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# Software manual

ITKP-08-02-09-23-EN

## CBCP-02

Character-based Communication Protocol  
PUE C32 Terminal  
PUE HX7 Terminal  
PUE HX5.EX Terminal  
C32 Multifunctional scale  
HX7 Multifunctional scale  
HX5.EX Scale for hazardous areas


SEPTEMBER 2023

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## 1. GENERAL INFORMATION

- A. A character based communication protocol is designed for establishing communication between a RADWAG scale and a peripheral device via RS232, Ethernet and wireless connection.
- B. The protocol consists of commands sent from a peripheral device to the weighing device and responses from the weighing device.
- C. Responses are sent from the weighing device each time a command is received.
- D. Commands, forming the communication protocol, enable obtaining data on weighing device status and facilitate influencing weighing device operation, e.g.: acquiring measurement results from the weighing device, monitoring the display, etc.


	<b><i>You can select the communication port in: &lt;Peripherals / Computer / Port&gt; submenu.</i></b>
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## 2. LIST OF COMMANDS

<b>Command</b>	<b>Command overview</b>
<b>Z</b>	Zero scale.
<b>T</b>	Tare scale.
<b>OT</b>	Give tare value.
<b>UT</b>	Set tare.
<b>S</b>	Send stable measurement result in basic measuring unit.
<b>SI</b>	Immediately send measurement result in basic measuring unit.
<b>SIA *</b>	Immediately send measurement results from all platforms in basic measuring unit.
<b>SU</b>	Send stable measurement result in current measuring unit.
<b>SUI</b>	Immediately send measurement result in current measuring unit.
<b>C1</b>	Switch on continuous transmission in basic measuring unit.
<b>C0</b>	Switch off continuous transmission in basic measuring unit.
<b>CU1</b>	Switch on continuous transmission in current measuring unit.
<b>CU0</b>	Switch off continuous transmission in current measuring unit.
<b>K1</b>	Lock scale keypad.
<b>K0</b>	Unlock scale keypad.
<b>DH</b>	Set min checkweighing threshold.
<b>UH</b>	Set max checkweighing threshold.

<b>ODH</b>	Give value of min checkweighing threshold.
<b>OUH</b>	Give value of max checkweighing threshold.
<b>D1</b>	Set fast dosing threshold.
<b>D2</b>	Set dosing threshold.
<b>OD1</b>	Give value of fast dosing threshold.
<b>OD2</b>	Give value of dosing threshold.
<b>SS</b>	Simulation of pressing ENTER/PRINT key.
<b>P *</b>	Change platform.
<b>NB</b>	Give scale serial number.
<b>SM</b>	Set mass value of a single item.
<b>RM</b>	Set reference mass value.
<b>BP</b>	Activate sound signal.
<b>OMI</b>	Give available working modes.
<b>OMS</b>	Set working mode.
<b>OMG</b>	Give current working mode.
<b>UI</b>	Give accessible units.
<b>US</b>	Set unit.
<b>UG</b>	Give current unit.
<b>BN</b>	Give scale type.
<b>FS</b>	Give max capacity.
<b>RV</b>	Give program version.
<b>A</b>	Set AUTOZERO function.
<b>LOGIN</b>	User logging.
<b>LOGOUT</b>	User logout.
<b>PC</b>	Send all implemented commands.

\*) - Applies to the HX7 dual platform scale exclusively.

	<p><b><i>Each command must end with CR LF characters.</i></b></p>
---	---

### 3. RESPONSE FORMAT

On receipt of a command, the indicator responds as follows:

<b>XX_A CR LF</b>	command understood and in progress.
<b>XX_D CR LF</b>	command carried out (appears only after the XX_A command).
<b>XX_I CR LF</b>	command understood but not accessible at this moment.
<b>XX_ ^ CR LF</b>	command understood but max threshold is exceeded.
<b>XX_ v CR LF</b>	command understood but min threshold is exceeded.
<b>XX_ OK CR LF</b>	command carried out.
<b>ES_ CR LF</b>	command not recognised.
<b>XX_ E CR LF</b>	time limit exceeded while waiting for stable measurement result (time limit is a characteristic scale parameter).

**XX** - name of a sent command.

**\_** - space.

### 4. COMMANDS OVERVIEW

#### 4.1. Zero Scale

Format: **Z CR LF**

Response options:

<b>Z_A CR LF</b>	- command understood and in progress.
<b>Z_D CR LF</b>	- command carried out.
<b>Z_A CR LF</b>	- command understood and in progress.
<b>Z_ ^ CR LF</b>	- command understood but zeroing range is exceeded.
<b>Z_A CR LF</b>	- command understood and in progress.
<b>Z_E CR LF</b>	- time limit exceeded while waiting for stable measurement result.
<b>Z_I CR LF</b>	- command understood but not accessible at this moment.

#### 4.2. Tare Scale

Format: **T CR LF**

Response options:

<b>T_A CR LF</b>	- command understood and in progress.
<b>T_D CR LF</b>	- command carried out.
<b>T_A CR LF</b>	- command understood and in progress.
<b>T_ v CR LF</b>	- command understood but taring range is exceeded.
<b>T_A CR LF</b>	- command understood and in progress.
<b>T_E CR LF</b>	- time limit exceeded while waiting for stable measurement result.
<b>T_I CR LF</b>	- command understood but not accessible at this moment.

### 4.3. Give Tare Value

Format: **OT CR LF**

Response: **OT\_TARE CR LF** - command carried out.

Response format:

1	2	3	4	5-6	7-15	16	17	18	19	20	21
O	T	space	stability marker	space	tare	space	unit			CR	LF

**Tare** - 9 characters, right justification.


**Unit** - 3 characters, left justification.

### 4.4. Set Tare

Format: **UT\_TARE CR LF**, where: **\_** - space; **TARE** - tare value.

Response options:

<b>UT_OK CR LF</b>	- command carried out.
<b>UT_I CR LF</b>	- command understood but not accessible at this moment.
<b>ES CR LF</b>	- command not recognised (tare format incorrect).

	<p><b><i>Use dot in tare format as decimal point.</i></b></p>
---	---

### 4.5. Send Stable Measurement Result in Basic Measuring Unit

Format: **S CR LF**

Response options:

<b>S_A CR LF</b>	- command understood and in progress.
<b>S_E CR LF</b>	- time limit exceeded while waiting for stable measurement result.
<b>S_I CR LF</b>	- command understood but not accessible at this moment.
<b>S_A CR LF</b> <b>MASS FRAME</b>	- command understood and in progress. - response: mass value in basic measuring unit.

Response format:

1	2-3	4	5	6	7-15	16	17	18	19	20	21
S	space	stability marker	space	character	mass	space	unit			CR	LF

**Example:**

**S CR LF** – command sent from a computer.

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

**S \_ \_ \_ \_ - \_ \_ \_ \_ \_ 8 . 5 \_ g \_ \_ CR LF** - command carried out, response: mass value in basic measuring unit.

**4.6. Immediately Send Measurement Result in Basic Measuring Unit**

Format: **SI CR LF**

Response options:

<b>SI_I CR LF</b>	- command understood but not accessible at this moment.
<b>MASS FRAME</b>	- immediate response: mass value in basic measuring unit.

Response format:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
S	I	space	stability marker	space	character	mass	space	unit		CR	LF	

**Example:**

**S I CR LF** – command sent from a computer.

**S I \_ ? \_ \_ \_ \_ \_ 1 8 . 5 \_ k g \_ CR LF** - command carried out, immediate response: mass value in basic measuring unit.

**4.7. Immediately Send Measurement Results From all Platforms in Basic Measuring Unit**

*Applies to the HX7 dual platform scale exclusively.*

Format: **SIA CR LF**

Response options:

**SIA\_I CR LF** - - command understood but not accessible at this moment.

**MASS FRAME „P1” ; MASS FRAME „P2” CR LF** - immediate response: mass values from both platforms in basic measuring unit.

;	Mass frame separator.
„P1”	Platform 1.
„P2”	Platform 2.

Response format:

1	2	3	4	5	6	7-15	16	17	18	19
P	n	space	stability marker	space	character	mass	space	unit		

<b>n</b>	Weighing platform number.
<b>Mass</b>	9 characters, right justification.
<b>Unit</b>	3 characters, left justification.

**Example:**

Assumption: the indicator connects with 2 weighing platforms (platform 1, platform 2).

**S I A C R L F** – command sent from a computer.

**P 1 \_ ? \_ \_ \_ \_ \_ 1 1 8 . 5 \_ g \_ \_ ; P 2 \_ \_ \_ \_ \_ 3 6 . 2 \_ k g \_ C R L F**

- command carried out, immediate response: mass values from both platforms in basic measuring unit.

**4.8. Send Stable Measurement Result in Current Measuring Unit**

Format: **S U C R L F**

Response options:

<b>S U _ A C R L F</b>	- command understood and in progress.
<b>S U _ E C R L F</b>	- time limit exceeded while waiting for stable measurement result.
<b>S U _ I C R L F</b>	- command understood but not accessible at this moment.
<b>S U _ A C R L F</b> <b>MASS FRAME</b>	- command understood and in progress. - response: mass value in current measuring unit.

Response format:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
S	U	space	stability marker	space	character	mass	space	unit			CR	LF

**Example:**

**S U C R L F** – command sent from a computer.

**S U \_ \_ A C R L F** - command understood and in progress.

**S U \_ \_ \_ - \_ \_ 1 7 2 . 1 3 5 \_ N \_ \_ C R L F** - command carried out, response: mass value in current measuring unit.

**4.9. Immediately Send Measurement Result in Current Measuring Unit**

Format: **S U I C R L F**

Response options:

<b>S U I _ I C R L F</b>	- command understood but not accessible at this moment.
<b>MASS FRAME</b>	- immediate response: mass value in current measuring unit.

Response format:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
S	U	I	stability marker	space	character	mass	space	unit			CR	LF

**Example:**

**S U I CR LF** – command sent from a computer.

**S U I ? \_ - \_ \_ \_ 5 8 . 2 3 7 \_ k g \_ CR LF** - command carried out, immediate response: mass value in current measuring unit.

**4.10. Switch on Continuous Transmission in Basic Measuring Unit**

Format: **C1 CR LF**

Response options:

<b>C1_I CR LF</b>	- command understood but not accessible at this moment.
<b>C1_A CR LF</b> <b>MASS FRAME</b>	- command understood and in progress. - response: mass value in basic measuring unit.

Response format:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
S	I	space	stability marker	space	character	mass	space	unit			CR	LF

**4.11. Switch off Continuous Transmission in Basic Measuring Unit**

Format: **C0 CR LF**

Response options:

<b>C0_I CR LF</b>	- command understood but not accessible at this moment.
<b>C0_A CR LF</b>	- command understood and carried out.

**4.12. Switch on Continuous Transmission in Current Measuring Unit**

Format: **CU1 CR LF**

Response options:

<b>CU1_I CR LF</b>	- command understood but not accessible at this moment.
<b>CU1_A CR LF</b> <b>MASS FRAME</b>	- command understood and in progress. - response: mass value in current measuring unit.

Response format:

1	2	3	4	5	6	7-15	16	17	18	19	20	21
S	U	I	stability marker	space	character	mass	space	unit			CR	LF

### 4.13. Switch off Continuous Transmission in Current Measuring Unit

Format: **CU0 CR LF**

Response options:


<b>CU0_I CR LF</b>	- command understood but not accessible at this moment.
<b>CU0_A CR LF</b>	- command understood and carried out.

### 4.14. Lock Scale Keypad

Format: **K1 CR LF**

Response options:

<b>K1_I CR LF</b>	- command understood but not accessible at this moment.
<b>K1_OK CR LF</b>	- command carried out.

	<p><b><i>Command is not stored in memory upon weighing device restart.</i></b></p>
---	--

### 4.15. Unlock Scale Keypad

Format: **K0 CR LF**

Response: **K0\_OK CR LF** - command carried out.

### 4.16. Set Min Checkweighing Threshold

Format: **DH\_XXXXX CR LF**, where: \_ - space, **XXXXX** - mass format.

Response options:

<b>DH_OK CR LF</b>	- command carried out.
<b>ES CR LF</b>	- command not recognised (mass format incorrect).

#### 4.17. Set Max Checkweighing Threshold

Format: **UH\_XXXXX CR LF**, where: \_ - space, XXXXX - mass format.

Response options:

<b>UH_OK CR LF</b>	- command carried out.
<b>ES CR LF</b>	- command not recognised (mass format incorrect).

#### 4.18. Give Value of Min Checkweighing Threshold

Format: **ODH CR LF**

Response: **DH\_MASS CR LF** - command carried out.

Response format:

1	2	3	4-12	13	14	15	16	17	18	19
D	H	space	mass	space	unit			space	CR	LF

**Mass** - 9 characters, right justification.

**Unit** - 3 characters, left justification.

#### 4.19. Give Value of Max Checkweighing Threshold

Format: **OUH CR LF**

Response: **UH\_MASS CR LF** - command carried out.

Response format:

1	2	3	4-12	13	14	15	16	17	18	19
U	H	space	mass	space	unit			space	CR	LF

**Mass** - 9 characters, right justification.

**Unit** - 3 characters, left justification.



#### 4.20. Set fast dosing threshold

*It applies to 'Dosing' working mode only.*

Format: **D1\_XXXXX CR LF**, where: \_ - space; XXXXX - mass format.

Response options:

<b>D1_OK CR LF</b>	- command carried out.
<b>D1_I CR LF</b>	- command understood but not accessible at this moment.
<b>ES CR LF</b>	- command not understood (wrong mass format or threshold value).

	<b>The requisite for setting the fast dosing threshold value is the selected dosing procedure that includes 'Dose automatically' step.</b>
	<b>The declared fast dosing threshold value must be:</b> - lower than Max scale, - lower than the dosing threshold value.



#### 4.21. Set dosing threshold

*It applies to 'Dosing' working mode only.*

Format: **D2\_XXXXX CR LF**, where: \_ - space; **XXXXX** - mass format.

Response options:

<b>D2_OK CR LF</b>	- command carried out.
<b>D2_I CR LF</b>	- command understood but not accessible at this moment.
<b>ES CR LF</b>	- command not understood (wrong mass format or threshold value).

	<b>The requisite for setting the dosing threshold value is the selected dosing procedure that includes 'Dose automatically' step.</b>
	<b>The declared dosing threshold value must be:</b> - lower than Max balance, - higher than zero, - higher than fast dosing threshold value.

#### 4.22. Give value of fast dosing threshold

*It applies to 'Dosing' working mode only.*

Format: **OD1 CR LF**

Response options:


<b>OD1_MASA CR LF</b>	- command carried out.
<b>OD1_I CR LF</b>	- command understood but not accessible at this moment.

Response format:

1	2	3	4-12	13	14	15	16	17	18	19
D	1	space	mass	space	unit		space	CR	LF	

**Mass** - 9 characters, right justification.

**Unit** - 3 characters, left justification.

	<b>The requisite for reading the fast dosing threshold value is the selected dosing procedure that includes 'Dose automatically' step.</b>
---	--

#### 4.23. Give value of dosing threshold

*It applies to 'Dosing' working mode only.*

Format: **OD2 CR LF**

Response options:

<b>OD2_MASA CR LF</b>	- command carried out.
<b>OD2_I CR LF</b>	- - command understood but not accessible at this moment.

Response format:

1	2	3	4-12	13	14	15	16	17	18	19
D	2	spacja	masa	spacja	jednostka		spacja	CR	LF	

**Mass** - 9 characters, right justification.

**Unit** - 3 characters, left justification.



***The requisite for reading the fast dosing threshold value is the selected dosing procedure that includes 'Dose automatically' step.***

#### 4.24. Give Scale Serial Number

Format: **NB CR LF**

Response options:

<b>NB_A_ "Serial No." CR LF</b>	- command understood, response: serial number.
<b>NB_I CR LF</b>	- command understood but not accessible at this moment.

"Serial No." – serial number of the device, inserted in between inverted commas.

#### Example:

**NB CR LF** – command sent from a computer.

**NB\_A\_ "123456" CR LF** – serial number: 123456.

#### 4.25. Simulation of Pressing ENTER/PRINT Key

Format: **SS CR LF**

Sending **S S CR LF** command results in automatic saving of the weighing result in a database and in activating declared printout.



***All weighing conditions (result control, stable mass readout) have to be fulfilled during command sending.***

## 4.26. Change Platform

*Applies to the HX7 dual platform scale exclusively.*

Format: **PN CR LF**, where **N** - platform number (1 or 2).

Response options:

<b>PN_OK CR LF</b>	- command carried out.
<b>PN_I CR LF</b>	- command understood but not accessible at this moment.
<b>ES CR LF</b>	- command not recognised (platform number incorrect).

## 4.27. Set Mass Value of a Single Item

Format: **SM\_XXXXX CR LF**, where: \_ - space, XXXXX - mass format.

Response options:

<b>SM_OK CR LF</b>	- command carried out.
<b>SM_I CR LF</b>	- command understood but not accessible at this moment.
<b>ES CR LF</b>	- command not recognised (mass format incorrect).



***Command carried out for Parts Counting working mode.***

## 4.28. Set Reference Mass Value

Format: **RM\_XXXXX CR LF**, where: \_ - space, XXXXX - mass format.

Response options:

<b>RM_OK CR LF</b>	- command carried out.
<b>RM_I CR LF</b>	- command understood but not accessible at this moment.
<b>ES CR LF</b>	- command not recognised (mass format incorrect).



***Command carried out for Percent Weighing working mode.***

#### 4.29. Activate Sound Signal

Format: **BP\_TIME CR LF**, where: \_ - space, TIME - value specifying how long the sound lasts, parameter given in [ms]. Recommended range <50÷5000>.



Response options:

<b>BP_OK CR LF</b>	- command carried out, BEEP activated.
<b>BP_I CR LF</b>	- command understood but not accessible at this moment.
<b>ES CR LF</b>	- command not recognised (time format incorrect).

#### Example:

**BP\_350 CR LF** - command sent from a computer (activate BEEP for 350 ms).

**BP\_OK CR LF** - BEEP activated.

	<b><i>If value greater than the permissible high limit is given, then BEEP sound is operated for the maximum permissible amount of time.</i></b>
	<b><i>BEEP sound activated via BP command is inhibited if in the course of its activation, the sound is activated by means of other device: keypad, touch panel, proximity sensors.</i></b>

#### 4.30. Give Available Working Modes

Format: **OMI CR LF**

Response options:


<b>OMI CR LF</b> <b>n_Mode name CR LF</b> <b>OK CR LF</b>	- command carried out, response: accessible working modes.
<b>OMI_I CR LF</b>	- command understood but not accessible at this moment.

**Mode name** - working mode name, the name takes form displayed on a particular weighing device screen, it is provided in a currently selected language.

**n** - parameter, decimal value determining working mode number.

**Working modes:**

1	Weighing
2	Parts counting
3	Percent weighing
4	Dosing
5	Formulations
6	Animal weighing
7	Density
8	Solids Density
9	Liquids Density
10	Peak Hold
11	Totalizing
12	Checkweighing
13	Statistics
14	Pipette Calibration
15	Differential Weighing
16	Statistical Quality Control (SQC)
17	Pre-packaged Goods Control
18	Mass control (automatic tablet feeder)
19	Drying
20	Mass comparator
21	Vehicle scale

	<p><b><i>Working mode numbering is identical for each type of scale. The numbers are assigned to working mode names.</i></b></p>
---	--

**Example:**

**OMI CR LF**

- command sent from a computer

**OMI CR LF**

- response: accessible working modes.

**1\_Weighing CR LF**

**2\_Parts Counting CR LF**

**3\_Percent Weighing CR LF**

**OK CR LF**

- command carried out

### 4.31. Set Working Mode

Format: **OMS\_n CR LF**, where: \_ - space; **n** - decimal value determining working mode number. To see detailed description go to **OMI** command.

Response options:

<b>OMS_OK CR LF</b>	- command carried out.
<b>OMS_I CR LF</b>	- command understood but not accessible at this moment.
<b>OMS_E CR LF</b>	- command not recognised (incorrect value).

**Example:**

**OMS\_2 CR LF** - command sent from a computer.

**OMS\_OK CR LF** - Parts counting mode has been set.

### 4.32. Give Current Working Mode

Format: **OMG CR LF**

Response options:

<b>OMG_n_Mode name CR LF</b>	- command carried out, response: current working mode name and number.
<b>OMG_I CR LF</b>	- command understood but not accessible at this moment.

**Mode name** – working mode name, the name takes form displayed on a particular weighing device screen, it is provided in a currently selected language.

**n** - parameter, decimal value determining working mode number. To see detailed description go to **OMI** command.

**Example:**

**OMG CR LF**- command sent from a computer.

**OMG\_2\_Parts Counting CR LF** - currently set mode: Parts Counting.

### 4.33. Give Accessible Units

Format: **UI CR LF**

Response options:

<b>UI_ "x<sub>1</sub>,x<sub>2</sub>, ... x<sub>n</sub>"_OK&lt;CR&gt;&lt;LF&gt;</b>	- command carried out, response: accessible units.
<b>UI_I &lt;CR&gt;&lt;LF&gt;</b>	- command understood but not accessible at this moment.

**x** - unit symbols, separated by means of commas.

**Example:**

**UI CR LF**- return available units.

**UI\_ "kg,N,lb,u1,u2"\_OK CR LF** - response: available units.

#### 4.34. Set Unit

Format: **US\_x CR LF**

Response options:

<b>US_x_OK CR LF</b>	- command carried out, response: the set unit.
<b>US_E CR LF</b>	- error in-course of command execution, no parameter or incorrect format.
<b>US_I CR LF</b>	- command understood but not accessible at this moment.

x - parameter, unit symbols: g, kg, N, lb, oz, ct, u1, u2, next.



*If x=next the command swaps to another available unit on the list (it simulates "UNIT" button pressing).*

#### Example:

**US\_kg CR LF** - set „kg” unit.

**US\_kg\_OK CR LF** - „kg” has been set.

#### 4.35. Give Current Unit

Format: **UG CR LF**

Response options:

<b>UG_x_OK&lt;CR&gt;&lt;LF&gt;</b>	- command carried out, response: the set unit.
<b>UG_I &lt;CR&gt;&lt;LF&gt;</b>	- command understood but not accessible at this moment.

x - parameter, unit symbol.

#### Example:

**UG CR LF** - return the current unit.

**UG\_kg\_OK CR LF** – currently set unit: „kg”.

#### 4.36. Give Scale Type

Format: **BN CR LF**

Response options:

<b>BN_A_”x” CR LF</b>	- command understood, response: weighing device type.
<b>BN_I CR LF</b>	- command understood but not accessible at this moment.

x - weighing device type (inserted in between inverted commas).

#### Example:

**BN CR LF** - return weighing device type.

**BN\_A\_”HX7” CR LF** – weighing device type: „HX7”.

### 4.37. Give Max Capacity

Format: **FS CR LF**

Response options:

<b>FS_A "x" CR LF</b>	- command understood, response: max capacity.
<b>FS_I CR LF</b>	- command understood but not accessible at this moment.

x – Max capacity value (in between inverted commas).

#### Example:

**FS CR LF** - return Max capacity.

**FS\_A "3.000" CR LF** – Max capacity: „3.000”.

### 4.38. Give Program Version

Format: **RV CR LF**

Response options:

<b>RV_A "x" CR LF</b>	- command understood, response: program version.
<b>RV_I CR LF</b>	- command understood but not accessible at this moment.

x – program version (in between inverted commas).

#### Example:

**RV CR LF** - return program version.

**RV\_A "1.0.0" CR LF** – program version: „1.0.0”.

### 4.39. Set AUTOZERO Function

Format: **A\_n CR LF**, where: \_ - space; n – autozero value.

Response options:

<b>A_OK CR LF</b>	- command carried out.
<b>A_E CR LF</b>	- error in-course of command execution, no parameter or incorrect format.
<b>A_I CR LF</b>	- command understood but not accessible at this moment.

n - parameter, decimal value determining autozero state: 0 – autozero off, 1 – autozero on.

#### Example:

**A\_1 CR LF** – turn autozero function on.

**A\_OK CR LF** – autozero function is on.

#### 4.40. User Logging

Format: **LOGIN\_NAME,PASSWORD CR LF**, where: \_ - space, **NAME** - operator name, **PASSWORD** - operator password

Response options:

<b>LOGIN_OK CR LF</b>	- command understood, new user is logged in.
<b>LOGIN_E CR LF</b>	- command understood, an error in name or password occurred, log in failed.
<b>ES CR LF</b>	- command not recognized (error in format).



***Name and password have to be inserted as they are set in the weighing device – upper-case and lower-case letters.***

#### 4.41. User Logout

Format: **LOGOUT CR LF**

Response options:

<b>LOGOUT_OK CR LF</b>	- command understood, user is logged out.
<b>ES CR LF</b>	- command not recognized (error in format).

#### 4.42. Send All Implemented Commands

Format: **PC CR LF**

Response:

**PC\_A "Z,T,S,SI,SIA,SU,SUI,C1,C0,CU1,CU0,DH,ODH,UH,OUH,D1,D2,OD1,OD2,OT,UT,SS,P,NB,M,RM,BP,OMI,OMS,OMG,UI,US,UG,BN,FS,RV,A,LOGI N,LOGOUT,PC"** - command carried out, the indicator displays all implemented commands.

## 5. MANUAL PRINTOUT / AUTOMATIC PRINTOUT

It is possible to generate printouts either manually or automatically.

- Manual printout is generated for stable weighing result. Load the platform, wait for a stable result and press **ENTER/PRINT** key.
- Automatic printout is generated for stable weighing result. Load the platform, wait for a stable result. No key needs to be pressed.

### Format:

1	2	3	4-12	13	14	15	16	17	18
stability marker	space	character	mass	space	unit			CR	LF

<b>Stability marker</b>	[space] if stable [?] if unstable [^] if high limit is out of range [v] if low limit is out of range
<b>Character</b>	[space] for positive values [-] for negative values
<b>Mass</b>	9 characters with decimal point, right justification
<b>Unit</b>	3 characters, left justification

### Example:

\_\_\_\_ \_ 1 8 3 2 . 0 \_ g \_ \_ CR LF - a printout generated from a weighing device on pressing **ENTER/PRINT** key.

