

C32

MULTIFUNCTIONAL SCALES

USER MANUAL

ITKU-103-08-11-20-EN




RADWAG® RADWAG BALANCES AND SCALES
ADVANCED WEIGHING TECHNOLOGIES

NOVEMBER 2020

2

"The drawings, photos and graphics used are for illustrative purposes only."

SERIES LIST:













Model		Max [kg]	d=e [g]	Weighing pan dimensions [mm]
C32.0,6.D2	✓	0,6	0,2	195x195
C32.1,5.F1.R	✓	1,5	0,5	300x300
C32.1,5.F1.M	✓	1,5	0,5	300x300
C32.1,5.F1.K	✓	1,5	0,5	300x300
C32.1,5.D2	✓	1,5	0,5	195x195
C32.3.D2	✓	3	1	195x195
C32.6.D2	✓	6	2	195x195
C32.3.F1.R	✓	3	1	300x300
C32.3.F1.K	✓	3	1	300x300
C32.3.F1.M	✓	3	1	300x300
C32.6.F1.R	✓	6	2	300x300
C32.6.F1.K	✓	6	2	300x300
C32.6.F1.M	✓	6	2	300x300
C32.15.F1.R	✓	15	5	300x300
C32.15.F1.K	✓	15	5	300x300
C32.15.F1.M	✓	15	5	300x300
C32.30.F1.R	✓	30	10	300x300
C32.30.F1.K	✓	30	10	300x300
C32.30.F1.M	✓	30	10	300x300
C32.30.C2.R	✓	30	10	500x400
C32.30.C2.K	✓	30	10	500x400
C32.30.C2.M	✓	30	10	500x400
C32.60.C2.R	✓	60	20	500x400
C32.60.C2.K	✓	60	20	500x400
C32.60.C2.M	✓	60	20	500x400
C32.150.C2.R	✓	150	50	500x400
C32.150.C2.K	✓	150	50	500x400
C32.150.C2.M	✓	150	50	500x400
C32.300.C2.R	✓	300	100	500x400
C32.300.C2.K	✓	300	100	500x400
C32.300.C2.M	✓	300	100	500x400
C32.150.C3.K	✓	150	50	700x500
C32.150.C3.M	✓	150	50	700x500
C32.300.C3.K	✓	300	100	700x500
C32.300.C3.M	✓	300	100	700x500



For detailed technical specifications refer to RADWAG website www.radwag.com/pl/.

PRECAUTIONS

Prior to installation, use or maintenance activities, carefully read this user manual and follow the provided guidelines.

	Prior to the first use, carefully read this user manual. Use the weighing device only as intended.
	Place weighed loads in the centre of the weighing pan.
	Load the weighing pan with loads of gross weight which does not exceed the maximum capacity.
	Mind not to leave heavy loads on the weighing pan for longer periods of time.
	Protect the indicator against considerable temperature variation, solar and UV radiation, substances causing chemical reactions.
	The C32 scale must not be operated in hazardous areas endangered with explosion of gases, and in dusty environments.
	In case of damage, immediately unplug the device from the mains.
	Scales to be decommissioned must be decommissioned in accordance with valid legal regulations.
	Do not let battery discharge in case of prolonged storage of the device in low temperature.
	A worn out battery can be replaced only by the manufacturer or by the authorized service.
	Accumulators do not belong to regular household waste. The European legislation requires discharged accumulators to be collected and disposed separately from other communal waste with the aim of being recycled. Symbols on batteries identify harmful compounds: Pb = lead, Cd = cadmium, Hg = mercury. Dear user, you are obliged to dispose of the worn out batteries as regulated.
	If the scale is to be operated in conditions that are difficult due to electrostatics (e.g. printing house, packing centre, etc.), you must connect it to the earth wire. To enable this, the device features functional earthing terminal, marked with \perp symbol.

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1. INTENDED USE

The scales are a response to growing market demands for a solution offering simplicity of operation and weighing process automated to the maximum. C32 series scales enable fast and accurate mass measurement in laboratory and industry.

Scale of standard design is equipped with two RS232 interfaces, USB type A, USB type B, Ethernet, wireless communication, 2 proximity sensors, 4 I/O. Optionally the device can be equipped with an internal battery, this allows its operation in places where there is no access to the mains. C32 series scales team with receipt printers, barcode scanners, additional display, and PC accessories (mouse, keyboard, USB flash drive).

2. WARRANTY CONDITIONS

- A. RADWAG feels obliged to repair or exchange all elements that appear to be faulty by production or by construction.
- B. Defining defects of unclear origin and means of their elimination can only be realized with the assistance of the manufacturer and the user representatives.
- C. RADWAG does not bear any responsibility for damage or losses resulting from unauthorized or inadequate performing of production or service processes.
- D. The warranty does not cover:
 - mechanical damage caused by product exploitation other than intended, damage of thermal and chemical origin, damage caused by lightning, overvoltage in the power network or other random event,
 - inappropriate cleaning habits.
- E. Loss of warranty takes place if:
 - a repair is carried out outside RADWAG authorized service point,
 - service claims intrusion into mechanical or electronic construction by unauthorized people,
 - the scale does not bear security seal stickers.
- F. Warranty conditions outline the warranty period for rechargeable batteries attached to the device for 12 months.
- G. For detailed warranty conditions read the warranty certificate.
- H. Contact with the central authorized service: +48 (48) 386 63 30.

3. MAINTENANCE ACTIVITIES

In order to ensure safety in the course of cleaning, it is necessary to disconnect the device from the mains. With this condition met, uninstall the weighing pan and other detachable components.



Cleaning the weighing pan while still installed may cause damage of the measuring system.

3.1. Cleaning ABS Components

To clean dry surfaces and avoid smudging, use clean non-colouring cloths made of cellulose or cotton. You can use a solution of water and detergent (soap, dishwashing detergent, glass cleaner). Gently rub the cleaned surface and let it dry. Repeat the cleaning process if needed.

In the case of hard to remove contamination, e.g. residues of adhesive, rubber, resin, polyurethane foam etc., you can use a special cleaning agents based on a mixture of aliphatic hydrocarbons that do not dissolve plastics. Before using the cleanser for all surfaces we recommend carrying out tests. Do not use cleansers containing abrasive substances.

3.2. Cleaning Stainless Steel Components

Avoid using cleansers containing any corrosive chemicals, e.g. bleach (containing chlorine). Do not use cleansers containing abrasive substances. Always remove the dirt using microfiber cloth to avoid damage of protective coating.

Daily cleaning routine (removal of small stains):

1. Remove the dirt using cloth dipped in warm water.
2. For best results, add a little bit of dishwashing detergent.

4. SERVICE AND REPAIR



In case of any sign of damage, it is necessary to disconnect the device form the mains immediately. The damaged component must be replaced or repaired by RADWAG service directly.

In case of any problems with correct operation of the scale, contact the closest manufacturer's service point. In case of defects, deliver the faulty product to the manufacturer's service point. If the product cannot be delivered to the manufacturer's service point, call the service and report the defect. Repair scope and method will be set up.



The user is NOT ALLOWED to carry out any kind of repair of the device himself/herself. Any attempt of scale modification, repair etc., by unauthorized persons, will result with loss of validity of manufacturer-issued certificates, declarations and warranty.

5. RECYCLING

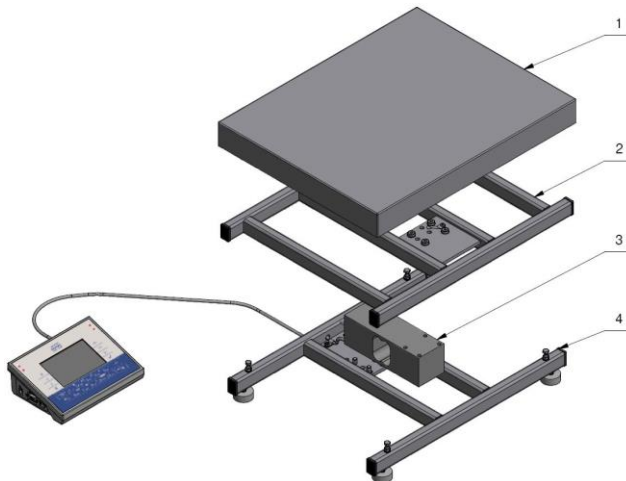
HY10 scales must be recycled, they are not to be treated as a regular household waste. Scales to be decommissioned must be decommissioned in accordance with valid legal regulations.



6. MECHANICAL DESIGN

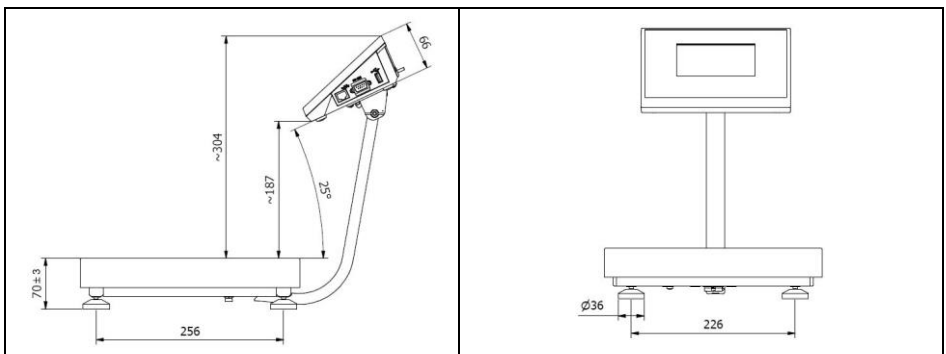
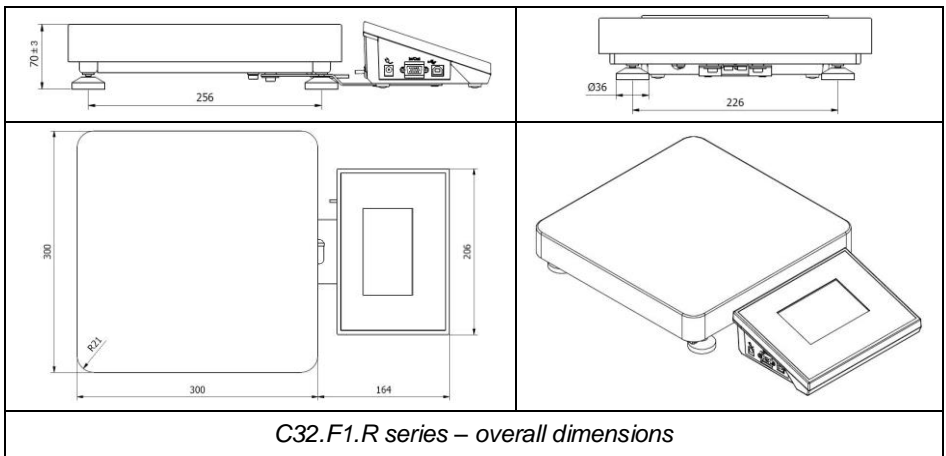
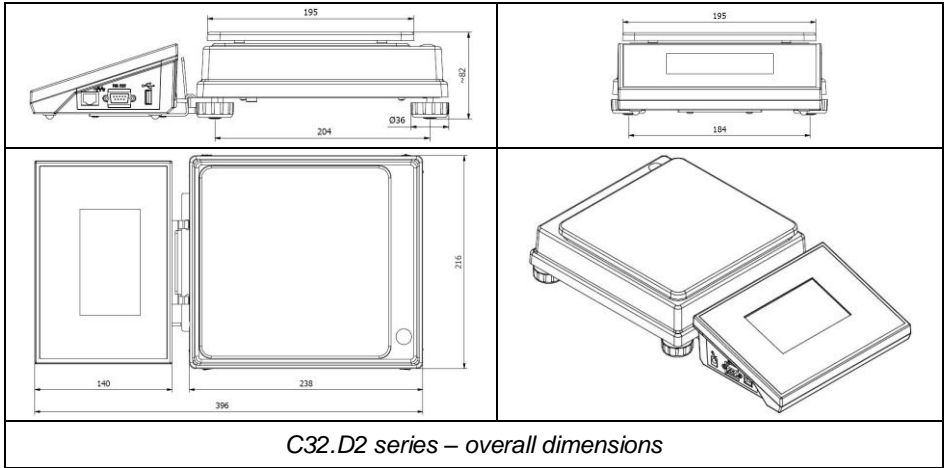
The 1-load-cell C32 scale is intended to carry out fast and precise mass measurement of up to 300 kg loads. Its characteristic feature is a platform with one load cell only. The platform is equipped with a stainless steel weighing pan. Depending on a scale model, the cross and base are made of either stainless steel or powder-coated steel.

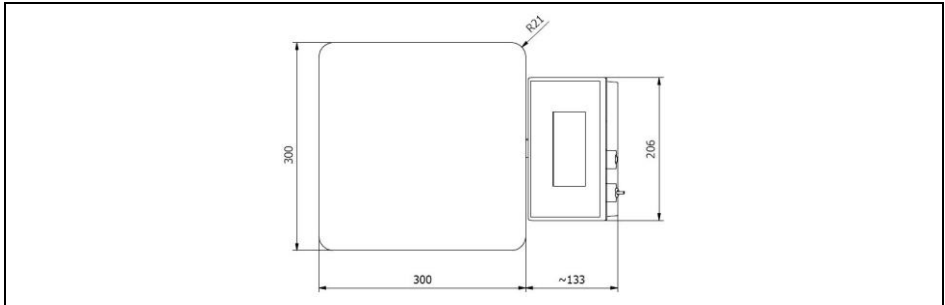
1-load-cell scale design, the main components:



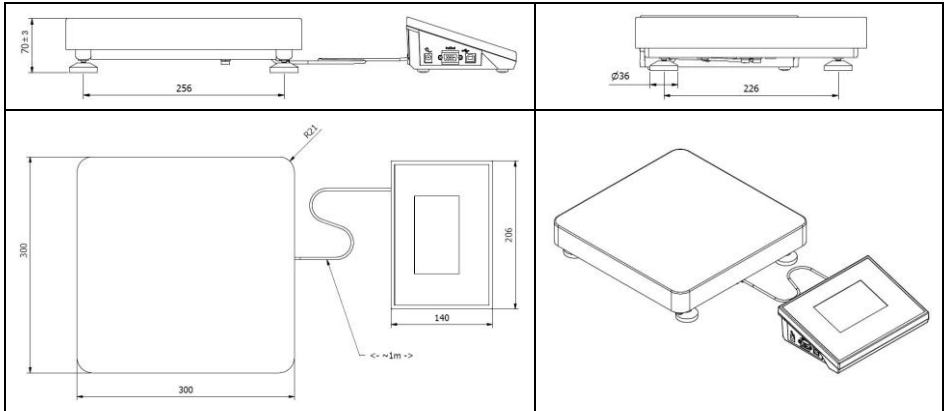
*1-load-cell scale design, the main components:
1- – weighing pan, 2 – cross, 3 - load cell, 4 - base.*

6.1. Dimensions

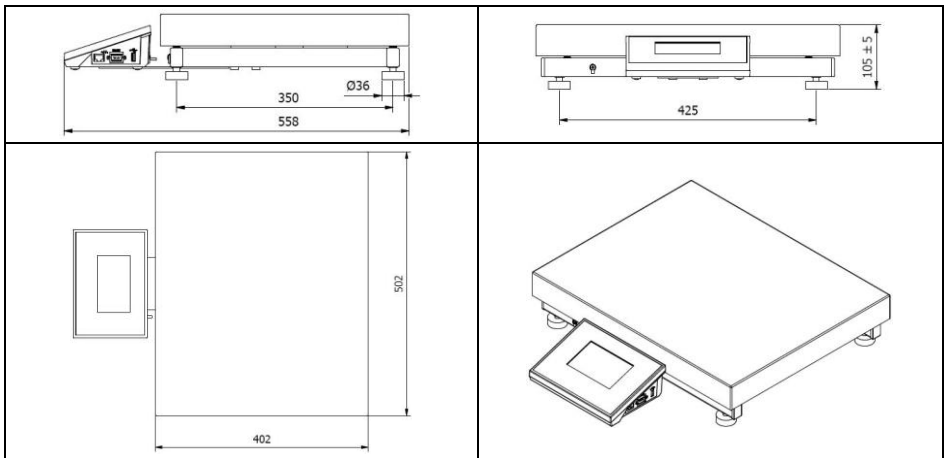




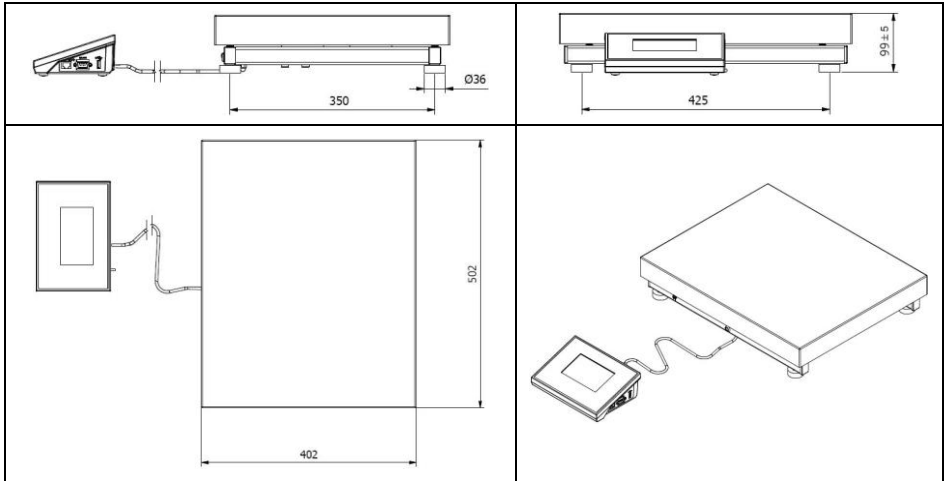
C32.F1.M series – overall dimensions



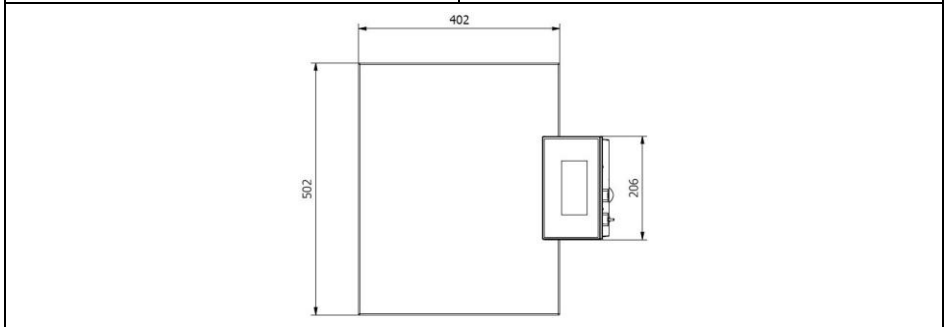
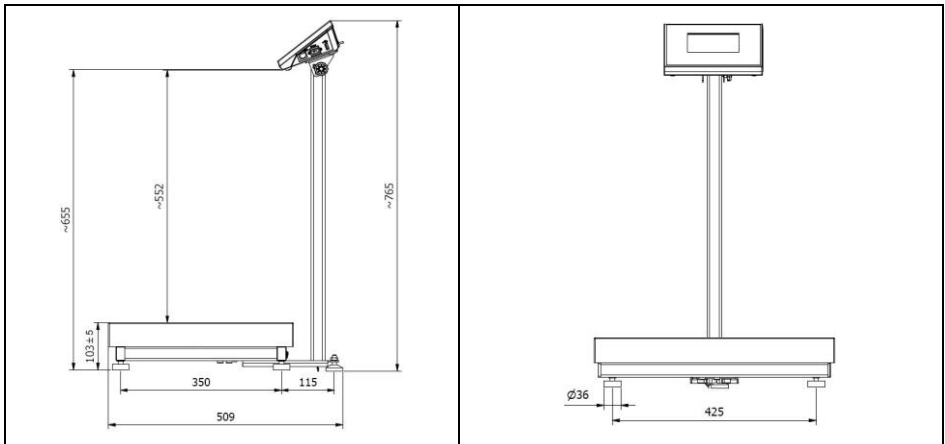
C32.F1.K series – overall dimensions



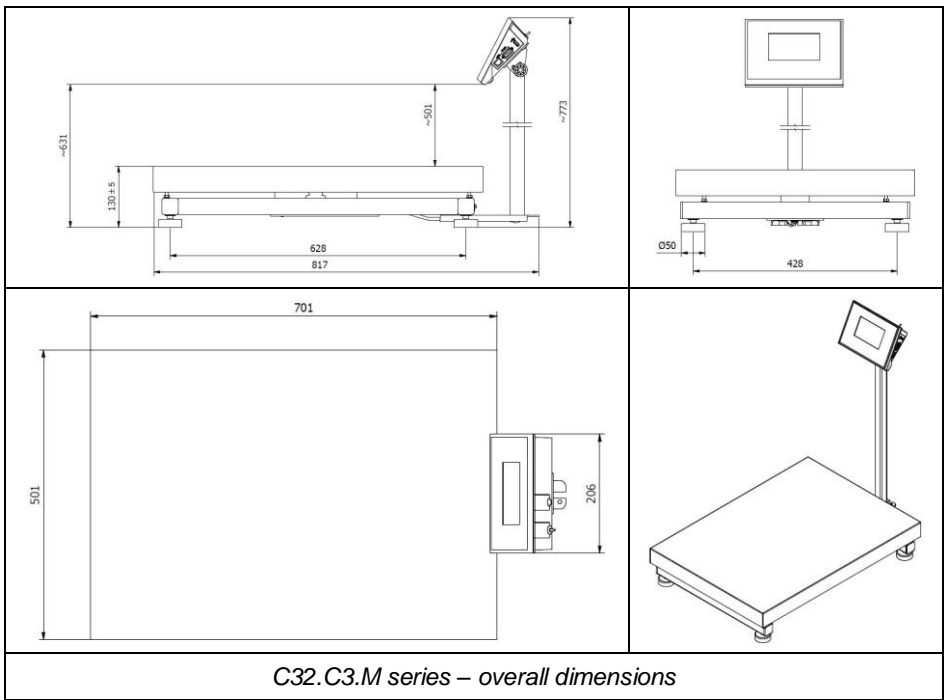
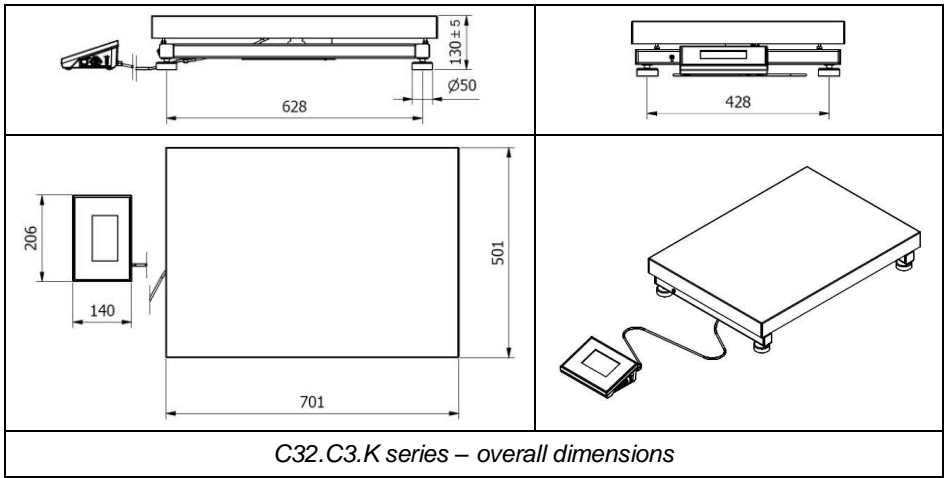
C32.C2.R series – overall dimensions



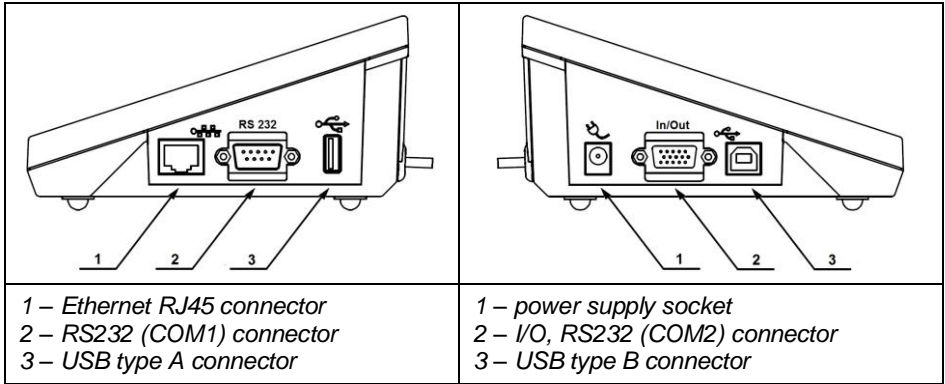
C32.C2.K series – overall dimensions



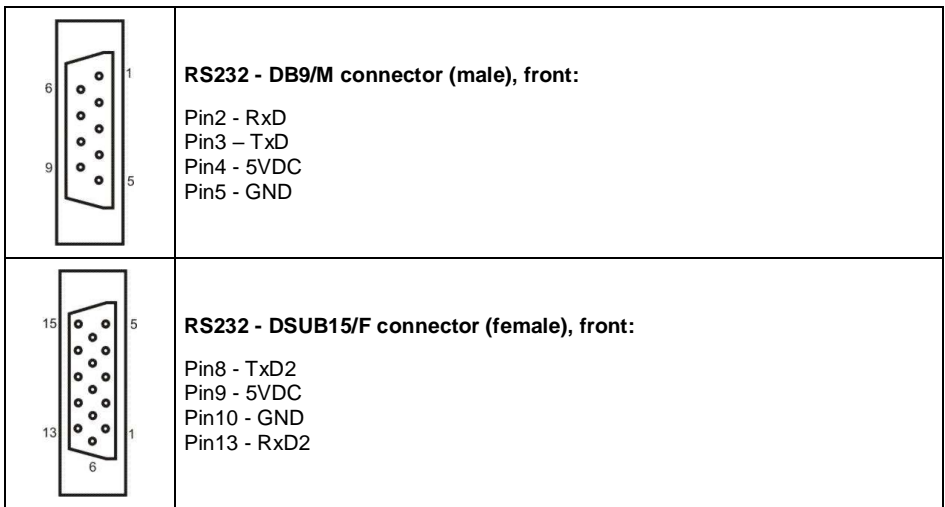
C32.C2.M series – overall dimensions



6.2. Connectors Arrangement

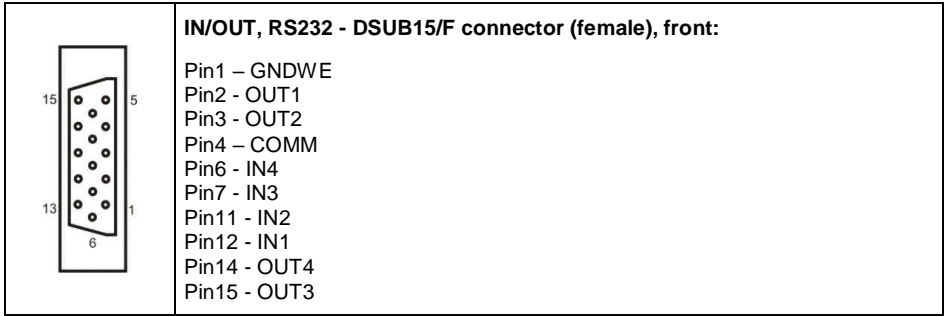


6.3. RS232 Connectors



6.4. Inputs / Outputs

Standard C32 scale is equipped with 4 optoisolated inputs and 4 semiconductor outputs (solid-state relays). The signals are sent via DSUB15/F connector.

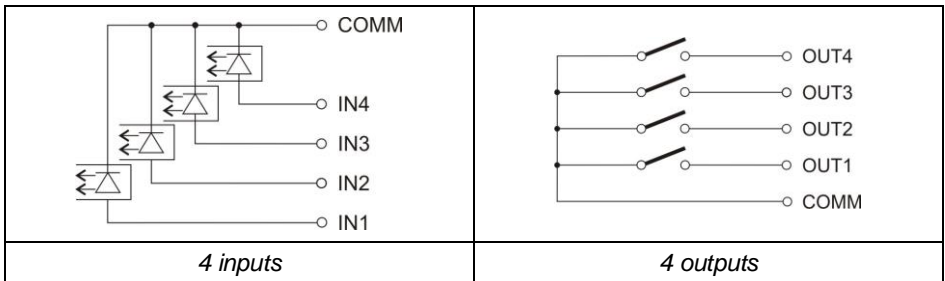


6.4.1. Technical Specifications

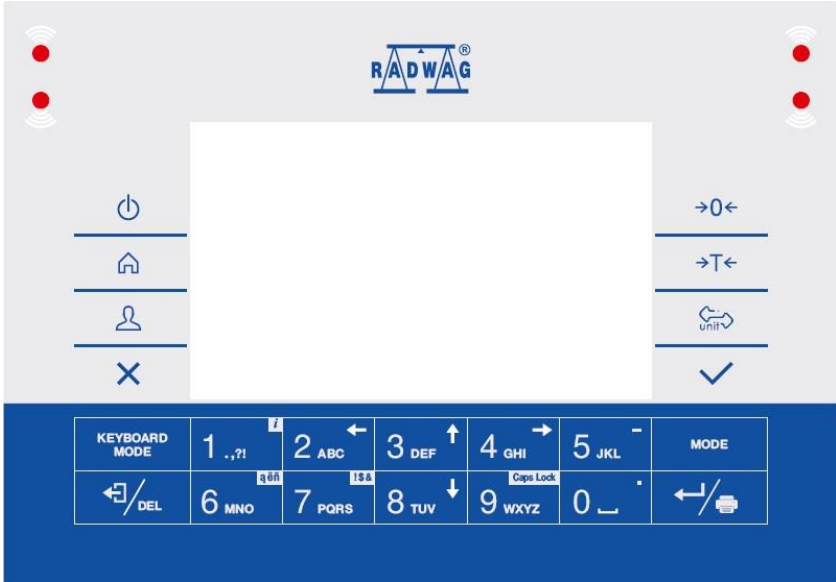
Output parameters	
Output quantity	4
Output type	Solid-state relay
Cable cross-section	0.14 - 0.5 mm ²
Maximum output current	0.5 A DC
Maximum output voltage	30 VDC

Input parameters	
Input quantity	4
Input type	Optoisolated
Cable cross-section	0.14 - 0.5 mm ²
Input voltage range	5÷24VDC

6.4.2. I/O Schematic Diagrams









6.5. Operation Panel



Keys:

	Press to switch the device on / off.
	Press to enter the main menu.
	Press to log in.
	Press to cancel the message.
	Press to zero the scale.
	Press to tare the scale.
	Press to change the weighing unit.
	Press to confirm the message.
	Press to confirm the weighing result (PRINT). Press to confirm the messages (ENTER).
	Press to cancel the message.
	Press to change the working mode.

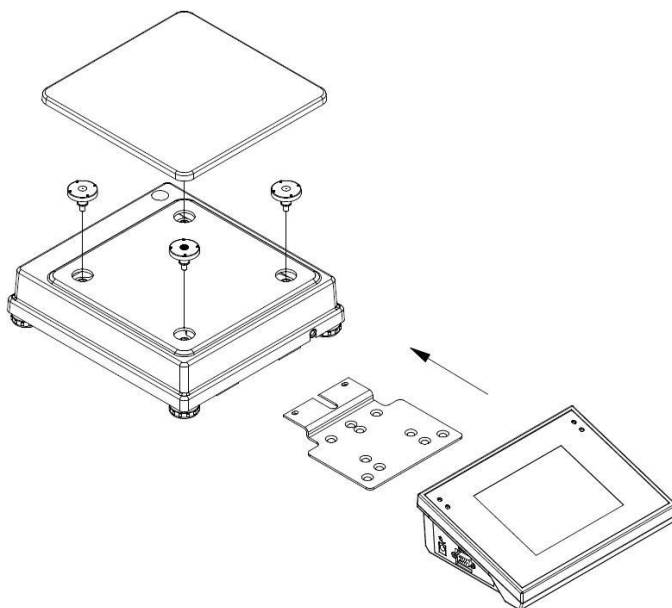
	Programmable key assigned to an on-screen button.  key – long press to get scale info.
	Programmable key assigned to an on-screen button.
	Programmable key assigned to an on-screen button.
	Programmable key assigned to an on-screen button.
	Programmable key assigned to an on-screen button.

7. INSTALLATION

7.1. Unpacking and Installation

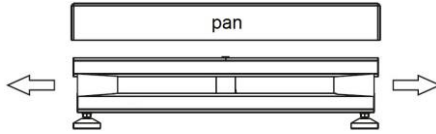
7.1.1. C32.D2 Series

- A. Take the device out of the packaging.
- B. Place the device on a flat and even surface. Keep it away from any sources of heat.
- C. Install the weighing pan and the indicator holder in accordance with the figure below:



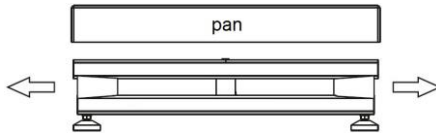
7.1.2. C32.xx.K, C32.xx.R, C32.F1.M Series

- A. Take the device out of the packaging.
- B. Place the device on a flat and even surface. Keep it away from any sources of heat.
- C. Remove transport locks and install the weighing pan:

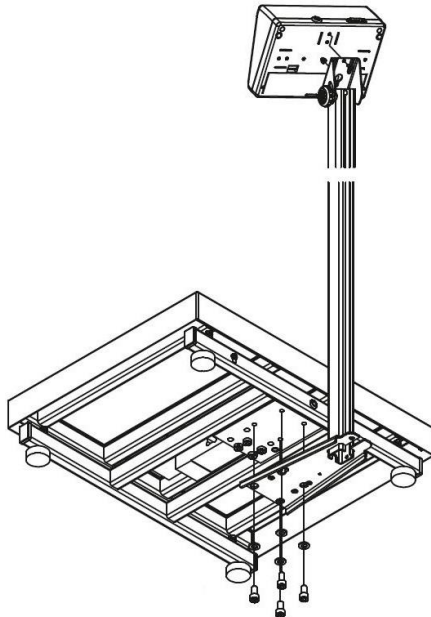


7.1.3. C32.C2.M, C32.C3.M Series

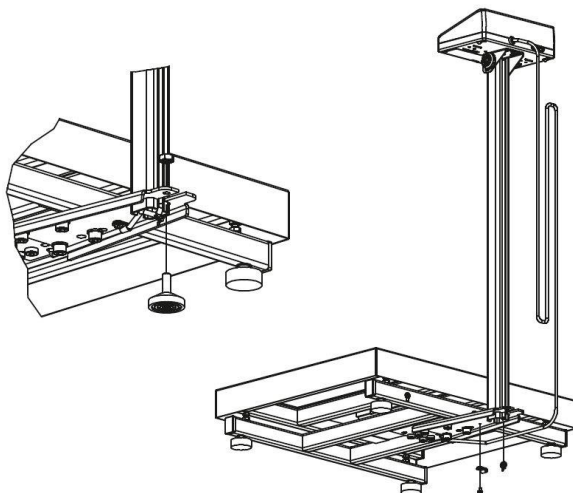
- A. Take the device out of the packaging.
- B. Place the device on a flat and even surface. Keep it away from any sources of heat.
- C. Remove transport locks and install the weighing pan:



- D. Fix the post to the scale, next fix the indicator to the post:



E. Lead the cable (in excess) into the post, next fix the support foot under the post:



7.2. Levelling

It is necessary to level the scale, do it by turning its feet. Keep turning the feet until the air bubble takes central position.



level - OK




level incorrect


7.3. Connecting the Scale to the Mains








The weighing device can be connected to the mains only with a power supply that comes standard with the particular model. Nominal voltage of the power supply (specified on the power supply data plate) has to be compatible with the mains nominal voltage.

Procedure:

- Connect the power supply to the mains. Plug it to the power supply socket that is located on the scale's side.
- Press  key, it is to be found at the top of the operation panel.
- Upon completed start-up, the home screen is displayed automatically.

7.4. Battery Status

Optional scale design features an internal battery.  pictogram, displayed at the top of the screen, either signals battery status or informs that battery charging is in progress:

-  pictogram displayed in a cyclic manner: battery charging.
-  pictogram displayed continuously: battery charged within 75% - 100% range of permissible voltage,
-  pictogram displayed continuously: battery charged within 50% - 75% range of permissible voltage,
-  pictogram displayed continuously: battery charged within 25% and 50% range of permissible voltage,
-  pictogram displayed continuously: battery discharged (charge level below 25% of the permissible voltage), connect the scale to the mains in order to charge it,
- blinking  pictogram: damaged battery or battery lack,
- no  pictogram: scale not equipped with the battery.



Battery discharge is signalled by the following message:
<Excessively discharged battery. Scale shutdown is to occur>. Upon scale shutdown, connect it to the mains in order to charge the battery.

8. HOME SCREEN

The home screen can be divided into 4 sections: a top bar, a weighing result window, workspace, pictograms.

Home screen layout:












Detailed instruction on how to configure the home screen is to be found in „PUE C32 Indicator Software Manual“.

8.1. Top Bar



The top bar displays the following information:

 Weighing	Working mode name and symbol.
PUE C32	Weighing device name.
	Wireless communication on.
	Communication with the USB flash drive on.
	PC keyboard connected.
	Printer connected.
	Battery charge status.
	Symbol informing that communication with a PC is on.
E2R	Communication with the E2R SYSTEM on.

8.2. Weighing Result Window

Weighing result window provides all weighing-related data.



8.3. Workspace

The workspace is to be found underneath the weighing result window.

Product:	Tare: 0.000 kg
User:	Sum: 0.000 kg

The workspace comprises 4 programmable widgets. Each working mode features default home screen widget set.

You can customize the workspace freely.

8.4. Pictograms

The pictograms assigned to operation panel keys are to be found underneath the workspace.




You can define on-screen pictograms individually for each working mode.

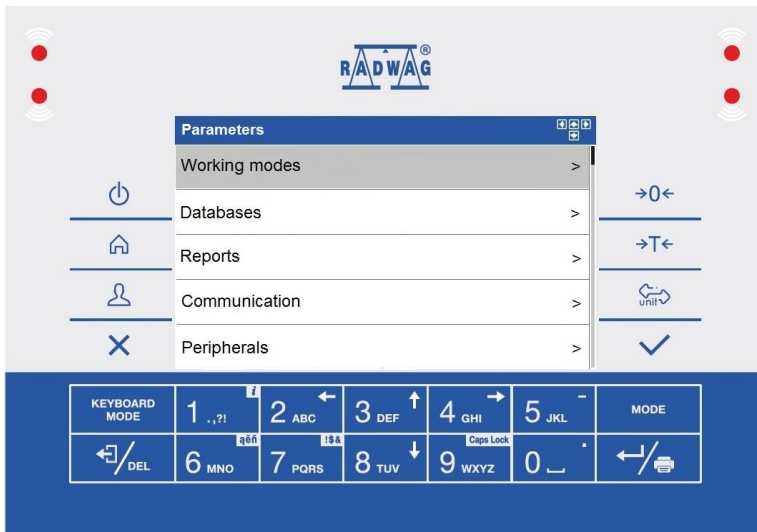
9. OPERATING THE MENU

In order to navigate the program menu use the operation panel.











9.1. Entering the Menu

In order to enter the menu press  key. Background colour of the first menu entry differs from the remaining ones. To navigate the program menu use the keys that operate as arrow keys.

Menu view:



9.2. Menu Keys

	Press to enter the main menu. Press to go to the home screen.
	Press to go back, or to discard entering parameter modifications.
	Press to go back. Press to delete a character when editing numeric and text values.
	Press to change keyboard mode when editing numeric and text values.
	Press to select/change working mode.
	Press to confirm/accept modifications.
	Press to go back, or press to discard entering parameter modifications.
	Press to go up the menu, or press to edit parameter value and change it by one digit up.
	Press to select parameter group that you want to operate. The first parameter of the selected parameters group is displayed.
	Press to go down the menu, or press to edit parameter value and change it by one digit down.

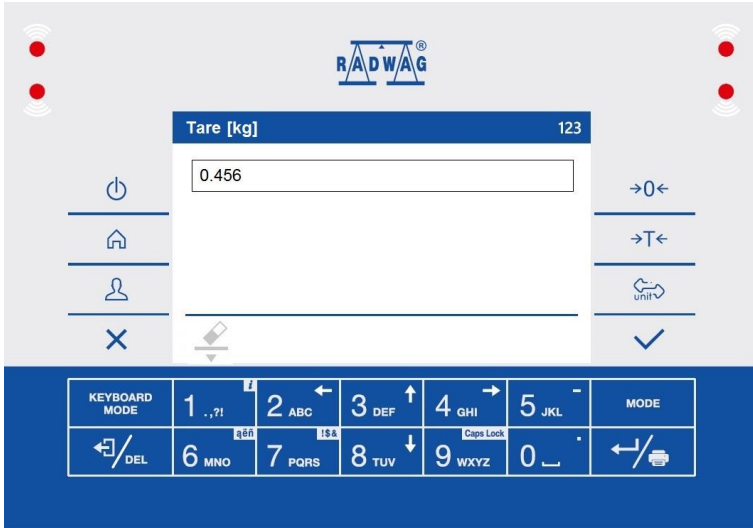
9.3. Entering Numbers / Text

The software features two different edit boxes:

- numerical box (for entering part mass values, tare values, etc.).
- text box (for entering printout template, universal variable value, etc.).

Button functions change depending on the edit box type.

9.3.1. Numerical Box










Where:

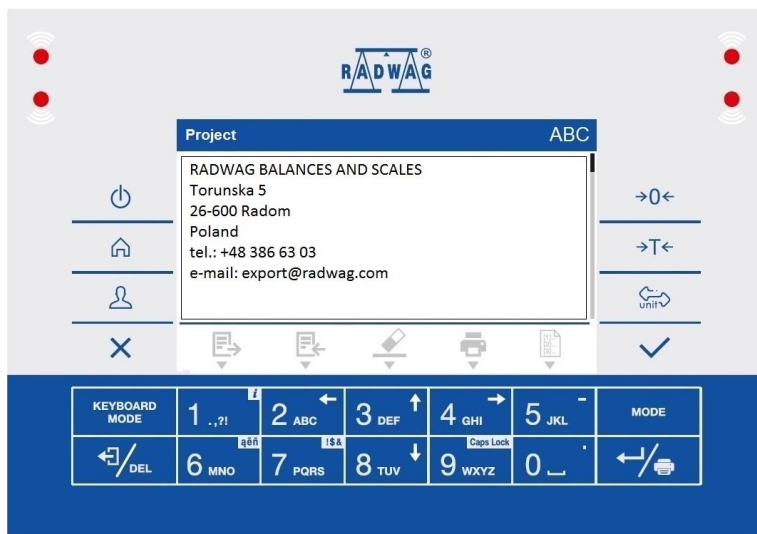
	<p>Digit mode. To change keyboard working mode press key. Keyboard working mode options: - upper-case character mode, - lower-case character mode, - digit mode, - arrow keys operation, - bottom bar operation.</p>
	<p>Press to clear box content.</p>

Keys:








	<p>Press to enter digit 1.</p>
	<p>Press to enter digit 2.</p>
	<p>Press to enter digit 3.</p>
	<p>Press to enter digit 4.</p>
	<p>Press to enter digit 5. Press to enter „-“ (minus), hold the key for a few seconds.</p>
	<p>Press to enter digit 6.</p>
	<p>Press to enter digit 7.</p>






	Press to enter digit 8 .
	Press to enter digit 9 .
	Press to enter digit 0 . Press to enter „.” sign (dot), long press. (
	Press to delete one character.
	Press to exit, the edit box content remains unmodified.
	Press to confirm the modifications.
	Press to change keyboard working mode.

9.3.2. Text Box


















Where:

	Upper-case character mode. To change keyboard working mode press  key.
	Keyboard working mode options:  - upper-case character mode,  - lower-case character mode,  - digit mode,  - arrow keys operation,  - bottom bar operation.

	Press to save the project to *.lb file on a USB flash drive.
	Press to read the project saved to *.lb file on a USB flash drive.
	Press to clear box content.
	Press to print the project using a printer connected to the scale.
	Press to view the list of variables that can be used in the project.

Keys


	Press to enter . , { } : ° - .
	Press to enter a b c . Press to move the cursor to the left, long press.
	Press to enter d e f . Press to move the cursor up, long press.
	Press to enter g h i . Press to move the cursor to the right, long press.
	Press to enter j k l . Press to enter „ - ” sign, long press.
	Press to enter m n o . Press to activate „,añ” function (diacritical sign table), long press.
	Press to enter p q r s . Press to activate „,!\$&” function (special signs table).
	Press to enter t u v . Press to move the cursor down, long press.
	Press to enter w x y z . Press to activate „,Caps Lock” function, long press.
	Press to enter ␣ (space) sign. Press to enter „.” sign (dot), long press. ”.
	Press to go to the next line in the edit box.
	Press to delete one character.
	Press to exit, the edit box content remains unmodified.
	Press to confirm the modifications.
	Press to change keyboard working mode.

9.3.3. Diacritical Sign Table

In order to activate the diacritical sign table while editing a text box, it is necessary to press and hold down **6** MINO key. Diacritical signs characteristic for a particular interface language are automatically added to the table when the given language gets selected.

Diacritical sign table: Polish.											Diacritical sign table: English, German, French, Spanish.											
ą	ć	ę	ł	ń	ó	ś	ź	ż	á	č	ä	ö	ü	à	â	æ	œ	ç	è	é	ê	
đ	é	ě	í	ñ	ř	š	ú	ů	ý	ž	ë	î	ï	ô	ù	û	ü	ÿ	ñ	á	ã	
â	ă	â	î	î	đ	ô	ô	ö	ř	ş	â	î	í	ö	ò	ó	õ	ú	ý	þ	š	
 !\$&	ú	ű	ł	ł	â	ø	æ				 !\$&	ž	ğ	ş	ø	ı	ß					

Where:


	Press to activate „ Caps Lock ” function.
!\$&	Press to switch to special sign keyboard.

9.3.4. Special Sign Table

In order to activate special signs table while editing text box it is necessary to press and hold **7** PORS key.



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Where:


	Function inactive.
ąęń	Press to switch to diacritical sign keyboard.

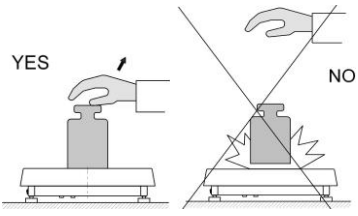
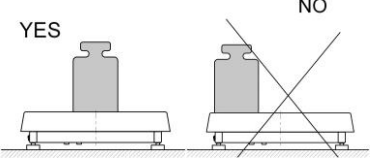
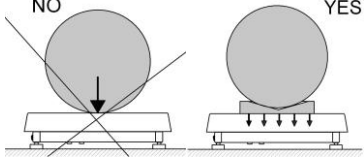
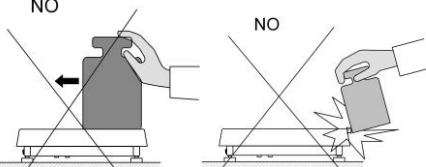
9.4. Return to Weighing

Introduced modifications are automatically recorded upon return to the home screen. To return to the home screen:

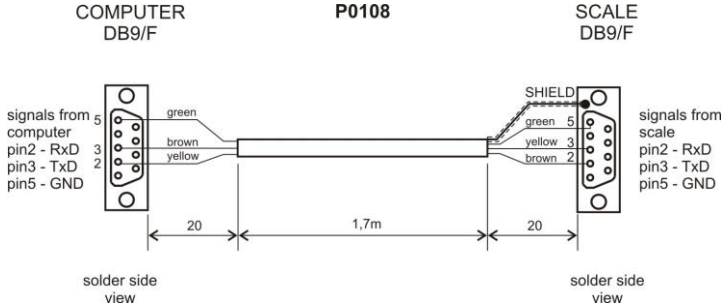
- press  key repeatedly, keep pressing the key until you see the home screen,
- press  key, the home screen is displayed immediately.

10. WEIGHING

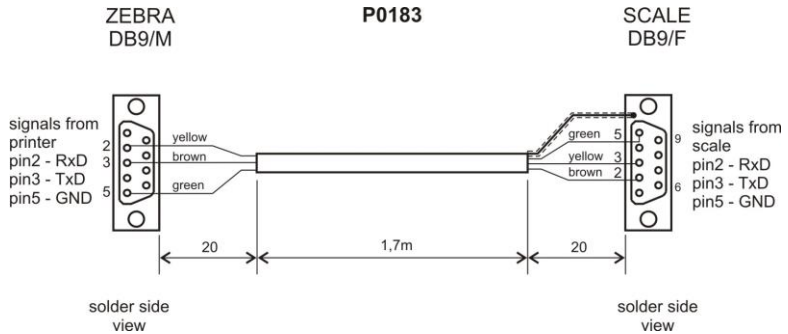
Load the weighing pan. Read the result when  stability marker is displayed. In order to assure long-term device operation, wherein correct measurements are provided, the following principles must be adhered to:

<p>Load the weighing pan steadily, avoid applying mechanical shocks.</p>	
<p>Place the loads centrally on the weighing pan (eccentricity errors are specified by EN 45501 standard, point 3.6.2).</p>	
<p>Do not apply concentrated force (total load in one point).</p>	
<p>Avoid side loading, in particular side shocks.</p>	

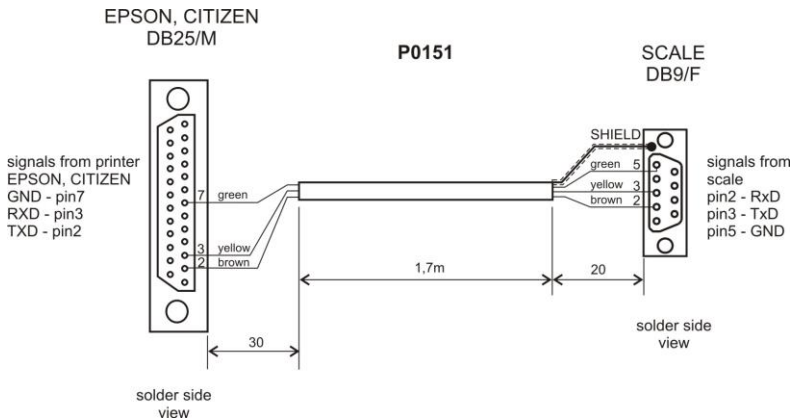
11. DIAGRAMS OF CONNECTION CABLES



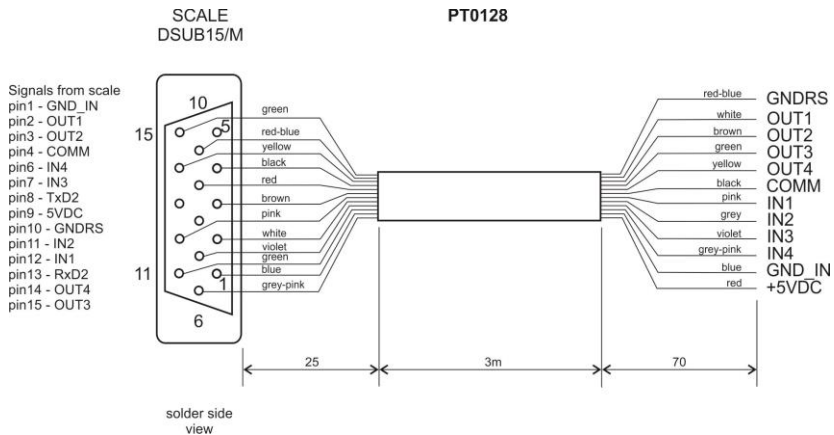
Scale - computer cable (RS232)



Scale - printer cable (ZEBRA)



Scale - printer cable (EPSON)



I/O cable

	<p style="text-align: center;">„Scale-Ethernet” cable is a standard network cable terminated with RJ45 connectors on both ends.</p>
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12. TECHNICAL SPECIFICATIONS

For technical specifications of respective scales go to RADWAG website www.radwag.pl.

13. ERROR MESSAGES

<p>Max weighing threshold exceeded Unload the weighing pan</p>	<p>Min weighing threshold exceeded Install weighing pan</p>
<p>Zeroing out of range Press tarring button or restart the balance</p>	<p>Display capacity out of range Unload the weighing pan</p>
<p>Tarring out of range Press zeroing button or restart the balance</p>	<p>Start mass out of range Install weighing pan</p>
<p>Zeroing/tarring time out of range Weighing indication unstable</p>	



RADWAG BALANCES AND SCALES
ADVANCED WEIGHING TECHNOLOGIES

