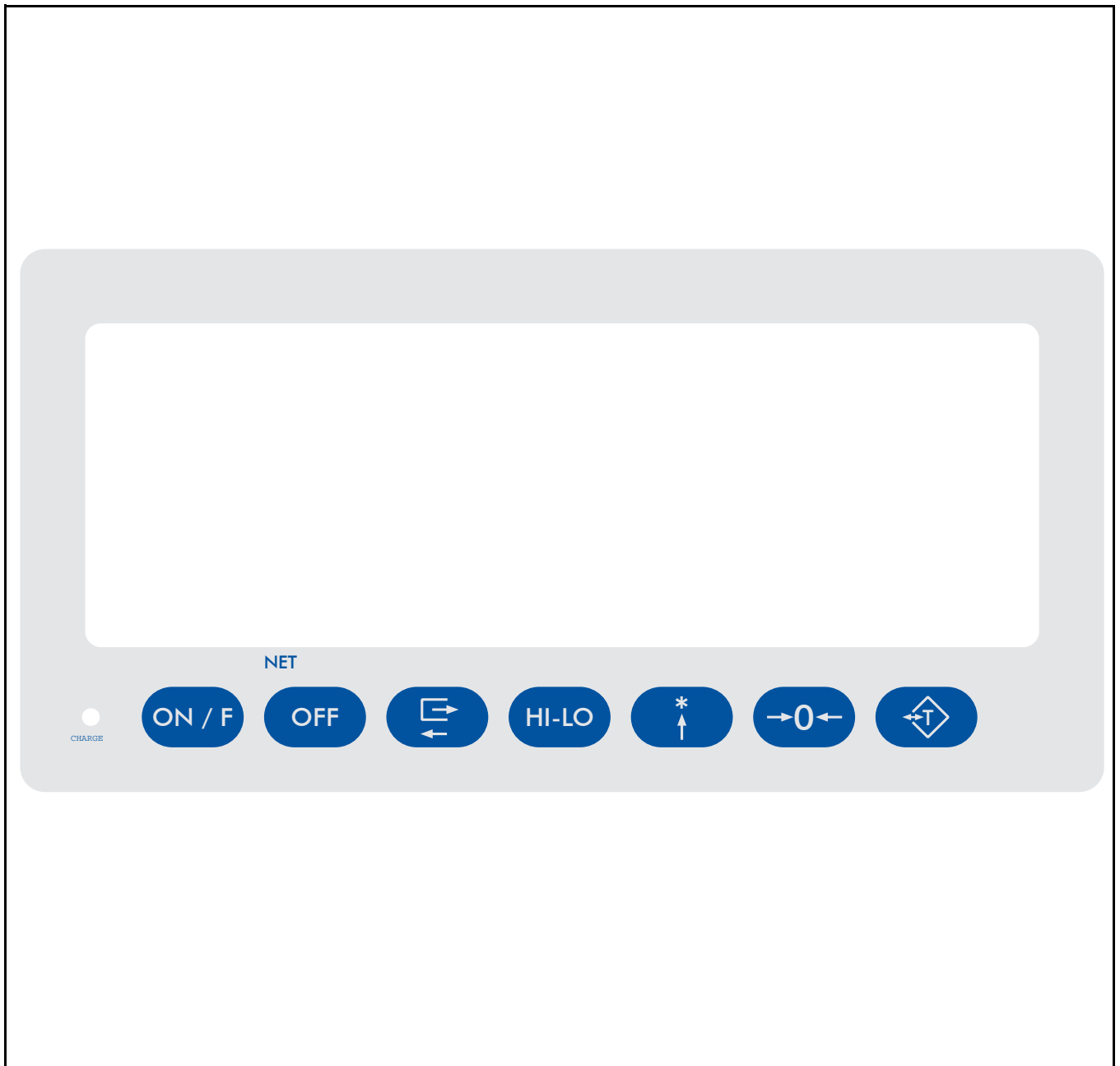


MASTER *Precisa 410 SRD*

Operating Instructions

Identification

Customer service

Precisa Gravimetrics AG
Moosmattstrasse 32
CH-8953 Dietikon

Tel. + 41-44-744 28 28
Fax. + 41-44-744 28 38
email service@precisa.ch

<http://www.precisa.com>

Refer to our website for information about local customer service centers and details of their addresses.

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1 Introduction

You have purchased a quality precision weighing instrument that requires handling with care. Read entire contents of this operating instructions prior to operating your new instrument.

To take advantage of its many features, carefully read your operating instructions. It contains step-by-step procedures, examples, and other vital information.

Warning:

Use of this product in a manner not specified by the manufacturer may impair any safety protection provided by the equipment!

1.1 Disclaimer Notice

Calibrate your instrument using reference weights and the appropriate tolerance (class). An instrument can be no more accurate than the standard to which it has been compared. For assistance in the selection of reference weights, please contact the factory.

Caution:

Changes or modifications not expressly approved by the manufacturer could void authority to operate this equipment.

1.2 Scope of delivery

Thank you for choosing one of our instruments. Your instrument is designed and manufactured to the most rigorous standards in order to give you years of service. First, check the contents of the shipping carton. You should find the following:



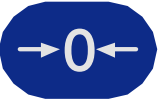
- Operating instructions
- Instrument
- AC Adapter





2 Load cell connections

Load cell connections DB-09 female:

Pin No.	1, 2	3	4, 5	6, 7	8, 9
Function	EXC +	GND	EXC-	SIG +	SIG-

3 Keyboard

Key	Name	Function
	«ON» / «F»	Turns instrument On Toggle between normal weighing mode and check weigher mode
	«OFF»	Turns instrument Off
	«ZERO»	Captures a new center of zero

	«TARE»	Reduce gross weight on pan as tare weight
	«Unit» / «Up»	Cyclically change kg → lb → kg → lb → ... In programming mode: increase the flashing digit
	«PRINT» / «Left»	Printout key, when mode manual is selected In programming mode: move to next digit on the left
	«HI-LO»	Display or setup the current limits for Hi or Lo of the check weigher

■ 4 Setup the terminal for the attached platform

4 Setup the terminal for the attached platform

Follow the instructions for setup your instrument.

- First **remove** the jumper **Jp5** switch **inside** of the **terminal** before you start to calibrate the terminal.
- Hold any key and then press **«ON»**, the display shows „CAL“
- Press **«HI-LO»** key to enter the setup menu and for menu review.
- Press **«Up»** key to review and cycle through the available parameters.
- Press **«Left»** key to change the available settings.
- Press **«HI-LO»** to save the settings and go to the next step.

The menu looks as follows:

Units	Unit 0 Unit 1 Unit 2	lb kg kg / lb
Readability	d= 0.001 d= 0.002 d= 0.005 d= 0.01 d= 0.02 d= 0.05 d= .1 d= .2 d= .5 d= 1.0 d= 2.0 d= 5.0	
Re-zero range	Or. 0 Or. 1	Re-zero range 100% of capacity Re-zero range 2% of capacity
Weight calibration	SPAN	Enter into the weight calibration with «HI-LO»

4.1 Weight Calibration

- When the balance shows „SPAN“ press **«HI-LO»** key to enter into the weight calibration procedure.
- The display shows now the offset value in a range from 5000 ~ 50000. If the value is not in this range, **sw1** inside of the terminal needs to be adjusted.
- Press **«ZERO»** to set the zero point. Zero will be displayed.
- Put the calibrating weight on the platform, e.g. 50kg. Minimum acceptable calibrating weights are 1/4, 1/3 or 1/2 of the full capacity.
(The span value is from 50000 - 150000 at full capacity.)
- Press **«HI-LO»** to go to enter the calibration weight.
- Enter the value of the calibration weight using the **«Left»** and **«Up»** keys, e.g. enter 50.00. Press **«HI-LO»** to complete the calibration.
- Press **«HI-LO»** to go to enter the maximum capacity.
- Set the maximum capacity using the **«Left»** and **«Up»** keys:
maximum capacity = full capacity + over range, e.g. 150.09 kg.
The over range can be 9d or 5% of full capacity.
- Press **«HI-LO»** to save the capacity setting.
- **Put the Jp5 switch back and close the terminal.**
- Now you are ready to weigh.

5 Operation

Now you are ready to begin using your instrument. To take advantage of its many features, carefully read your operating instructions. It contains step-by-step procedures, examples, and other vital information.

5.1 Getting Started

- Ensure nothing is on the platform than press **«ON»** to turn the instrument ON.
- The display will run through a self diagnostic digit check „8.8.8.8.8...” and will then indicate zero.
- **Allow the instrument to warm-up for 30 minutes.**

5.2 Weighing Units

- Press **«Unit»** to toggle between the different weighing units.

5.3 Taring (Zeroing)

All models have taring (zeroing) capabilities up to their total weight capacity. To weigh a sample in its container with the display showing the weight of the sample use the following ZERO (tare) procedure.

- Place sample container on pan and then press **«TARE»** the „NET“ indicator will appear.
- Now place sample in the container.
- When the scale is stable, the display shows the weight of the sample.

5.4 Check weigher (HI-LO)

The check weighing mode is to check each measurement for its agreement with a defined reference-value plus/minus allowable deviations. In the display the „<HI> and <LO> indicatoris active and indicates the measured value lies within the specified limits Hi and Lo.

If the weight is higher than the Hi limit, the <HI> indicator lights on the display panel and a pogrammable beep sounds. If the weight is between Hi and Lo limit, the <Go> indicator lights on the display panel and a pogrammable beep sounds. If the weight is lower than Lo limit, the <LO> indicator lights on the display panel and a pogrammable beep sounds.

- Press **«ON/F»** to toggle between normal weighing mode and check weigher mode.
- Press **«ZERO»** to delete the limits of the check weigher.

5.4.1 Setup the check weigher

- Press **«HI-LO»** to display or setup the current limits for Hi or Lo of the check weigher.
- Use the **«Left»** and **«Up»** keys to change the current limit.
- Press **«HI-LO»** key to save the setting.

5.5 Battery charge

There is a build in rechargeable battery. When the message „Lo.bAt“ is displayed the instrument should be charged to ensure best performance.

5.6 Motion Detect

When the scale is stable, „▲▲“ indicator signal will show on the display.

■ 6 Program the terminal functions

5.7 Error Message

Symptom	Cause	Solution
+ - - - + 	Overload: weighing range exceed	- Unload scale or reduce preload
 + - - - +	Underload: - Weighing pan not in place - Weighing range below zero - Contact between weighing	- Ensure the weighing pan is correctly installed - Set scale to zero - Apply pre-load
- ol -	Zeroing not possible: - zeroing outside the zero setting range	Ensure that zeroing is performed in the admissible range (20% of Cap.)
Err	Check weigher wrong: - range settings wrong	Set correct values

6 Program the terminal functions

- Hold any key and then press «ON» and the display shows „CAL“.
- Press «ON» to enter the program menu and for menu review.
- Press «Left» to change the available settings.
- Press «ON» to save the settings and go to the next step.

The menu looks as follows:

Auto power off	A.oFF 0 A.oFF 1 A.oFF 2 A.oFF 3 A.oFF 4	None In 5 minutes In 10 minutes In 20 minutes In 30 minutes
Backlight	bL 0 bL 1 bL 2	Off Active Auto lighting while loading
Zero setting	o.SET 0 o.SET 1	Initial zero auto Initial zero memorized
Auto zero	A0 0 A0 0.5 A0 1.0 A0 2.0	Off 0.5 divisions 1 divisions 2 divisions
Printout	Pr 0 Pr 1 Pr 2 Pr 3	None Manual printout with «PRINT» Auto printout after load change Continous printout
Baud rate	r 9600 r 2400	Baud rate 9600 Baud rate 2400
Check weigher	HiLo 0 HiLo 1	none Active

Beeb sounds for Hi	bbH_ 0	None
	bbH_ 1	Short bi,bi,bi,bi,bi,...
	bbH_ 2	Long bi,bi,bi,bi,bi,...
Beeb sounds for Lo	bbL_ 0	None
	bbL_ 1	Short bi,bi,bi,bi,bi,...
	bbL_ 2	Long bi,bi,bi,bi,bi,...
Beeb sounds for Go	bbS_ 0	None
	bbS_ 1	Short bi,bi,bi,bi,bi,...
	bbS_ 2	Long bi,bi,bi,bi,bi,...
Weighing lock (set stability of display)	Loc 0	None
	Loc 1	Lock up once
	Loc 2	Lock up with range:
	- 0.00	- set range with «Left» and «Up» keys - press «Hi-Lo» to confirm setting

7 Dataoutput RS232C

- Baud rate: 2400 or 9600 selectable, Parity: none, Data bit: 8, Stop bit: 1

RS232C connector DB-09 male

Pin No.	2	5	others
Function	TXD	GND	NC

7.1 Output format

Position in Datastring	1	2	3	4	5	6	7	8	9	10	11	12	13
e.g. „- 10.00kg“	-			1	0	.	0	0		k	g	CR	LF
Content	SP/-	Dx	Dx	Dx	Dx	Dx	Dx	Dx	SP	k/l	g/b	CR	LF

Content Description


- SP/-** Blank (space) or Sign: -
- Dx** Digits or decimalpoint: 1 . 2 3 4 5 6 7 8 9 0
- k/l** Unit: k for kg or l for lb
- g/b** Unit: g for kg or b for lb
- CR** Carriage Return
- LF** Line Feed

Declaration of conformity

Declaration of conformity for apparatus with CE mark
Konformitätserklärung für Geräte mit CE-Zeichen
Déclaration de conformité pour appareils portant la marque CE
Declaración de conformidad para aparatos con disitintivo CE
Dichiarazione di cofnromità per apparecchi contrassegnati con la marcatura CE

- English** We hereby declare that the product to which this declaration refers conforms with the following standards.
- Deutsch** Wir erklären hiermit, dass das Produkt, auf das sich diese Erklärung bezieht, mit den nachstehenden Normen übereinstimmt.
- Français** Nous déclarons avec cela responsabilité que le produit, auquel se rapporte la présente déclaration, est conforme aux normes citées ci-après.
- Español** Manifestamos en la presente que el producto al que se refiere esta declaración est ´a de acuerdo con las normas siguientes
- Italiano** Dichiariamo con ciò che il prodotto al quale la presente dichiarazione si riferisce è conforme alle norme di seguito citate.

Electronic Balance: **Precisa Series 410**

Mark applied	EU Directive	Standards
	89/336/EEC 73/23/EEC	EN61326 EN61010

Date: 24.02.2009

Signature:



R. Grolimund R & D Manager

Precisa Gravimetrics AG , Moosmattstrasse 32 , Postfach 352 , CH-8953 Dietikon