label will be printed after the graphics have been sent to printer’s memory. Description of data sending to printer can be found in Help/program options/Sending to printer lap in computer program’s menu.*

11. Click  and rewind <Code Type> list in “Enter bar code” window, choosing **< EAN-13>.**



12. Using keyboard enter variable in **<Codebar value>** space **{52}**.
13. Accept changes with 

and put a code in appropriate label place.
14. Save ready label pattern choosing **<File>,** then **<Save as…>** lab.
15. Set up a label in Terminal E2R Evidence application as instructed in point 27.3.2. of the manual.

Caution:
Saved label pattern with ****.lb*** *extension is not editable file. Therefore additional label pattern recording with* ****.lab*** *extension is recommended (program's menu: File/ Save as…) in order to enable future label pattern modification.*

31.2. Inventory of variables:

The list of all variables accessible in the system for defining label patterns in program Terminal E2R Ewidencja from version **1.1.6.118**

Symbol	Description
{2}	Date
{3}	Time
{4}	Date and time
{6}	Net mass in the current unit
{7}	Net mass in calibration unit
{8}	Gross mass
{9}	Tare
{10}	Current unit
{11}	Calibration unit
{12}	Minimum threshold
{13}	Maximum threshold
{14}	Batch number
{25}	Hex
{26}	HexToUTF8
{27}	Net value
{30}	Gross value

{31}	Platform number
{35}	Counting pieced: unit mass in calibration unit
{48}	Product: Temperature
{49}	Product: Description
{50}	Product: Name
{51}	Product: Code
{52}	Product: EAN code
{53}	Product: Mass
{54}	Product: Tare
{55}	Product: Unit price
{56}	Product: Minimum
{57}	Product: Maximum
{59}	Product: No of validity days
{60}	Product: VAT
{62}	Product: Expiry date
{64}	Product: ingredients or any other additional information
{65}	Contractor: Name
{66}	Contractor: Code
{67}	Contractor: Tax ID
{68}	Contractor: Address
{69}	Contractor: Postal code
{70}	Contractor: City
{71}	Contractor: Discount
{75}	Operator: Name
{76}	Operator: Code
{77}	Operator: Authorization level
{80}	Package: Name
{81}	Package: Code
{82}	Package: Mass
{85}	Source warehouse: Name
{86}	Source warehouse: Code
{87}	Source warehouse: Description
{90}	Destination warehouse: Name
{91}	Destination warehouse: Code
{92}	Destination warehouse: Description
{300}	LOT 2
{301}	Entered Quantity

In counting pieces variable {6} „Net mass in present unit” presents the number of pieces {10} the current unit is “pcs”.

In case of variable {64}, each line (L1-Ln) is formatted according to the pattern:
Line 1 – {64:L1}, Line 2 {64:L2}, etc.

32. DIAGRAMS OF CONNECTION CABLES

The scale in STANDARD version can cooperate with:

- computers
- slip printers KAFKA, EPSON, KYOLINE
- label printers CITIZEN, ZEBRA,

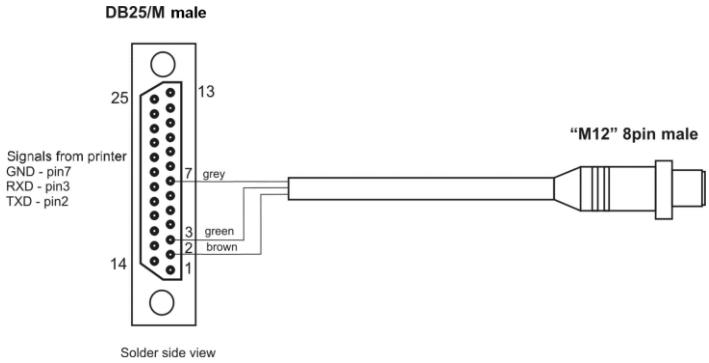
32.1. USB cable (adapter)

USB cable (adapter) *PT0084*

32.2. USB printer cable

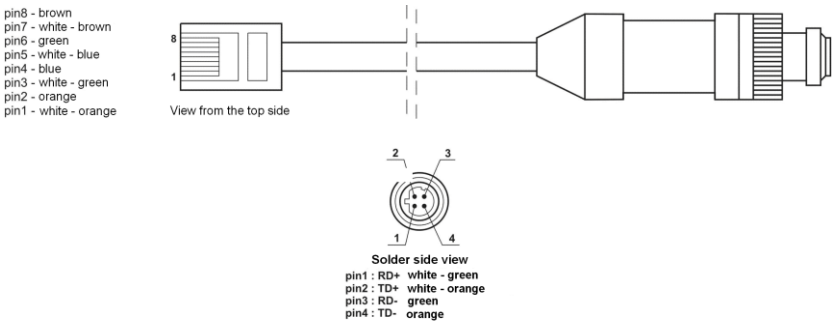
USB printer cable PT0087

32.3. RS232 printer cable



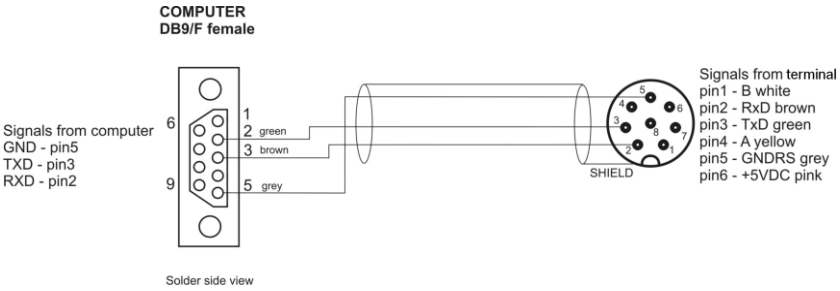
RS232 printer (CITIZEN, EPSON) cable PT0019.

32.4. Ethernet cable



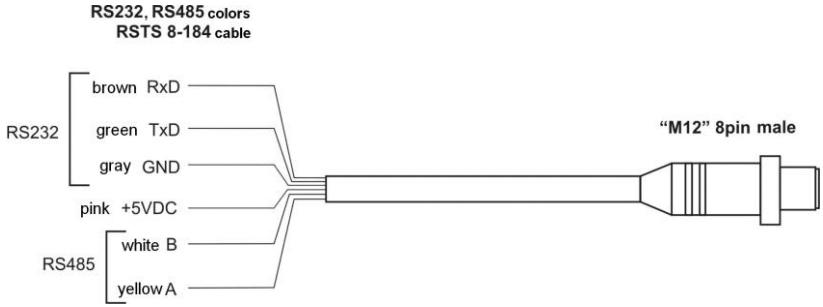
Ethernet cable P0198:

32.5. RS232 terminal – computer cable



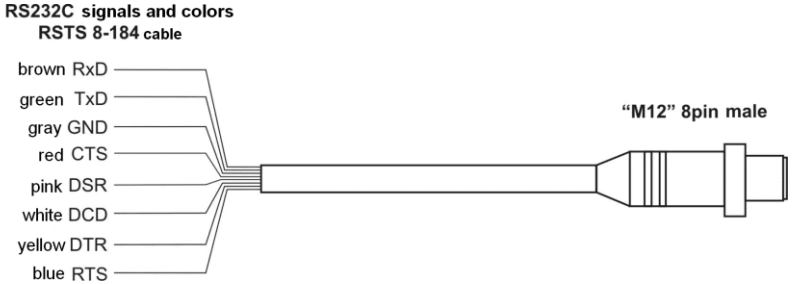
RS232 terminal – computer cable PT0020

32.6. RS232, RS485 cable – colours



Colours for "M12" standard cables. The figure gives an example of the type of cable.

32.7. RS232C cable – colours



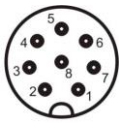
Colours for "M12" standard cables. The figure gives an example of the type of cable.

33. CONNECTORS

Caution:
Depending on the number of installed additional modules the number and location of glands and connectors can change. Standard option connectors and glands' location does not change.

33.1. RS232, RS485 connector

pin1 - B
pin2 - RxD
pin3 - TxD
pin4 - A
pin5 - GNDRS
pin6 - +5VDC



RS232
RS485

(plug in side view)

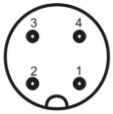
33.2. Ethernet connector

pin1 : RX+
pin2 : TX+
pin3 : RX-
pin4 : TX-

(plug in side view)

33.3. USB connector

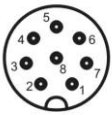
pin1 - VCC
pin2 - D-
pin3 - D+
pin4 - GND



(plug in side view)

33.4. RS232C connector

pin1 - DCD
pin2 - RxD
pin3 - TxD
pin4 - DTR
pin5 - GND
pin6 - DSR
pin7 - RTS
pin8 - CTS



(plug in side view)

34. SPECIFICATION OF ADDITIONAL MODULES

Apart from standard interface, it is possible to equip terminals PUE 5 with additional module increasing functionality of devices:

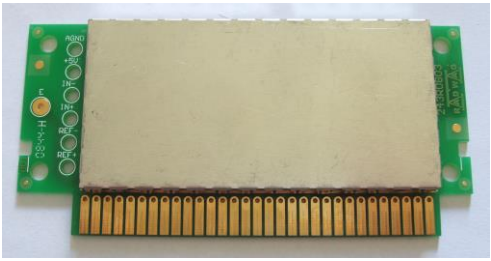
- Weighing module **MW-02**
- 8 inputs / 8 outputs module **WE 8**,
- 4 inputs / 4 outputs module **WE 4**,
- Analogue output module of **AN** series,
- Interface Profibus **DP V1**.

34.1. Weighing module MW-02

The weighing module MW-02 is responsible for the whole process of weighing. It is supplied with factory parameters and scale parameters (filters, units, etc.) memory. It is installed in the main board of PUE 5. The module is supplied with factory parameters access button. The button is protected with a seal.

Factory parameters are protected and can be accessible only after pressing the calibration switch on the module during powering up. The module is totally covered by the shield together with the calibration switch and soldering pads of load cell.

The calibration switch is accessible through the hole in the shield and can be additionally sealed with an external sticker.



Weighing module MW-02

34.1.1. Module technical specification

Maximal number of convertor units	8 388 608
OIML class	III
Number of verification units	6000e
Maximal signal gain	19mV
Maximal voltage per verification unit	3,3 µV
Minimal voltage per verification unit	1µV
Minimal strain gauge impedance	90Ω
Maximal strain gauge impedance	1200Ω
Strain gauge converter supply voltage	5V
Strain gauge converters connection	4 or 6 wires + shield

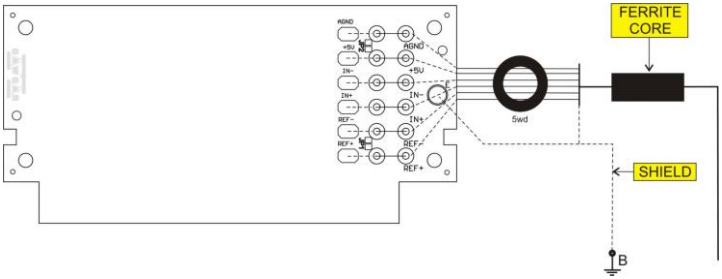
34.1.2. Weighing platform signal wires colours

Strain gauge sensor determiners	**Colours according to the RADWAG standard**	**Weighing module determiners**
+INPUT	brown	+5V
-INPUT	green	AGND
+OUTPUT	yellow	+IN
- OUTPUT	white	-IN
+SENSE	gray	+REF
- SENSE	pink	- REF
SCREEN	yellow-green	(according to the rule of connecting shields)

34.1.3. Weighing platform connecting

- **6-wire strain gauge sensor platform connection**

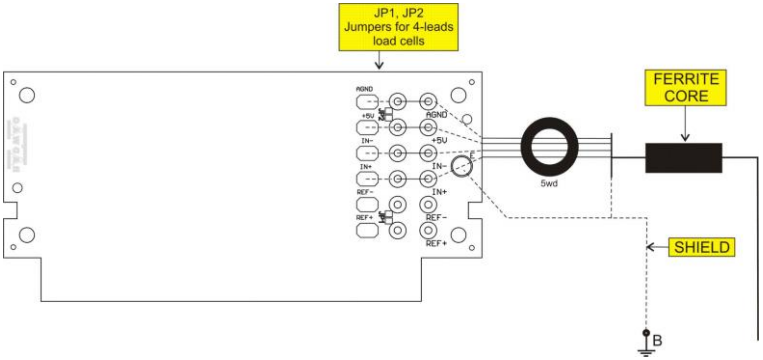
6-wire strain gauge sensor can be connected to weighing module board as instructed below:



WEIGHING MODULE SIGNAL	STRAIN GAUGE SENSOR SIGNAL	NOTICE
E	SCREEN	(according to the rule of connecting shields)
REF+	SENSE +	JP1 not soldered
REF-	SENSE -	JP2 not soldered
IN+	OUTPUT+	
IN-	OUTPUT-	
+5V	INPUT+	
AGND	INPUT-	

- **4-wire load cell cables**

For 4-wire load cell cables look at the drawing below:



SIGNAL FROM WEIGHING MODULE	SIGNAL FROM TENSOMETER	NOTICE
E	EKRAN	(according to the rule of connecting shields)
REF+	-	(JP1 solder)
REF-	-	(JP2 solder)
IN+	OUTPUT+	
IN-	OUTPUT-	
+5V	INPUT+	
AGND	INPUT-	

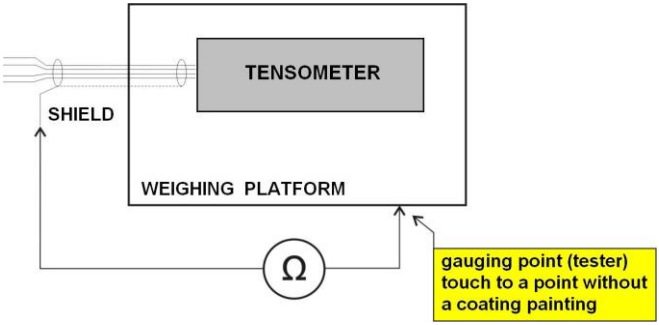
- **Connection of strain gauge cable shield**

	With connection between the shield and the load cell body (manufacturer feature)	Without connection between the shield and the load cell body (manufacturer feature)
The scale with housing or stainless connected with the platform via cable.	**POINT B**	**POINT B**
Compact mechanical construction of the scale (e.g. a scale with the indicator on the pillar)	**POINT B**	**E**

Point B – screwed terminal electrically connected to the housing
E – soldering point on the main board

The way of checking connection between the shield and the tensometer body.

Use an ohmmeter for this purpose.

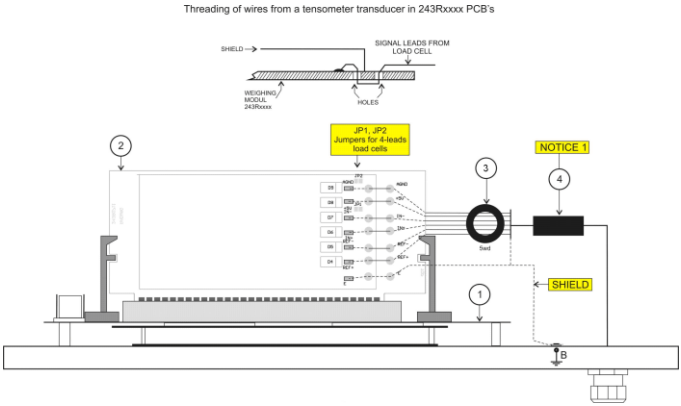


34.1.4. The way of installing inside PUE 5

Module is designated for assembly inside terminal PUE5. Module with **address 1** is assembled to main board of terminal to **J13(Slot 0),** module with **address 2** is assembled to connector **J11 (Slot 1).** For the second module **MW-02** gland is installed on casing lid, 3m cable ended with insulated conductors is led through gland.

Installing procedure:

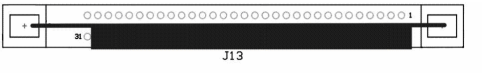
1. Unplug the terminal (remove the plug from socket 230V);
2. Unscrew the casing lid (back part of terminal casing);
3. Install the module in connector J13 or J11 on main board, depending on it's address;



Installation of the module MW-02 on the motherboard terminal PUE 5

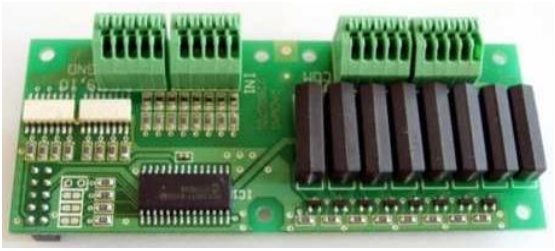
Pcs.	Component name
1	Motherboard
2	Weighing module
3	Round ferrite core
4	Ferrite core

4. While installing the module in the plastic socket on the main board turn you attention to the position of the module (see the figure below),



5. The strain gauge cable led through additional gland PG7 situated on the back wall next to the gland of the main platform cable;
6. Pull a ferrite core on the cable (appropriate internal diameter);
7. Wind wires of the cable on the round ferrite core (5 coils);
8. The wires solder accordingly to pads on the PCB. **USE A SOLDERING IRON (not a solder gun with a transformer)**;
9. Connect cable IN/OUT to group of conductors (undo band clips fastening group of conductors, lay the cable and clamp band clips – multiple use band clips);
10. Assembly cover of indicator casing.

34.2. Additional 8 inputs / 8 outputs module



8 inputs / 8 outputs PCB - WE 8

This module can be connected inside the weighing terminal. Its task is to expand the functionality of terminal for 8 inputs and 8 outputs freely configurable.

34.2.1. Technical specification

Parameters of outputs	
Quantity of outputs	8
Type of outputs	Reed operation contacts
Wire diameter	0,14 - 0,5mm^2
Maximal load-current contact capacity	0,2A DC
Maximal forward voltage	50V DC

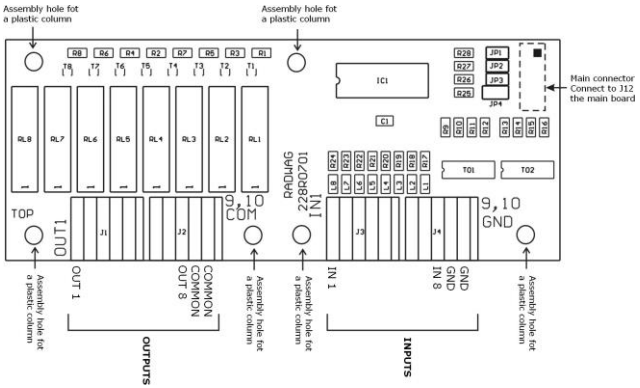
Parameters of inputs	
Quantity of inputs	8
Input type	Optoinsulated
Wire diameter	0,14 – 0,5mm^2
Control voltage range	5 -24V DC

34.2.2. Installing method in PUE 5 terminal

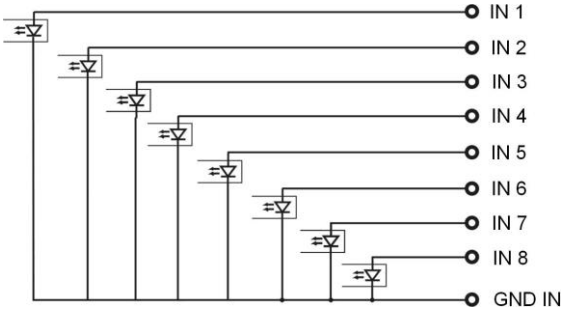
Module is designated for assembly inside terminal PUE5. Module is assembled to main board of terminal to 10-pin **J22** connector. For module **WE8** gland is installed on casing lid, 3m cable ended with insulated conductors is led through gland.

Installing procedure:

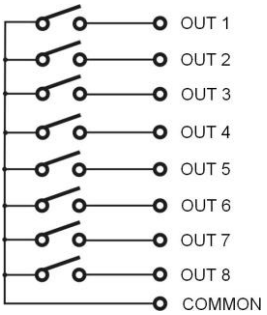
1. Unplug the terminal (remove the plug from socket 230V);
2. Unscrew the casing lid (back part of terminal casing);
3. Install the module in connector **J22** on main board;
4. While installing module pay attention to plastic posts fastening to main board. They should be placed in assembly holes in main board and in assembly holes in module WE 8,
5. In one of free glands remove the stopper and led through it cable IN/OUT (if necessary use bigger gland depending on cable diameter);
6. Connect the cable IN/OUT to joint **J1**, **J2** for outputs and **J3**, **J4** for inputs on module 8IN/8OUT according to description given in table;
7. Connect cable IN/OUT to group of conductors (undo band clips fastening group of conductors, lay the cable and clamp band clips – multiple use band clips);
8. Assembly cover of indicator casing.



34.2.3. I/O diagram



WE8 inputs diagram



WE8 outputs diagram

34.2.4. Description of input output wires PT0082:

SIGNAL	LEADS NUMBER (FOR JZ-500 18G0,5)
IN 1	1
IN 2	2
IN 3	3
IN 4	4
IN 5	5
IN 6	6
IN 7	7
IN 8	8

GND IN	9
OUT 1	10
OUT 2	11
OUT 3	12
OUT 4	13
OUT 5	14
OUT 6	15
OUT 7	16
OUT 8	17
COMMON	(18) YELLOW GREEN

34.3. WE 4 - 4 inputs / 4 outputs module

WE 4 module comprises 4 optoinsulated inputs and 4 optoinsulated outputs of reed relays, does not require installing additional modules on the main board of the terminal. The input / output wires are led out via a gland on the back wall of the housing (3m length).

34.3.1. Technical specification

Parameters of outputs	
Quantity of outputs	4
Type of outputs	Reed operation contacts
Wire diameter	0,14 - 0,5mm^2
Maximal load-current contact capacity	0,2A DC
Maximal forward voltage	50V DC
Parameters of inputs	
Quantity of inputs	4
Input type	Optoinsulated
Wire diameter	0,14 – 0,5mm^2
Control voltage range	5 -24V DC

34.3.2. Colours of cables for I/O PT0083:

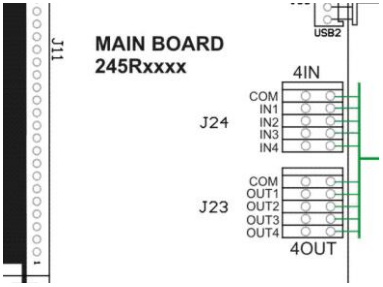
SIGNAL	LEADS NUMBER (FOR JZ-500 108G0,5)
IN 1	1
IN 2	2
IN 3	3
IN 4	4
GND IN	5
OUT 1	6
OUT 2	7
OUT 3	8
OUT 4	9
COMMON	(10) YELLOW GREEN

34.3.3. Installing method in PUE 5 terminal

WE 4 modules are equipped in one cable, for inputs and outputs.

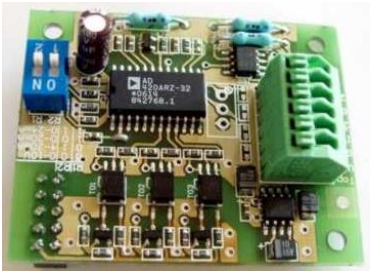
Installing procedure:

1. Unplug the terminal from mains;
2. Unscrew and take off the back wall of the housing;
3. Install a PG9 gland and led cable **PT0083** through it;
4. Connect the **PT0083** cable to the **J24** connector for inputs or to the **J23** for outputs, on the main board of PUE 5.
5. The cable connect to the group of wires (unhook band clips fastening the group of wires, lay the cable and hook the band clips). Band clips of multiple usage;
6. Screw down the back wall.



Installing WE4 modules on the main board of PUE 5

34.4. Analogue output module AN series



Module of analogue outputs

Module accessible in three configurations:

- Voltage output **AN 0-10V**
- Current output **AN 4-20mA**
- Current output **AN 0-20mA**

34.4.1. Technical specification

Work modes	4 - 20mA , 0 - 20mA, 0 - 10V
Resolution	16 bit
Current output resistance	<500Ω
Voltage output resistance	>400Ω
Power supply	24V DC (12 - 30V DC) max 40mA

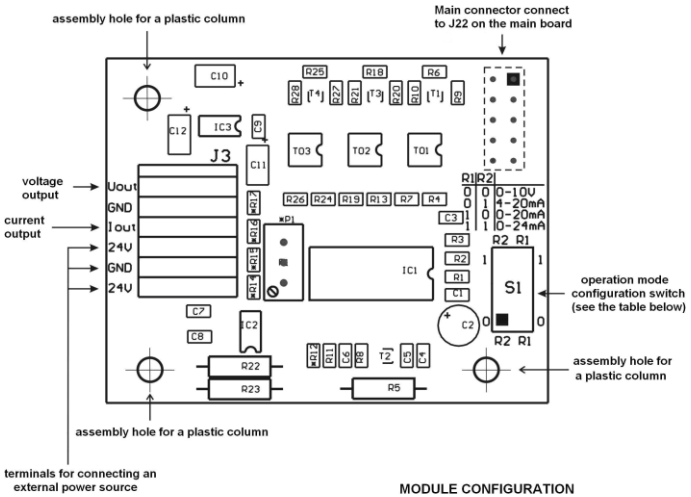
34.4.2. The way of installing inside PUE 5

These modules are intended to mount inside PUE 5. They need to be connected to the 10-pin J22 connector. For all configurations of AN, there is a gland installed on the back wall of the housing. A 3-meter shielded cables are led out via the gland. Wires should be free from insulation.

Installing procedure:

1. Unplug the terminal from mains;
2. Unscrew and take off the back wall of the housing;
3. Install your module in J22 on the main board;

4. During installation turn your attention to plastic columns. They should be placed one side in mounting holes in the main board and the other side in the mounted module;
5. Led the PT0015 cable through one of the free glands;
6. Connect the PT0015 cable to J3 on the analogue module according to the description below;
7. Connect the PT0015 cable shield to the housing (screwed terminator, 4mm diameter);
8. The cable connect to the group of wires (unhook band clips fastening the group of wires, lay the cable and hook the band clips). Band clips of multiple usage;
9. Screw down the back wall.



MODULE CONFIGURATION

R1	R2	Operation mode
0	0	0-10V
0	1	4-20mA
1	0	0-20mA
1	1	0-24mA

ANALOGUE OUTPUTS' MODULE CURRENT LOOP 4-20 mA SET AS DEFAULT

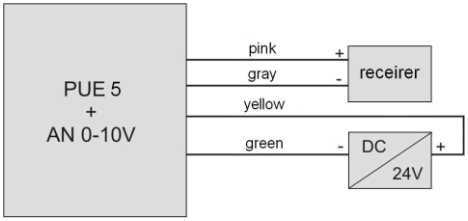
*Mounting of **AN** module on the main board of PUE 5*

34.4.3. Configuration of work modes of analogue modules

A work mode of analogue modules can be set using **S1** switch according to the drawings above (table „*configuration of analogue modules* ”). Near the **S1** switch on the PCB you can find a description

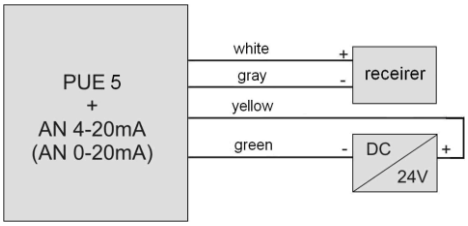
34.4.4. Connections to AN module

Drawing of connections of voltage output:



COLOURS OF WIRES	
Colour	**Signal**
Pink	U_{OUT} +
Gray	GND
Yellow	+24V DC
Green	GND

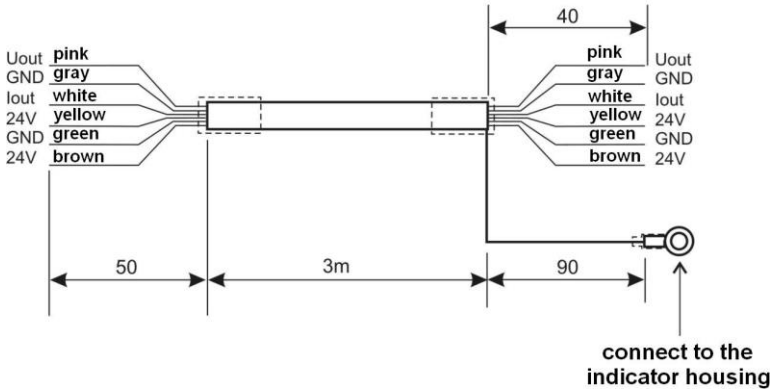
Drawing of connections of current loop:



COLOURS OF WIRES	
Colour	**Signal**
White	I_{OUT} +
Gray	GND
Yellow	+24V DC
Green	GND

PT0015

Analogue outputs' cable



Cable for analogue output

34.5. Profibus interface DP V1

Profibus Plug-In Module

PUE5 weighing terminals can be optionally equipped in Profibus Plug-In Modules of DPV1 standard with connectivity via the uniform **Anybus-CompactCom**. A detailed description of the interface is in a separate manual Profibus PUE5.

34.5.1. Technical specification

Size	52mm x 50mm x 22mm
Power Supply	3,3 V DC
Temperature	-10 do +40°C
BUS Baud Rate	Auto Baud Rate
I/O Input	244 bytes(Max 368 bytes IN+OUT)
I/O Output	244 bytes (Max 368 bytes IN+OUT)
Appl Interface	serial
Internal baud rates	19.2; 57.6; 115.2; 625 kbps (internal DIP SWITCH)
Baud Rate Error	±1.5%

34.5.2. Colours of wires

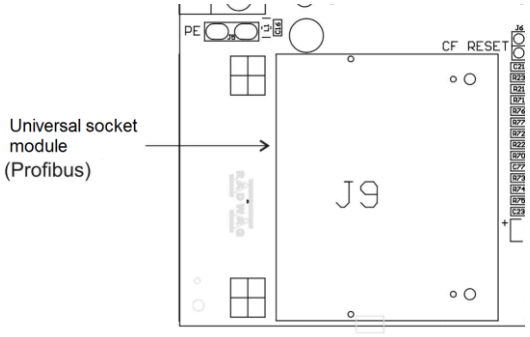
A	Green
B	Red

34.5.3. The way of installing inside PUE 5

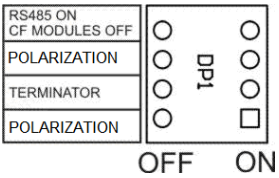
These modules are intended to mount inside PUE 5. They need to be connected to the **J9**. There is a gland installed on the back wall of the housing. A 3-meter shielded cables are led via the gland. Remove insulation from wires.

Installing procedure:

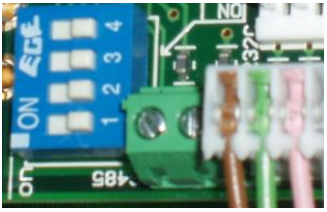
1. Unplug the terminal from mains;
2. Unscrew and take off the back wall of the housing;
3. Install your module in **J9** on the main board;



4. Screw down the interface using 2 screws;
5. Set the DIP-SWITCH **DP1** (RS485 – CF MODULES) in position OFF,

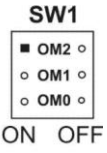


Switch settings **DP1**:
1 – ON



6. Set **SW1** to 115,2 kbs.,

SPEED	OM2	OM1	OM0
19,2kbps	OFF	OFF	ON
57,6kbps	OFF	ON	OFF
115,2kbps	OFF	ON	ON
625kbps	ON	OFF	OFF



Switch settings **SW1**:
1 – ON
2 – ON
3 – OFF

7. Connect socket SUB-D with a cable,
8. Remove the hole plug from one of the free glands and led the cable through;
9. The cable connect to the group of wires (unhook band clips fastening the group of wires, lay the cable and hook the band clips). Band clips of multiple usage;
10. Screw down the back wall.
11. Set in the MS Windows Device manager, USB serial port on **COM4**

35. ADDITIONAL EQUIPMENT

Additional weighing platform module	-	Metrological parameters as for main platform
In / out module	-	Additional 8 in / out
Profibus DP V1 interface	-	Slave working mode

36. TECHNICAL PARAMETERS

Technical data:	**TMX/E 1,5/3/H1**	**TMX/E 3/6/H1**
Maximal capacity	1,5/3 kg	3/6 kg
Minimal load	10 g	20 g
Readability	0,5/1 g	1/2 g
Tare range	-3 kg	-6 kg
Pan size	150×200 mm	
Working temperature	0° - +40° C	
Output signal	2 × USB (load carrying capacity 500mA), RS 232C, RS 485, Ethernet, 4 inputs, 4 outputs	
IP rating	IP67 indicator	
Power supply	85-265 VAC 50-60Hz	
Power consumption	45W	
Display	LCD 12,1" (800x600) infrared controled panel	
Net weight / Gross weight	12,5/14,5 kg	
Package dimensions	indicator 470×350×250 mm platform 520×260×290 mm	

Technical data:	**TMX/E 1,5/3/H2**	**TMX/E 3/6/H2**	**TMX/E 6/15/H2**	**TMX/E 15/30/H2**
Maximal capacity	1,5/3 kg	3/6 kg	6/15 kg	15/30 kg
Minimal load	10 g	20 g	40 g	100 g
Readability	0,5/1 g	1/2 g	2/5 g	5/10 g
Tare range	-3 kg	-6 kg	-15 kg	-30 kg
Pan size	250×300 mm			
Working temperature	0° - +40° C			
Output signal	2 × USB (load carrying capacity 500mA), RS 232C, RS 485, Ethernet, 4 inputs, 4 outputs			
IP rating	IP67 indicator			
Power supply	85-265 VAC 50-60Hz			
Power consumption	45W			
Display	LCD 12,1" (800x600) infrared controled panel			
Net weight / Gross weight	14,5/16,5 kg			
Package dimensions	indicator 470×350×250 mm platform 580×320×360 mm			

37. APPENDIX A – SETTING A BARCODE SCANNER

1. RADWAG scales use RS232 interface with transmission in one direction to communicate with a barcode scanner. It requires only two wire connection. So barcode scanners needs to be equipped with RS232 with disabled hardware and software flow control.
2. Both the terminal and a scanner can have transmission parameters set. Both devices should have set the same parameters: baud rate, data bits, parity control, number of stop bits. e.g. 9600,8,N,1 – baud rate 9600 bit/s , 8 - data bits, no parity control, 1 stop bit. By default in PUE5 barcode scanner needs to be connected to COM3 – with baud rate 9600 bit/s.
3. Barcode scanners can send additional information apart from a barcode e.g. barcode symbology. As RADWAG devices do not use this information it is advisable to disable it.
4. Some RADWAG systems can omitted some inessential information in the code by setting parameters outlining the beginning and length of the analyzed code.
5. In order to have a barcode read by PUE5 it is required to program an appropriate prefix and suffix. The prefix is (1 byte) 01 hexadecimally and the suffix is (1 byte) 0D hexadecimally.
6. Different barcode scanners allow to disable/enable reading different barcode symbologies.
7. Barcode scanners can be programmed by reading different programming codes present in their programming manuals.
8. Barcode scanners bought together with RADWAG systems are properly configured and tested.

Barcode coded hexadecimally with prefix and suffix	**Barcode in ASCII code (omitted control characters)**	**Symbology**
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

RADWAG BALANCES AND SCALES
ADVANCED WEIGHING TECHNOLOGIES