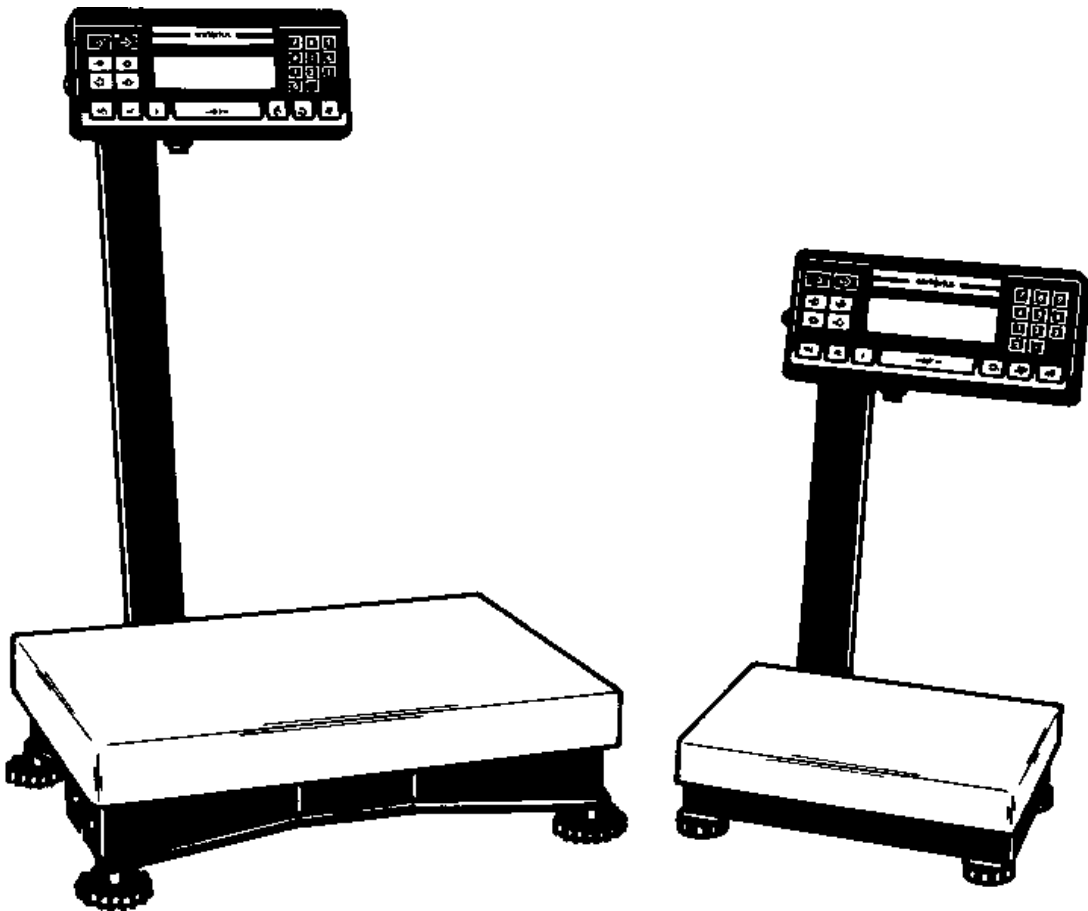


Sartorius QC - Scales Service Manual

QC7CCE-S, -S0UR
QC34EDE-S, -S0UR
QC64EDE-S, -S0UR



Sartorius AG, Weighing Technology

sartorius

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General Information

QC scales come in different model series, each with different housing versions.

The QC7CCE... series comes in the "QS-Mini" housing version and the QC34EDE... and QC64EDE... series in the "QS-Maxi" version.

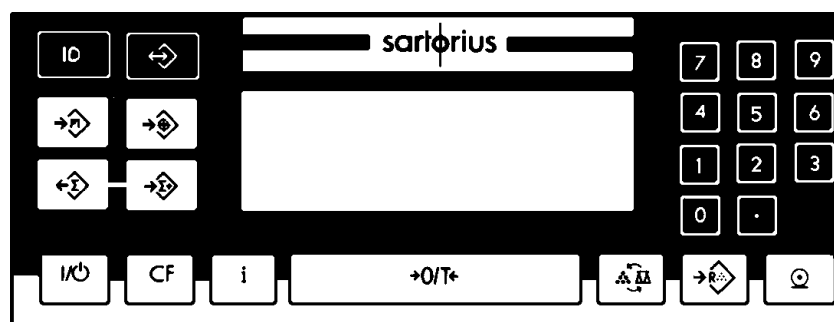
The strain gauge Systems are different in these models.

The electronics are the same in all of these models (MC1), i.e., the operating instructions, scale operating menu and error codes are the same for each model.

The -SOUR versions are equipped with a different keyboard foil compared to the standard versions (for american users).

Brief Operating Instructions

Key Functions





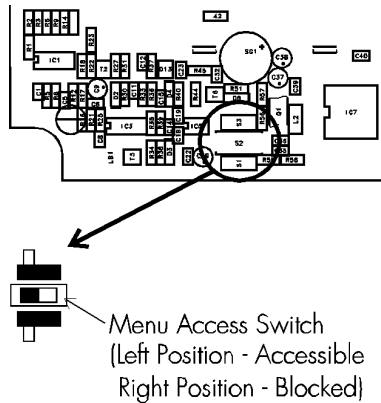
-S -SOUR

		ID key, for generating ID codes with data output
		Memory key, call and save
		Save data in tare 2 memory
		"Start" checkweighing
		Output totalization result
		Add to totalization memory
		On/off key
		CF (Clear Function); cancel a function or delete data from memory. First press CF key, then press the key corresponding to the function or memory to be deleted.
		Info key
		Tare/zero key
		Toggle between weighing and counting applications, or between ref. weight and reference piece count
		Call counting application
		Print key

Scale Operating Menu

Accessing the Scale Operating Menu and Changing Settings

Press  to switch the scale off and back on again. While all segments are displayed (segment check), briefly press the  key. A "1" is displayed.




Note:


If you wish to change the settings in the scale operating menu, the menu access switch must be open. The menu access switch is not accessible when the scale housing is closed; it is located on the solder side of the main PCB. To access this switch, you need to open the display unit. The factory setting of the menu access switch is "accessible" (open).

Selecting a Code:

Press  to change the number, in series (1, 2, 3 ... 9, 1).


Press  to move from the 1st to the 2nd, 2nd to 3rd and, if desired, back to the 1st position of the 3-part menu code.

Changing a Code:

Press  to confirm the desired setting; the "o" symbol is displayed next to the code when it is set.

Exiting the Menu with or without Saving a New Setting:

To exit the scale operating menu, first move the cursor to the first position of the code.

If you wish to save the changes you have made, press the  key for at least 1.5 seconds to exit the menu.

If you do not wish to save any changes, press the  key to exit the menu.

Overview of the Scale Operating Menu

1	Weighing Mode			
1	1	Ambient Conditions		
1	1	1	Very stable	
1	1	2	Stable	
1	1	3	Unstable	
1	1	4	Very Unstable	
1	2	Weighing / Filling		
1	2	1	Standard weighing	
1	2	2	Filling	
1	3	Stability Range		
1	3	1	1/4 digit	
1	3	2	1/2 digit	
1	3	3	1 digit	
1	3	4	2 digits	
1	3	5	4 digits	
1	3	6	8 digits	
1	4	Stability Symbol Delay		
1	4	1	None	
1	4	2	Short	
1	4	3	Long	
1	4	4	Extremely long	
1	5	Tare Parameter		
1	5	1	At any time	
1	5	2	After stability	
1	6	Auto Zero		
1	6	1	On	
1	6	2	Off	
1	7	Weight Units		
1	7	1	User - definable	o
1	7	2	Gramsm	g
1	7	3	Kilograms	Kg
1	7	4	Carats	ct
1	7	5	Pounds	lb
1	7	6	Ounces	oz
1	7	7	Troy ounces	ozt
1	7	8	Hong Kong taels	tl
1	7	9	Singapore taels	tl
1	7	10	Taiwanese taels	tl
1	7	11	Grains	gr
1	7	12	Pennyweights	dwt
1	7	14	Parts per Pound	o
1	7	15	Chinese taels	tl
1	7	16	Mommies	m
1	7	17	Carats	k
1	7	18	Tola	t
1	7	19	Bath	b
1	7	20	Mesghal	m

1	8	Display Mode	
1	8	1	Highest possible accuracy
1	8	2	Last numeral blanced when load changes
1	8	3	Rounding factor 1
1	8	4	Rounding factor 5
1	8	5	Rounding factor 10
1	8	6	1 % accuracy
1	8	7	0.1 % accuracy
1	8	8	0.2 % accuracy
1	8	9	0.1 % accuracy
1	8	10	0.05 % accuracy
1	8	11	0.02 % accuracy
1	8	12	0.01 % accuracy
1	8	13	PolyRange function
1	9	Adjustment Functions	
1	9	1	External adjustment
1	9	5	External linearization
1	9	7	Adjustment function locket
2	APPLIKATION PROGRAMS		
2	1	Counting	
2	1	1	blocked
2	1	4	free
2	2	Tare Memory	
2	2	1	blocked
2	2	2	Tare input memory
2	2	3	Tare input memory automatically
2	4	Clearing Function CF-Key	
2	4	1	clearing all stored values
2	4	3	selektive clearing
2	5	Number Keys	
2	5	1	blocked
2	5	2	free
2	6	Checkweighing	
2	6	1	blocked
2	6	2	Net checkweighing
2	6	3	Diff. checkweighing
2	7	Totalling	
2	7	1	blocked
2	7	2	free
2	8	Individual Data ID	
2	8	1	blocked
2	8	2	free
2	9	Memory - Funktion	
2	9	1	blocked
2	9	2	free
3	APPLIKATION PARAMETERS		
3	5	Storage of the Reference Weight / Value	
3	5	2	Accuracy to the display accuracy
3	5	3	10-fold higher accuracy
3	5	4	100-fold higher accuracy

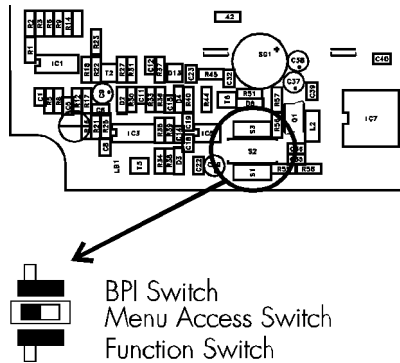
3	9	Average Pieceweight Output	
3	9	1	blocket
3	9	2	Display by pressing key
3	10	Accuracy Test	
3	10	1	without
3	10	2	99,0 % (100 digits)
3	10	3	99,5 % (200 digits)
3	10	4	99,8 % (500 digits)
3	10	5	99,9 % (1000 digits)
3	11	Criterion for Storing Ref. Weight and Tare Value	
3	11	1	At stability
3	11	2	At "increased" stability
3	12	Reference Optimizing	
3	12	1	Blocked
3	12	2	Manual
3	12	3	Automatic
3	13	Forced Print when M+ is Pressed	
3	13	1	free
3	13	2	blocked
4	CHECKWEIGHING - APPLIKATIONSPARAMETER		
4	2	Printout	
4	2	1	free
4	2	2	blocked
4	3	Control through Control Lines	
4	3	1	Only in check range
4	3	2	Always
4	3	3	Only at stability in check range
4	3	4	Only at stability
5	DATA INTERFACE PARAMETER		
5	1	Baud Rate	
5	1	1	150 baud
5	1	2	300 baud
5	1	3	600 baud
5	1	4	1200 baud
5	1	5	2400 baud
5	1	6	4800 baud
5	1	7	9600 baud
5	1	8	19200 baud
5	2	Parity Bit	
5	2	1	Mark
5	2	2	Space
5	2	3	Odd
5	2	4	Even
5	3	Number of Stop Bits	
5	3	1	1 stop bit
5	3	2	2 stop bits
5	4	Handshake Mode	
5	4	1	Software
5	4	2	Hardware, 2 characters after CTS
5	4	3	Hardware, 1 character after CTS

6	UTILITIES		
6	1	Data Output	
6	1	1	Single print without stability
6	1	2	Single print after stability
6	1	3	Single print at stability
6	1	4	Auto print without stability
6	1	5	Auto print after stability
6	2	Auto Print	
6	2		Stop/start by pressing key
6	2	2	Not stoppable
6	3	Auto Print Interval After	
6	3	1	1 display update
6	3	2	2 display updates
6	3	3	5 display updates
6	3	4	10 display updates
6	3	5	20 display updates
6	3	6	50 display updates
6	3	7	100 display updates
7	SOFTKEY APPLIKATIONS		
7	1	Output of Application Parameters	
7	1	1	OFF
7	1	2	All parameters
7	2	Data ID Code	
7	2	1	without header
7	2	2	with header
7	3	Auto Output of the Tare Memory Data	
7	3	1	Last net value
7	3	2	Tare memory data (total)
7	4	Data Output with Time and ID	
7	4	1	keineNo output
7	4	2	Output of Date and Time
7	4	3	Output of article ID no.
7	4	4	Output of Date and Time and article ID no.
7	5	Output of Header Lines 1 and 2	
7	5	1	No output
7	5	2	Output 1st header line
7	5	3	Output 2nd header line
7	5	4	Output both lines
7	6	Output og "wRef" and "nRef"	
7	6	1	No output
7	6	2	Piece count "nRef"
7	6	3	Average piece weight "wRef"
7	6	4	Both
7	7	Output: Net / Tare / Gross / Counting Resault	
7	7	1	No output
7	7	2	Output of net value and counting result
7	7	3	Output of Net/tare-comp./gross or counting result
7	7	4	Output of Net/tare-comp./gross and counting result

7	8	Line Feed		
7	8	1	No line feed	
7	8	2	Line feed - 1 line	
7	8	3	Line feed - 2 lines	
7	8	4	Line feed - 3 lines	
8	ADDITIONAL FUNCTIONS			
8	1	Menü Access		
8	1	1	Change mode	
8	1	2	List mode	
8	2	Acoustic Signal		
8	2	1	On	
8	2	2	OFF	
8	3	Keyboard Function		
8	3	1	free	
8	3	2	Blocked	
8	4	Universal Key		
8	4	1	p	
8	4	2	=	
8	4	3	=	
8	4	4	g	
8	4	5	o	
8	4	6	u	
8	4	7	z	
8	4	8	S	
8	5	Power-On Mode		
8	5	1	off > on / Standby	
8	5	2	off > on	
8	5	3	on / standby	
8	5	4	auto on	
8	6	Display Backlighting		
8	6	1	ON	
8	6	2	OFF	
8	6	3	Auto-off after 2 minutes	
8	7	Auto OFF		
8	7	1	ON	
8	7	2	OFF	
9	1	RESET		
9	1	1	ON	
9	1	2	OFF	

Activating the BPI Mode

In order to use CAS programs with the MC1 server or a personal computer, the scale must be set to the BPI mode.



Disconnect the AC adapter from the scale and open the display unit by removing the 4 screws at the back.

Carefully pull the front panel with the main PCB far enough away from the rear panel to access the BPI switch (see illustration at left).

Reconnect the AC adapter and switch on the scale by pressing e .

Once 0.0g is displayed, move the BPI switch to the right.

The segment check is now displayed periodically. Wait until the segment check has lit up at least 3 times; the scale is now in the BPI mode.

Move the switch back to the original position; the scale now shows the normal weighing display.

Close the display unit.

You can now operate the scale in conjunction with the Sartorius MC1 server in the BPI mode.

Important Note:

After working in the BPI mode, make sure to set the write-protect again (with the Sartorius MC1 server: "close"), so that the QC scale returns to the standard data output protocol (SBI mode).

Otherwise you will not be able to transfer data to a peripheral device; if you press the print key, the error code "Err30" will be displayed.

Important Note:

This function switch has no effect on service operations, but you need to make sure that it is always in the correct position, i.e., set to the left (see illustration).

Adjusting the QC Scales

Table of Adjustment/Calibration Data

Scale Type	QC7CCE-S...	QC34EDE-S...	QC64EDE-S...
Weighing Range	7204 g	34020 g	64040 g
Readability	0,1 g	0,5 g	1 g
Reproduceability	$\leq \pm 0,2$ g	$\leq \pm 1$ g	$\leq \pm 2$ g
Linearity Deviation	$\leq \pm 0,2$ g	$\leq \pm 2$ g	$\leq \pm 4$ g
Adjustment Weight	5000 g	10000 g	20000 g
Off-Center Load Test Weight	5000 g	10000 g	20000 g
Off-Center Load Test Area	up to the brim of the pan		
Off-Center Load Tolerance	0,6 g	1,5 g	3 g
Zero Point Offset Test Weight	without weight on the pan		
Zero Point Offset Voltage	- 300 mV ... - 2 V (14,8 % \pm 11%)		

Adjustment Sequence

1. Adjusting the Overload stops
2. Adjusting the Zero point offset
3. Adjusting the Linearity
4. Adjusting the Span (Sensitivity)

Overload Stops

1. QC7CCE-S

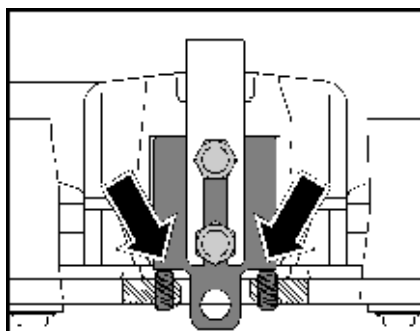
Adjusting the Lower Middle Stops

Important note:

The lower middle stop cannot be seen while you are adjusting it; thus you need to go by sound in checking and finding the correct position.



- Place the scale on a stable surface, so that you can reach both stop screws (113) from underneath the scale.
- Place a load equal to the maximum capacity of the scale plus 1 kg on the middle of the weighing pan.



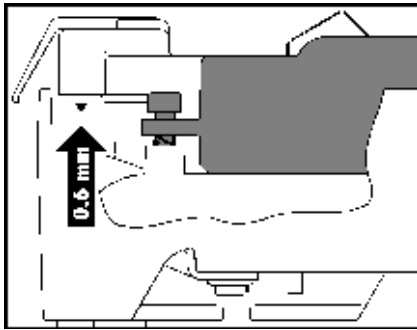
- Unscrew the stop screws (113) until you can hear that the stop is free.
- Turn one of the screws (113) slowly against the stop while checking the distance by pressing down on the load.
- Continue this procedure until you have found the position in which the screw (113) touches the stop (the sound of the stop can no longer be heard).

Important note:

After setting the first screw correctly, turn it back by $\frac{1}{4}$ turn in order to adjust the second screw.

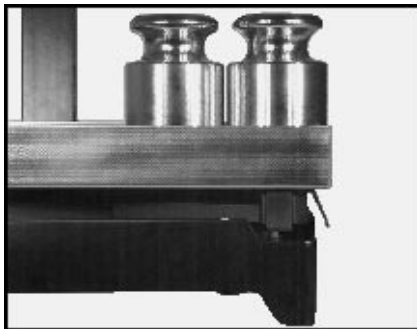
- Follow the same procedure to adjust the second screw (113).
- After the second stop screw (113) is in the correct position, readjust the first screw by $\frac{1}{4}$ turn so that it is back in the correct position as well.
- Once both screws (113) are adjusted properly, remove the scale from its raised position.

Adjusting the Upper Middle Stop

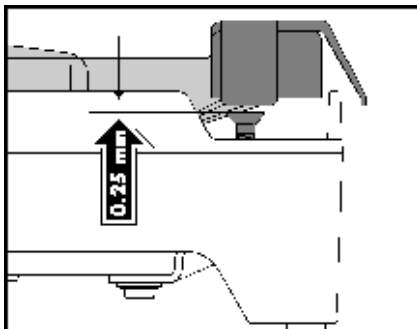


- Remove the weighing pan.
- There must not be any load on the scale when the upper middle stop is being adjusted.
- Adjust the upper middle stop so that the gap between the weighing pan and the stop is 0.6 mm (tolerance range: + 0.1 mm); check the gap size with a feeler gauge.
- When the gap is correct, place the weighing pan on the scale.

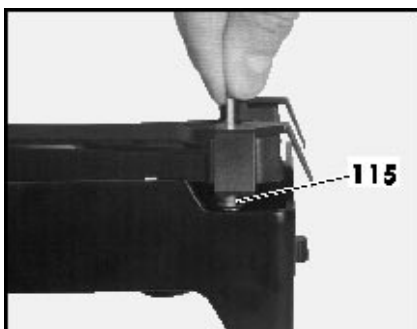
Adjusting the Corner Stops



- Remove the weighing pan and place it upside down on the scale.
- Place a load equal to the maximum capacity in Position 1 on the weighing pan.



- Use a feeler gauge to check the distance between the corner stop screws (115) and the weighing pan.
- Proceed as in the following example to adjust the corner stops:
 - **The actual value** of the gap (as determined with the feeler gauge) is 1 mm.
 - **The target value** is 0.25 mm.
 - **The deviation** (actual minus target value) is, in this example, 0.75 mm.
 - **The lead** of the stop screws is 1 mm, i.e.:
 - 1 turn clockwise increases the gap by 1 mm
 - 1 turn counter-clockwise decreases the gap by 1 mm
 - **The adjustment step** is calculated from the above values:
 - 1 turn of the stop screw changes the gap size by 1 mm, i.e. in the above example, you would need to turn the screw $\frac{3}{4}$ of a turn counter clockwise to achieve the required adjustment (deviation: 0.75 mm).



- Before adjusting the screws (115), remove the weighing pan from the scale.
- Proceed in the same manner to adjust the corner stops in positions 2 – 4.
- After completing this adjustment procedure, place the weighing pan right side up on the scale.
- When you have finished adjusting the corner stops, proceed to the adjustment/calibration functions.

2. QC34EDE-S, QC64EDE-S

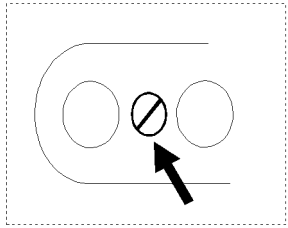
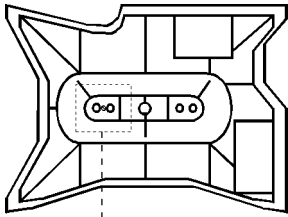
The models QC34EDE-S and QC64EDE-S have two overload-protection features.

The first overload stop is in the pan support, accessible from beneath the scale. This is an adjustable set screw, fixed by a locknut.

Adjustment:

- Remove any load from the scale.
- Place the scale on 4 blocks of equal height in order to make the bottom of the scale easily accessible, since the set screw is only accessible from the bottom.
- Place a load on the scale, on the front of the weighing pan, equal to the following weight:

QC34EDE-S	40kg
QC64EDE-S	70kg
- Carefully turn the set screw until it just touches the System, and then attach the locknut.
- Check your adjustment by placing the maximum load on the scale (QC34... 34kg; QC 64... 64kg) - the set screw must be free and the weight displayed.

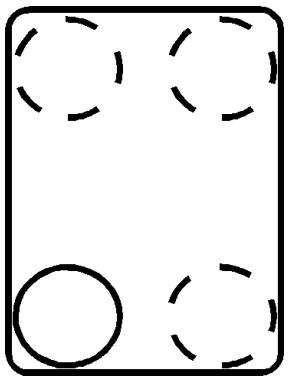


Adjusting the Second Overload Stop Feature:

The second overload protection device consists of four hex nuts, located in the base pan of the scale and accessible from below. You can adjust the height of these hex nuts with a 13 mm wrench.

- Unload the scale and turn it over.
- Place a load on the first corner (see illustration):

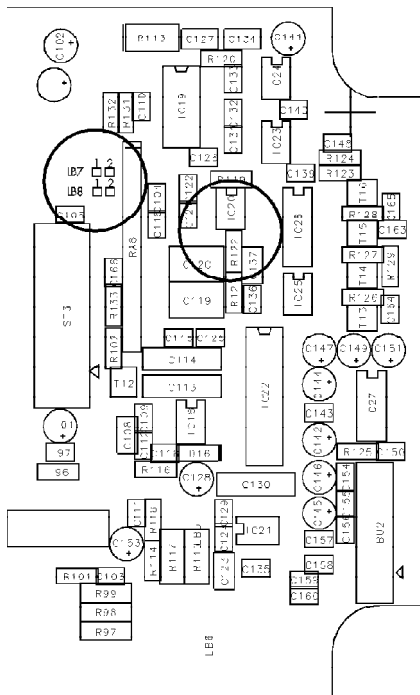
QC34...:	20kg
QC64...:	40kg
- Adjust the height of the hex nut until a slight overload (QC34...: +2kg; QC64...: +5kg) causes the base pan to rest on the screw (displayed value no longer changes).
- Repeat this procedure on all 4 corners.



Zero Point Offset Value

The zero point offset value must be adjusted in order to adapt the bridge voltage of the strain gauge System to the working range of the scale's electronics. You may need to adjust this value:

- after replacing the strain gauge system
- after replacing the main PCB
- if the scale's span (sensitivity) cannot be adjusted (not even with the PSION server) and the error code "Err02" is generated
- if the zero point offset voltage has changed and lies outside the tolerance range, e.g., if the strain gauge System becomes "warped"



Adjusting the Zero Point Offset Value

There are two ways of adjusting the zero point offset value:

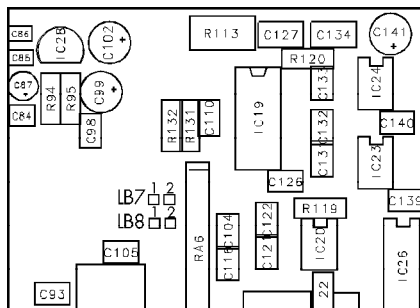
1. using a digital voltmeter
2. using the PSION server, Datapack version 4.4 and newer

1. Adjustment using a digital voltmeter:

- Open the display unit by removing the 4 screws at the back.
- Reconnect the scale to AC power.
- With no load on the weighing pan, use the digital voltmeter to measure to ground on R122 (OP output IC 20 / pin 6).

The zero point offset voltage should be between - 300 mV and - 2V.

- If the zero point offset voltage lies outside these limits, you can adjust it by changing the following solder bridges on the main PCB.



Solder bridge

LB 7

LB 8

Position number

[1] [2]

[1] [2]

	LB7	LB7/LB8	LB8	LB7/LB8
Zero Point Offset Voltage	1 / 2	1 / 1	1 / 2	2 / 2
< - 2 V	open	close	open	open
> - 300 mV	close	open	close	open

2. Adjustment using the PSION server

- Switch the scale to the BPI mode (see page 11).
- Switch on the PSION server and call the CAS program (version 4.4 or newer)
- Select the menu item “Electr-zero-point” from the “Diagnosis” submenu
- With no load on the weighing pan, a value of $14.8\% \pm 1\%$ should appear in the PSION display.
If the value displayed is outside the tolerance limits, you can adjust this voltage by changing the solder bridges LB7 and LB8.

	LB7	LB7/LB8	LB8	LB7/LB8
Zerp Point Offset Value	1 / 2	1 / 1	1 / 2	2 / 2
< 25,8 %	open	close	open	open
> 3,8 %	close	open	close	open

After adjusting the zero point offset, proceed with the adjustment of the span (sensitivity) (with the PSION server, if desired).

Adjusting the Linearity

Note:

There are two methods for adjusting the linearity:

1. As described in this manual, or
 2. Using the MC1 PSION server
- Test the linearity of the scale in 1000g steps over the entire weighing range.
 - If any deviation is greater than the tolerance values given, you need to adjust the linearity.
 - Set the code “1 9 5” in the scale operating menu (external linearization accessible).
 - When 0.0g is displayed, press the \ominus key and hold it for about 3 seconds; then release it.
 - The first linearization value is displayed.
 - Place the prompted weight on the middle of the weighing pan.
 - After the weight is stored, the next weight value is displayed.
 - Each linearity support point is called and stored.
 - When this routine ends, the scale returns to the normal operating mode.
 - If desired, reset the menu item “1 9 ” to the standard setting.


Note:

After linearization, make sure you perform the adjustment of the span (sensitivity).

Adjusting the Span (Sensitivity)

Note:

There are two methods for adjusting the span (sensitivity):

1. As described in this manual, or
2. Using the MC1 PSION server
 - Set the code "1 9 1" in the scale operating menu (external calibration accessible).
 - When 0.0g is displayed, press and hold the  key for about 3 seconds; then release it.
 - The adjustment weight is displayed.

Important note:

The scale will only accept an adjustment weight that is within a tolerance of 2% of the target value. Any greater deviation can only be adjusted using the MC1 PSION server (Datapack version 4.4).

- Place the prompted adjustment weight on the middle of the weighing pan.
After confirming the weight, the scale returns to the normal operating mode.

Replacing the Main PCB

In the case of defects, do not attempt to make any repairs at the component level, but rather replace the entire subassembly.

Note:

Before replacing the main PCB, read out and store the scale's data records using the MC1 PSION server, if possible.

If this is not possible, order a replacement PCB; make sure you supply the model and serial number of the scale for programming purposes.

- Open the display unit by removing the 4 screws at the back.
- Carefully pull the front panel far enough away from the rear panel to disconnect the 3 cables (data output, power supply and connecting cable) that lead to the strain gauge system.
- Remove the entire front panel.
- The main PCB is connected to the front panel by 5 screws (one in each corner and one to ground the keypad overlay). Remove these 5 screws.
- Remove the cable that leads to the keypad.
- You can now remove the main PCB.

Important note:

Make sure you duplicate the solder bridges from the old main PCB to the new one!

- Install the new main PCB (follow the above steps in reverse order).
- Switch the scale to BPI mode.

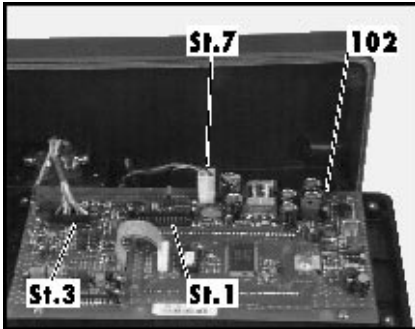
Note:

You will now need to program the scale with the appropriate data set. Check the following points and adjust them if necessary:

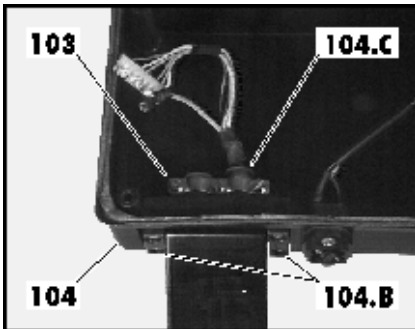
- Zero point offset value
- Linearity
- Span (Sensitivity)

Replacing the Strain Gauge System

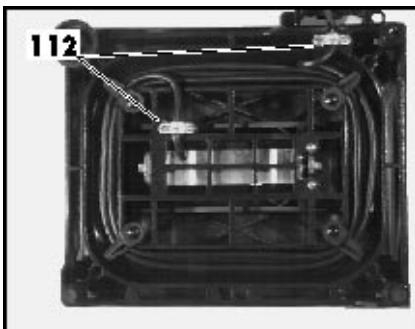
1. QC7CCE...



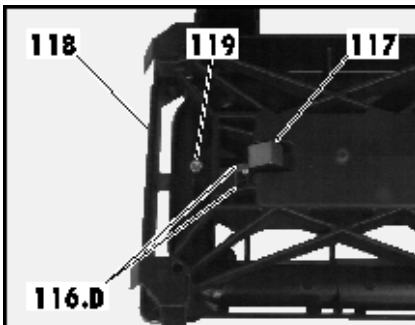
- Open the display unit.
- Disconnect the data output, power supply and connecting cables that lead to the main PCB.
- Remove the front panel together with the main PCB (102) and place them to one side.



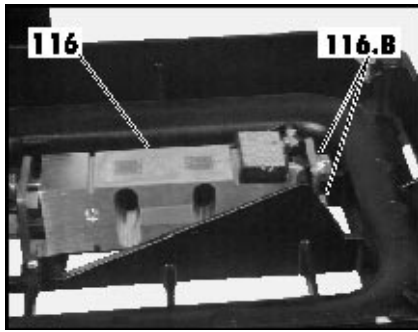
- Unscrew the two retainers (104.B) from the rear panel of the display unit (104).
- Unscrew the cable clamp (103) and pull the strain gauge System with washer (104.C) from the rear panel of the display unit (104), and place the display unit casing (104) to one side.
- Pull the strain gauge System connecting wire out of the display unit holder (108).



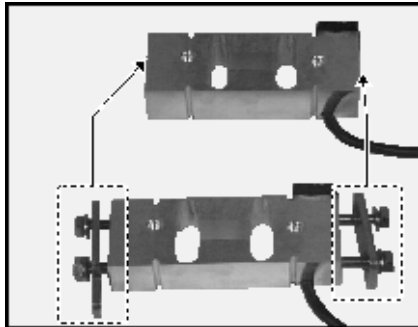
- Remove the weighing pan and lay the scale on its side.
- Unscrew the cable clamp (112) and pull the strain gauge System connecting wire out of the cable guide under the base pan.



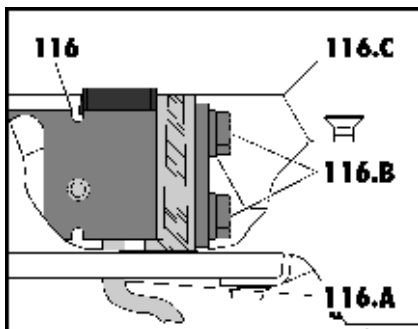
- Stand the scale upright.
- Remove the stop screws (119) from the pan support (118).
- Loosen the fastening screws (116.D) on the pan support (118) far enough so that you can remove the pan support (118) with the load spring (117) from the strain gauge system (116).



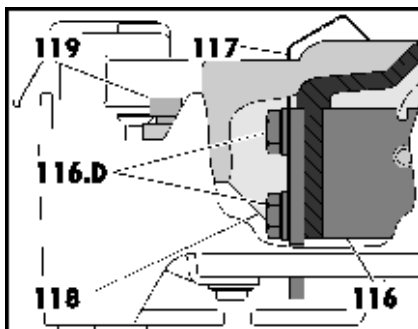
- Now loosen the two fastening screws (116.B) far enough so that you can remove the strain gauge system through the base pan (116).



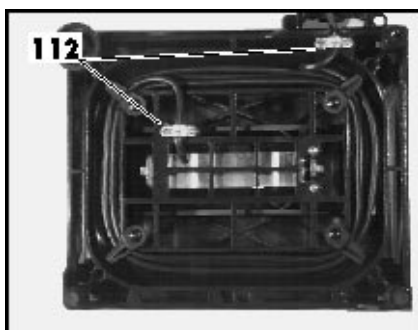
- Unscrew the retaining plates from the old strain gauge system (116) and attach them loosely to the new strain gauge system (116).



- Thread the strain gauge system connecting wire (116.A) from the top through the base pan (116.B); set the new strain gauge system in place (116) and screw it down loosely.
- Position the strain gauge system (116) and tighten down the two screws (116.C) to 7.5 (+0.4) Nm.



- Set the pan support (118) and load spring (117) on the strain gauge system (116) and screw them down loosely.
- Position the pan support (118) and the load spring (117) and tighten down the two screws (116.C) to 7.5 (+0.4) Nm.
- Screw in the stop screws (119) until there is a gap of 0.6 mm between the pan support (118) and the stop screws (119).

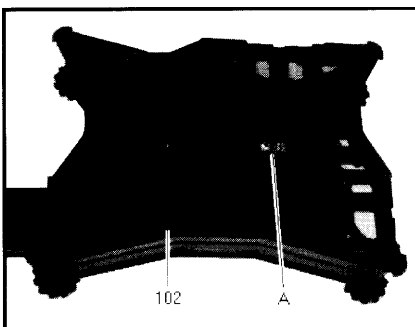


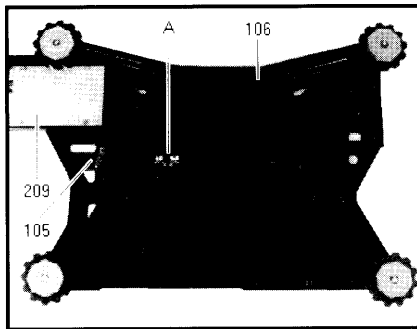
- Lay the scale on its side.
- Thread the strain gauge system connecting wire through the guide under the base pan and fasten it in place with the two cable clamps (112).
- Stand the scale upright and place the weighing pan on it.

- Now pull the strain gauge system connecting wire into the display unit holder.
 - Thread the strain gauge system connecting wire through the opening in the rear panel of the display unit (104) and put the washer (104.C) in place.
 - Fasten the strain gauge system connecting wire (and the data output cable, if any) with the cable clamp (103).
 - Attach the rear panel of the display unit (104) to the display unit holder (108) with the two retainers (104.B).
-
- Replace the front panel with the main PCB.
 - Now perform a through check and, where necessary, readjustment of the following points:
 - Overload stops
 - Zero point offset value
 - Linearity
 - Span (Sensitivity)
 - The scale is now ready for operation.

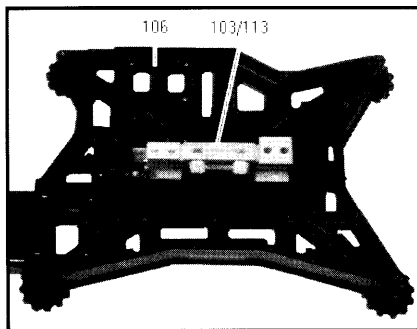
2. QC34EDE... and QC64EDE...

- Open the display unit.
 - Disconnect the data output, power supply and connecting cables that lead to the main PCB.
 - Remove the front panel together with the main PCB (102) and place them to one side.
-
- Unscrew the two retainers (104.B) from the rear panel of the display unit (104).
 - Unscrew the cable clamp (103) and pull the strain gauge system with washer (104.C) from the rear panel of the display unit (104), and place the display unit casing (104) to one side.
 - Pull the strain gauge system connecting wire out of the display unit holder (108).
-
- Remove the weighing pan and unscrew the pan support (102) from the strain gauge system (A).

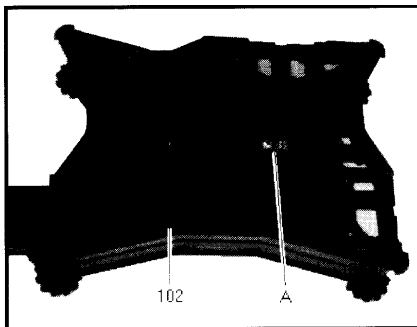




- Lay the scale on its side.
- Remove the cover plate (209) from the holder (210) (A).
- Remove the strain gauge system connecting wire from the bottom plate (106) (remove the strain relief (105)).
- Unscrew the strain gauge system (103) from the bottom plate (106).
- Unwind the strain gauge system connecting wire from the bottom plate and remove the strain gauge system.



- Place the new strain gauge system (103/113) on the bottom plate (106) and screw it down loosely.
- Position the strain gauge system (103/113) and tighten the fastening screws to 25 Nm.
- Attach the strain gauge system connecting wire to the bottom plate (106) (re-attach the strain relief).



- Loosely attach the screws that hold the pan support (102) on the strain gauge system, then position it and tighten the screws (25 Nm).
- Now pull the strain gauge system connecting wire into the display unit holder.
- Thread the strain gauge system connecting wire through the opening in the rear panel of the display unit (104) and put the washer (104.C) in place.
- Fasten the strain gauge system connecting wire (and the data output cable, if any) with the cable clamp (103).
- Attach the rear panel of the display unit (104) to the display unit holder (108) with the two retainers (104.B).
- Replace the front panel with the main PCB.
- Now perform a through check and, where necessary, readjustment of the following points:
 - Overload stops
 - Zero point offset value
 - Linearity
 - Span (Sensitivity)
- The scale is now ready for operation.

Error Codes

Error Code	Explanation	Solution
Err 01	Display overflow, i.e., the value to be output cannot be displayed	Reset the scale operating menu with code "9-1"
Err 02	Zero point error when starting adjustment function (scale not tared or load not removed); no stability; zero point is not within tolerance limits	Unload scale; tare scale; adjust using PSION server; adjust zero point offset value
Err 03	Zero point error when adjustment function ended (drift is too strong)	Observe warmup time and restart adjustment function
Err 10	Tare 1 blocked with data in Tare 2	The tare functions are mutually exclusive; once the data in the tare 2 memory is deleted the tare 1 memory will be accessible
Err 11	Invalid data; cannot be stored in the tare memory	Displayed value was negative, for example; check load on scale
Err 12	Value in tare memory exceeds weighing range	Check load on scale; delete tare data
Err 20	W key was pressed before an application was initialized	Select an application in the operating menu
Err 22	Reference value not permissible in the counting application	Reference weight too low or no load on scale
Err 23	Reference value not permissible in the checkweighing application	No load on scale, or displayed value is negative
Err 30	Print key pressed while BPI mode active	Use the PSION server to switch scale to SBI mode (RS-232 mode).
Err 50	Temperature compensation (TC) converter error; value measured by the TC switch exceeds the tolerance range.	TC-sensor or main PCB defective (replace)
Err 53	Temperature compensation (TC) converter not functioning (no value passed to the scale processor from the TC switch)	TC-sensor or main PCB defective (replace)
Err 54	Level control in A/D converter under the minimum limit	Scale underloaded; no weighing pan on the scale; mechanical defect; main PCB defective (replace)
Err 55	Level control in A/D converter under the maximum limit	Scale overloaded; mechanical defect; main PCB defective (replace)
Err 62	key not permitted	
Err 63	key not permitted	
Err 64	Input via number pad not permitted	
Err 70	Faulty input via number pad	Input value too high or too low; data input in the wrong order
Err 101	Short circuit in the keypad overlay	More than one key pressed when switching on the scale; keypad defective (replace)
Err 102		
Err 103		
Err 104		
Err 110	Defective KDC-AOC interface	Faulty connection betw. display unit and main PCB; defective display unit; defective main PCB
Err 220	ROM checksum test (faulty data in the ROM range of the scale processor)	Reprogram or replace the main PCB
Err 230	RAM read/write test (faulty data in the RAM range of the scale processor)	Reprogram or replace the main PCB
Err 237	EEPROM checksum test – linearity range defective (scale has not been linearized or the data stored are faulty)	Linearize the scale
Err 241	EEPROM checksum test – fixed range (faulty data in the fixed range of the scale processor)	Overwrite the data records (reprogram or replace the main PCB)
Err 243	EEPROM checksum test – menu range (faulty data in the menu range of the scale processor)	Reset the menu (code 9—1)
Err 247	EEPROM checksum test – adjustment weight (scale has not been adjusted or the data stored are faulty)	Adjust the span of the scale, if necessary, reprogram the main PCB

Installation of the YDI01IS-OCE (Industry Printer)

It is possible to use the industrial printer (paper strip or label) YDPO11S-OCE (from the isi range) together with the QC scales.

The following changes must be done on the QC's menu configuration:

9600 Bd	5 1 7
Space Parity	5 2 2
2 Stopbits	5 3 2
Handshake 2 Z.	5 4 2
Print Art+Nr ID	7 4 3

(Restriction: Date/time print is not possible; for this feature you need to use the YDPO2-OCEV3)

The following initialisation procedure must be done on printer YDPO11S-OCE if paper shifts out several print lines after pressing FEED key:

Hold FEED key while power switching on. Release if paper begins to shift out automatically.

Wait until shift out stops (approx. after 20cm). Then again press the FEED key.

Switch power off and on again, now FEED works for the rest of printers life with only one line shift.

Note:

You can use the printer YDPO11S-OCE for label printing!

Spare Parts

Due to the relatively simple construction of the QC scales, only complete subassemblies need to be replaced (main PCB, strain gauge system).

The following parts list is current as of July 1, 1995.

Designation	QC7CCE		QC34EDE		QC64EDE	
	-S	-SOUR	-S	-SOUR	-S	-SOUR
Main PCB	69QC0003					
Strain Gauge System, compl.	69QC0007		69QS0056		69QS0063	
Back Panel	69QC0005					
Front Plate, compl.	69QC0001	69QC0009	69QC0001	69QC0009	69QC0001	69QC0009
Pan	69QS0036		69QS0001			
Set of misc.Parts (Display Head)	69QC0002					
Set of misc.Parts (System)	69QC0008		-		-	
Dust Cover	-		6960IB01			

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