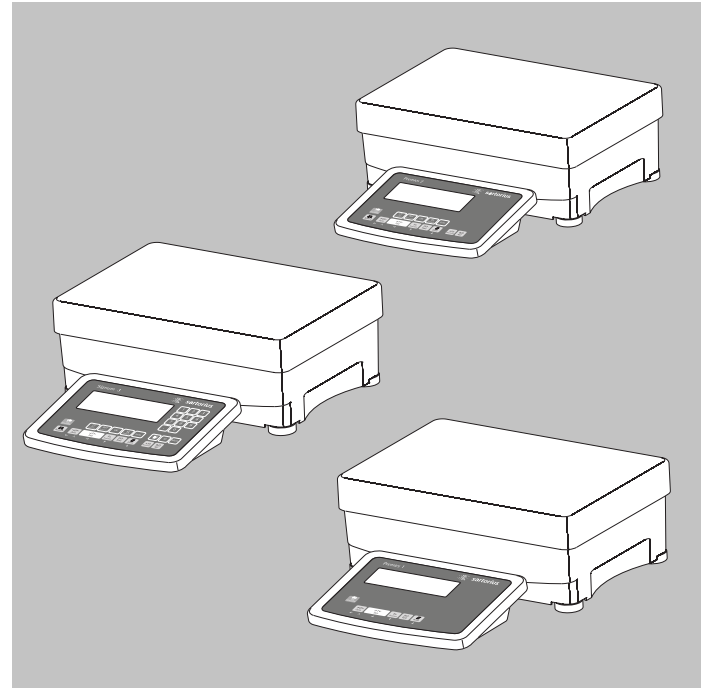
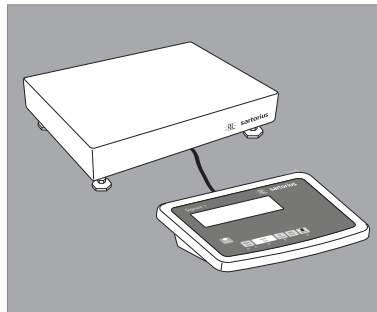


Service Manual

Sartorius Signum[®]1 | Signum[®]2 | Signum[®]3

Models SIWR | SIWA | SIWS

Signum Series Complete Scales



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Introductory Remarks

Notes on Using this Manual

This manual contains information on maintenance, calibration and adjustment of Signum series scales, as well as on error messages.

If you have any comments or require more detailed information, please write to us at: Int.Service@Sartorius.com.

Printing the Manual

To save paper, we recommend configuring the printer settings in the Adobe Acrobat program as follows:

File | Print | Properties | Layout: Pages per Sheet: 2

Symbols

The following symbols are used in this manual:

Warning



Indicates safety instructions. Please make sure to observe these instructions; otherwise, physical injury or material damage may result.

Note



The light bulb symbol indicates important information that will help prevent errors, as well as other useful tips.

Safety Instructions

The Signum series scale is in conformance with the applicable directives and standards. Use of the scale for other than its intended purpose, however, can result in physical injury or material damage.

Repairs must be performed by service technicians who have been trained at the factory.

Warning



Electric shocks can cause serious burns and life-threatening injuries.

To avoid electric shock, always disconnect the power cord from the wall outlet (mains supply) before beginning repair work or replacement of components. When the scale housing is open, always use an isolating transformer or a ground fault circuit interrupter.

Make sure no voltage is present in the scale before connecting or disconnecting any cables to or from it. Otherwise, assemblies or other components may be destroyed.

- 1 Press  to switch off the scale.
- 2 Unplug the power cord.
- 3 Carry out maintenance/repair work.

For further information, please refer to the operating instructions (WSI6007-e07074.)

Model Designation

Model Codes:

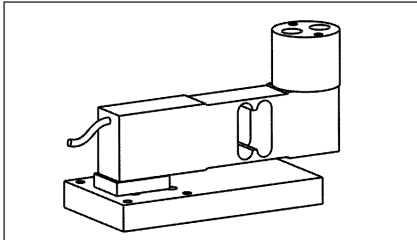
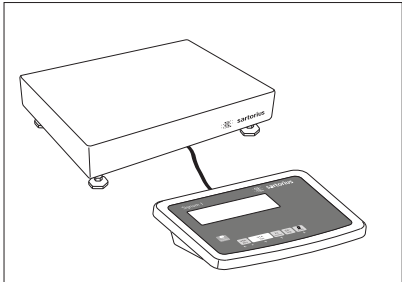
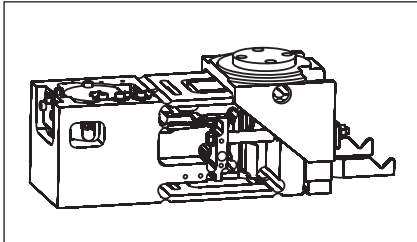
- SIW – Series name
- R / A / S – Featured technology (R=Regular; A=Advanced with strain gauge technology; S=Supreme with electromagnetic force compensation)
- 1,2,3 – Application level (display unit); later a 4th display unit will be available in addition
- X – Indicates explosion-protected (N/A at the initial stage, since it is not available in an explosion-protected version at this stage)
- P – Material (at the initial stage only painted, but will also be available in stainless steel at a later time)

Resolutions:

- R 6,000d < 15,000d
- L 15,000d
- I 30,000d
- N multirange n*3,000d
- M multiintervall n*3,000d
- S 50,000d < S < 100,000 d
- H > 100,000d
- D Dual range high resolution > 50,000
- P Polyrange high resolution > 50,000
- K Dual range low resolution ≤ 50,000
- T Polyrange low resolution ≤ 50,000

It is possible to select from various groups of options
(e.g., interfaces, rechargeable battery pack, 2nd A/D converter, other IP versions, etc.)

Models with Special Weighing Systems

Model	Design 1	System
	 AUT22923a.JPG	Regular weighing system: Strain gauge technology (to the right) Without built-in motorized calibration weight Nominal load 20kg 50kg 100kg  PW_Sys_DMS_01.eps
		Design 2 Advanced weighing system: Strain gauge technology (to the right) Without built-in motorized calibration weight Nominal load 20kg 50kg 100kg SIWAEDG weight Nominal load 16kg 35kg 65kg  AUT22925a.JPG
		Design 3 Supreme weighing system: Narrow forked-lever system (to the right) With built-in motorized calibration weight Nominal load 20kg  PW_Sys_GHS_03.eps

Model

Design 4

System



AUT22923a.JPG

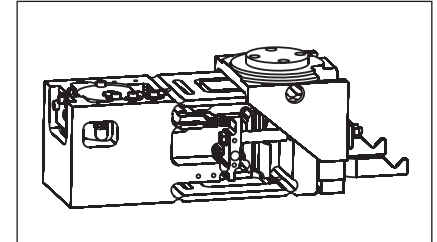
Supreme weighing system:
Narrow forked-lever system (to the right)
With built-in motorized calibration weight
Nominal load 40kg

Design 5

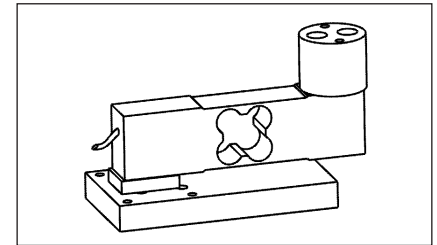
Regular weighing system:
Strain gauge technology (to the right)
Without built-in motorized calibration
weight PW15-EX | Nominal load up to 30kg

Design 6

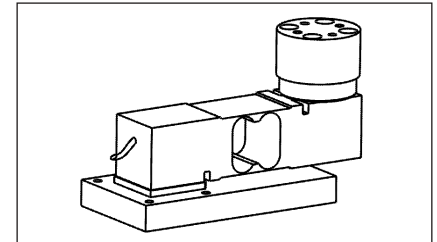
Regular weighing system:
Strain gauge technology (to the right)
Without built-in motorized calibration weight
PW10-EX | Nominal load up to 100kg



PW_Sys_GHS_04.eps



PW_Sys_DMS_05.eps



PW_Sys_DMS_06.eps

Additional Tools / Programs, etc.

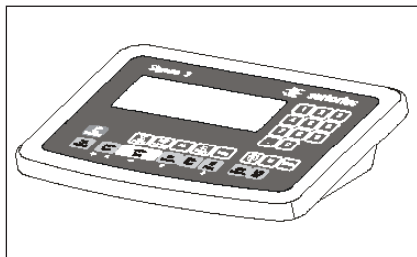
Designation	Order No.
- Isolating transformer	
- RS232 connection cable (25-pin / 25-pin)	7357312
- RS232 connection cable (25-pin / 9-pin)	7357314
- Torx screwdriver set	10/15/20

Accompanying Literature

Designation	Order No.
Operating instructions	WSI6007-e07074

Service manuals, spare parts lists, etc. can be downloaded from the Internet at <http://iss.sartoserver.de>. Registration is required: please contact Malte.Pramann@Sartorius.com for details.<http://iss.sartoserver.de> hinterlegt.

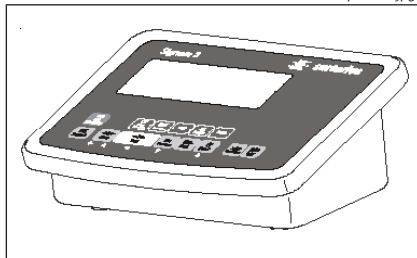
Description of the Equipment



PW_Bal01.cdr



Kop_fl_St.jpg



TitSig.cdr

Display Units

Flat Screen Display Unit

These are available with various screen types. The display unit can be hung on the load cell or secured to the scale using a stand or column.

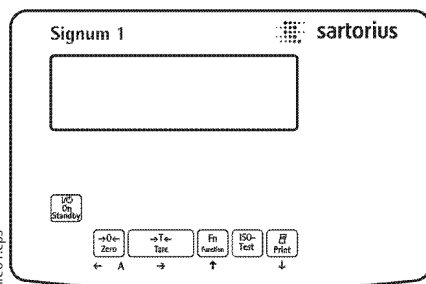


Kop_in.jpg

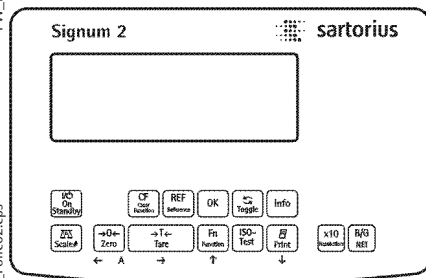
Tall Display Unit

This is available as an option with an A/D converter or a rechargeable battery pack. Position Description

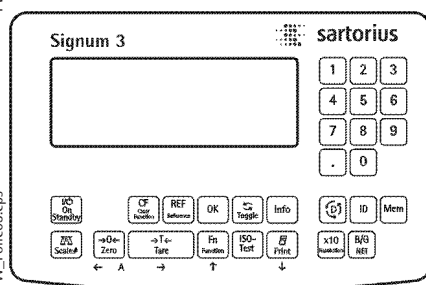
PW_Folie01.eps



PW_Folie02.eps



PW_Folie03.eps



Clear Function



On/off

(in standby mode, OFF is displayed).



Signum 2 and 3 only:

If a second weighing platform is connected, this key toggles the display between the two readouts.



– Zero the scale

– Cancel calibration/adjustment



– Tare the scale



Toggle between 1st and 2nd weight unit, or gross and net values, or normal and 10-fold higher resolution, depending on operating menu settings (depends on model)



Start calibration or adjustment



– To print: press briefly.

– To print GMP footer:

Press and hold (> 2 seconds)



Signum 3 only:

To toggle the scale to Info mode



Signum 3 only:

Identifiziertaste zur Eingabe von Bedienerkennungen

Signum 2 and 3 only:



Toggle unit between normal and 10-fold higher resolution



Signum 2 and 3 only:

Netto-Bruttowert-Taste



Nur Signum 2 und 3

Toggle between display modes within an application program



Signum 2 and 3 only:

Lets you modify reference values



Signum 2 and 3 only:

Saves a value or starts an application program.



Signum 3 only:

Saves a value in product data memory



Signum 3 only:

Toggle applications



Signum 2 and 3 only:

Press to view either application data or manual tare values, depending on the key pressed subsequently (e.g.,))

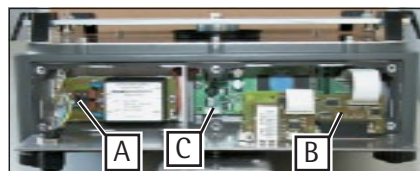


Signum 2 and 3 only:

– Quit an application or delete an input character

The Sartorius Signum series advanced scale (SIWA) with a mechatronic weighing system

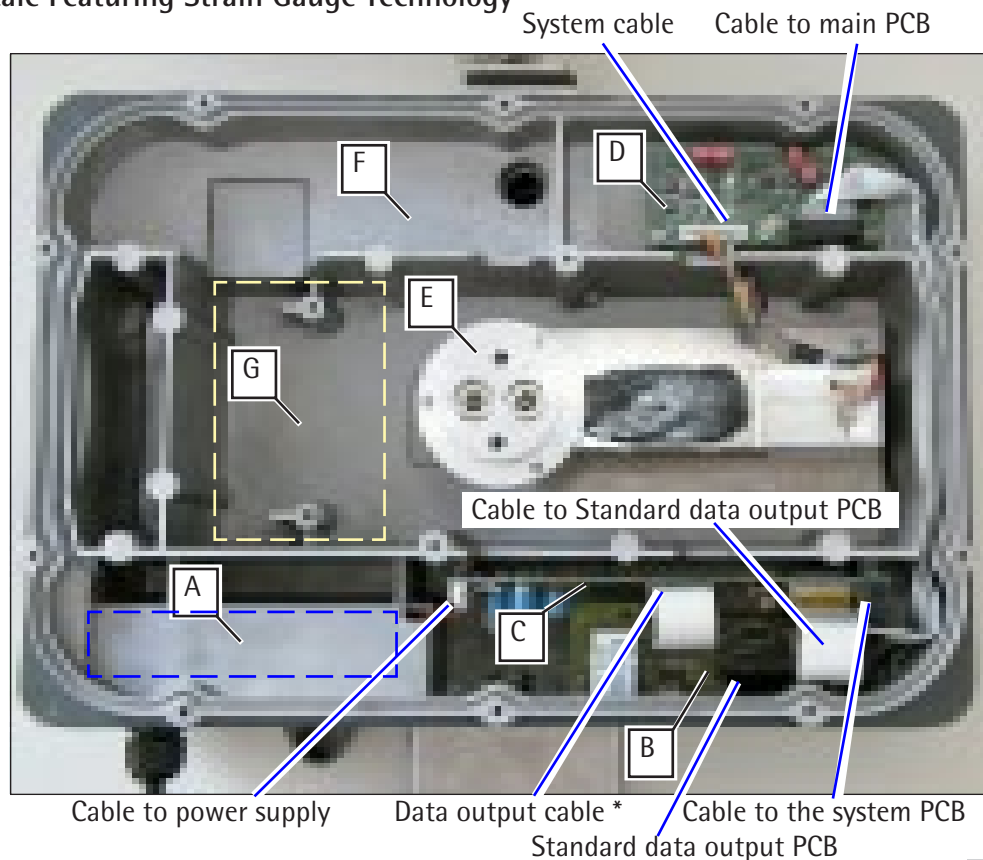
Overview of the Signum Series Scale Featuring Strain Gauge Technology



AUT24188.JPG

- A Power supply
- B Data output (various interfaces can be installed as optional equipment)
- C Main PCB
- D Strain gauge technology – system PCB
- E Various versions of the strain gauge system
- F Standard housing
- G Without built-in motorized internal calibration weight

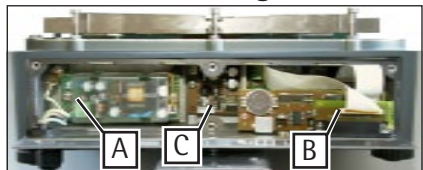
* This cable is suitable only for the Ethernet and Profibus options



AUT24197.JPG

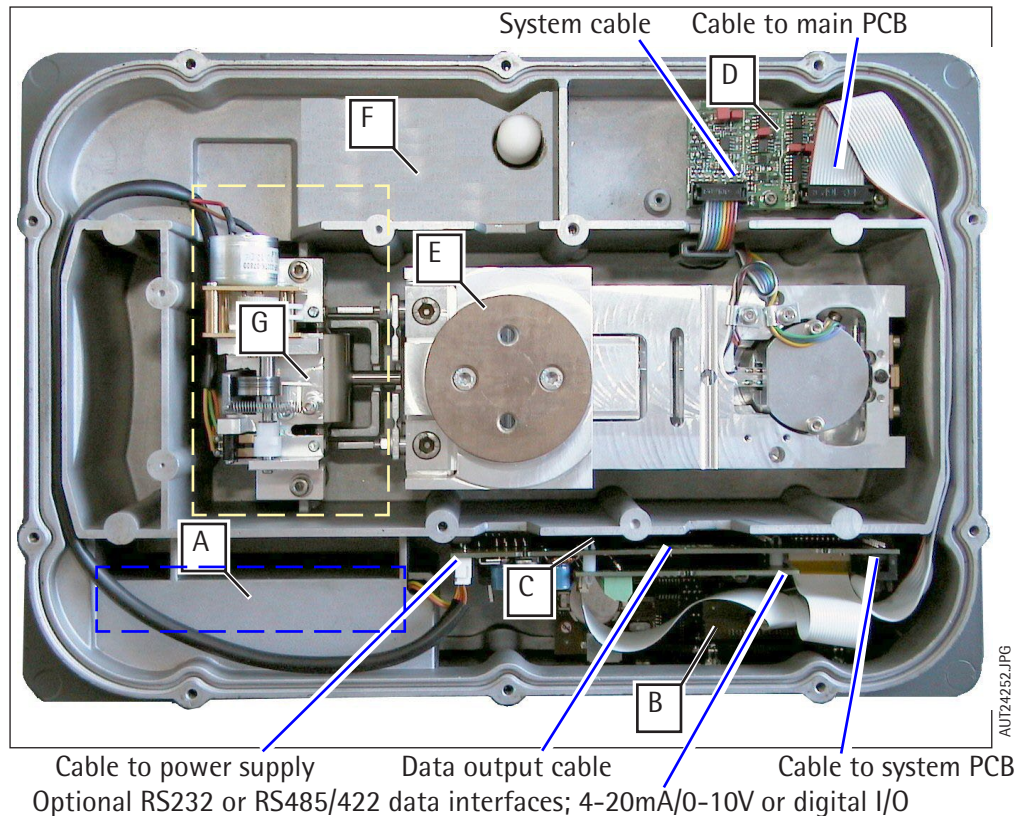
The Sartorius Signum Series Supreme Scale (SIWS) with a Monolithic Weighing System

Overview of the Signum Series Scale (Featuring Electromagnetic Force Compensation)



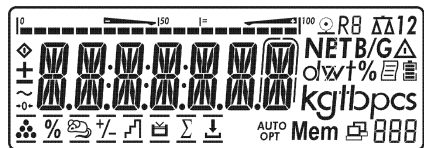
AUT24188a.JPG

- A Power supply
- B Data output (various interfaces can be installed as optional equipment)
- C Main PCB
- D Electromagnetic force compensation system PCB
- E Various versions of the electromagnetic force compensation system
- F Standard housing
- G Built-in motorized internal calibration weight

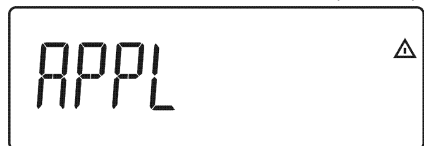


AUT24252.JPG

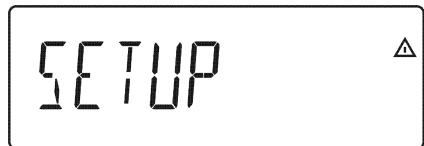
Activating the Service Mode



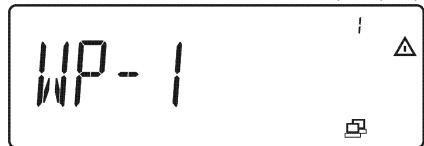
disp_8888_d.eps



disp_appl_d.eps



disp_setup_d.eps



disp_wp-1_d.eps

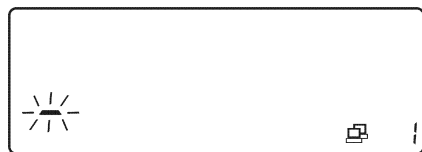


disp_wp-1_d.eps

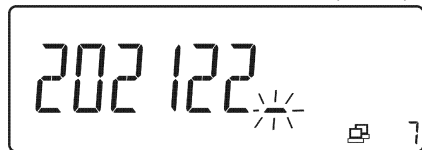


Important note: When performing maintenance on an existing system, you must access the service mode for linearization, to set or clear a preload, or to enter the date of service.

- Switch the Signum scale off (press the).
- Switch the Signum scale back on (press the). While all segments are displayed, briefly press the key. **APPL is displayed.**
- Using the key, scroll to **SETUP**.
- Press the key. **WP-1 is displayed.**
- Using the key, scroll to **CODE**.



disp_blin_d.eps



disp_202122_d.eps

- Press the $\rightarrow T \leftarrow$ key. A blinking cursor is displayed.
- Using the Fn key, select 2 and press the $\rightarrow T \leftarrow$ key to confirm. When the cursor jumps to the second field, enter the next number. Follow these steps to enter the service code 202122.

Important note:



If you enter a number incorrectly, use the $\rightarrow 0 \leftarrow$ key to select the field you wish to change. Next, press the $\rightarrow T \leftarrow$ key repeatedly until the cursor scrolls to the 6th place (line 2 blinks).



disp_code_s_d.eps

- Once you have entered the last number, press the $\rightarrow T \leftarrow$ and $\rightarrow 0 \leftarrow$ keys (in this order) to activate the service mode.
An „S“ in the upper right-hand corner indicates that the service mode is active.

If you wish to exit the service code entry mode, continue pressing the $\rightarrow 0 \leftarrow$ key until CODE reappears on the display.

Please note: The only way to deactivate the service mode is to switch the scale off and then on again.

Important note:



Once service code 202122 has been input, any customer codes that have already been entered can only be viewed. You can delete or change a customer code only after entering the general access code 40414243.

Additional Menus in the Service Mode

In the Text Menu (Setup)

In consecutive order following the menu items » *DATE* « and Code » *202 122* «

- Service date » *S-DATE* «
- Memory number » *MEM-NO* «
- Service technician can enter a minimum load here » *SOMIN-S* «
- This displays or prints the minimum load » *SOMIN* «

In the number menu:

The setup menu is model-dependent for WP1 (**WP-1**) and the interfaces COM1 (**COM1**) and UniCOM (**UNICOM**). It has been expanded to allow the following possible settings for configuring weighing platforms WP-1(**WP-1**) and WP2(**WP-2**):

1-9 Calibration/adjustment functions:

- 1-9-1: Ext. calibration/adjustment with a default weight (service mode not required)
- 1-9-3: Ext. calibration/adjustment with a user-defined weight (service mode not required)
- 1-9-4: Int. calibration/adjustment (service mode not required)
- 1-9-6:¹⁾ Internal linearization (only for WP-2 on COM1 and UniCOM)
- 1-9-7:¹⁾ External linearization with user-defined weights
- 1-9-8: Set preload (service mode not required)
- 1-9-9: Delete preload (service mode not required)
- 1-9-10: Key blocked (service mode not required)
- 1-9-18:¹⁾ Determine internal weight

¹⁾ Only accessible in the service mode

Important note:



Once the necessary settings have been configured, set the menu to the particular calibration/adjustment function that the customer wishes to perform.

1-10 Calibration/adjustment sequence

1-10-1: Calibration with automatic adjustment

1-10-2:³⁾ Calibration with manual adjustment

1-18 Entry of calibration and linearization weights

1-18-1: Ext. calibration weight of the user ((special value) entry, e.g.:10,000kg)

1-18-2:¹⁾ Entry of linearization weight 1

1-18-3:¹⁾ Entry of linearization weight 2

1-18-4:¹⁾ Entry of linearization weight 3

1-18-5:¹⁾ Entry of linearization weight 4

¹⁾ Only accessible in the service mode

9-1 Factory settings / menu reset

9-1-1: Restore

9-1-2: Do not restore

Calibration/Adjustment Functions

Important note:

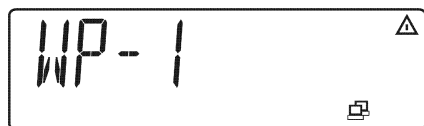


When using a verified weighing platform, open the cover on the back, left-hand side of the indicator housing. Then slide the menu access switch to the right («free» setting).

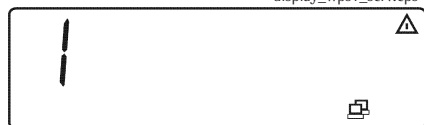
- Activate the service mode (see page 15).

1-9-1 External Calibration/Adjustment with Default Weights

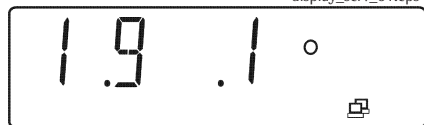
- Select weighing platform »WP-1«.
- Press the $\rightarrow T \leftarrow$ key to access the number menu.



display_wps1_serv.eps



display_serv_01.eps



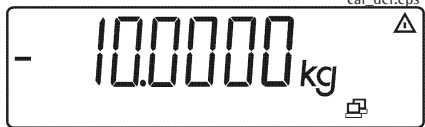
menu_191.eps

- Select menu »1-9-1« (External calibration/adjustment with default weight) by pressing the $\rightarrow T \leftarrow$ Fn $\rightarrow T \leftarrow$ key repeatedly and then pressing the $\rightarrow T \leftarrow$ key briefly to confirm.

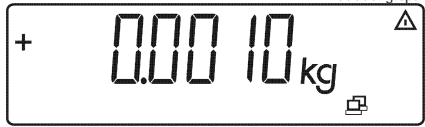
If this menu has already been selected, switch the indicator off and then on again to exit the service mode.



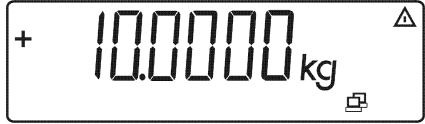
cal_def.eps



-100000kg.eps



+0.0010.eps



+100000kg.eps

3)

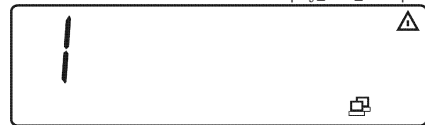
- After taring or zeroing the display of the scale, press and hold the  key until »C.E.XT.DEF« is displayed.
Press the  key to continue the calibration/adjustment routine.
- After approx. 2 seconds, the required calibration weight is shown in the display.
- Place the required weight on the scale. After a brief pause, the difference between the current value and the value from the last adjustment (calibration procedure) is displayed.
- To interrupt the calibration/adjustment procedure, press the  key.
- Press the  key to calibrate/adjust the scale and display the value if menu »1-10-2« has been selected.

1-9-3 External Calibration/Adjustment with User-Defined Weights

- Select weighing platform »WP-1«.
- Press the  key to access the number menu.

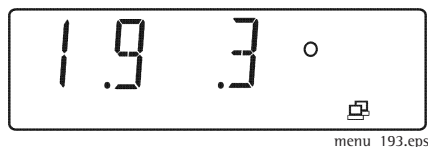


Display_WP1_Serv.eps



Display_Serv_01.eps

3) Only displayed if menu code »1-10-2 (Calibration with manual adjustment) has been selected



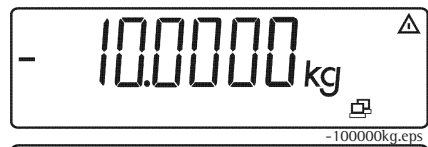
- Press the $\rightarrow T \leftarrow$ and $\text{Fn} \rightarrow T \leftarrow$ keys repeatedly to select menu code » 1-9-3« (External calibration/adjustment with a user-defined weight) and confirm by briefly pressing the $\rightarrow T \leftarrow$ key.



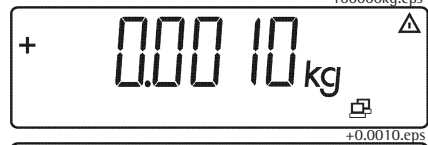
- You can jump to the first columns in the number menu by pressing the $\rightarrow 0 \leftarrow$ key.
- To store the selected menu, press and hold the $\rightarrow T \leftarrow$ key.

- After taring or zeroing the display of the scale, press and hold the ISO-Test key until »C.E X T.U S E« is displayed.
Press the ISO-Test key to continue the calibration/adjustment routine.

- After approx. 2 seconds, the required calibration weight (user-defined weight) is shown in the display.



- Place the required weight on the scale. After a brief pause, the difference between the current value and the value from the last adjustment (calibration) procedure is displayed.

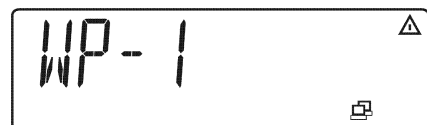


- To interrupt the calibration/adjustment procedure, press the $\rightarrow 0 \leftarrow$ key.

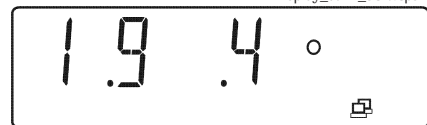


- Press the ISO-Test key to calibrate/adjust the scale.

- 3) Only displayed if menu code » 1- 10-2« (Calibration with manual adjustment) has been selected



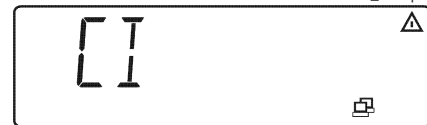
Display_WP1_Serv.eps



Menu-194.eps



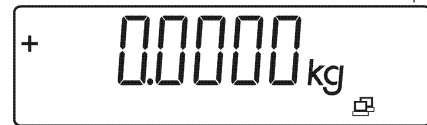
cal_def.eps



cal_ci.eps



+00015.eps



+000000.eps

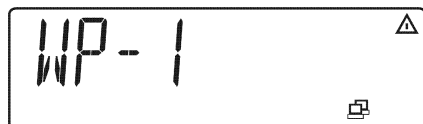
1-9-4 Calibration/Adjustment with an Internal Weight ²⁾

- Select weighing platform » l«.
- Press the key to access the number menu.
- Press the and keys repeatedly to select menu code » 1-9-4« (Internal calibration/adjustment ²⁾). Then briefly press the key to confirm.
- You can jump to the first columns in the number menu by pressing the key.
- To store the selected menu, press and hold the key.
- After taring or zeroing the display of the scale, press and hold the key until »C.INTERN« is displayed.
Press the key to continue the calibration/adjustment routine.
- The motorized, internal calibration weight is placed on the scale and then removed.
- After approx. 2 seconds, the difference in the current calibration value is displayed.
- Press the key to store the current calibration weight. Afterwards, the scale returns to the normal weighing mode.

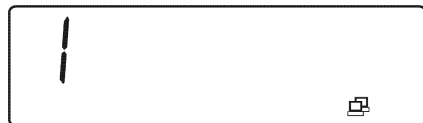
²⁾ Only performed on scales with an internal calibration weight.

³⁾ Only displayed if menu code » 1--2 (Calibration with manual adjustment) has been selected

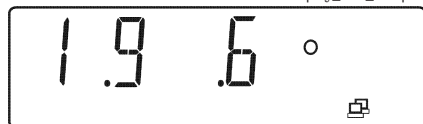
1-9-6 External Linearization with Default Weights



display_wps1_serv.eps



display_serv_01.eps

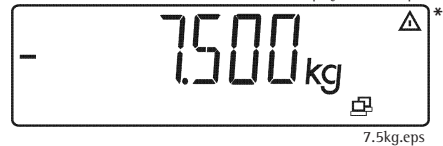
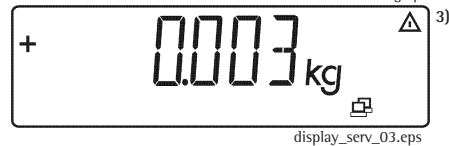


menu_196.eps



lin-ext-def.eps

- Activate the service mode (see page 15).
 - Select weighing platform »WP 1«.
 - Press the $\rightarrow T \leftarrow$ key to access the number menu.
 - Press the $\rightarrow T \leftarrow$ and $\text{Fn} \rightarrow T \leftarrow$ keys repeatedly to select menu code »1-9-6« (Ext. Linearization with Default Weight). Then briefly press the $\rightarrow T \leftarrow$ key to confirm.
 - Press and hold the $\rightarrow T \leftarrow$ key to store the selected menu and return the scale to the weighing mode.
- If this menu has already been selected, switch the indicator off and on again to exit the service mode.
- After taring or zeroing the display of the scale, press the ISO-Test key until »L.E.X.T.D.E.F« is displayed.



- After approx. 2 seconds, the 1st required linearization weight (defined weight) is displayed. You can enter the weights for linearization via menus » 1- 10-2« through » 1- 10-5«²⁾.
- Place the required weight on the scale. After a brief pause, the difference between the current value and the value from the last adjustment (calibration) procedure is displayed.
- Press the key if you need to interrupt the calibration/adjustment procedure.
- Press the key to store the 1st linearization weight. Next, the 2nd required weight is displayed.
- Place the required weight on the scale. After a brief pause, the difference between the current value and the value from the last adjustment (calibration) procedure is displayed.
- Press the key to store the 2nd linearization weight. Now the 3rd required weight is displayed.
- Place the required weight on the scale. After a brief pause, the difference between the current value and the value from the last adjustment (calibration) procedure is displayed.

¹⁾ Weights displayed depend on the scale model

²⁾ Only possible in the service mode

³⁾ Only displayed if menu code » 1- 10-2« (Calibration with manual adjustment) has been selected.



10kg.eps

- * – Press the  key to store the 3rd linearization weight. The 4th required weight is now displayed.



display_serv_04.eps

- ³⁾ – Place the required weight on the scale. After a brief pause, the difference between the current value and the value from the last adjustment (calibration) procedure is displayed



display_serv_06.eps

- Press the  key to store the 4th linearization weight. The scale now prompts a zero point (remove all weights from the scale).



0kg.eps

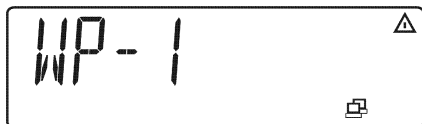
- * – Once the zero point is stored, the scale will automatically return to the weighing mode.

¹⁾ Weights displayed depend on the scale model.

³⁾ Only displayed if menu code » 1- 10-2« (Calibration with manual adjustment) has been selected.

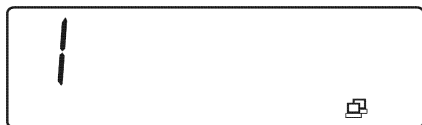
1-9-7 External Linearization with User-Defined Weights

- Activate the service mode (see page 15).
- Select weighing platform »WP1«.



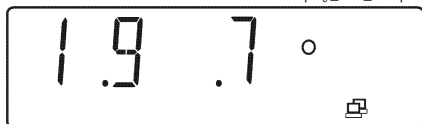
display_wps1_serv.eps

- Press the $\rightarrow T \leftarrow$ key to access the number menu.



display_serv_01.eps

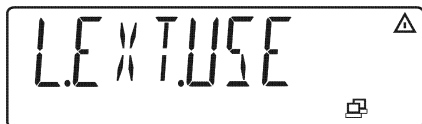
- Press the $\rightarrow T \leftarrow$ and $\text{Fn} \rightarrow T \leftarrow$ keys repeatedly to select menu code »1-9-7« (Ext. linearization with user-defined weight) and confirm by briefly pressing the $\rightarrow 0 \leftarrow$ key.



menu_197.eps

- To store the selected menu, press and hold the $\rightarrow T \leftarrow$ key. The scale now returns to the weighing mode.

If this menu has already been selected, switch the indicator off and on again to exit the service mode.



cal_ext_use.eps

- After taring or zeroing the display of the scale, press the $\text{ISO} \sim \text{test}$ key until »L.EXT. USE« is displayed.



2.5kg.eps

- After approx. 2 seconds, the 1st required linearization weight (user-defined weight) is displayed. You can enter the linearization weights via menus » 1- 18-2« through » 1- 18-5«².



display_serv_02.eps

- Place the required weight on the scale. After a brief pause, the difference between the current value and the value from the last adjustment (calibration) procedure is displayed

- Press the key if you need to interrupt the calibration/adjustment procedure.



5kg.eps

- Press the key to store the 1st linearization weight. Next, the 2nd required weight is displayed.



display_serv_03.eps

- After a brief pause, the difference between the current value and the value from the last adjustment (calibration) procedure is displayed

- Press the key to store the 2nd linearization weight. Now the 3rd required weight is displayed.



7.5kg.eps

- After a brief pause, the difference between the current value and the value from the last adjustment (calibration) procedure is displayed.

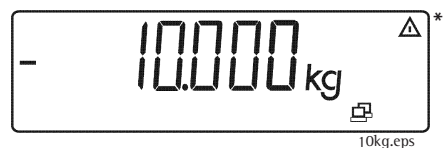


display_serv_04.eps

¹) Weights displayed depend on the scale model

³) Only displayed if menu code » 1- 18-2« (Calibration with manual adjustment) has been selected.

- Press the key to store the 3rd linearization weight. The 4th required weight is



now displayed.



- Place the required weight on the scale. After a brief pause, the difference between the current value and the value from the last adjustment (calibration) procedure is displayed



- Press the  key to store the 4th linearization weight. The scale now prompts a zero point (remove all weights from the scale).



- Once the zero point is stored, the scale will automatically return to the weighing mode.

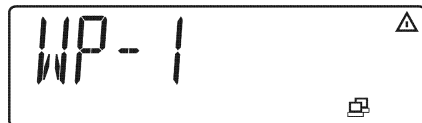
¹⁾ Weights displayed depend on the scale model.

³⁾ Only displayed if menu code » 1- 10-2« (Calibration with manual adjustment) has been selected.

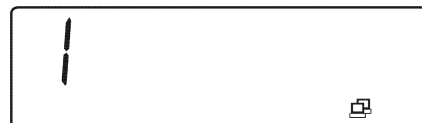
1-9-8 Setting the Preload

Important note:

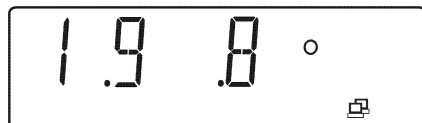
Remove the cover on the back, left-hand side of the indicator housing and slide the menu access switch to the right («free» setting, see page 19 for more information).



display_wps1_serv.eps



display_serv_01.eps



menu_198.eps

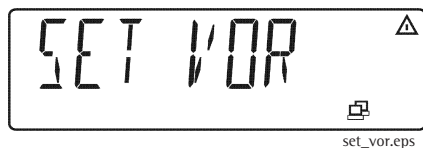


0kg.eps



vor11.eps

- Activate the service mode (see page 15).
- Select weighing platform »WP 1«.
- Press the $\rightarrow T \leftarrow$ key to access the number menu.
- Select menu »1-9-0« (Setting the preload) by pressing the $\boxed{\text{Fn}}$ key repeatedly and then pressing the $\boxed{\leftarrow}$ key briefly to confirm.
- Press and hold the $\rightarrow T \leftarrow$ key to store the selected menu and return the scale to the weighing mode.
- Tare the scale (by pressing the $\rightarrow T \leftarrow$ key) or zero the display (by pressing the $\rightarrow 0 \leftarrow$ key).
After the scale has been tared, „NET“ might remain in the display.
- Place the preload weight on the scale.
- Press the $\boxed{\text{ISO-Test}}$ key until »SET VOR« appears in the display.



- Press the $\rightarrow T \leftarrow$ key. After a brief pause, the Signum indicator returns to the weighing mode.



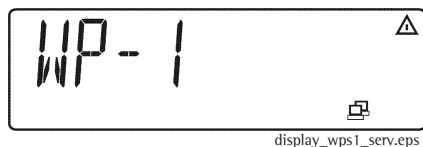
1-9-9 Clearing the Preload

Important note:



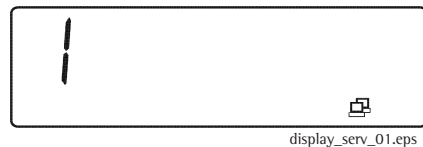
Remove the cover on the back, left-hand side of the indicator housing and slide the menu access switch to the right («free» setting, see page 19 for more information).

- Activate the service mode (see page 15).



- Select the weighing platform »WP 1.«.

- Press the $\rightarrow T \leftarrow$ key to access the number menu.



- Select menu »1-9-9« (Clear preload) by pressing the Fn $\rightarrow T \leftarrow$ key repeatedly and then pressing the $\rightarrow T \leftarrow$ key briefly to confirm.

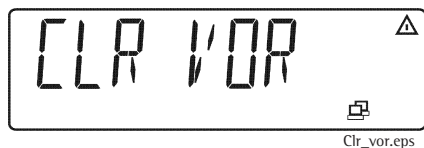
- Press and hold the $\rightarrow T \leftarrow$ key to store the selected menu and return the scale to the weighing mode.



- Remove the preload weight from the scale. A weight with a preceding „minus“ sign is displayed (e.g., -0.335kg).



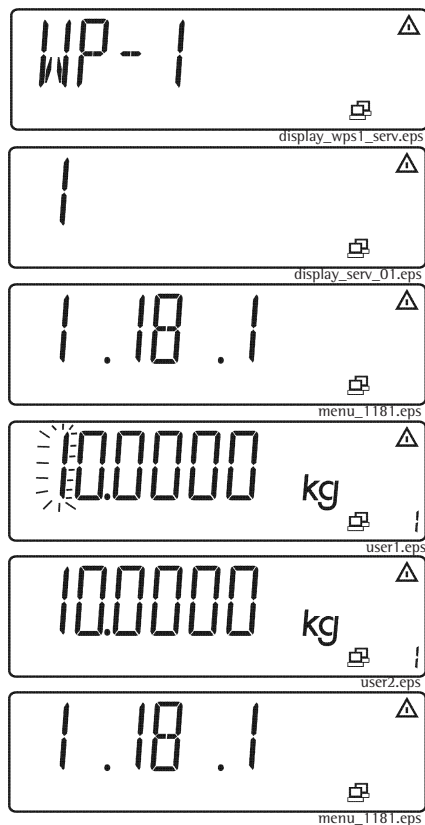
- Press the  key until »CLR VOR« is displayed.



- Press the  key. The preload is cleared, and after a brief pause, the scale returns to the weighing mode.

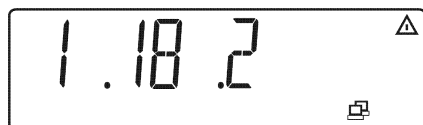


1-18 Entering Calibration/Linearization Weights



1-18-1 External User-Defined Calibration Weight (service mode not required)

- Activate the service mode (see page 15).
- Select weighing platform »WP1«.
- Press the $\rightarrow T \leftarrow$ key to access the number menu.
- Select menu code »1-18-1« (Ext. user – defined calibration weight) by pressing the $\rightarrow T \leftarrow$ key and the $[Fn] \rightarrow T \leftarrow$ key repeatedly).
- Access the input mode for the user-defined weight by briefly pressing the $\rightarrow T \leftarrow$ key. The first number blinks.
- Enter the user-defined weight (10,000 kg in this example); press the following keys in order: $\rightarrow T \leftarrow$ $[Fn]$ $\rightarrow T \leftarrow$ $[0]$ $\rightarrow T \leftarrow$ $\rightarrow T \leftarrow$ $\rightarrow T \leftarrow$ $[Fn]$ $\rightarrow T \leftarrow$. Now the last number entered blinks.
- Press the $\rightarrow T \leftarrow$ key again to store the user-defined weight.



menu_1182.eps



user1.eps



user12.eps



menu_1182.eps



menu_1185.eps

1-18-2 Entering the 1st Linearization Weight

- Scroll to menu code » 1- 18-2 « (by pressing the **[Fn]** key).

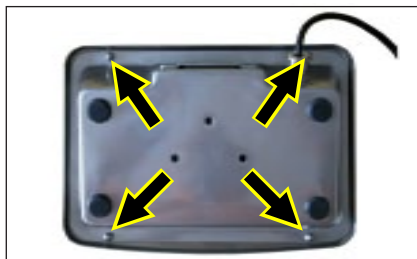


Important note:

The service mode must be active.

- Access the input mode for the 1st linearization weight by briefly pressing the **[→T←]** key. The first number blinks.
- Enter the 1st linearization weight (2,500 kg in this example); press the following keys in the order indicated: 3***[Fn]** **[→T←]** **[=]** **[→T←]** 6***[Fn]** **[→T←]** **[Fn]** **[→T←]** **[Fn]**. Now the last number entered blinks.
- Press the **[ISO-Test]** key to store the 1st linearization weight. Then the scale returns to menu code setting » 1- 18-2 «.
- Using the **[Fn]** key, scroll to the menu code settings » 1- 18-3 «, » 1- 18-4 «, and » 1- 18-5 « and enter the values for Lin. 2, Lin. 3 and Lin. 4 according to the instructions above.
If you do not require all linearity positions, enter „0“ in the unused fields to blank these lines in the display.
- Once all entries have been made, menu code setting » 1- 18-5 « must be displayed.

Repairing the Display Unit



AUT23103.JPG

Opening the Display Unit

Warning



Disconnect the cable from the power source.

- 1 You must loosen four nuts (see the picture on the left) to open the display unit.
- 2 Cut through the warranty stickers (seals).
- 3 Open the housing.
- 4 Now all parts are accessible.

Closing the Display Unit

- 1 Plug all connectors back into the unit.
- 2 Close the display unit.
- 3 Reconnect the unit to line voltage.
- 4 Check the functions of the display unit to ensure that they are working properly.

Important note:



Once the scale has been repaired and checked to ensure its proper functioning, new warranty stickers (seals) must be applied.

Replacing the Front Panel

In the case of a defective keypad overlay, keys, or display, the entire front panel must be replaced (see the picture on the left).



AUT23301a.JPG

- Open the display unit (see page 34)
- Replace the entire front panel with a new one
- Close the display unit (see page 34)

Replacing the Cable



AUT23152.JPG

- Open the display unit (see page 34)
- Unplug all connectors from the cable
- Loosen the screw
- Replace the cable with a new one
- Close the display unit (see page 34)
- After replacing the cable, use a torque wrench to tighten the cable gland to **3 Nm.**

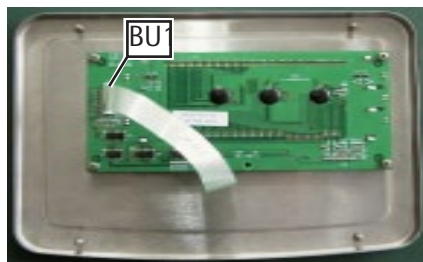
Replacing the Display PCB

Important note:



Do not connect or disconnect live power cables to or from the equipment; always disconnect the power cable from the wall socket (mains supply) first. Otherwise, components could be destroyed.

- Open the display unit (see page 34)
- Unplug the cable from the ST1 connector and the overlay cable from the keypad.
- If an A/D converter or rechargeable battery pack is being used, unplug the cable from connector ST2 also.
- Remove the screws
- Remove the display PCB (X)
- Replace the display PCB with a new one
- Connect the cable
- Close the display unit (see page 34)



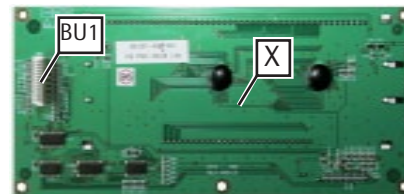
AUT24205.JPG



AUT24201.JPG



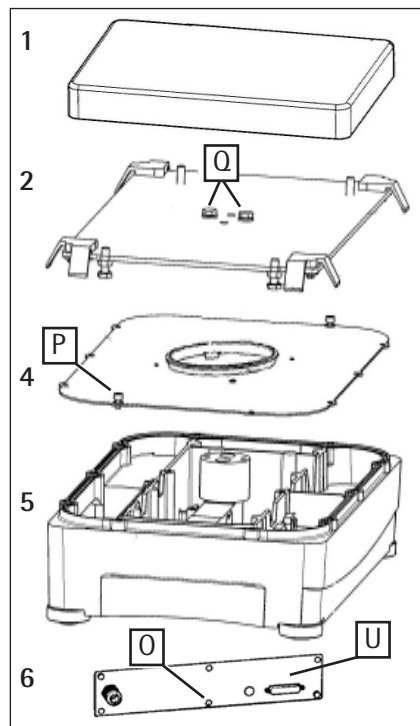
AUT23302a.JPG



AUT23359a.JPG

Repairing the Scale

IP44



Explo00a.jpg

Explo01z.jpg

Explo01e.jpg

Opening a Scale Featuring Strain Gauge Technology

IP65

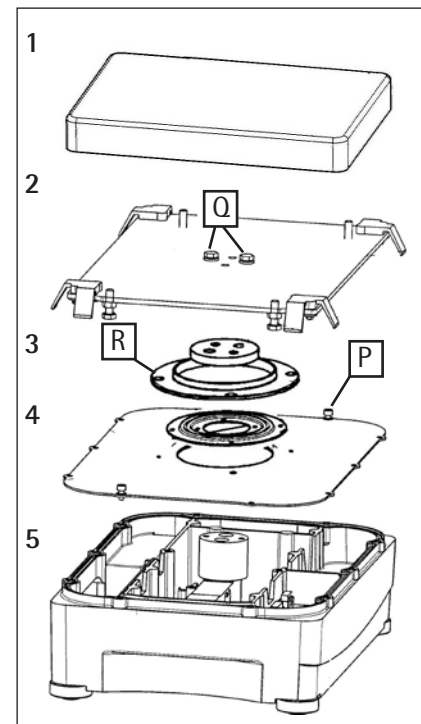
Warning:



Disconnect the cable from the power source.

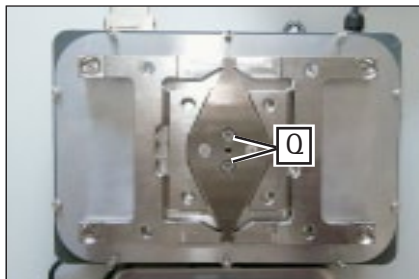
- 1 Remove the load cell.
- 2 Loosen and remove the two screws (Q) from the support plate.
- 3 Remove the four screws (R) from the O-ring (see picture on the right).
- 4 Remove the ten screws (P) from the cover. Cut through the warranty stickers (seals).
Remove the O-ring (on units with IP65 protection).
- 5 The scale housing is now accessible.
- 6 Remove the six screws (O) from the data output plate (U).

Remove the gasket (on units with IP65 protection).

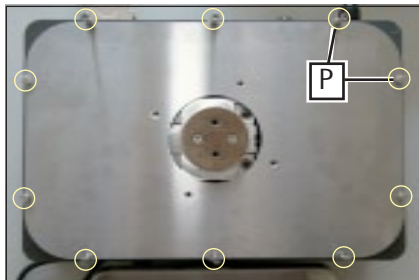


Explo00a.jpg

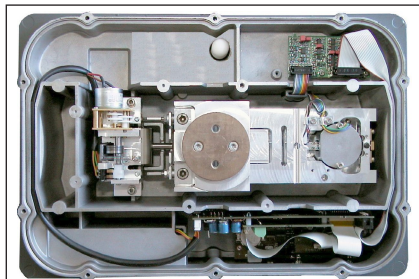
Explo01y.jpg



AUT24260a.JPG



AUT24261.JPG



AUT24252.JPG

Opening a Scale Featuring Electromagnetic Force Compensation

Warning



Disconnect the cable from the power source.

- 1 Remove the load cell plate.
- 2 Loosen the two screws (Q) on the load cell and remove the load cell.
- 3 Place the load cell to the side (see picture on the right).
- 4 Remove the ten screws (P) from the cover.
- 5 Cut through the warranty stickers (seals).
- 6 The scale housing is now accessible.



AUT24262.JPG

Closing the Scale



AUT24263a.JPG

- 1 Plug the connectors back in.
- 2 Reassemble the parts of the housing in order.
- 3 If necessary, be sure to include the all O-rings and gaskets.
- 4 Replace and tighten the screws (P).
- 5 Plug the unit back into AC power.
- 6 Check the scale to ensure that it is functioning properly.

Important note:



Once the scale has been repaired and checked to ensure its proper functioning, new warranty stickers (seals) must be applied.

Replacing the Power PCB

Warning



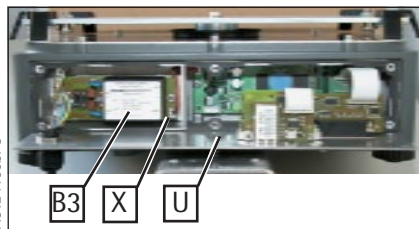
Disconnect the cable from the power source.

Important note:

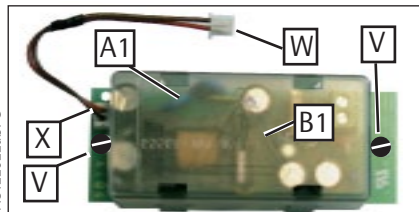


Do not connect or disconnect live power cables to or from the equipment; always disconnect the power cable from the wall socket (mains supply) first. Otherwise, components could be destroyed.

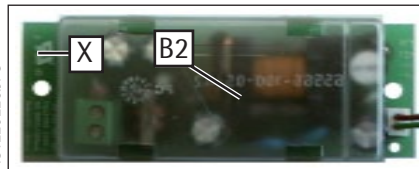
- There are three different power supply versions: (B1) 24V and (B2) 230V and (B3) Zone 2.
- Loosen and remove six screws from the data output plate (U).
- Cut through the warranty stickers (seals).
- Fold down the data output plate (U).
- Pry the protective cap (A1) from the power PCB (B1).
To do this, insert the end of a slotted-head screwdriver into each of the four openings on the protective cap and carefully push the retainer clips, located further down, to one side.
- Remove the protective cap (A1) and disconnect the wire (red/brown).
- Unplug connector X, remove the 2 screws (V) and replace the power supply (B1).
- Make sure to return the protective cap to its original position.
- Apply new warranty stickers (seals) to the unit.



AUT24186.JPG



AUT2922a.JPG



AUT2922b.JPG



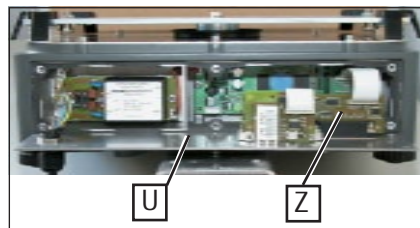
AUT24186.JPG

Replacing the Data Output PCB

Warning



Disconnect the cable from the power source.



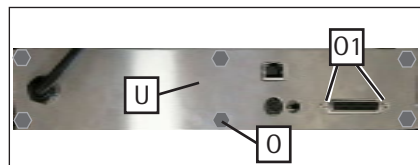
AUT24188.JPG

Important note:



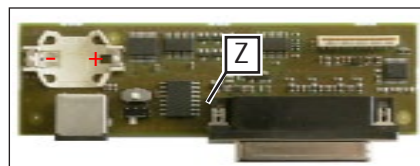
Do not connect or disconnect live power cables to or from the equipment; always disconnect the power cable from the wall socket (mains supply) first. Otherwise, components could be destroyed.

Different versions of this PCB (see pages 59-60) can be installed in the unit.



AUT22916.JPG

- Loosen and remove six screws (O) from the data output plate (U).
- Cut through the warranty stickers (seals).
- Remove the data output plate (U).
- When you replace the data output PCB (Z) make sure that the connectors are plugged in correctly.
- If you are replacing the battery, it is imperative that you install it with the correct polarity (+ / -).



AUT22917b.JPG

Replacing the Main PCB

Warning



Disconnect the cable from the power source.

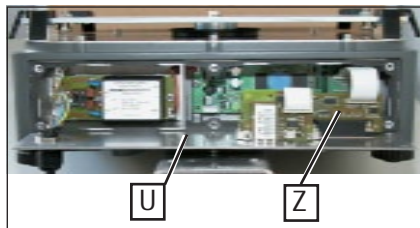


Important note:

Do not connect or disconnect live power cables to or from the equipment; always disconnect the power cable from the wall socket (mains supply) first. Otherwise, components could be destroyed.

Different versions of this PCB (see picture on the left) can be installed in the unit.

- Loosen and remove six screws (O) from the data output plate (U).
- Cut through the warranty stickers (seals).
- Remove the data output plate (U).
- When you replace the digital PCB, be sure that all cables are reconnected.

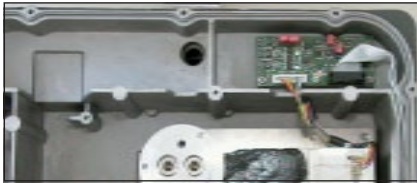


AUT24188.JPG



AUT23155a.JPG

Replacing the System PCB



AUT24197a.JPG



AUT24192.JPG



AUT24192.JPG



AUT24194.JPG

Important note:



Please refer to page 37, „Opening a Scale Featuring Strain Gauge Technology

- Strain gauge scale with system PCB
- When you replace the system PCB, make sure that all cables have been reconnected.

Important note:



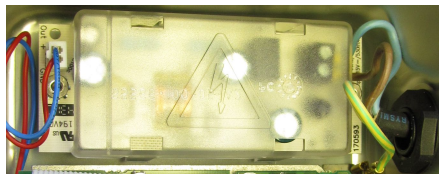
See page 38, „Opening a Scale Featuring Electromagnetic Force Compensation”

- Electromagnetic force compensation scale with system PCB
- When you replace the system PCB, make sure that all cables have been reconnected.

Replacing the Power Supply PCB

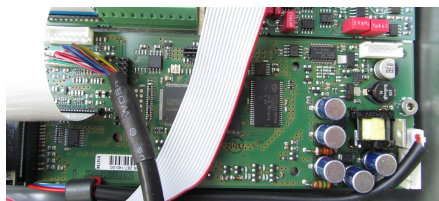
Opening the Display Unit (see page 34)

Caution: Unplug the power cord

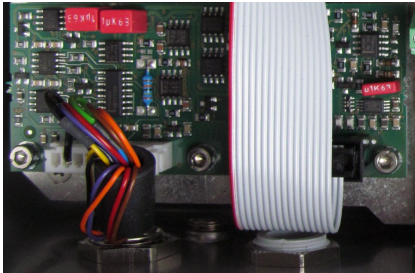


- The protective cover needs to be lifted when replacing the power supply PCB. To do this, insert a regular screwdriver into the four openings of the protective cover and carefully press the clips located at the bottom to the side.
- Remove the protective cover and disconnect the power cord on the right (blue/brown).
- Remove the left plug (red/blue), remove the screws and replace the power supply. Do not forget to reattach the protective cover.

Replacing the Main PCB



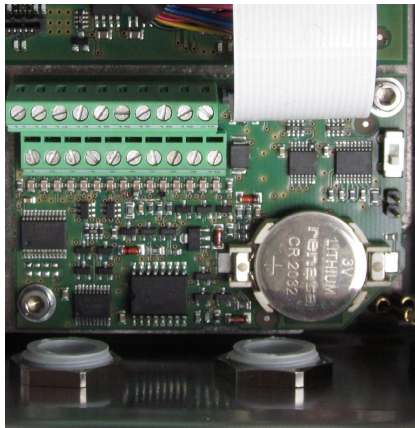
- Loosen and remove the ribbon cable and power supply cable
- Remove the screws, cable and replace the PCB
- Once the main PCB has been replaced, make sure that the plug connections are properly reconnected.



Replacing the System Board

Caution: Unplug the power cord

- Remove the ribbon cable and system plug
- Remove the screws and replace the PCB
- Check to make sure that the plug connections are connected properly after replacement.



Replacing the Data Output PCB

- Remove the screws, cable and replace the PCB
- Once the data output PCB has been replaced, make sure that the plug connections are properly connected.
- If the battery is being replaced, make sure that the polarity (+ / -) is correct.

Installation of the Profibus Module

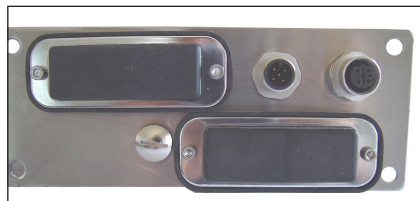
Profibus Module Plate with IP65 Protection

Important note:

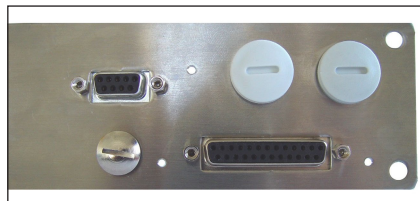


After installation of the Profibus module, the cable connectors must be equipped with a flat ferrite and glued with silicone.

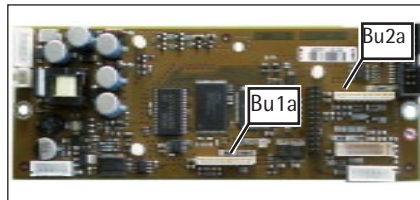
(see pictures on the right).



DSC03656a.JPG

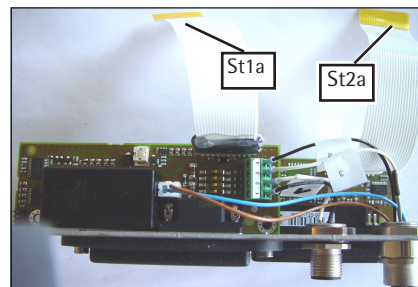


DSC03654a.JPG

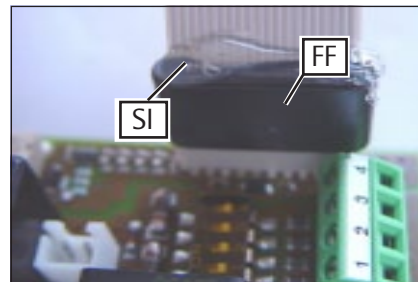


AUT23155a.JPG

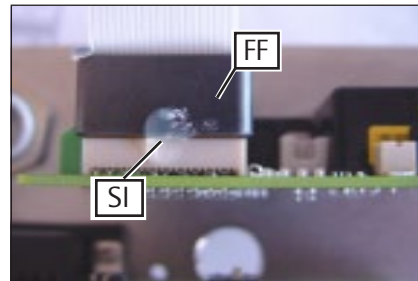
Data Output Plate with IP65 Protection



DSC03658.JPG



DSC03653a.JPG



DSC03651a.JPG

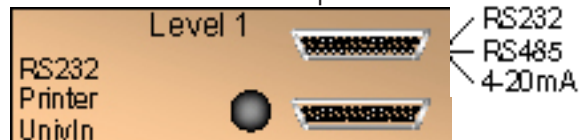
Data Output Plate with IP44 Protection

Com1: RS232



Com1: RS232

+ Option COM2

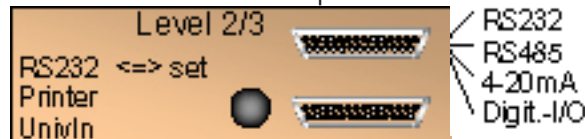


Com1: RS232



Com1: RS232

+ Option COM2

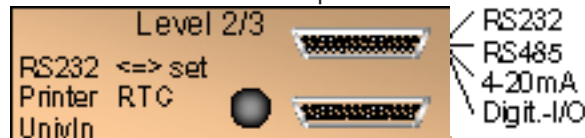


Com1: RS232+



Com1: RS232+

+ Option COM2



Option Clock

Com1: RS232++



Com1: RS232++

+ Option COM2



Com1: RS232++

+ Option



Option Clock + PS/2

Data Output Plate with IP65 Protection

Com1: RS232

nicht
benutzt

Com1: RS232 + Option COM2

RS232
RS485
4-20mA

Com1: RS232

nicht
benutzt

Com1: RS232 + Option COM2

RS232
RS485
4-20mA
Digit-I/O

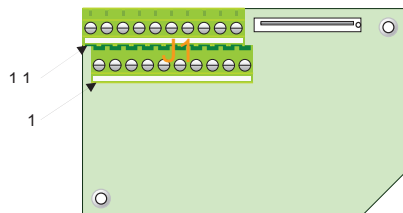
Com1: RS232+

nicht
benutzt

Com1: RS232+ + Option COM2

RS232
RS485
4-20mA
Digit-I/O

Com1 Interface SIWAEDG



Screw Terminal Assignment

Terminal	Function	Terminal	Function
1	CTS	11	LOAD PRINT
2	DTR	12	RESET OUT
3	RxD	13	GND
4	TxD	14	GND
5	GND	15	5V OUT
6	Universal	16	5V switched
7	Minor (<)	17	Keyboard data
8	PARES (=)	18	Keyboard clock
9	MAJOR (>)	19	Shield
10	SET	20	LINE OUT

Installing the Data Output Cable

- Open the display unit (see page 34)
- Connect the cable according to the assignment chart
- Close the display unit (see page 34)
- After installing the cable, tighten the cable gland using a torque of **3 Nm**.

Error codes are shown on the main display. *Err* codes are shown continuously; *Inf* messages are shown for 2 seconds, after which the program returns automatically to the weighing mode.

Display	Cause	Solution
<i>ERR 101 - 104</i>	Key is stuck Key pressed at power on	Release key or Contact your local Sartorius Service Center
<i>ERR 320</i>	Program memory defective	Contact your local Sartorius Service Center
<i>ERR 335</i>	Verified weighing platform not compatible with the connected terminal	Connect a compatible weighing platform
<i>ERR 340</i>	Operating parameter memory (EEPROM) defective	Turn the scale off and then on again If Err 340 is still displayed, contact your local Sartorius Service Center
<i>ERR 341</i>	Data lost from RAM;	Leave the scale power on for at least 10 hrs. battery needs to be recharged
<i>ERR 343</i>	Data lost from the memory module for transaction numbers in external alibi memory	Contact your local Sartorius Service Center
<i>INF 01</i>	Data output not compatible with output format	Change the menu settings
<i>INF 02</i>	Calibration/adjustment condition not met; for example, not tared or there is a load on the weighing pan	Calibrate only when zero is displayed. Press) to tare Unload the scale
<i>INF 03</i>	Adjustment could not be completed within a certain time	Allow the scale to warm up again and then repeat the adjustment process
<i>INF 06</i>	Built-in calibration weight defective	Contact your local Sartorius Service Center

Display	Cause	Solution
INF 07	Function not allowed in scales verified for use in legal metrology	Contact your local Sartorius Service Center for details on changing settings
INF 08	The load on the scale is too heavy to zero the readout	Check whether "Tare/zero at power on" is set (1.12)
INF 09	Taring is not possible when the gross weight is a minus value	Zero the scale
INF 10	Tare key is blocked when there is data in the tare memory	The data stored in the 2nd tare memory (Combiics 2 only) must be deleted (clear the memory) before taring
INF 22	Error in storing reference value, load is too light	Put a heavier weight on the scale
INF 23	Error in initializing an application	Contact your local Sartorius Service Center
INF 29	Minimum load not reached	Change menu, or perform "Close" function check the interface and cable of the connected device Contact your local Sartorius Service Center
INF 30.31	Indicator is in the xBPI-mode	Define a lower value for the minimum load (in the Application settings, menu item 3.6)
INF 71	Cannot store the current weight value (e.g., if control limits are too low or too high)	None
INF 72	Cannot store the current weight value (e.g., the transaction counter has reached its limit)	None
INF 73	Data not found or unreadable	Contact your local Sartorius Service Center

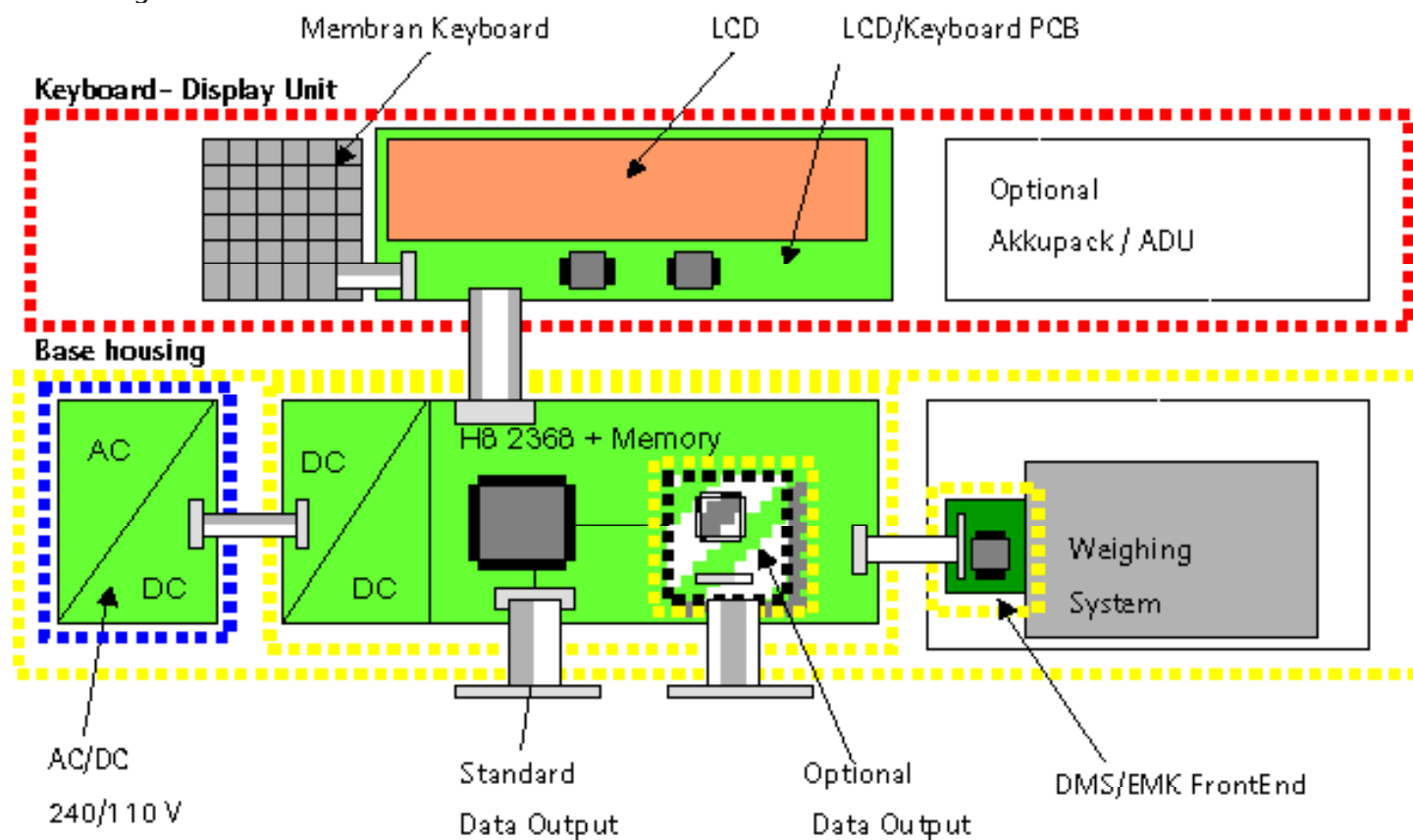
Display	Cause	Solution
<i>INF 74</i>	Function is blocked (e.g., menu is locked)	None
<i>INF 98</i>	No weighing platform connected	Connect weighing platform
<i>INF 99</i>	No weighing platform connected	Connect weighing platform
<i>NO WP</i>	No weighing platform connected	Connect weighing platform

In addition to standard tools, you will need the following special tools and programs to work on Signum series scales

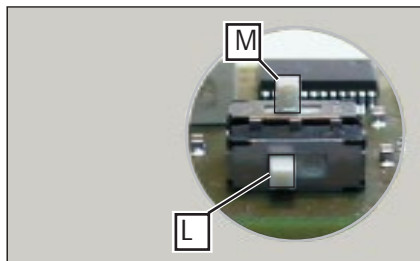
Designation	Order No.
- Sartorius Service Software (H8S) with USB dongle ^{*)}	6740-88
- Sartorius Service Software (H8S) with LPT dongle ^{*)}	6740-89

^{*)} Registration in ISSS required

Block Diagram



Service Switches



AUT23003a.JPG

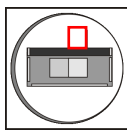
There are two sliding switches on the data output PCB for use by service technicians. These switches are located on the back of the scale and can be activated through the borehole using a thin object.

The illustration shows two individual switches:

- Menu access switch (L)
- Flash switch (M) → see page 20 for details.

Function of the Service Switches

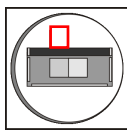
Upper switch
right closed



Men-Swi-Re.eps



Upper switch
Left open



Men-Swi-Li.eps



Menu Access Switch

Warning

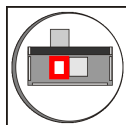


Only open this switch for service purposes. At all other times, it should remain in the „closed“ position.

This switch must be open in order to work with the Sartorius Service Software. If the switch remains closed, the error message „ACCESS SWITCH LOCKED“ will be displayed in the service program.

Boot Switch (Flash Switch)

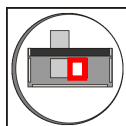
Lower switch
left open



Men-Swi-Li.eps



Lower switch
right closed



Men-Swi-Li.eps



Warning



Activate this switch only if an attempt to program the application-data memory with the PPLOADER program fails (programming routine stops responding).

Procedure for returning the PCB to bootable mode:

- Disconnect the scale from AC power.
- Slide the boot switch to the right and plug the scale back into AC power.
- Afterwards, slide the switch to the left again. After a short time, the PCB is ready to boot (reload the application software using PPLOADER).

SBI/XBPI

Important note: The COM 1 interface must be set to XBPI (eXtended Binary Processor Interface) protocol before you can perform calibration/adjustment procedures or program the scale using the Sartorius Service Software (see page 22).



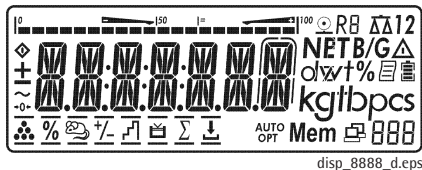
Close Function

After using the service software, select the „Close“ function to reactivate write-protection and return the weighing system to SBI mode for data output. When the SBI mode is active the scale uses the SBI protocol, which is required for communication with the printer.

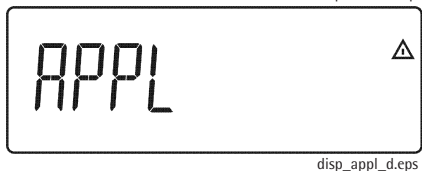
Setting the XBPI-232 Protocol

You need to set the scale to the XBPI protocol (BPI-232) in order to perform calibration/adjustment procedures or program the scale using the service software.

- Switch the Signum scale off (press the    .
- Switch the Signum scale back on (by pressing the    ). While all segments are displayed, briefly press the  key.



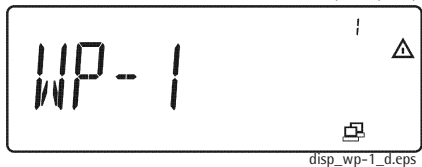
APPL appears in the display.

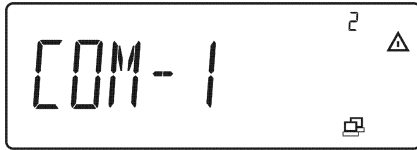


- Using the  key, scroll to **SETUP**.



- Press the  key. **WP-1** is displayed.

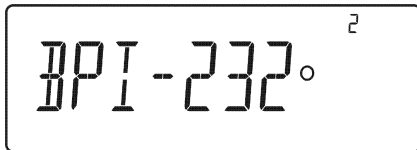




disp_com-1_d.eps



disp_datprot_d.eps



disp_xbpi_d.eps

- Mit der Taste **Fn** bis **COM-1** scrollen.
- Use the **Fn** key to scroll to **COM-1**.
- Press the **→T←** key. **DATPROT** is displayed.
- Press the **→T←** key again. **BPI-232** appears in the display.

Important note:



The X is not displayed when BPI-232 is selected.

Calibration/Adjustment Data for the SIWR

Example for the order number of a Signum full range scale: SIWRDCP-1-15-L or SIWRDCP-3-15-NCE

Model type	Sensor technology	Platform dimensions (in mm)	Type of material	Application-level	Capacity (kg)	Display resolution	Verifiable/verified versions
SIW	R ¹⁾	DC	P ⁴⁾	1	15	N	NCE

		Repeatability		Off-center load repeatability		Span				Linearity			TCS	ISO CAL	
Model	Weighting capacity	Repeatability	Test weight	Permissible tolerance	Test weight	Permissible tolerance	H/C	Adjusting weight	Test weight	Permissible tolerance	Tareweight	Testweight	Permissible tolerance	ppm /K	K
STARD-CP-1-3-J	3 kg ± 0.0001 kg	2 kg ± 0.0002 kg	2 kg ± 0.0001 kg	M1	3 kg ± 0.0002 kg	-	kg	0.7/1.5/2.2/3	kg ± 0.0003 kg	10	n				
STARD-CP-1-3-B	3 kg ± 0.0001 kg	2 kg ± 0.0002 kg	2 kg ± 0.0001 kg	M2	3 kg ± 0.0002 kg	-	kg	0.7/1.5/2.2/3	kg ± 0.0003 kg	10	n				
STARD-CP-1-6-J	6 kg ± 0.0002 kg	5 kg ± 0.0002 kg	5 kg ± 0.0002 kg	M1	6 kg ± 0.0004 kg	-	kg	1.5/3/4/6	kg ± 0.0004 kg	10	n				
STARD-CP-1-6-L	6 kg ± 0.0001 kg	5 kg ± 0.0002 kg	5 kg ± 0.0005 kg	M1	6 kg ± 0.001 kg	-	kg	1.5/3/4/6	kg ± 0.0004 kg	25	n				
STARD-CP-1-6-M	5 kg ± 0.0002 kg	2 kg ± 0.0002 kg	5 kg ± 0.0001 kg	M2	6 kg ± 0.004 kg	-	kg	0.7/1.5/2.2/3/6	kg ± 0.0004 kg	50	n				
STARD-CP-1-6-R	6 kg ± 0.0001 kg	2 kg ± 0.0002 kg	5 kg ± 0.0001 kg	M2	6 kg ± 0.002 kg	-	kg	1.5/3/4/6	kg ± 0.0004 kg	50	n				
STARD-CP-1-6-N	5 kg ± 0.0002 kg	2 kg ± 0.0002 kg	5 kg ± 0.0001 kg	M2	6 kg ± 0.004 kg	-	kg	2	kg ± 0.0004 kg	50	n				
STARD-CP-1-15-J	15 kg ± 0.0005 kg	10 kg ± 0.0004 kg	5 kg ± 0.0005 kg	M1	15 kg ± 0.001 kg	-	kg	3/7/11/15	kg ± 0.0008 kg	10	n				
STARD-CP-1-15-L	15 kg ± 0.0001 kg	10 kg ± 0.0004 kg	5 kg ± 0.0001 kg	M1	15 kg ± 0.002 kg	-	kg	3/7/11/15	kg ± 0.0008 kg	20	n				
STARD-CP-1-15-M	15 kg ± 0.0005 kg	5 kg ± 0.0004 kg	5 kg ± 0.0002 kg	M2	15 kg ± 0.01 kg	-	kg	1.5/3/4/6/7/14	kg ± 0.0008 kg	40	n				
STARD-CP-1-15-R	15 kg ± 0.0002 kg	10 kg ± 0.0004 kg	5 kg ± 0.0002 kg	M2	15 kg ± 0.004 kg	-	kg	3/7/11/15	kg ± 0.0008 kg	40	n				
STARD-CP-1-15-N	15 kg ± 0.0005 kg	5 kg ± 0.0004 kg	5 kg ± 0.0002 kg	M2	15 kg ± 0.01 kg	3 / 6 / 10	kg	5	kg ± 0.0008 kg	40	n				

¹⁾ = SIWR: „Regular“ standard weighing system - (strain gauge technology)

⁴⁾ = Painted

Calibration/Adjustment Data for the SIWR

Example for the order number of a Signum full range scale: SIWRDCP-2-60-R oder SIWRDCP-3-60-RCE

Model type	Sensor technology	Platform dimensions (in mm)	Type of/ material	Application-level	Capacity (kg)	Display resolution	Verifiable/ verified versions
SIW	R ¹⁾	DC	P ⁴⁾	2	15	R	RCE

			Repro-ducibility		Off-center load Sensitivity		Span				Linearity			TCS	is o GAL		
Model	Weighting capacity	Repeatability	Test weight	Permissible tolerance	Test weight	Permissible tolerance (g)	Test weight	Adjusting weight	Test weight	Permissible tolerance (g)	Tareweight	Testweight	Permissible tolerance (±)	ppm /K	K		
STARD CP-135-J	35 kg	0.001 kg	20 kg	0.002 kg	10 kg	0.001 kg	M1	30 kg	30 kg	0.002 kg	-	kg	7/15/22/35	kg	0.0015 kg	10	n
STARD CP-135-L	35 kg	0.002 kg	20 kg	0.001 kg	10 kg	0.002 kg	M1	30 kg	30 kg	0.004 kg	-	kg	7/15/22/35	kg	0.0015 kg	25	n
STARD CP-135-JM	35 kg	0.005 kg	10 kg	0.001 kg	10 kg	0.005 kg	M2	30 kg	30 kg	0.02 kg	-	kg	37/11/15	kg	0.0015 kg	50	n
STARD CP-135-JN	35 kg	0.005 kg	10 kg	0.001 kg	10 kg	0.005 kg	M2	30 kg	30 kg	0.02 kg	10 / 20 / 30	kg	7/15/22/35	kg	0.0015 kg	50	n
STARD CP-135-R	35 kg	0.005 kg	20 kg	0.001 kg	10 kg	0.005 kg	M2	30 kg	30 kg	0.01 kg	-	kg	7/15/22/35	kg	0.0015 kg	50	n
STARD CP-160-J	60 kg	0.002 kg	20 kg	0.002 kg	20 kg	0.002 kg	F2	60 kg	60 kg	0.004 kg	-	kg	15/30/45/60	kg	0.003 kg	10	n
STARD CP-160-L	60 kg	0.005 kg	20 kg	0.002 kg	20 kg	0.005 kg	M1	60 kg	60 kg	0.01 kg	-	kg	15/30/45/60	kg	0.003 kg	25	n
STARD CP-160-JM	60 kg	0.01 kg	20 kg	0.002 kg	20 kg	0.01 kg	M2	60 kg	60 kg	0.04 kg	-	kg	7/15/22/30	kg	0.003 kg	50	n
STARD CP-160-R	60 kg	0.01 kg	20 kg	0.002 kg	20 kg	0.01 kg	M2	60 kg	60 kg	0.02 kg	-	kg	15/30/45/60	kg	0.003 kg	50	n
STARD CP-160-JN	60 kg	0.01 kg	20 kg	0.002 kg	20 kg	0.01 kg	M2	60 kg	60 kg	0.04 kg	15 / 30 / 45	kg	20	kg	0.003 kg	50	n

just_Signum_290508.xls

¹⁾ = SIWR: „Regular“ standard weighing system - (strain gauge technology)

⁴⁾ = Painted

Calibration/Adjustment Data for the SIWA

Example for the order number of a Signum full range scale: SIWADCP-2-35-S

Model type	Sensor technology	Platform dimensions (in mm)	Type of/ material	Application-level	Capacity (kg)	Display resolution	Verifiable/ verified versions
SIW	A ²⁾	DC	P ⁴⁾	2	35	S	

		Repro-ducibility		Off-center load sensitivity		Span				Linearity			TCS	ISO CAL
Model	Weighting capacity	Test weight	Permissible tolerance	Test weight	Permissible tolerance (g)	Test weight	Adjusting weight	Test weight	Permissible tolerance (g)	Tareweight	Testweight	Permissible tolerance (g)	ppm /K	K
SIWADCP-17-S	7 kg, 0.0001 kg	5 kg	0.0002 kg	5 kg	0.0006 kg	F2	7 kg	15 kg	0.0002 kg	- kg	1.5/3/4/6 kg	0.0003 kg	10	n
SIWADCP-116-S	16 kg, 0.0002 kg	5 kg	0.0004 kg	10 kg	0.0008 kg	F2	15 kg	15 kg	0.0006 kg	- kg	20 kg	0.0006 kg	10	n
SIWADCP-135-S	35 kg, 0.0005 kg	20 kg	0.001 kg	10 kg	0.002 kg	F2	30 kg	30 kg	0.0015 kg	- kg	7/15/22/35 kg	0.0015 kg	10	n
SIWADCP-145-S	65 kg, 0.001 kg	20 kg	0.002 kg	20 kg	0.002 kg	F2	60 kg	60 kg	0.008 kg	- kg	15/30/45/60 kg	0.003 kg	10	n

Signum SIWAEDG

SIWAEDG-3-65-S	65 kg	1 g	20 kg	1 g	20 kg	2 g	F2	20 kg	20 kg	1 g	-	kg	0 - Max kg	3 g	8	n
SIWAEDG-3-35-S	35 kg	0,5 g	10 kg	0,5 g	10 kg	2 g	F2	10 kg	10 kg	0,5 g	-	kg	0 - Max kg	1,5 g	6	n
SIWAEDG-3-16-S	16 kg	02 g	5kg	0,2 g	5kg	0,8 g	F2	5kg	5kg	0,2 g	-	kg	0 - Max kg	0,6 g	6	n

²⁾ = SIWA: „Advanced“ mechatronic weighing system (strain-gauge technology)

⁴⁾ = Painted

Calibration/Adjustment Data for the SIWS

Example for the order number of a Signum full range scale: SIWSDCP-3-16-H oder SIWSDCP-3-16-HCE

Model type	Sensor technology	Platform dimensions (in mm)	Type of/ material	Application-level	Capacity (kg)	Display resolution	Verifiable/ verified versions
SIW	S ³⁾	DC	P ⁴⁾	1	15	N	NCE

		Repro-ducibility		Off-center load Sensitive-ity		Span		Linearity			TCS	iso CAL				
Model	Weighing capacity	Test weight	Permissible tolerance	Test weight	Permissible tolerance (g)	H/G	Adjusting weight	Test weight	Permissible tolerance (g)	Tareweight	Testweight	Permissible tolerance (g)	ppm /K	K		
SIWSDCP-1-1-I	3 kg ± 0.0001 kg	2 kg	0.0002 kg	1 kg	0.0003 kg	F2	3 kg	3 kg	0.0001 kg	-	kg	0.7/1.5/2.2/3	kg	0.0002 kg	2	n
SIWSDCP-1-1-S	6 kg ± 0.0001 kg	5 kg	0.0002 kg	5 kg	0.0003 kg	F2	6 kg	6 kg	0.0001 kg	-	kg	1.5/3/4/6	kg	0.0002 kg	2	n
SIWSDCP-1-15-I	15 kg ± 0.0005 kg	10 kg	0.0002 kg	5 kg	0.0005 kg	F1	15 kg	15 kg	0.0005 kg	-	kg	3/7/11/15	kg	0.0005 kg	2	n
SIWSDCP-1-16-H	16 kg ± 0.0001 kg	10 kg	0.0002 kg	5 kg	0.0003 kg	F1	15 kg	15 kg	0.0003 kg	-	kg	3/7/11/15	kg	0.0002 kg	2	n
SIWSDCP-1-16-K	3.5 kg ± 0.0001 kg	2 kg	0.0002 kg	5 kg	0.0003 kg	F1	15 kg	15 kg	0.001 kg	4 / 8 / 12	kg	3	kg	0.0002 kg	2	n
SIWSDCP-1-16-T	3.5 kg ± 0.0001 kg	2 kg	0.0002 kg	5 kg	0.0003 kg	F1	15 kg	15 kg	0.0001 kg	-	kg	0.7/1.5/2.2/3	kg	0.0002 kg	2	n
SIWSDCP-1-16-P	7 kg ± 0.0001 kg	5 kg	0.0002 kg	10 kg	0.0005 kg	F1	15 kg	15 kg	0.0001 kg	-	kg	8/16	kg	0.0002 kg	2	n
SIWSDCP-1-16-D	7 kg ± 0.0001 kg	5 kg	0.0002 kg	10 kg	0.0005 kg	F1	30 kg	30 kg	0.001 kg	-	kg	1.5/3/4/6	kg	0.0002 kg	2	n
SIWSDCP-1-16-H	35 kg ± 0.001 kg	5 kg	0.0002 kg	10 kg	0.0005 kg	F1	30 kg	30 kg	0.001 kg	10 / 20 / 30	kg	5	kg	0.0002 kg	2	n
SIWSDCP-1-16-H	35 kg ± 0.0001 kg	20 kg	0.0002 kg	10 kg	0.0003 kg	F1	30 kg	30 kg	0.0005 kg	-	kg	7/15/22/35	kg	0.0002 kg	2	n

just_Signum_290508.xls

³⁾ = SIWS: „Supreme“ monolithic weighing system

⁴⁾ = Painted

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