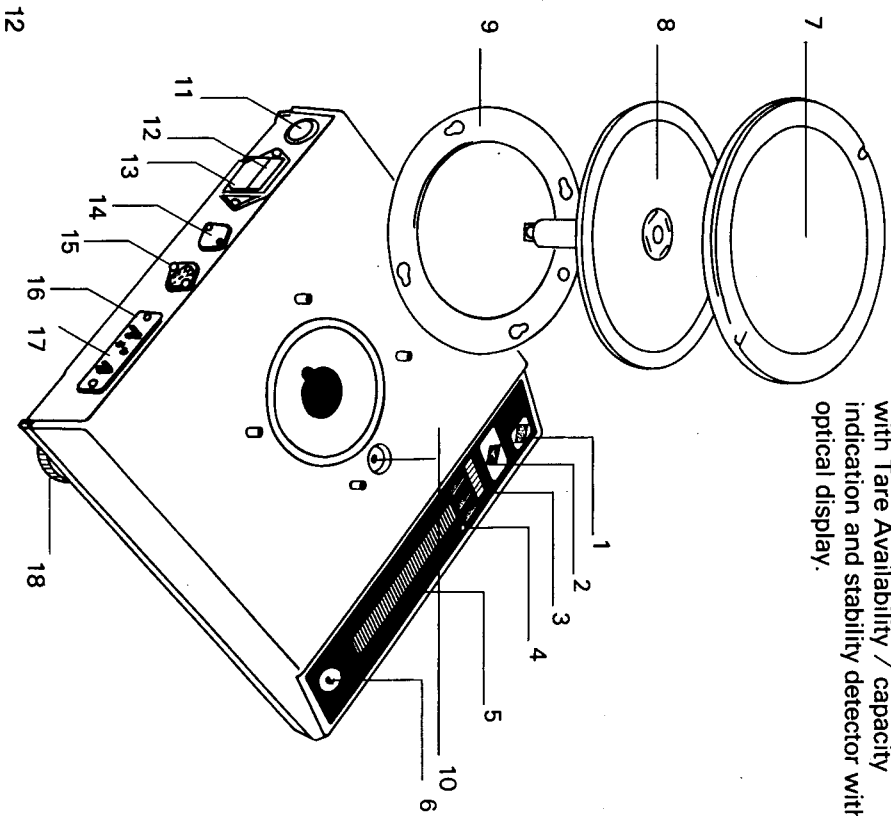


Electronic Precision Balances

with Tare Availability / capacity
indication and stability detector with
optical display.














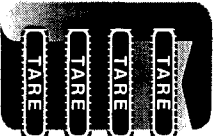



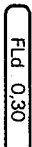

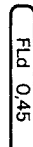





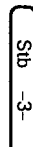

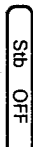


- 1 Stand-by-switch
- 2 Taring button
- 3 Tare Availability/capacity indicator
- 4 Function diode
- 5 Digital weight readout with stability detector «g»
- 6 Level indicator
- 7 Weighing pan
- 8 Pan holder
- 9 Retention ring
- 10 Fixing screw
- 11 Voltage selector
- 12 Fuse
- 13 Mains connection
- 14 20 mA current loop/
Analogue data output
- 15 Plug for multi-function box
- 16 Data output RS232/V24 bidirectional
- 17 Name plate
- 18 Levelling screws

Setting up the balance

1. Unpack balance.
2. Select place of installation. Sites exposed to direct sunlight, near to radiators or windows, rooms with resilient floors or exposed to strong draughts as well as unsteady tables are unsuitable.
Installation in corners of rooms, in rooms with only one entrance, on slabs on concrete floors is suitable. Constant room temperature will contribute considerably to maximum accuracy of the measured values.
3. Level the instrument.
Turn the levelling screws 18 until the air bubble is in the centre of the spirit level 6. This adjustment must be carried out each time the balance is set up in a different place.
4. Check agreement of the voltage on the voltage selector 11 with your mains voltage.
If necessary, adjust voltage on voltage selector 11.
5. Connect mains cable to mains connection 13 and mains socket with earth connection.
6. Switch on balance with stand-by switch 1.

Balance Program

				
	Press and hold	Press shortly	Display	Comment
				Balance unstable, auto-adjusting to best possible integration time.
				Balance stable, best possible integration time reached for weighing application.
				Calibration see page 16
				Floating display
				0,15 sec.
				0,30 sec.
				0,45 sec.
				Stability detector
				-1 - Fine
				-2 - Middle
				-3 - Coarse
				OFF Off

Calibration



preparation for calibration:

- empty weighing pan
- balance must be switched on for 60 min. before calibration

calibration programme

- release tare button when CAL appears (within 2 s)

measuring 0-point

- if weighing pan is not empty or balance is not stable, display is flashing

0-point measurement

- balance must be stable during zero point measurement

calibration weight

- recommended check weight to be placed on weighing pan
- other standard weights possible, up to 1000 g in steps of 100 g, above in steps of 1 kg
- if checkweight is insufficient, or if balance is unstable, display flashes

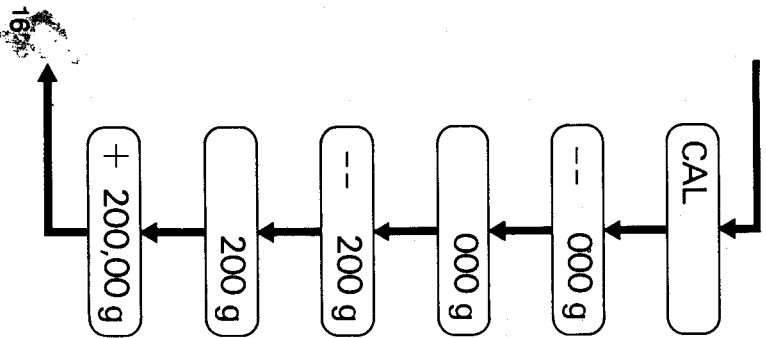
measurement of calibration weight

- balance must be stable

calibration procedure finished

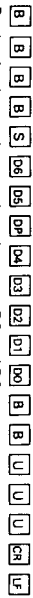
- Balanceprogram back in weighing-mode

The calibration program can be interrupted by operating the stand-by switch 1.



Serial-Interface Variable Baudrate

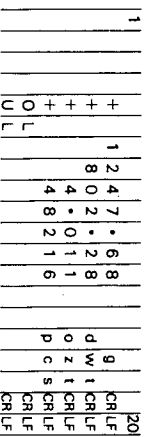
Datatransfer sequence (total 20 characters in 7 bit-ASCII-code)



B = Blank
 S = Sign (+ or - or blank)
 DP = Decimal point
 U = Unit
 CR = Carriage return
 LF = Line feed

No datatransfer as long as the display shows -----
 Blanks transmitted, if: - leading zeroes
 - no decimal point
 - no units (instability is greater than the selected stability)

Examples:
 + 1247,68 g
 + 802,28 dwt
 + 4,011 oz
 + 48216 pcs
 Under Load

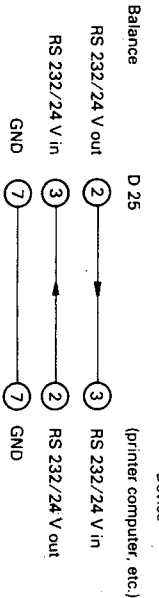


Selecting baudrate, parity-bit, print-mode by pressing the TARE-button:
 See page 15

RS 232/V24



Interconnection balance → device



Remote Control for Models 280

Command	Function
T	Tare
I0	Integration time short
I1	Integration time middle depends on balance model
I2	Integration time long
S0	Stability fine
S1	Stability middle
S2	Stability of
P0	Send single value
P1	Send single stable value
P2	Send single stable value automatically after load change
P3	Send value continuously after every integration time
D	Write on display (see examples below)
DN	Display of weight values
N	Balance is no more remote-controlled

Comments

The following ASCII-characters are acceptable:
 0...9, D, G, %, +, -, decimal point, blank (all other characters are substituted with blanks)
 - max. 11 characters can be given (without CR, LF)
 - max. 7 figures can be given (0...9)
 - the sign (if there is one) has to follow the «D» character
 - all displayed characters move to right side on display
 - the character «G» or «%» (if there is one) has to be the last one

Examples:

Command	Display	Comment:
D+123,4567G	+ 1 2 3 4 5 6 7 g	(max. 11 characters (with comma))
D74,26%	7 4 2 6 %	
D-1,2G	- 1 2 g	
D 5 1	5 1	
D ABCI?	A B C I ?	Display blank
		Display blank

General statements to the remote-control function

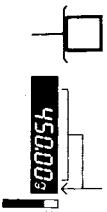
- every command has to be closed by the characters «CR» and «LF»
 - wrong commands are being ignored
 - by leaving the remote-control mode, the balance will go back to the last state which was settled before the first command was given



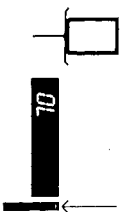
Weighing



1. Press the tare button. This zeroes the weight readout. Wait until the stability detector «g» lights up.



2. Place the object on the weighing pan. After the stability detector «g» lights up read the measured result.



3. If the weighing range is exceeded, the topmost segment of the weighing-in device shows a red light. The indicated weighing range can be exceeded. The weighing-in device serves as a warning of overloading. With effective overloading the OL sign appears on display.



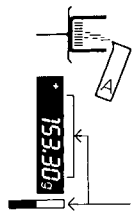
Weighing in-taring



1. Place the container on the pan.



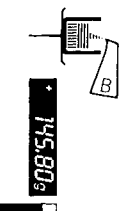
2. Press the tare button (weight readout zero). The weighing-in device indicates the tare load as a percentage of the weighing capacity.



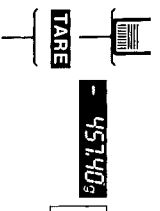
3. Pour the object A to be weighed into the container, watching the weighing device for coarse dosing. Before the desired weight is reached look at the weight readout for fine dosing. The weight readout shows the net weight and the weighing-in device the gross weight as a percentage of the weighing capacity.



4. Press tare button (weight readout zero).

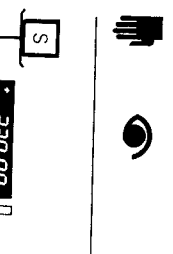


5. Pour the object B to be weighed into the container according to step 3. Steps 3 and 4 can be repeated at will within the weighing range



6. The gross weight is determined by pressing on the taring button. After the object to be weighed has been lifted off. The weight readout shows the gross weight as a minus value.

Comparative weighing



1. Place reference weight on weighing pan.



2. Push taring button, this zeroes the weight readout and stores the reference weight.



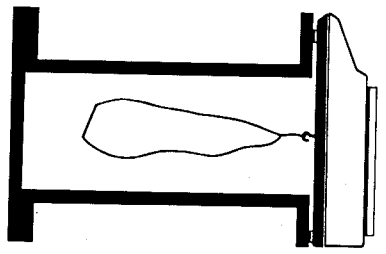
3. Remove reference weight. The weight readout displays the reference weight as a minus value.



4. Place object A to be weighed on the pan. The deviation from the reference weight will be indicated by the weight readout with correct sign.

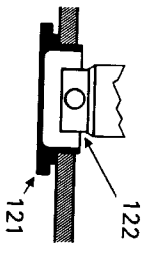


5. Remove object A to be weighed and replace it with object B. The deviation from the reference weight is shown by the weight readout with correct sign.



Underfloor weighing

Precisa balances are fitted with a device for underfloor weighing. Remove plug 121 from the bottom of the balance.



The object to be weighed is attached to the suspension device 122. The hooks must be made of antimagnetic material.

Fault tracing

Care and maintenance

Malfunction

Possible cause

Weight readout does not light up.

Cable not connected or defective.
Power failure. Fuse defective.

OL lights up. Weighing-in device shows red

Weighing range exceeded (Over Load)
Weighing pan is not installed.
Pan holder is not installed. (Under Load)

UL lights up.

Draught, vibration of the table or floor
Weighing pan touches foreign object.

Weight readout changes continually.

Draught, vibration of the table or floor
Weighing pan touches foreign object.

Weighing results incorrect.

Poor installation conditions.
Calibration required. Large room
temperature fluctuations.

Error 1 9

Handling fault
Please contact your nearest
Precisa-Service establishment.

Error 10

The warranty will be void if the
balance has been serviced by
unauthorised persons.

In case of defects that cannot be
remedied according to this list,
please inform your nearest Precisa
Service Establishment.

The following details are required
for prompt service:

1. Number of model
2. Serial number
3. Exact location of the balance
4. Accurate description of the defect
5. Weighing results

Standard Equipment

RS 232/V24 bi-directional Interface
capacity-/tare availability indicator
Auto-calibration
weighing below the balance
dustcover
spare fuse

Precisa balances are maintenance-free.

Insensitive to vibrations during
transport.

Easy to transport.

Careful handling is nevertheless
recommended.

Spilled, especially corrosive, material
must
be removed immediately.

Replace dirty or damaged dust covers.

Just in case:

Precisa balances are very easy to
service.

The design is based on the modular
principle and allows for future
development.

Precisa distributors have received
a thorough training in the factory.

Characteristics

PRECISA Model	125 A	400 M	800 M	4000 C	80A—200M	500M—2000C	3000C—6000D
Weighting range	g 125	404	808	4040	81-202	505-2020	3030-6060
Readability	g 0.0001	0.001	0.001	0.01	0.0001-0.001	0.001-0.01	0.01-0.1
Taring range subtractive	g 125	404	808	4040	202	2020	6060
Reproducibility	± 0.0001	0.001	0.001	0.01	0.0001/0.001	0.001/0.01	0.01/0.1
Linearity	± 0.0002	0.002	0.002	0.02	0.0002/0.002	0.002/0.02	0.02/0.2
Response time	~s 5	3	3	3	5	3	3
Floating display				0.15/0.30/0.45			
Integration time				optimized automatically			
Stability				adjustable in 4 steps, indicated on the display with *g*			
Temp. of environment °C	0...40	0...40	0...40	0...40	0...40	0...40	0...40
Sensitivity drift (10...30°C)	±/°C 2x10 ⁻⁶	2x10 ⁻⁶	2x10 ⁻⁶	2x10 ⁻⁶	2x10 ⁻⁶	2x10 ⁻⁶	2x10 ⁻⁶
Voltage changeable variations	110/220	110/220	110/220	110/220	110/220	110/220	110/220
Tolerance of voltage variations	+10%/ -15%	+10%/ -15%	+10%/ -15%	+10%/ -15%	+10%/ -15%	+10%/ -15%	+10%/ -15%
Frequency	Hz 50-60	50-60	50-60	50-60	50-60	50-60	50-60
Power consumption VA	7	7	7	8	7	8	8
Size							
width/height/depth mm	240/63/270	240/63/270	240/63/270	240/63/270	240/63/270	240/63/270	240/63/270
Balance pan, chrome nickel steel Ø mm	80	150	150	170	80	150	170
Windshield WxHxD mm	232/252/199	Ø180	Ø180	-	232/252/199	Ø180	-
Netweight kg	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Outputs/Interfaces	20 mA current loop bi-directional IEC 625 IEEE488 analogue						
Standard equipment	RS 232/V24 bi-directional Interface capacity-/tare availability indicator Auto-calibration weighing below the balance dustcover spare fuse						