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## 1. Introduction

SE-03 meter replaces standard meters produced by AXIS Sp. z o.o. in order to enhance their functionality with label printers produced by ZEBRA company, that use EPL-2 protocol.

The meter has hermetic housing from stainless and acid-resistant steel sheet, LCD display with 14 mm digits. SE-03 meter may be the element of platform balances BA series or industrial balances 4BA series.

The meter's keyboard allows for setting the operation mode and entering data, required for label printing. The label printer should have in its memory previously loaded label graphical layout, where data from the balance will be entered. Labels are designed with use of professional computer software *Zebra Designer*, supplied by Zebra. During label designing printer should be disconnected from balance and connected to computer (using USB port).

List of data, used in the labels:

Field	Indication	Chars. no.	Description
1. net weight	<m_netto>	10	value displayed during label printing
2. gross weight	<m_brutto>	10	net + tare value
3. tare	<tara>	10	package weight, entered with T key, from keyboard or by weighing
4. price *	<price>	8	price for kg or g, depending on scale type
5. value	<wartosc>		net weight x price (for negative readings – zero)
6. production date	<data_p>	10	scale system date
7. <b>expiration date*</b>	<data_s>	10	production date + offset days
8. <b>bar code*</b>	<kod>	12	constant EAN13 (prefix 590) or with weight (prefix from 21 to 29)
9. net weights sum	<s_netto>	12	content of net weights summing register zeroing: during cumulative label printing or scale turn off
10. gross weights sum	<s_brutto>	12	content of gross weights summing register zeroing: during cumulative label printing or scale turn off
11. packages no.	<l_opk>	4	number of printed labels (from balance turning on or printing cumulative label)
12. time	<godzina>	10	current time, hh.mm.ss
13. code 2	<code2>	6	additional code, e.g. for employee, batch, etc.
14. code 3	<code3>	6	as above
15. code 4	<code4>	6	as above
16. code 5	<code5>	6	as above
17. pieces no.	<l_szt>	14	currently displayed no. of pieces
18. sum of pieces	<s_szt>	14	total no. of pieces
19. <b>unit weight*</b>	<m_jed>	14	single piece weight

\* date stored in memory after balance turning off for labels with numbers 0-150.

Label design (layout) is created on PC computer, then it is uploaded to the printer memory, where it remains (also after disconnecting it from the computer). Each layout, stored in the printer memory has its name (identification number).

Cooperation between balance and printer is based on recalling proper label layout (stored previously in the printer's memory) and sending data, entered in appropriate label fields. During the label printing balance sends the layout name, then successive data entered in the label fields.

The meter allows to choose one of two data sending modes:

- AUTO – meter sends successive data, indicated by the printer (recommended mode but not available in all printer types),
- MANUAL – balance sends data set, previously activated with the meter keyboard (this mode requires strict matching of data format and order during the label designing).

In further part of the manual, SE-03 meter operation is described as the part of complete scale.

## 2. Certificates



Test certificate  
No. PL CB 1

Quality management system ISO  
DIN EN ISO 9001:2009

Upon the basis of above certificates, scales produced by AXIS with the use of SE-03 meter may obtain EC verification.

Verified balances have the following verification features:

- protective seals, located on the balance meter and in points preventing access to the balance interior.
- Office of Measures marks and green metrological mark, located on the rating plate.

New verification is required after seals breaching or after 3 years from the 1st of January of year following the year of the first verification. In order to perform new verification, contact AXIS authorised service point.

Moreover, the module has IP65 protection grade, confirmed by test performed in Research Laboratory of Electrotechnical Institute, accredited by PCBC.

Balances classification (PKWiU code) 29.24.23.

### **3. Set**

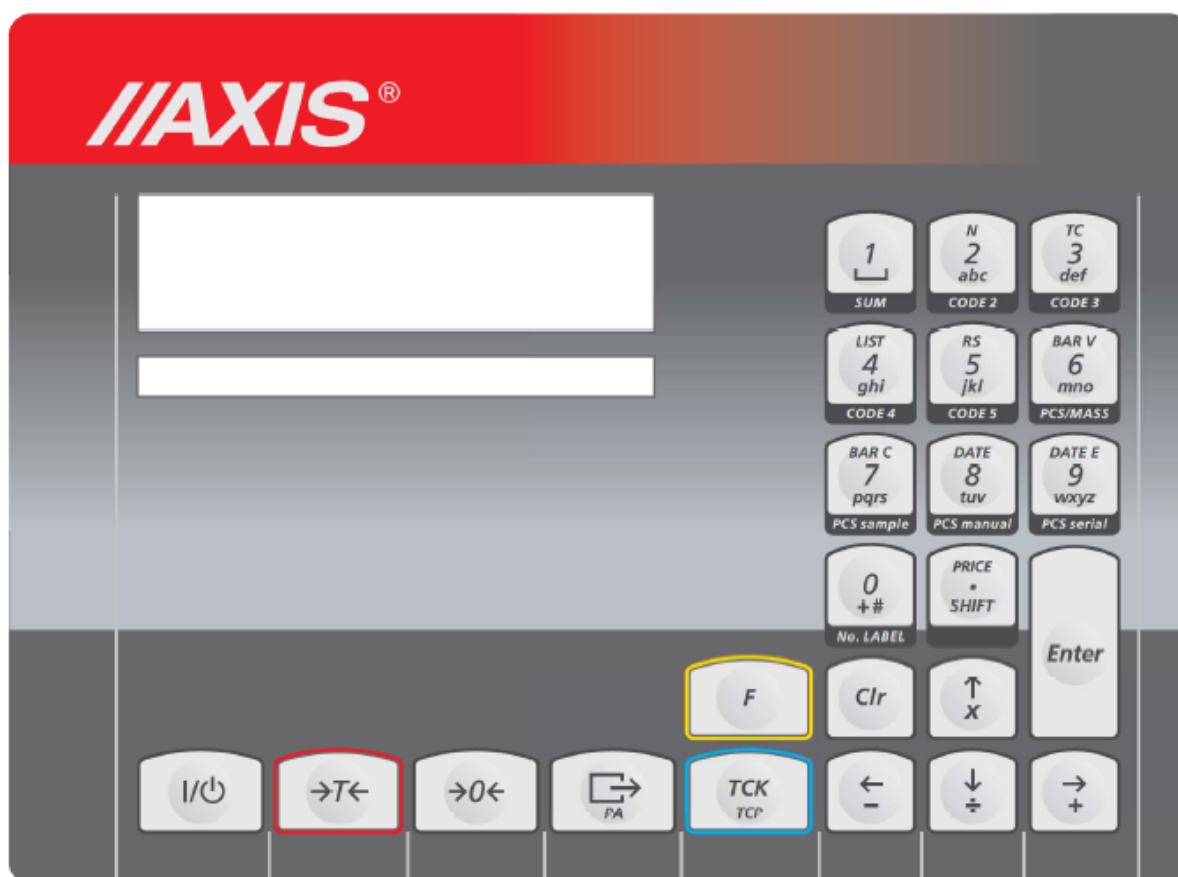
The basic set includes:

1. Scale with SE-03 module (or separate module)
2. External PSU ZN12V/500mA (only in version with the external PSU)
3. Documentation
4. Warranty card




On demand:

1. EPL label printer + label designing software Zebra Designer
2. Individual label design according to customer's requirements
3. Extensometer sensors set


## 4. Balance keyboard



### *Keys with single function*

	- balance ON/OFF
<i>Enter</i>	- operation confirmation or object selection
<i>Clr</i>	- exit (clear)
	- tare (subtracts package weight placed on balance)
	- balance zeroing (only when it is empty)
<i>F</i>	- function key – activates enhanced functions of other keys

### *Keys with direct and auxiliary function (activated with F key):*

 <i>/(F) PA</i>	- label printing / setting manual or automatic printing mode
<i>TCK</i> <i>/(F) TCP</i>	- entering constant tare with numeric keys / entering constant tare by package weighing

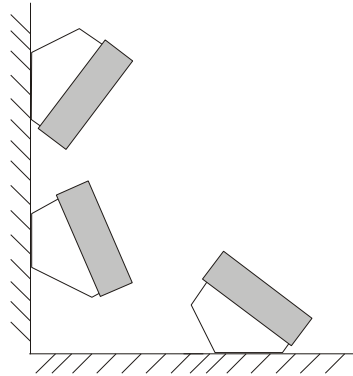
### *Numeric keys with variable direct function and auxiliary function (activated with F key):*

<b>SUM</b> or <b>1</b>	- cumulative label printing or digit 1 (during number entering)
<b>/(F) N</b> <b>CODE 2</b> or <b>2</b>	/ entering quantity of labels to printout with numeric keys - entering code 2 or digit 2 (number entering)
<b>/(F) TC</b> <b>CODE 3</b> or <b>3</b>	/ “constant” tare deleting - entering code 3 or digit 3 (number entering)
<b>/(F) LIST</b> <b>CODE 4</b> or <b>4</b>	/ selection of sending mode (AUTO or MANUAL), setting functions and setting access code - entering code 4 or digit 4 (number entering)
<b>/(F) RS</b> <b>CODE 5</b> or <b>5</b>	/ setting serial port transmission parameters - entering code 5 or digit 5 (number entering)
<b>/(F) BAR V</b> <b>PCS/mass</b> or <b>6</b>	/ setting variable bar code - pieces no./weight switching or digit 6 (number entering)
<b>/(F) BAR C</b> <b>PCS-sample</b> or <b>7</b>	/ setting constant bar code - entering sample amount (PCS function) or digit 7 (number entering)
<b>/(F) DATE</b> or <b>8</b>	/ entering current date - entering unit weight (PCS function) or digit 8 (number entering)
<b>/(F) DATE E</b> <b>PCS/RS</b> or <b>9</b>	/ entering expiration date - entering unit weight from auxiliary balance though RS232C port (PCS function) or digit 9 (number entering)
<b>No. LABEL</b> or <b>0</b>	- entering label number or digit 0 (number entering)
<b>/(F) PRICE</b> .	/ entering price - decimal point (number entering)

**Notes:**

1. Access to all functions, recalled with F key may be code protected. To obtain access to those functions, enter the access code after displaying *Cod-d* message and press ENTER.
2. Navigation keys, character keys and *shift* key are disabled and text entering is not possible.

## 5. Technical data

Parameter	
Protection grade	IP65
Max. number of legalization graduations	3000e
Precision class	III
Sensors supply	5V AC 25Hz
Reading graduation (d)	1, 2, 5, 10, 20 (g, kg)
Verification graduation (e)	any
Operational temperature	-10÷40°C
Tare set range	full
Max. number of connected sensors	6
Input voltage ranges	10mV (2mV/V) 20mV (4mV/V) 40mV (8mV/V) 80mV (16mV/V)
Load capacity of transoptor outputs (option)	100mA, 24V
Power supply	230V, 50Hz, 6VA
Ready for operation	after 5 minutes from turning on
Housing material	stainless, acid resistant steel sheet
Dimensions:	238x182x77mm
Installation system	
Fixing	2 otwory $\Phi 5$ , rozstaw 203mm
Weight	5.07lb

The metrological parameters of the balance are indicated on the rating plate.



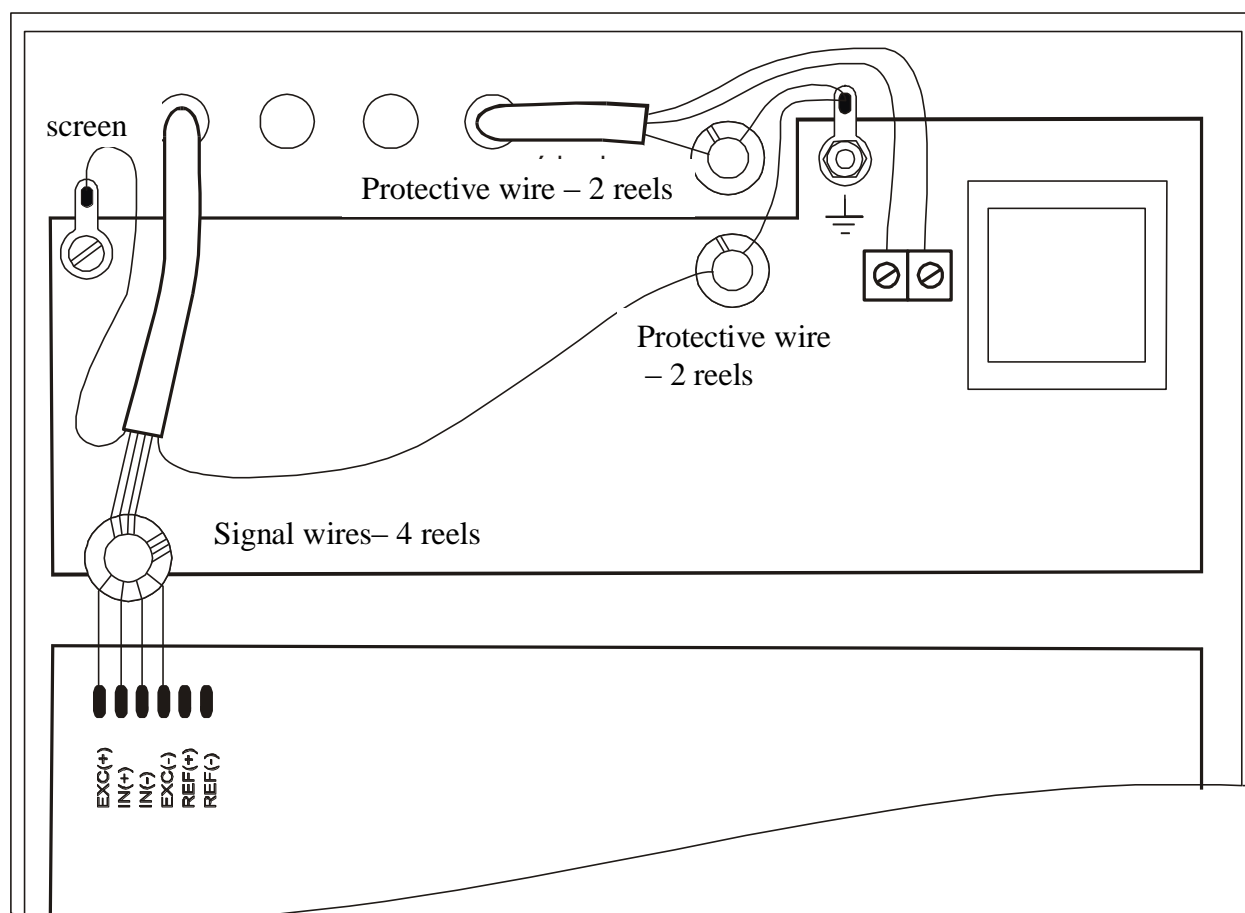
## 6. Scale preparation to work

1. Assembling scale based on SE-03 meter should be ordered to authorized producer service, or performed according to meter assembly manual, supplied with the meter.



**Connecting tensometric sensors to meter during scale work can damage the meter!**

Fulfilling of requirements connected with CE sign, requires application of filter cores during wires connecting, which are supplied with the module. Core  $\phi 20\text{mm}$  for sensor (sensors) wires and cores  $\phi 16\text{mm}$  for protective wires – see below. Distance of core from connection point must not exceed 30 mm.

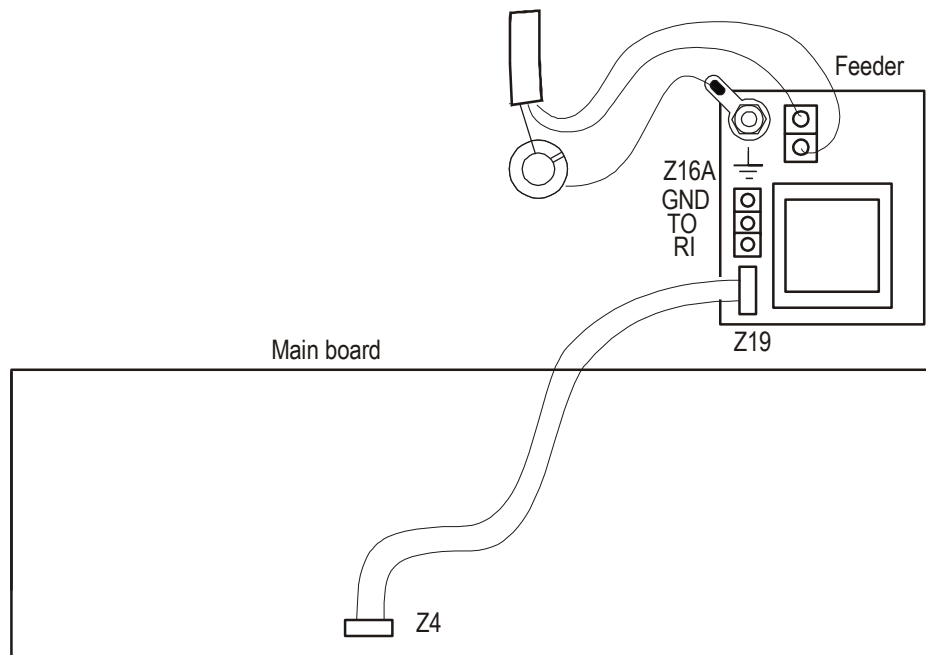


2. All devices connected with scale should be supplied from the same line (phase) 230V.



**For the scale supply use the socket with protective contact.**

3. In SE-03 meters connections are ended by joints or they should be connected to feeder board by using Z16A joint (TO – sending, RI – receiving)



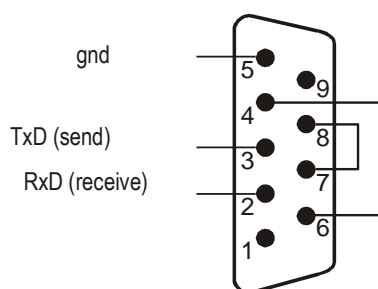
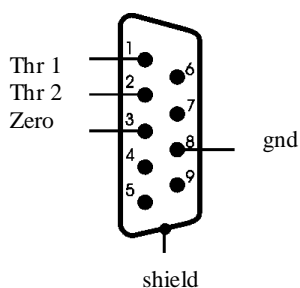
**Attention:**

Z4 and Z19 connection is crucial for the Z16A joint to be active.

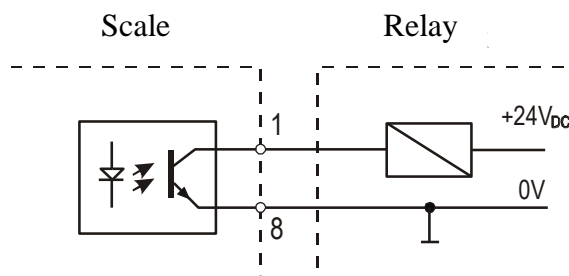
To connect scale's RS232C to computer use WK-1 cable or special converter. If Your PC doesn't have RS232C interface then You have to additionally use RS232C-USB active converter (available in shops with computer equipment).

**RS232C serial interface:**

1. The basic connection for communication with external devices is RS1(RS232C-I) port, the second port RS2(RS232C-II) requires special version of balance software.
2. Meter in standard execution is equipped with conductors ended with male joint. Following signals layout is used:

**RS232C (to label printer)****THRESHOLDS output**

DE-9

**Relay connections method for THRESHOLDS output**

THRESHOLDS output is the transistor output of open collector type, signal – short impulse 0.5 s, load capacity 25mA / 24V.

## 7. General operation principles




1. Each scale turning on causes autotests performing and balance zero entering, so the scale should be unloaded (it does not apply to the tank balances).
2. Full precision is obtained after 5 minutes from turning on. Until that moment weighing is possible, but the measurement error may be higher than allowed.
3. The module has automatic tare setting system, that causes automatic balance zeroing before each measurement, which is indicated by the zero indicator "→0←". If the zero indication is not shown, or "----" is displayed, press the "→0←" key with unloaded pan..
4. The module enables tare setting in the whole measuring range. It is performed when pan is loaded by pressing "T" key.
5. The weighing result should be read during the "┐" indicator lighting, which indicates the result stabilization.
6. Weighed mass should be placed in the platform centre.
7. Do not drop weighed objects on the platform.
8. Do not overload the balance over 20% of maximum load.
9. Protect the balance from dust, aggressive dusts and liquids. For cleaning purposes use water and dry it.

To print the label the following conditions must be fulfilled:

1. The printer must have entered layout (label design, made on the computer and loaded to the printer memory).
2. The balance must have AUTO or MANUAL data exchange mode set.
3. The parameters and transmission protocol must be suitable for the printer type.

The label layout is designed with the ZEBRA DESIGNER software (see the labels designing description).

In the MANUAL mode the balance sends control instructions and data amount to the printer according to number of variables fields in the label design (see section 7.4.2). Before the first print carefully set all parameters with the scale keys:

1. label name (F/No LABEL),
2. parametres RS (F/RS, PROT, OUT),
3. enter the bar code (if it is in the label design):  
bar code constant part with variable part (F/BAR, 6 or 7 digits)  
or two parts of constant code (F/BAR C, 6 digits + 6 digits)
4. (if it is in the label design) date (F/DATE),
5. (if it is in the label design) expiration date offset (F/DATE E),
6. number of printed labels (F/N),
7. enter price (if it is in the label design) (F/PRICE),
8. select label printing method: with  key (F/, PA-0) or automatically after result stabilization (F/, PA-1),
9. zero tare (F/TC),

### **Caution:**

Setting error causes no printer reaction or incorrect printing.

If the data are not entered, and are present in the list of fields sent to the printer, the random characters may be sent instead, causing the printer lock. Then it is required to turn the printer off, wait 30 seconds, turn it back on and repeat settings.

During normal balance operation it is not required to change its settings each time (even after turning off).

Recalling label number from range 0-150 automatically recalls balance settings.

Together with label name (0-150) balance memory stores data belonging to the label:

- price,
- **bar code**
- **expiration date**
- print control parameters (PA, LIST and RS)
- list of sent fields.

For labels from range 150 – 9999 the settings of previously recalled label are used. They may be corrected, but will not be saved after the balance turning off.

Names from range 1000 – 1999 are reserved for cumulative labels. Their parameters are copies of their according labels with names below 1000.

## **7.1 Label name entering**

Label name (number) is from range 0 to 9999, being the name of label previously loaded to the printer memory. The balance by sending label number to the printer, recalls appropriate label for formatting and printing.

Name (number) entering:

- press 0/No. LABEL key (the display shows message NO\_Ety)
- using the numeric keyboard, enter the number – maximum 4 digits (do not enter leading zeros)
- press ENTER key to store entered number in the balance.

Label name is kept in the memory as long as new number is entered.  
That name is not deleted by turning the balance off.

## **7.2 Cumulative labels printing**

First level cumulative label is a special label type, which is placed on cumulative package, containing any number of unitary packages of the same product.

The balance may also print second level cumulative labels for transport packages, containing any number of cumulative packages of given product.

Cumulative labels must be previously designed and entered to the printer memory and must have their names:

- level I – 1000 higher than the basic label,
- level II – 2000 higher than the basic label.

Cumulative labels printing is protected by code.

Cumulative label printing is performed by recalling label with name of 1000 or 2000 higher than the current basic label name, and cumulative labels designs of I and II level use the same fields of summation and labels counter, which automatically switch to I or II level.

Printing of cumulative label of I level:

- press key F and 1/SUM
- display shows “Cod-d”, enter the access code and press ENTER
- PRINT message will be displayed and the cumulative label of I level will be printed.

Printing of cumulative label of II level:

- press key F and ENTER
- display shows “Cod-d”, enter the access code and press ENTER
- PRINT message will be displayed and the cumulative label of II level will be printed.

**Caution:**

Printing of cumulative label of I level causes zeroing of summation registers of the current label:

- number of weighed products with current name counter
- sum of net weights for current label
- sum of gross weights for current label

Printing of cumulative label of II level causes zeroing of registries:

- number of printed labels of I level counter
- sum of net weights for printed labels of I level counter (all products)
- sum of gross weights for printed labels of I level counter (all products)
- moreover, to avoid operator error: summation registries of current label.

### **7.3    *Entering number of printed labels***

During weighing it is sometimes required to print more than one label for the same measurement.

Entering number of printed labels:

- press F key (the display shows message “o” )
- press 2/N key (the display shows message NO\_Ety)
- using the numeric keyboard, enter the number – maximum 4 digits (do not enter leading zeros)
- press ENTER key to store entered number in the balance.

### **7.4    *LIST function***

This function reveals balance special options list.

Special options selection:

- press F key (the display shows message “o” )
- press 4/LIST key, the display will scroll the following messages:
  - Fun-u      - user functions set (option)
  - FIELD      - selection of sending mode for data record fields to the printer:
    - AUTO – automatically after recalling by the printer
    - MANUAL – balance sends data set, selected by user
  - Cod-d      - entering code protecting printing of cumulative label
- select the appropriate option with ENTER key.

Sign “o”, displayed on the right, means that given option is currently selected (active).

### **7.4.1 User functions set (Fun-U)**

Each balance contains set of functions, which may be available for the user or not – according to the order. If no user functions are available, after recalling Fun-U the message “NO-F” will be displayed.

#### **7.4.1.1 Pieces counting (PCS)**

That function allows for counting the identical details, e.g. nuts or nails, contained in the weighed batch.

The measurement takes place in two phases:

- first phase – calculation of single detail weight upon the basis of sample of specified number of pieces
- second phase – counting the details in the weighed batch.

**It is recommended, that the single detail weight is higher than the balance reading graduation, and the weight of sample, used in the first phase is higher than 100 of reading graduations.**

Number of pieces may be entered in the variable bar code.

This function allows for weighing on one balance or two connected balances: main balance with higher measurement range for batch weighing, and more precise balance for sample weighing.

Quick access to function is available with keys 6, 7, 8, 9. Access is also available with key LIST, option Fun-U and PCS, however it is less convenient (PCS-0/1 corresponds to key 6, 7 – PCS-2, 8 – PCS-3, 9 – PCS-4).

#### **Pieces counting with use of the same main balance (key 7)**

- Put sample of known pieces number (quantity) on the main balance.
- Press key 7/PCS-sample, the message will be displayed: „PCS\_S”.
- Set pieces quantity in sample and press ENTER.
- It displays number of details, placed on the main balance (pcs).
- Exit and re-enter by pressing key 6.

#### **Counting pieces with known unitary weight (key 8) – option on demand**

- Put sample of known pieces number on the auxiliary balance.
- Press key 8, the message will be displayed: „LOAD\_J”.
- Enter unitary mass value and press ENTER.
- It displays number of details, placed on the main balance (pcs).
- Exit and re-enter by pressing key 6.

Balance with weighing module SE-03 cooperates with standard weight (auxiliary balance) and allows for automatic counting of high numbers of pieces with identical weight. Auxiliary balance is used for measuring weight of few pieces sample, e.g. 5. Upon the basis of that measurement and entered sample pieces number the unitary weight is calculated. As a result, it is possible to put more pieces on the main balance and direct reading of number of pieces, placed on the balance.

**Counting pieces with auxiliary balance (key 9) – option on demand**

- Put sample of known pieces number on the auxiliary balance.
- Press key 9/PCS/RS, the message will be displayed: „ PCS\_S”.
- Enter pieces number in sample and press ENTER.
- Exit and re-enter by pressing key 6.

It displays number of details, placed on the main balance (pcs).

**7.4.2 Option of selecting data transfer mode to the printer (Field)**

In order to activate AUTO transfer mode (sending data recalled by printer):

- press key F and then LIST.
- during displaying FIELD press ENTER key.
- during displaying AUTO press ENTER key.

To correct list of data record fields select POLA option:

- during displaying MANUAL press ENTER key.
- during displaying ALL press ENTER key (if all fields will be included) or 0 to open the fields list.
- during displaying of successive fields press ENTER, if that field will be sent, or 0, if not.

**7.4.3 Function of entering constant bar code (bar-S)**

Do not use (see section 7.8).

**7.4.4 Function of entering variable bar code (bar-Z)**

Do not use (see section 7.7).

**7.4.5 Function of entering access code (Cod-d)**

This function is used for entering access code (maximum 6 digits), preventing access to labels parameters and cumulative label printing (registries deleting!).

**Operations sequence:**

- press F and then LIST key.
- during displaying "Cod-d" press ENTER key.
- after displaying Set-c1 enter current access code or service functions access code and confirm with ENTER key
- after displaying Set-c2 – enter new access code.

**7.4.6 Function of comparing with threshold values (thr) - option**

Function can be used for dosing and selection.

This function allows to compare the weighing result with two, previously programmed values: upper and lower threshold. The comparison result is signaled on the display and by acoustic signal, as well as with use of control outputs.

If the weighing result is:



- lower than the lower threshold – balance signals MIN (zero value activates zero steering output threshold for about 0,5s),
- between thresholds – the balance signals OK and activates output threshold I ,
- higher than the upper threshold – the balance signals MAX and activates output threshold II for about 0,5s.



***Operations sequence during function activation by the operator:***

1. Press **F** key and the **LIST** key.
2. During displaying “**tHr**” press **ENTER**.
3. The display shows in sequence:  
F..-0 – function deactivation,  
F..-1 – function activation,  
F..-P – checking of previously entered thresholds values.
4. After displaying **F..-1** press **ENTER**.
5. The following options are displayed:  
SEt-0 – weighing with signaling of thresholds exceeding,  
SEt-1 - entering of lower threshold value,  
SEt-2 - entering of higher threshold value (as above).
6. Using **ENTER** key select option **SEt-1** and write lower threshold value.
7. Using **ENTER** key select option **SEt-2** and enter the upper threshold value (as above).
8. Using **ENTER** key select option **SEt-0**. It activates balance operation with simultaneous signalling of thresholds exceeding.
9. To finish the function operation choose **SEt-0**.

***Checking of entered threshold values:***

1. Press key **MENU**.
2. After displaying **F..-tHr** press **ENTER**.  
The display shows in sequence: F..-0, F..-1 and F..-2.
3. After displaying **F..-2** press **ENTER**. The display shows value of the lower threshold, and after pressing  key – upper threshold. If the printer is connected, threshold values are printed.
4. Press  key to switch to weighing.

***Caution:***

*After the balance turning on both thresholds are set to maximum values. During upper threshold setting pay attention, so its value is not lower than the lower threshold.  
After the balance turning off and on this function remains unchanged*

## **7.5 Setting of RS232 port operation mode**

This function is used for setting parameters of serial port. Baud rate 9600B, no parity control, 8 bits options are used as a standard.

Setting of serial port parameters:

- press **F** key (the display shows message “o” )
- press **5/RS** key, the display will show successive positions of basic menu (confirming option with **ENTER** key causes selection or switching to menu of selected option):
  - out - setting mode exit
  - SEt-nr - scale network number (needed when connecting few scales to one computer, 0 if scale doesn't work in network)
  - Prot - selection of transmission parameters with the following settings:
    - baud rate 9600B
    - length 8 bits
    - no parity control
    - 1 stop bit
  - baud - baud rate selection (from 1200 to 9600 B)
  - bit - bits number selection (7 or 8)

- ParIty            - parity control allowance
    - 0            - not allowed
    - 1            - allowed
  - Odd            - parity type selection (odd or even)
    - 0            - Even
    - 1            - Odd
- select option “Prot” (factory settings of RS232 port are restored).
  - option exit with Out.

Other options allow for port parameters change in case of balance cooperation with devices with different settings.

### **7.6. Constant tare deleting**

This function is used for deleting of constant tare registry, entered with keyboard or by package weighing.

Constant tare setting:

- press F key (the display shows message “o” )
- press 3/TC key (the display shows message “--“ and tare registry will be zeroed).

### **7.7. Entering digits of variable bar code**

This function is used for entering constant digits of variable bar code (EAN13). The variable digits are added automatically during label printing.

Available code formats:

- bAr-1: CCCCCC VXXXXX (V)
- bAr-2: CCCCCC CVXXXXX (V)
- bAr-3: CCCCCC CXXXXX (V)
- bAr-4: CCCCCC SXXXXX (V)

where:

C – digit of bar code constant part

X – digit of bar code variable part (depending on balance indications)

V – this sign is replaced by control digit, calculated by the printer upon the previous digits

(V) – control digit, added by the printer, calculated from the previous digits

S – control sum calculated by the printer from the digits XXXXX

X digits may be:

- charge
- amount
- net weight.

Entering digits of variable bar code:

- press F key (the display shows message “o” )
- press 6/BAR V (the display shows message bAr-Z)
- using the numeric keyboard, enter constant digits of variable bar code (6 or 7)
- press ENTER key to store entered number in the balance.
- available code formats will be displayed in sequence: bAr-1, bAr-2, bar-3 and bAr-4, select the appropriate format with ENTER key
- after that options for variable digits will be displayed in sequence: charge, amount and net weight, select with ENTER key.

Constant digits of bar code are stored in the balance memory and remain unchanged until re-entering new number. Turning the balance off does not change the entered number as well. During the number storing the variable bar code is selected as active. Bar code type may be changed with LIST function.

### **7.8    *Entering digits of constant bar code***

This function is used for entering significant digits of constant bar code EAN13. 12 significant digits are entered. As the display contains only 6 digits, entering is divided into two steps. In the first step 6 initial digits are entered, beginning from 590 (example: for Poland), in the second one – 6 other digits.

Entering digits of constant bar code:

- press F key (the display shows message “o” )
- press 7/BAR C (the display shows message bAr-S)
- using the numeric keyboard, enter number – 6 digits of bar code
- press ENTER key to store entered number in the balance (the display will show “neXt” message)
- using the numeric keyboard, enter other 6 digits of bar code
- press ENTER key to store entered number in the balance.

Digits of bar code are stored in the balance memory and remain unchanged until re-entering new number. Turning the balance off does not change the entered number as well. During the number storing the bar code type is automatically selected: constant bar code. Bar code type may be changed with LIST function.

### **7.9    *Entering current date and time***

This function is used for changing date and time of balance system clock. Date is entered into the label as production date.

Entering date and time:

- press F key (the display shows message “o” )
- press 8/DATE key (the display will show currently set day and month, e.g. “d 09.09”)
- using the numeric keyboard enter new date (4 digits – day and month accordingly) and press ENTER key (the display will show currently set year, e.g. “r 2000”)
- using the numeric keyboard enter 4 digits of year and press ENTER key (the display will show currently set time, e.g. “h 08.15”)
- using the numeric keyboard enter new time – 4 digits – hour and minutes accordingly, and finally press ENTER key.

Date and time are stored in the balance system clock. Turning the balance off does not deactivate clock.

### **7.10   *Entering current date offset (expiration days)***

This function is used for changing offset days of current date. This date is entered into the expiration date.

Maximum 4 digits are entered, meaning number of days, which are added to the current date and create expiration date. This date is calculated by the balance. Calculation procedure does not take leap years into account. In the leap year, when expiration date includes February, it is required to add 1 more day.


Entering days of date offset:

- press F key (the display shows message “o” )
- press 9/DATE E (the display shows message “dAYS”)
- using the numeric keyboard, enter number – max. 4 digits – offset days
- press ENTER key to store entered number in the balance.

Offset number is stored in the balance memory. Turning the balance off does not deactivate offset.

### **7.11 Label print**

Printing may be performed in manual or automatic mode.


In the manual mode pressing  key causes label printing (after the balance indications stabilization).

In the automatic mode each putting of load on the pan and indications stabilization causes label printing. Printing will not be performed, if the indication is zero or negative.


Printing takes place according to selected settings (printer type, transmission speed, bar code type and label name).

With each printing:

- weighed products counter is increased
- net weight summation
- gross weight summation

If the automatic mode is selected, pressing  key does not cause printing (display shows “---“).

Printing mode selection:

- press F key (the display shows message “o” )
  - press /PA, the display shows the following:
    - PA-0 – manual printing
    - PA-1 – automatic printing
  - press ENTER key during the desired mode displaying to select it.
- Sign “o” next to PA-0 or PA-1 message indicated the active option.

## **7.12 Constant tare entering**

This function is used for entering constant tare, i.e. package weight, into the balance memory. The constant tare is stored permanently, which means, that it is not deleted after turning off. Constant tare value may be changed by re-entering of new value. Entering of constant tare may be performed manually by entering it from the keyboard, or by putting load on the pan. After function activation and pressing TARE key the constant tare value will be subtracted from the current indications.

Entering constant tare with keyboard:

- press TCK/TCP (the display shows message “tAr\_S”)
- using the numeric keyboard enter number in weight units, corresponding to tare value
- press ENTER key to store tare value in the balance.

Entering constant tare by loading:

- put the load on the pan
- press F key (the display shows message “o” )
- press TCK/TCP key – weight on the pan will be stored in the balance memory.

## **7.13 CLEAR function**

CLR key is used for exiting data entering operation, e.g. due to error or resignation.

Pressing CLR key causes exiting of entering mode and switching into weighing mode – does not zero the registries.

## **8. Maintenance and small repairs**

1. Keep the balance clean.
2. Take care, during operation some impurities may enter between platform and balance base. In case of impurities remove the pan (by lifting it). Remove impurities and install the pan.
3. In case of improper operation due to short power failure, switch off the balance by unplugging the power cable from the socket, and plug it again after a few seconds.
4. The message “Err-b”, displayed after switching on unloaded balance, indicates the balance sensor mechanical damage.
5. All repairs must be performed by the authorized personnel.
6. To perform the repair contact the nearest service point.

## 9. Additional information

Before connecting SE-03 module to the label printer it is recommended to check the set data and parameters of module transmission, using the testing software (available on AXIS service site for free [www.axis.pl](http://www.axis.pl)).

## 10. Printer communication protocol in AUTO mode

In AUTO mode meter sends successive information, indicated by the printer. Sequence of commands and responses is shown below:

1. Balance sends command: **UI**<CR><LF>
  2. Printer responses: **UI82,001**<CR><LF>
  2. Balance sends label number: **FR**"<number>"<CR><LF>  
e.g. **FR"0001"**<CR><LF>
  3. Balance announces its readiness: **?**<CR><LF>
  4. Printer asks for value for <variable>: <variable><CR><LF>  
e.g. **<m\_netto**<CR><LF>
  5. Balance sends value for variable <variable>: <value><CR><LF>  
e.g. **200.1g**<CR><LF>
- Points 4 and 5 are repeated until the printer asks for all variables in the label.
6. Printer after finishing of entering of all variables responses:  
Number of label sets: <CR><LF>  
**P1**<CR><LF>
  7. Balance sends printing command:  
**P1**<CR><LF>

The following variables names and their corresponding values, sent by the meter are available:

Printer (<variable>)	BALANCE (<value>)
1. <m_netto	net weight
2. <m_brutto	gross weight
3. <tara	tare
4. ,price	price
5. <wartosc	value
6. <data_p	production date
7. <data_s	expiration date
8. <kod	EAN code
9. <s_netto	net sum
10. <s_brutto	gross sum
11. <l_opk	packages no.
12. <godzina	time
13. <code2	code 2
14. <code3	code 3
15. <code4	code 4
16. <code5	code 5
17. <l_szt	pieces no.
18. <s_szt	sum of pieces

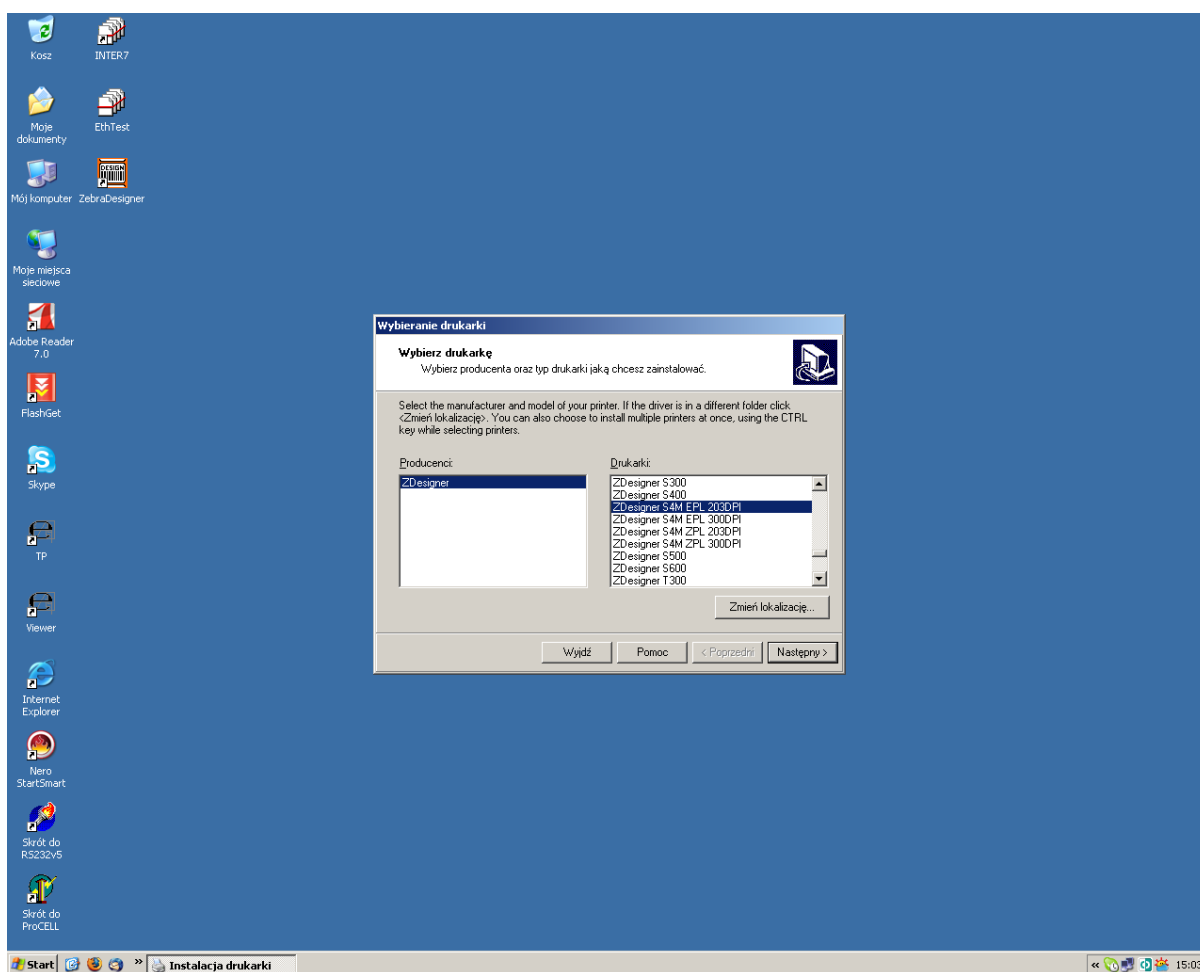
## 11. Labels designing with ZEBRA DESIGNER software

In order to print the label in cooperation with the balance it is required to store the label design (layout) in printer memory. Printer producer provides Zebra Designer software, along with necessary manual and English help free of charge.

Before label designing it is required to install this software in the computer and connect label printer to it (WK-1 cable). Installation is performed typically by activating the installation file and answering to successive question. Use the cable included in the printer equipment to connect it to the computer (use the 9/25 pin adapter when needed).

**Caution:** Producer reserves right to modify appearance of the individual screens according to software version, supplied with the printer.

### 11.1 Printer selection

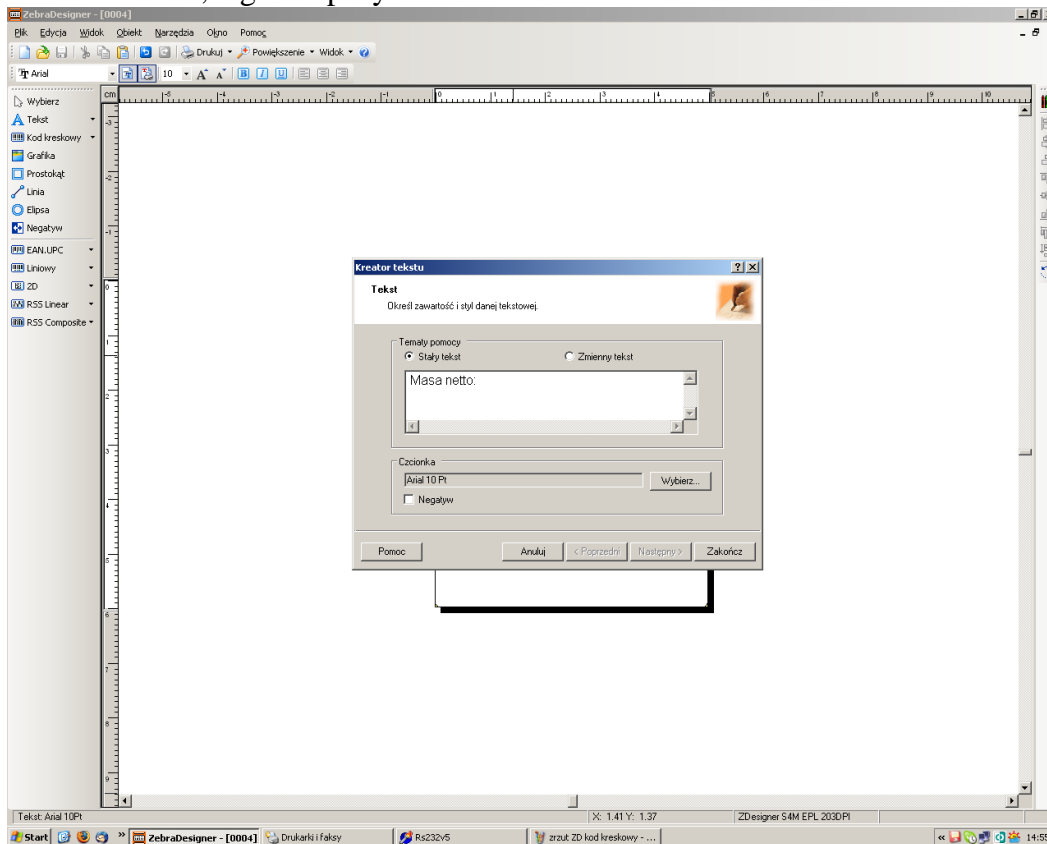


It is necessary to select the delivered printer type.

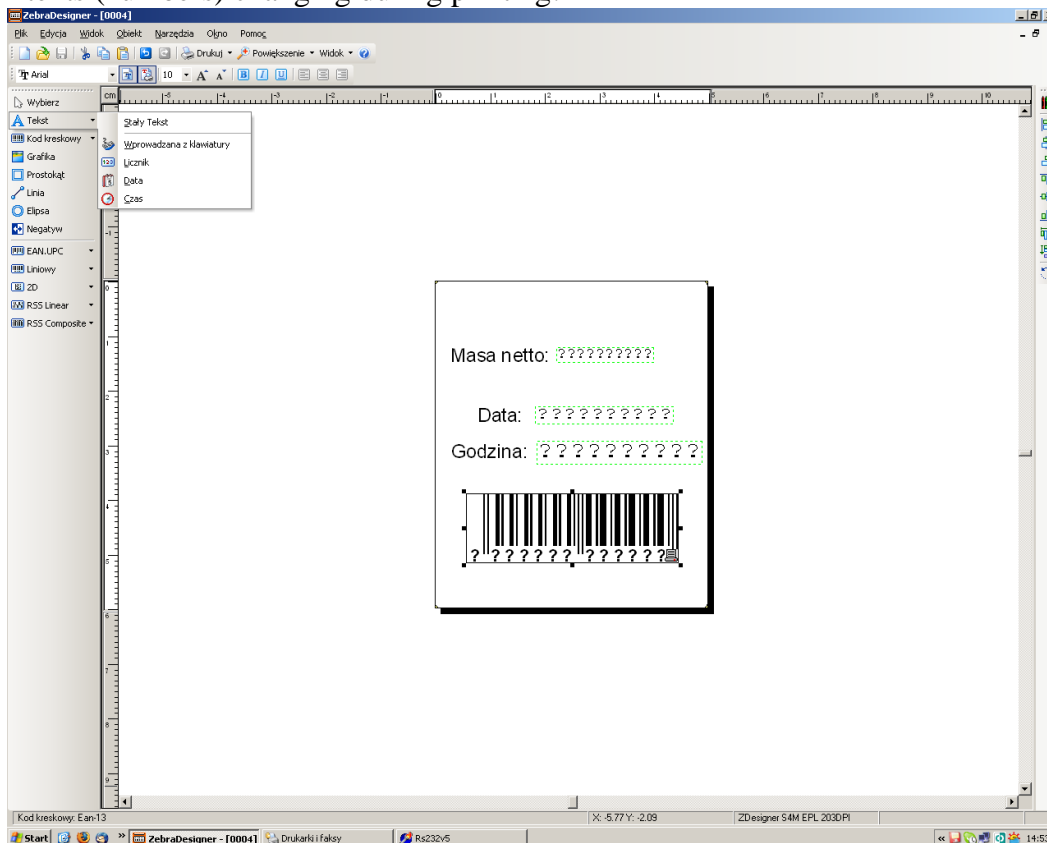
## 11.2 Data entering

Label design must include all information, required later during printing:

- constant texts, e.g. company header



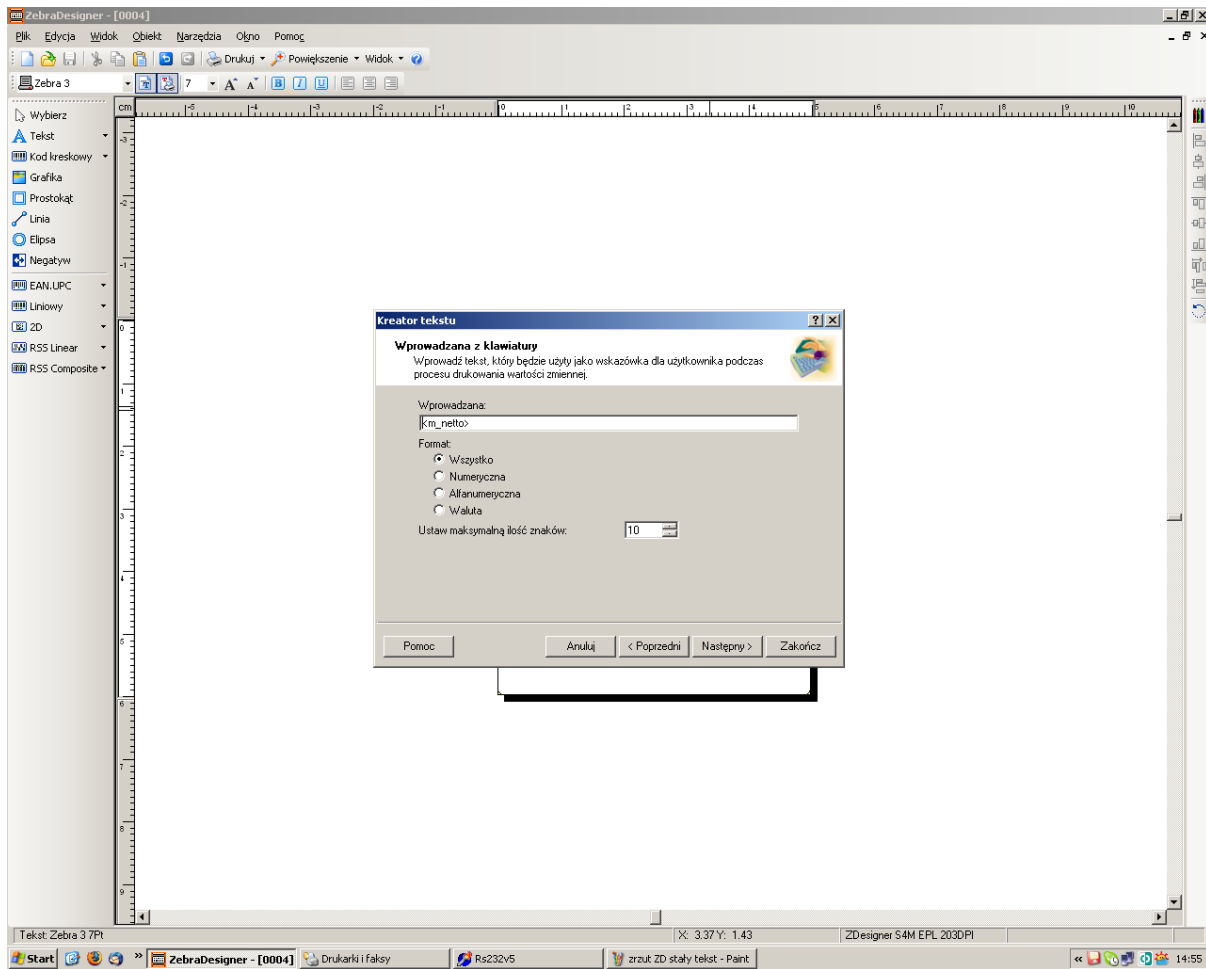
- texts (numbers) changing during printing:



**Caution:**



In AUTO mode enter the name of appropriate variable (see section 10):



In MANUAL mode data should be entered into label design in the following sequence (include only data from the data fields list – see function LIST/Pola):

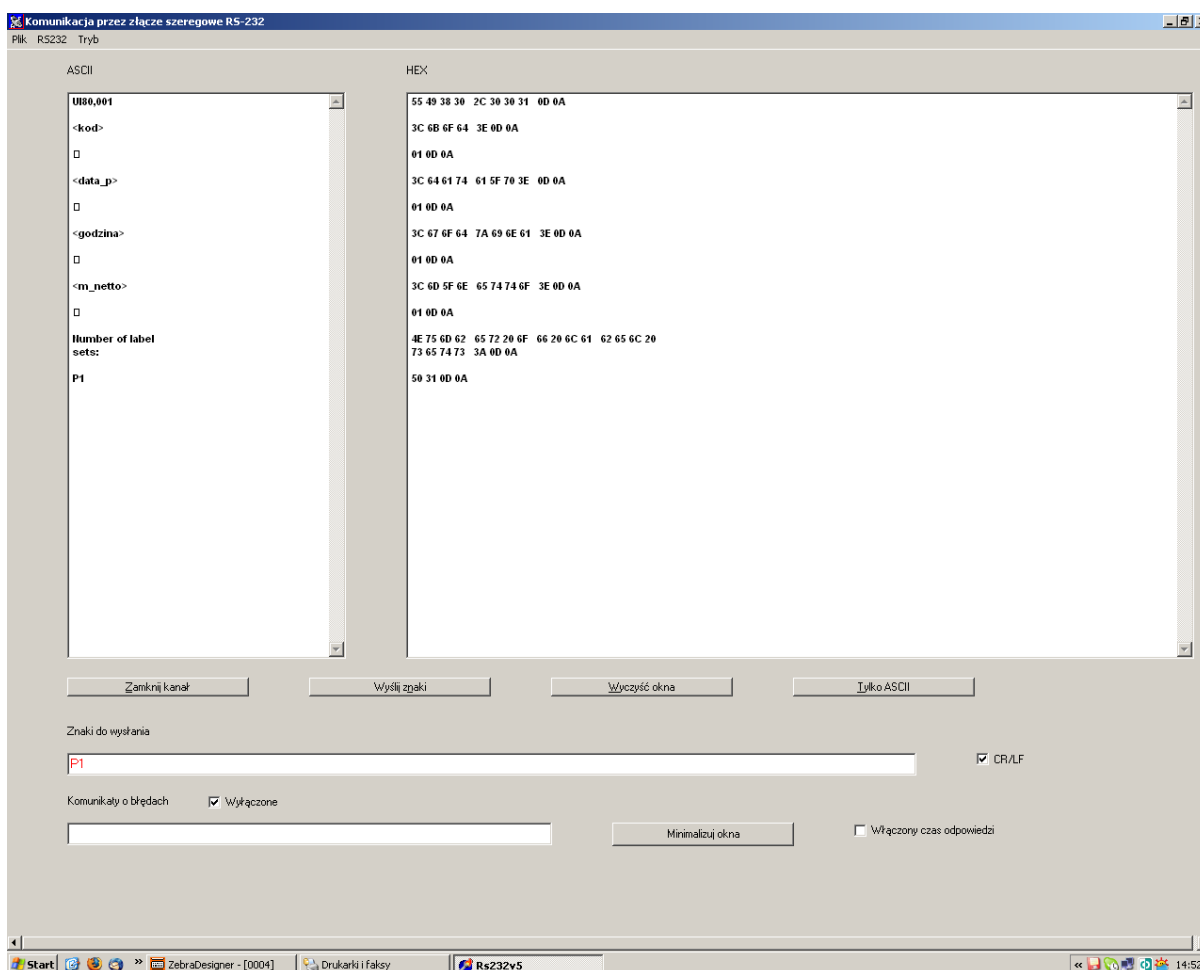
No.	Data	Chars. no.
1	net weight	10
2	gross weight	10
3	tare	10
4	price	8
5	value	8
6	production date	10
7	expiration date	10
8	bar code from balance	12
9	net weights sum	12
10	gross weights sum	12
11	packages no.	4
12	time	10
13	code 2	6
14	code 3	6
15	code 4	6
16	code 5	6
17	pieces no.	9
18	sum of pieces	9
19	unit weight	10

### 11.3 Saving label design in balance memory

It is recommended to perform trial label printing with the button Print. The design may be corrected by double clicking on required elements. Finished label design should be saved in the computer memory under the name, consisting of 4 digits, e.g. 0001.lbl. It will be recalled by the balance under this name. Then the design is entered into printer memory with instructions File and Export to Printer. The cumulative label should have name (number) higher of 1000, e.g. 1001.lbl.

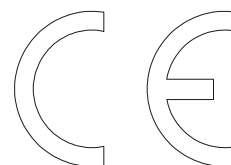
#### Caution:

It is possible to perform trial printing, using the *Serial port test* software, available on [www.axis.pl](http://www.axis.pl) site, which simulates balance commands.



### 11.4 Label printing with printer connected to balance

Before the first printing it is required to set all parameters in the balance, using keys: LIST, BAR or BAR C, DATA, DATA E, RS, N, PRICE and Label no. Connect the balance to the printer with the same cable, which was used with the computer, adding the 9/9 pin adapter. During connecting balance and printer should be turned off.



## *Declaration of Conformity*

The last two digits of the year in which the CE marking was affixed: 16

We: **AXIS** Spółka z o.o. Gdańsk, declares with full responsibility, that the balance:

SE-03

marked with **CE** mark comply with the following:

1. EN 61010-1:2004 standard Safety requirements for electrical equipment for measurement, control and laboratory use. General requirements harmonized with the directive 2006/95/WE (Low Voltage Directive),
2. EN 55022:2000 Electromagnetic compatibility (EMC) – information technology equipment – Radio disturbance characteristics - standard Limits and methods of measurement and IEC 61000-4-3 - Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test harmonized with the directive 2004/108/WE (Electromagnetic compatibility).

### Additional information

- Conformity evaluation for the Council Directive 73/23/ECC and 89/336/EEC (replaced by 2006/95/WE and 2004/108/WE) was carried out by Laboratorium Badawcze Oddziału Instytutu Elektrotechniki in Gdańsk, accredited by PCA,
- Type-Approval Certificate No. PL CB 1 was issued by Główny Urząd Miar w Warszawie (Notified Body No. 1440).

Per pro Director of AXIS Sp. z o.o.:

Production Manager

Jan Kończak

Date: 30-10-2015

## ***Notes***

