

G6 Multi Channel Weighing Instrument

Program version 2.5.x



Operating instructions,
Quick installation
PM type

PRECAUTIONS

Read these instructions BEFORE operating or servicing this instrument. Follow the instructions provided here and in the following chapters. Save these instructions for future reference.



Only permit qualified personnel to install and service this instrument. Exercise care when making checks, tests and adjustments that must be made with power on. Failing to observe these precautions can result in bodily harm.

DO NOT allow untrained personnel to operate, clean, perform service, or in any other way handle this instrument.

Meaning of symbols in this document and on the product



Direct current



Alternating current



Caution, risk of danger. Documentation needs to be consulted



Protective conductor terminal



Ground terminal

WARNING

Warning text that points out a risk or danger that you need to be aware of

INTENDED USE

General

The G6 instrument is a multi-channel measuring and control device intended for industrial use. Its basic function is to convert signals from transducers to useful information. Transducer excitation is included as well as parameter controlled signal processing, indication of output levels, error supervision and operation of optional external equipment.

The instrument is modular and can be equipped with different types of I/O units. There are transducer interface modules, digital and analog input/output modules. The instrument supports several types of communication interfaces.

CE considerations

The instrument is classified as class A group 1 equipment. This means that the instrument:

- * is not designed to intentionally generate and/or use radio frequency energy; and
- * is intended for use in environment other than domestic or environment sharing low voltage power supply network with residential environment.

WARNING

This product may cause interference if used in residential environment. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts. This can, for instance, be done by keeping a distance of at least 10 m between this product and any sensitive radio equipment.

Note, however, that this product can be directly connected to a domestic low voltage power supply network without any special measures.

FCC considerations

The instrument is classified as class A digital device, according to the US Federal Regulations.

NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Contents

Introduction

General	1
Power supply	1
Start-up	1
Safety information	2
Maintenance	2

Front panel

General	3
Display alternatives	4

Operation

Zero indication and zero adjustment	5
Gross weight	5
Net weight	6
Taring	6
Editing Preset Tare	7
Weight printing	8
Max/Min	9
Level supervision	10
Accumulated Weights	11
Flow display (program option)	12
Scale Batching (program option)	12

Installation

Mechanical installation	19
Electrical installation	19
DC SUPPLY	20
AC SUPPLY	20
CPU	21
WFIN, WFIN2 and HSWF2	22

Basic set-up

General	25
Hardware configuration	25
Security lock	25
Common parameters	26
Clock set-up	28
Scale calibration	29
Data sheet calibration	32
Deadweight calibration	35
Zeroing of gross weight	38

Appendix 1: Common set-up values

Appendix 2: Scale set-up values

Introduction

General

G6 is a high performance multi channel weighing instrument intended for industrial systems. Its basic function is to convert the signals from strain gauge transducers to useful weight, force or flow information. Several types of communication interfaces are supported by G6, which makes it easy to integrate the instrument into industrial processes.

The front panel of G6, type PM, is flat, dustproof, and waterproof. It has a backlighted graphical colour LCD display with touch sensitive screen for weight information, set-up information and error messages.

It also has function keys and a numeric keypad for entry of digits.

The basic configuration of the instrument performs weighing and flow rate calculation. All functions are controlled by set-up parameters.

'Operating instructions, Quick installation' for G6, type PM, includes basic installation and set-up information, required for correct measuring with the instrument.

This description deals with the following points:

- Weighing with G6, type PM.
- Flow rate measurement (program option).
- Scale batching (program option).
- Quick installation.
- Data sheet calibration.
- Deadweight calibration in two points.

Additional installation and set-up of more instrument functions, not covered by this description, can also be performed, for example:

- Complete installation.
- Complete set-up.
- Setting of communication parameters.
- Table calibration.
- Level supervision.
- Program option activation.

For a complete instrument description, refer to:

G6 Multi Channel Weighing Instrument
Technical Manual PM type

Power supply

Power supply to the weight indicator should not be turned off during weekends and over-night. Continuous power supply to electronics and transducers prevents moisture condensation in the units.

Start-up

As soon as power is connected to the instrument, a start-up period begins. The text 'Start up Please wait!' and a WAIT symbol (hour-glass) will be displayed after some seconds. Then G6 automatically switches to normal measuring operation.

If the instrument is set for operator start-up, the text 'Press ENTER to start operation!' will be shown.

If a warmup time has been set, the text 'Warming up Please wait!' will be displayed before the instrument switches to measuring operation.

If any error is detected, the start-up stops, and an error message will be displayed.

Safety information

Before connecting power to the instrument, check that all fixation screws of the modules are tightened so that the functional grounding of the instrument by the housing is obtained.

The instrument may only be utilized for the measurement and control functions, described in the Technical Manual for G6 Multi Channel Weighing Instrument, PM type. It is especially important to adhere to the load limits of the input/output connectors. We accept no responsibility for any damage arising from improper operation.

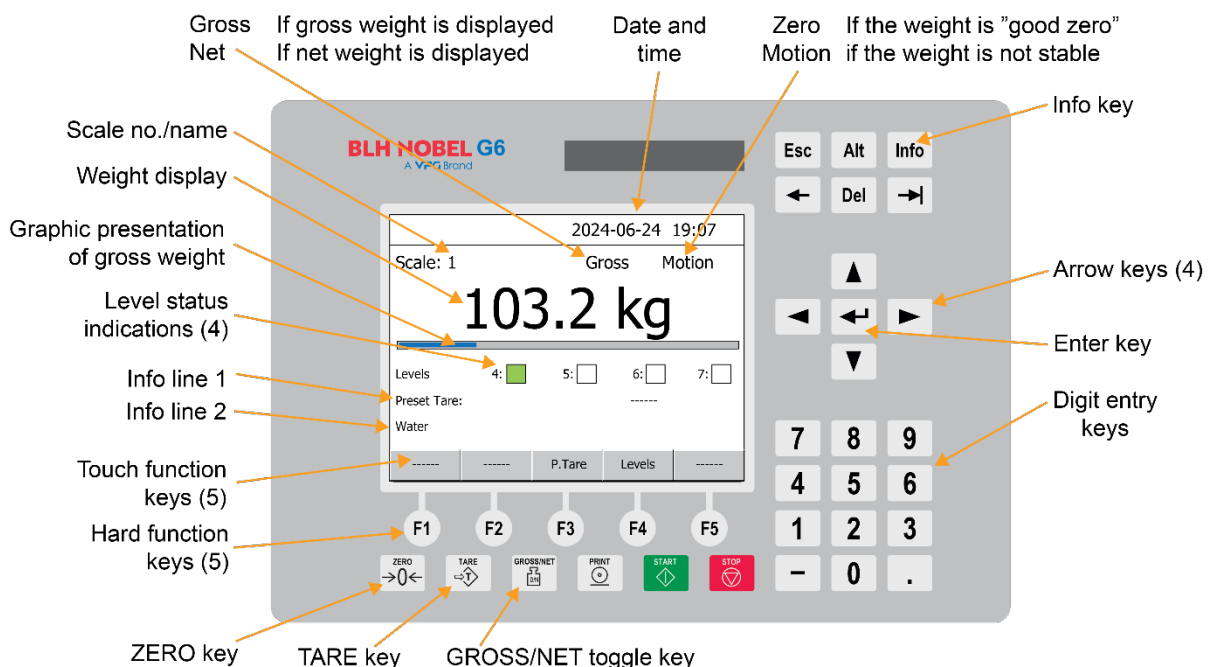
Any changes to the instrument, which cause any function changes, may only be carried out by the manufacturer, or after discussion with and permission by the manufacturer.

Maintenance

The G6 instrument needs no maintenance, performed by the end-user. Any service or repair work must be performed by qualified personnel. Contact your supplier.

Before cleaning the G6 instrument, make sure to disconnect from the external power source. Use a soft cloth to clean the exterior of the instrument. For cleaning the instrument front panel, a soft, damp, cloth may be used.

This product contains a built-in lithium coin cell battery (CR2025) used for the clock function. The battery is easily accessible and located on the circuit board of the CPU-module. During disassembly or replacement, the battery must be removed by authorized service personnel and handed over to an approved recycling operator. For more information, refer to the national collection system. If in doubt, contact your supplier for further guidance.



Front panel of the G6 instrument, PM type

Front panel

General

G6 has a flat, dustproof, and waterproof front panel with a back lighted and touch sensitive graphic colour LCD display and all necessary keys to perform weighing, batching, and set-up operations.

Display

G6 normally displays either gross weight or net weight digitally, and in some cases also gives a graphic representation of the gross weight.

Actual status information for the weight value and date and time will also be shown at the display.

The Level status (max 4 levels) for the scale and other configurable information may also be displayed in some cases.

If an error occurs this will be indicated by an error code at the display.

Info key

The Info key at the upper right corner of the panel is used to enter G6 menu system.

Function keys

Just below the display there are five function keys, marked F1 to F5.

Actual key functions, if any, are indicated at the lower line of the display.

To the right of the display, four arrow keys are provided. These keys control the position of the cursor, the indicated area at the display.

The Enter key () is situated between the arrow keys. It is used to accept the selection indicated by the cursor, to finish the entry of a value etc.

A set of keys for entry of digits is also provided.

Pressing function keys or the Enter key can be replaced by tapping at corresponding areas in the display.

Symbol keys

Six keys, marked with weighing symbols, are provided at the lower border of the panel. Four of them control the zero setting function, the tare function, gross/net function and the print function.

Key	Name	Function
	ZERO	Setting the gross weight value to zero (provided the value is in the zeroing range: -1 % to +3 % of the capacity) and setting the auto tare value to zero.
	TARE	Taring, i.e. entry of the gross weight as auto tare value and display of net weight zero. Depending on actual setting taring may be prevented if 'Motion' is displayed.
	GROSS/NET	Toggling between display of gross weight and net weight. Net weight can be displayed only if a tare value other than zero has been entered.
	PRINT	Printing of the displayed weight value on a connected printer according to parameter settings.

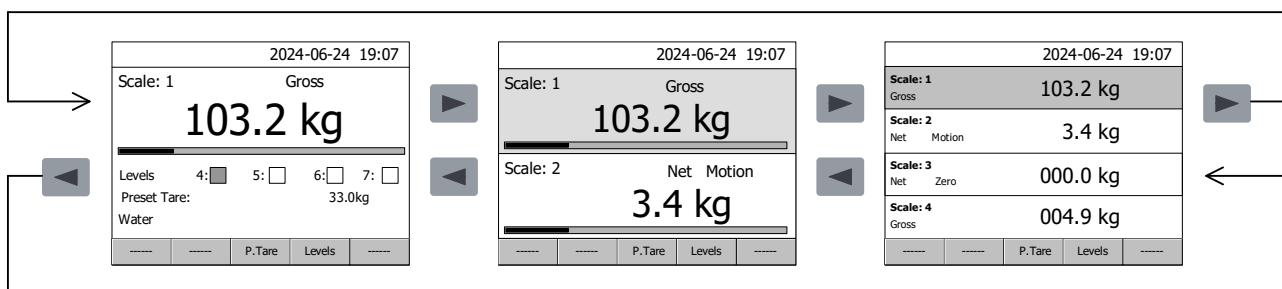
Display alternatives

It is possible to configure G6 to display one, two or four scales at a time, or a combination of the mentioned views. If a combination of views is used, the arrow keys 'right' and 'left' are used to select a display alternative. Only configured scales will be shown.

Arrow keys 'up' and 'down' are used to select one of the configured scales. When several scales are displayed, the selected scale is indicated yellow. The function keys will influence only the selected scale.

If display of only one scale is selected, detailed information of weight and other selected information can be presented.

If display of two or four scales is selected, the weight values will be shown, but less other information.



‘Level status’

Status of the level supervision is presented in four boxes below the weight value presentation. The boxes have fixed positions. When a digit is shown at a box, the corresponding Level is in use. For each scale the four lowest level numbers that are in use will be shown. A Level box will be marked green when the level of the supervised weight signal is above the set value for that Level.

‘Information lines’

By set-up parameters it is possible to configure the instrument to display selected information on two information lines below the Level status boxes.

2024-06-24 19:07				
Scale: 1		Gross		
103.2 kg				
Levels	4:	5:	6:	7:
Preset Tare:	33.0kg			
Water				
-----	-----	P.Tare	Levels	-----

Example:

Levels 4, 5, 6, and 7 are in use; the weight signal is above Level 4.

Preset Tare (33.0 kg for Scale 1) on Info line 1.

Scale Name (Water for Scale 1) on Info line 2.

Operation

Zero indication and zero adjustment

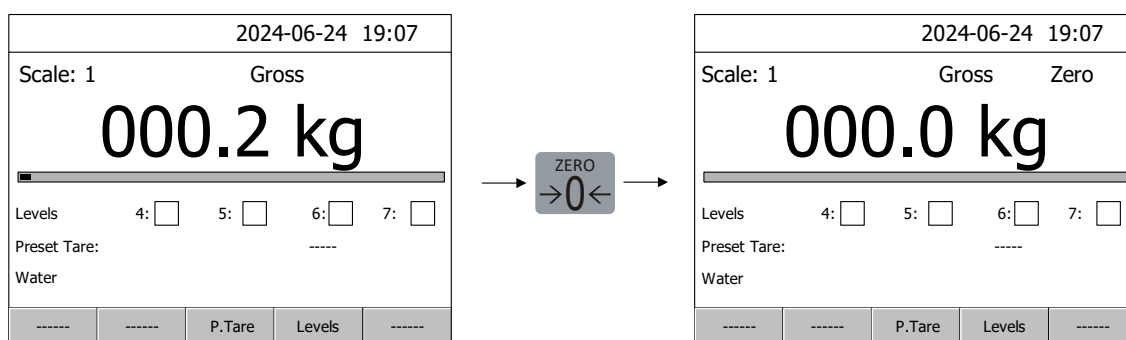
A basic zero setting of the gross weight for unloaded scale is performed at installation as a part of the calibration. When a 'good zero' is displayed, the text 'Zero' is shown in the display.

Minor correction of the zero value may be needed and can rapidly be performed.

Zero adjustment

If, for unloaded scale, the text 'Zero' is not shown, but the gross weight is close to zero, a rapid zero adjustment can be performed.

The gross weight must be stable (text 'Motion' not shown) and the key ZERO must be enabled.



Zero adjustment can only be performed if the accumulated deviation from the basic zero setting in the last calibration is within -1 % to +3 % of the 'Capacity'.

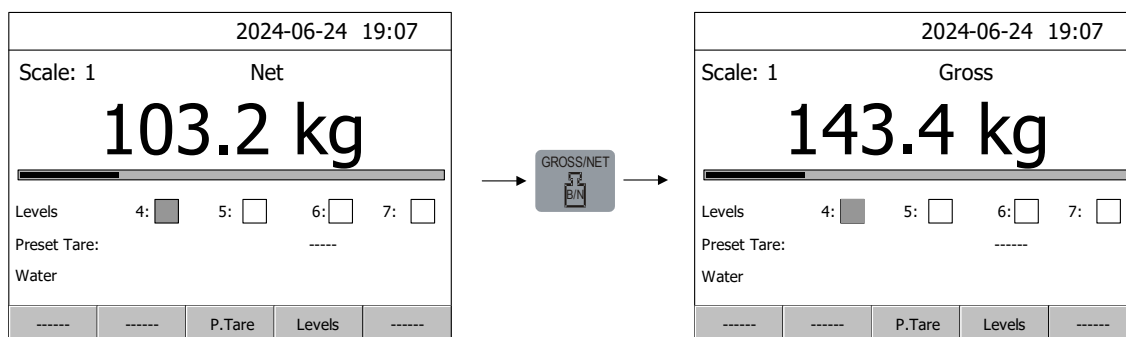
In other cases a new basic zero setting must be performed.

Gross weight

The gross weight is the total weight loaded on the scale after zero setting.

Gross weight is displayed when the text 'Gross' is shown in the display.

When net weight is displayed, the GROSS/NET key can be pressed to change to display of gross weight, provided that the GROSS/NET key is enabled.



In some cases, gross weight is shown as a graphic bar at the display.

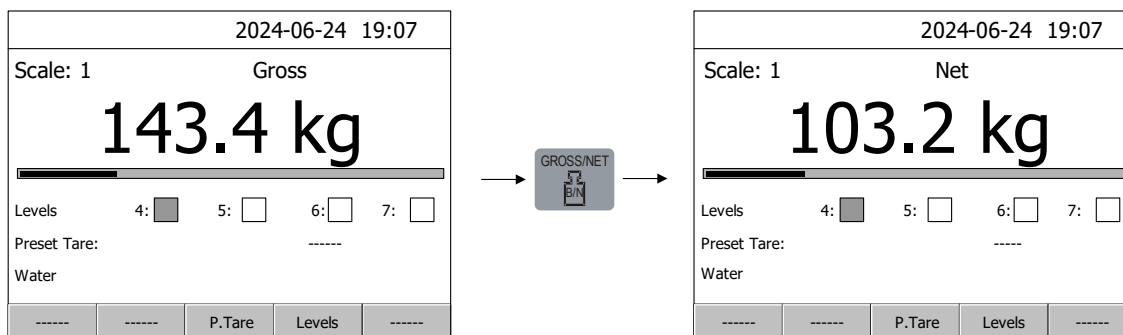
Maximum length of the bar corresponds to 'Capacity' of the scale.

Net weight

The net weight is the difference between the gross weight and a tare value.
If the tare value is zero, net weight can not be displayed.

Net weight is displayed when the text 'Net' is shown in the display.

When gross weight is displayed, the GROSS/NET key can be pressed to change to display of net weight, provided that the GROSS/NET key is enabled.



Taring

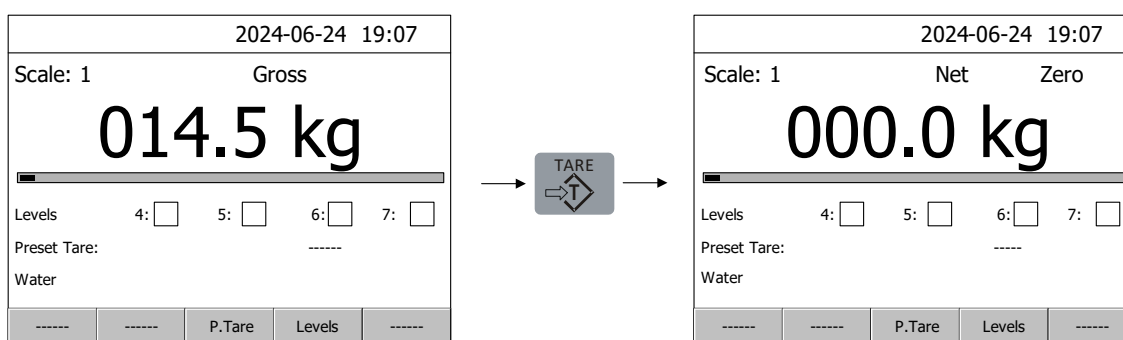
Taring means storing of a tare value for the scale. Net weight will be calculated as the difference between the gross weight and this tare value. If the tare value is zero, net weight will not be displayed.

At default setting, taring can always be performed, provided the key TARE is enabled. But the scale can also be set to allow taring only at stable weight (when the text 'Motion' is not shown).

In G6 two tare values can be used: Auto tare and Preset tare.

Auto tare

By taring, the actual gross weight is stored as Auto tare value, and the scale will switch to display of net weight 'zero'.



Editing Preset tare

In this example Scale 1 is set for taring with 'Preset tare', and for displaying the value of the 'Preset Tare' at Info Line 1 (and Scale Name at Info Line 2). The example shows editing the Preset tare value, using the numeric keypad.

Press 'P.Tare'.

2024-06-24 19:07	
Scale: 1	Gross
034.5 kg	
Levels	4: ☐ 5: ☐ 6: ☐ 7: ☐
Preset Tare:	0.00 kg
Water	
-----	----- P.Tare Levels -----

Press 'Edit' to edit the value.

If Operator Lock is activated, the Operator Code will be needed.

Preset tare, Scale 1	
Preset Tare 1	0.0 kg
Edit	Escape

The actual value of 'Preset tare' is displayed. Use the numeric keypad to write the new value.

Finish by 'Enter'.

Edit: Preset tare 1	
Value: 33.0 kg	
Maximum value:	999999 kg
Minimum value:	0 kg
Enter	Escape

Menu 'Preset tare, Scale 1' will be shown with the new value.

Press 'Escape' to return to display of normal weighing operation.

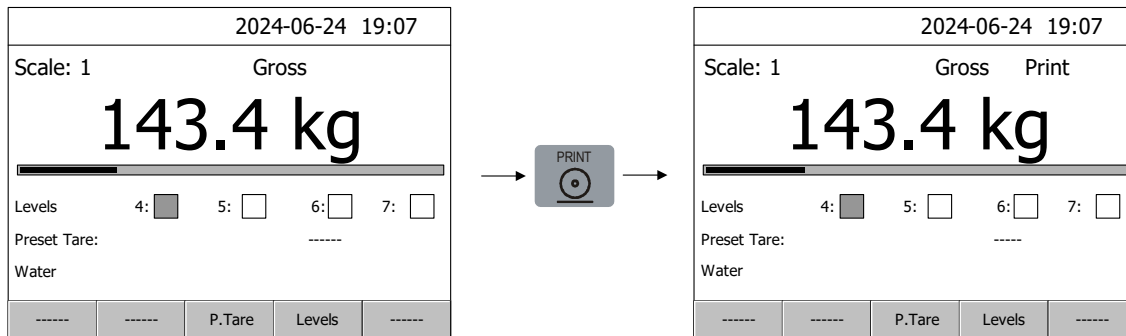
Preset tare, Scale 1	
Preset Tare 1	33.0 kg
Edit	Escape

Weight Printing

A printer can be used to print the displayed weight or the displayed flow rate. The printer must be connected to the G6 Instrument serial communication port and the communication parameters must be correctly set.

Printing is commanded by pushing the print key on the front panel.

Note that pushing the front panel print button will make the displayed value of gross weight, net weight or flow rate for the selected (highlighted) scale to be printed.



The print indication text 'Print' is shown where 'Zero' or 'Motion' indications normally appear. The print indication will appear even if no printer is configured and indicates that the weight is accumulated.

Print out will be performed provided that:

- The displayed weight is higher than the value of 'Min. Weight Print'. No print out will be done if the weight is too low.
- If 'Motion Check' is turned on, the displayed weight must be stable ('Motion' not shown).
If the weight is not stable ('Motion' shown), printing will be delayed and the text 'Print' will be flashing. When the weight has become stable ('Motion' not shown) printing will be performed.

Max/Min

The G6 instrument will always hold the highest (Max) and lowest (Min) gross and net values for the configured scales and store them. They can be reset at any time by the user. It is possible to protect reset with operator lock.

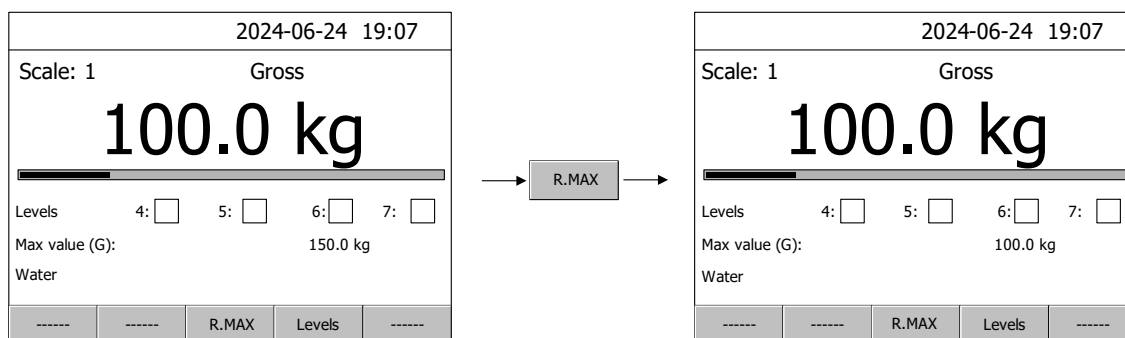
The values can be viewed on the instrument from the Main menu (Max/Min), printed, sent out on the analog outputs and read via communication.

In the Max/Min menu, all values can be seen and reset. The arrow keys, 'Up' and 'Down' can be used to toggle between scales. The keys '1'-'8' can be used to switch to the requested scale.

Max/Min, Scale 1	
Max Value (G):	100.0 kg
Max Value (N):	100.0 kg
Min Value (G):	100.0 kg
Min Value (N):	100.0 kg
R.MAX(G)	R.MAX(N)
R.MIN(G)	R.MIN(N)
Escape	

It is possible to setup information line 1 and 2 to show Max/Min-values. By default, the functionality for the soft keys 'F3' and 'F4' are 'Preset tare' and 'Levels'. These soft keys can be configured in the 'Parameter Set-up' -> 'General' menu to enable reset of the Max/Min-values (gross and net). The key(s) can also be configured to open the Max/Min menu.

In the example below, Info line 1 has been set to show Max value gross. Info line 2 shows the scale name. The soft key 'F3' has been configured to reset max value. Note that reset will affect both net and gross values.



Level supervision

With G6 it is possible to supervise different weighing signals at defined levels. The instrument contains 32 supervising units, Level 1 to Level 32, which can be connected to the scales by the parameter set-up. For each scale up to 4 connected Levels are indicated at the display in normal operation. All Levels connected to a scale are shown if 'Levels' or function key F4 is pressed (provided it is configured as 'Levels').

Edit Levels

The supervision levels are easily edited from the G6 front panel during normal operation.

In this example Scale 1 has five levels of supervision.

Level number 6 should be edited.

Press 'Levels'.

Select Level 6 by using arrow keys up and down to position the indicator.
(Or tap at Level 6 to edit.)

Press 'Edit'.

If Operator Lock is activated, the Operator Code will be needed.

The actual value of Level 6 is displayed. Use the numeric keypad to write the new value.

Finish by 'Enter'.

Menu 'Levels, Scale 1' will be shown with the new value for Level 6.

Press 'Escape' to return to display of normal weighing operation.

Accumulated Weights

Every time a weight is printed the weight value is added to an accumulated value for each scale. Accumulation is done even if no printer is set-up or connected.

Handling of accumulated weights

Accumulated weights can be changed and set to zero from menu 'Accumulated weights'. This menu is reached from the 'Main Menu'. To open 'Main Menu' from normal weight display, press the key marked 'Info' at the upper right corner of the instrument front panel.

Select Accumulated Weights by using arrow keys up and down to position the indicator.
(Or tap at Accumulated Weights.)

Press 'Enter'.

Main Menu	
Levels	
Setpoints	
Preset Tare	
Max/Min	
Accumulated weights	
Clock Set-up	
Parameter Set-up	
System Information	
Maintenance	
Network Configuration	
Enter	Escape

Now it is possible to set the accumulated weights for all scales to zero by pressing 'Zero' (a confirm question will be shown).

It is also possible to zero (change) the accumulated weight for a certain scale.

Select desired Scale by using arrow keys up and down to position the indicator. (Or tap at the scale to edit.)

Press 'Edit'.

Accumulated Weights (all scales)	
Våg 1	3798.100 kg
Våg 2	325.700 kg
Edit	Zero
Escape	

If Operator Lock is activated, the Operator Code will be needed to zero or changed accumulated weights.

Edit: Scale 1	
Value:	0 kg
Maximum value: 999999999.999 kg	
Minimum value: -999999999.999 kg	
Enter	Escape

The actual value of the accumulated weight is displayed. Use the numeric keypad to write the new value (normally zero).

Finish by 'Enter'.

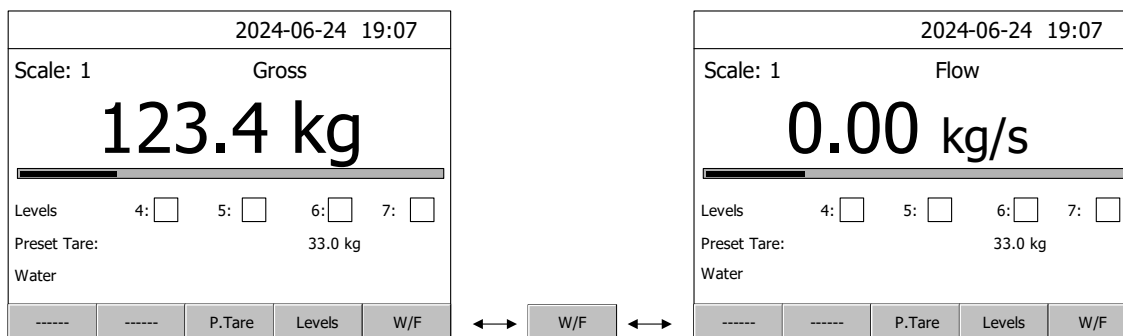
Accumulated Weights (all scales)	
Våg 1	0.000 kg
Våg 2	325.700 kg
Edit	Zero
Escape	

Menu 'Accumulated Weights' will be shown with the new value.

Press 'Escape' a number of times to return to display of normal weighing operation.

Flow display (program option)

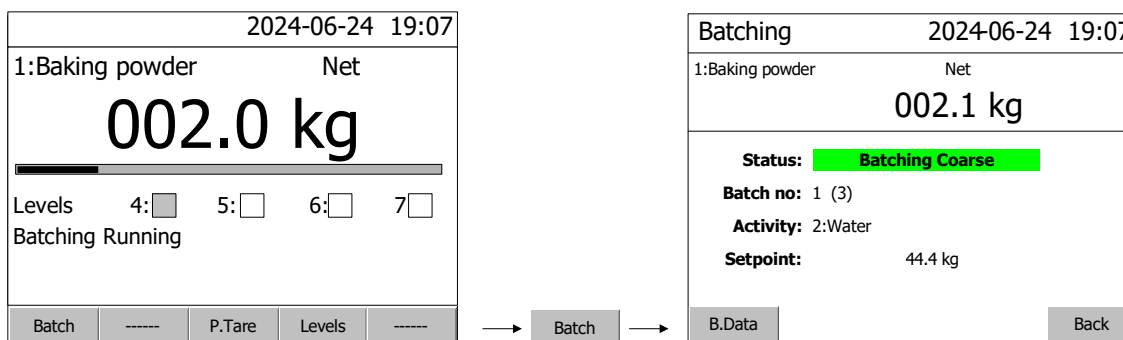
When option Flow display is activated for a scale, function key F5 will show the text 'W/F'. Pressing function key F5, or tapping at 'W/F', will switch the scale between display of weight value (indicated by 'Gross' or 'Net') and display of flow value (indicated by 'Flow').



Scale Batching (program option)

When the G6 Instrument is in normal operation, displaying the weight value, and the batching option is activated, this is indicated by the text "Batch" at the function key to the left (F1). Pressing that key will open the batching display provided that activities are configured for the selected scale. The F1 (Batch) key is dimmed if no activities are configured for the selected scale.

The selected scale in the weight display will also be shown when entering the batch display.



The batching display shows the actual weight and status for the selected scale. The display also shows all necessary information of the batching sequence that an operator needs to handle the batching process. Scales that are not batching will display status 'Inactive'.

It is possible to change the selected scale by pressing '↑' or '↓' key or pressing a digit key corresponding to the wanted scale number. Only scales with configured activities will be shown in the batching display.

The batching status is displayed on a background with the following colours:

Green: Batching active

Yellow: Batching sequence halted (manually halted, by manual activity or after batch alarm reset).

Red: There is an alarm (the batching sequence is halted).

Batch Data

From the batching display it is possible to reach a setup menu for batch data using key F1 'B.Data'. Batch data can be changed during batching but will not take effect until next batch is started.

Batch data are settings for number of batches, batch size and activity setpoints. Number of batches and batch size are optional data controlled by set-up parameters.

Batch Data, Scale 1	
No of Batches	3
Batch Size	60.000 kg
A1:Baking powder	11.0 kg
A2:Water	35.0 kg
A3:Heating	10.0 s
A4:Cooling time	2.5 s
A5:(Manual) Salt	1.000 kg
A6:(Manual) Pepper	0.300 kg
Edit	Escape

Operation

Note that the Batching display must be shown to be able to manually control the batching sequence from the front panel of the instrument.

When using the front panel to control the batching process push button commands, front panel inputs (manually entered weight) etc. applies to the selected scale. The selected scale is the one shown on the batching display. Use '↑' and '↓' keys or press a digit key corresponding to wanted scale number to select which scale that should be selected (shown on the batching display). Only scales that have configured activities will be shown.

Also note that it is possible to leave the batching display showing the weight display or menu system. This will not interrupt batching. To be able to (manually from the front panel) stop or in any other way influence batching sequences, the user must return to the batching display.

Start batching

From the weight display press F1 (Batch) to show the Batching display. If batch data needs to be checked or changed, press F1 (B.Data) to show the Batch Data menu. When in the Batching display, press the green start key, on the front panel of the instrument, to start the batching sequence.

Batching	2024-06-24 19:07
1:Baking powder	Gross
002.7 kg	
Status:	Inactive
Batch no:	
Activity:	
Setpoint:	
B.Data	Back

Reset alarm

If an alarm is obtained the batching will be halted and the cause of the alarm will be displayed. The alarm can be reset from the front panel by function key F2 (A.Reset).

After the alarm has been reset, batching can be restarted, or it can be ended in different ways. See below.

Batching		2024-06-24 19:12	
1:Baking powder		Net	
010.7 kg			
Status: * UNSTABLE WEIGHT ALARM *			
Batch no: 1 (3)			
Activity: 1:Baking powder			
Setpoint: 14.0 kg			
B.Data		A.Reset	
		Back	

Stop batching

At any time, if not in remote operation, batching can be halted from the instrument panel. Press the stop key on the front panel of the instrument, also marked with a stop symbol.

When batching is halted it can be restarted, or it can be ended in different ways. See below.



Restart batching

As batching is halted (and a possible alarm has been reset) the batching operation can be restarted from where it was stopped by pressing the green START key on the instrument front panel.



Finish batch

Function key F4 (Finish) is shown only if a batching operation with several batches is halted (and a possible alarm has been reset). If F4 (Finish) is pressed the remaining activities of the actual batch will be performed. After that the batching operation will be ended.

When F4 (Finish) is pressed the user is asked to confirm the finish batch command.

Skip activity

As batching is halted (and a possible alarm has been reset) the current activity can be skipped by function key F3 (Skip Act). This means that the weight of the material that may have been batched will be accumulated and printed. After that batching will continue with next activity in the sequence.

When F3 (Skip Act.) is pressed the user is asked to confirm the skip activity command.

Batching		2024-06-24 19:18	
1:Baking powder		Net	
010.7 kg			
Status:		Halted	
Batch no: 1 (3)			
Activity: 1:Baking powder			
Setpoint:		10.8 kg	
B.Data	Skip Act.	Finish	Back

Terminate batching

As batching is halted (and a possible alarm has been reset) it is possible to terminate the batching operation by pressing the STOP key. The weight of the material that may have been batched will be accumulated and printed. After that the batching operation will be ended.

When the STOP key is pressed the user is asked to confirm terminate batching command.

Manual operation

Activity type Manual halts the batching sequence to allow manual operation, for example adding of a small quantity of material. Auto taring is performed so net weight zero will be displayed.

The instrument can be set for weighing of the manually added material.

- Add material to make the weight value equal to the shown Setpoint value.
- Then START key should be pressed to continue the batching.

Batching		2024-06-24 19:23	
1:Baking powder	Net	Zero	
000.0 kg			
Status: Halted, manual op.			
Batch no: 1 (3)			
Activity: 6:(Manual) Pepper			
Setpoint: 0.381 kg			
B.Data	Skip Act.	Back	

Alternatively, the instrument can be set to allow manual entry of the added material weight value.

- Manually add the amount of material, given as Setpoint value.
- Press function key F2 (Man.Edit) to edit the Manual Weight.
- Use the digit keys to enter the added material weight value at 'Manual W: ' and finish the entry by pressing the Enter key.
- Then the START key should be pressed to continue the batching.
(If no weight value is entered, the weight value from the scale will be used.)

Batching		2024-06-24 19:21	
1:Baking powder	Net	Zero	
000.0 kg			
Status: Halted, manual op.			
Batch no: 1 (3)			
Activity: 5:(Manual) Salt			
Setpoint: 1.268 kg			
Manual W: 0.000 kg			
B.Data	Man.Edit	Skip Act.	Back

Batched weights

For each scale accumulated weights (batched material) will be created.

In the menu 'Batched Weights', in the 'Main Menu', are the accumulated weights for each configured scale to be found. Each batched weight can be changed, e.g. set to zero (see 'Accumulated Weights' above).

Batching alarms

Whenever an alarm has been obtained the alarm must be reset before the batching can be restarted or terminated.

* SETPOINT ALARM *

- **Weigh in:** The vessel, being batched to, does not have sufficient volume to contain the desired quantity of material (the gross weight will exceed Capacity).
- **Weigh out:** The contents of the vessel (gross weight) is not sufficient to batch out the desired quantity of material.

* ACKNOWLEDGE ALARM *

The alarm is caused by absence of acknowledgement signal.

* TIMEOUT ALARM *

The activity was not completed within the specified maximum time ('Timeout Value').

* MINUS TOLERANCE ALARM *

Batched weight is below minus tolerance limit.

* PLUS TOLERANCE ALARM *

Batched weight exceeds plus tolerance limit.

* UNSTABLE WEIGHT ALARM *

Weight not stable after Wait time.

* WEIGHT ERROR ALARM *

The weight is incorrect (e.g. transducer or weight converter fault).

* FILE WRITE ERROR ALARM *

There was an error when writing to a log file.

* OUT OF DISK SPACE ALARM *

The instrument is low on disk space. No data will be written to the Scale Batching log files. It is necessary to remove files from the LogFiles folder in the instrument to allow data to be written to the log files.

* POWER FAIL ALARM *

A power fail has occurred. This alarm will be displayed when the instrument is powered up after a power fail situation.

Installation

Mechanical installation

The panel mount version of the G6 instrument has a flat plastic front panel and an integrated gasket that gives sealed attachment to mounting panels.

Electrical installation

The field wiring of the instrument shall be suitable to the environment (e.g. chemically) in the end-user application.

Mains cables shall be separated and routed away from SELV field wiring.



Field wiring installation shall comply with any national regulations, hereunder National Electrical Code (NEC) for US and/or Canadian Electrical Code for Canada.

This instrument is classified as permanently connected equipment.

A switch or circuit-breaker shall be included in the building installation. The switch shall be in close proximity to the equipment and within easy reach of the operator. The switch shall be marked as the disconnecting device for the equipment.

The equipment switch or circuit-breaker employed as disconnecting device shall comply with relevant requirements of IEC 60947-1 and IEC 60947-3 and be suitable for the application.

The power supply for the instruments can be an external DC source and an internal “DC SUPPLY” module or an external AC mains and an internal “AC SUPPLY” module. All electrical connections to G6, including connection to ground, are made via plug-in terminal blocks.

For all the interfaces, except for the power input, shielded cables must be used. It is recommended to route all the other cabling away from power cables in order to avoid the risk for electromagnetic interference.

WARNING

Make sure that the power to the instrument is turned off before:

- *any modules are removed from or inserted in the instrument;*
- *any connections are connected to or disconnected from the instrument.*

All modules should be regarded as ESD sensitive. Make sure that an ESD safe environment is maintained when inserting modules, removing modules and when handling modules separately from the instrument. The modules must be kept in metalized ESD bag when not mounted in the instrument.

DC SUPPLY



The output of the external DC source must be rated 24 V $\overline{=}$, $\pm 15\%$ including fluctuations, min. 40W. The DC source must provide Double Insulation between Mains parts and 24V SELV circuit, and a limited-energy circuit (maximum available current of 8A). For the US market this energy limit can be achieved with an ANSI/UL248-14 fuse rated 5A. For other markets an IEC 60127 T type fuse rated 4A may also be used.

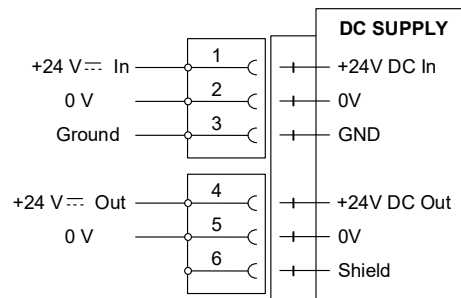
24 V $\overline{=}$ In

Terminals 1, 2, and 3.

Connect power to terminal 1 (positive) and terminal 2 (0 V). Terminal 3 must be connected to ground. The connection is required to achieve functional grounding.

24 V $\overline{=}$ Out

Terminals 4 (positive) and 5 can be used to supply max. 100 mA to logics, like outputs and inputs.



AC SUPPLY

Mains supply cable shall be separated and routed away from SELV field wiring. Make sure the fixation screws on the AC connector are well tightened.



The branch circuit protection in the building installation must be rated maximum 16 A for the instrument, where AC SUPPLY module is mounted. If the AC SUPPLY module is to be removed, it has to be ensured that Mains power is disconnected from the G6 instrument. Make sure that the Mains cable is de-energized through external disconnection BEFORE the Mains cable is removed from the G6 instrument.

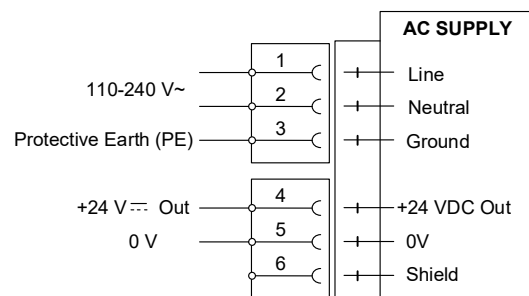
110-240 V $\sim$ In

Terminals 1, 2, and 3. Connect power to terminal 1 and 2.

Terminal 3 must be connected to protective earth.

24 V $\overline{=}$ Out

Terminals 4 (positive) and 5 can be used to supply max. 100 mA to logics, like outputs and inputs.



CPU

The CPU module includes an internal battery of lithium type. It is used as a backup battery to the RTC clock. Replacement of the battery shall only be done by a trained technician.



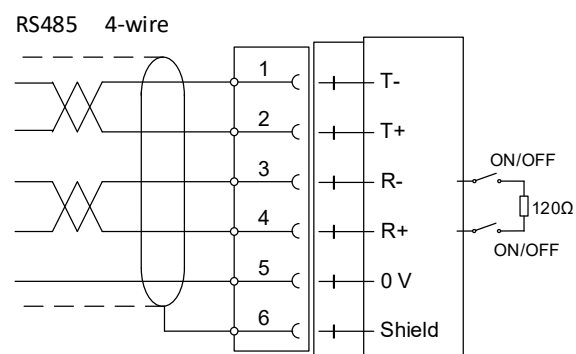
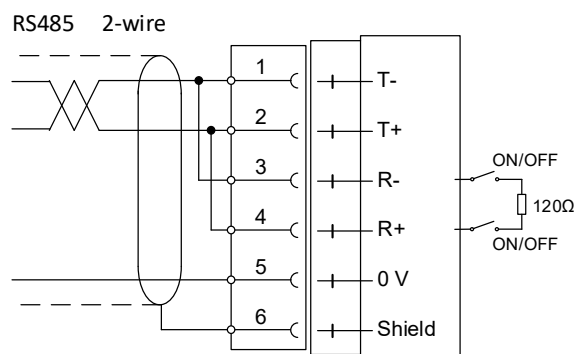
Serial port

RS485 serial communication for 2-wire or 4-wire with common 0 V. This is a SELV circuit.

RS485 can be used for serial communication with computer/PLC (Modbus RTU), external display or a printer.

Connections are made to terminals 1 to 5. Shielded cable must be used. Connect shield to terminal 6.

The communication line must be terminated at both ends. If G6 is connected at the end of the communication line, termination for the receiver can be set to 'ON' for the parameter 'Receiver termination' in the menu 'Serial Com.'. There is no termination for the transmitter in the instrument.



WFIN, WFIN2 and HSWF2



The voltage levels on connectors of I/O modules shall not exceed voltage levels of 30 Vrms, 42.4 Vpeak or 60 Vdc under normal conditions. In wet locations these voltage levels shall not exceed 16 Vrms, 22.6 Vpeak or 35 Vdc.

Transducer inputs

Terminals 17 – 23 (channel 1), 10 – 16 (channel 2). See next page. Transducer connection should be handled with great care to achieve good measuring data. Transducer integrated cables may not be shortened. Shielded cables must be used. There are no limitations on the cable length as long as it is possible to ensure proper weighing function.

WARNING

Transducer cables must be routed at least 200 mm away from 110-240 V, 50/60 Hz power cables. For power cables carrying other frequencies or high power, an even wider distance is preferable.

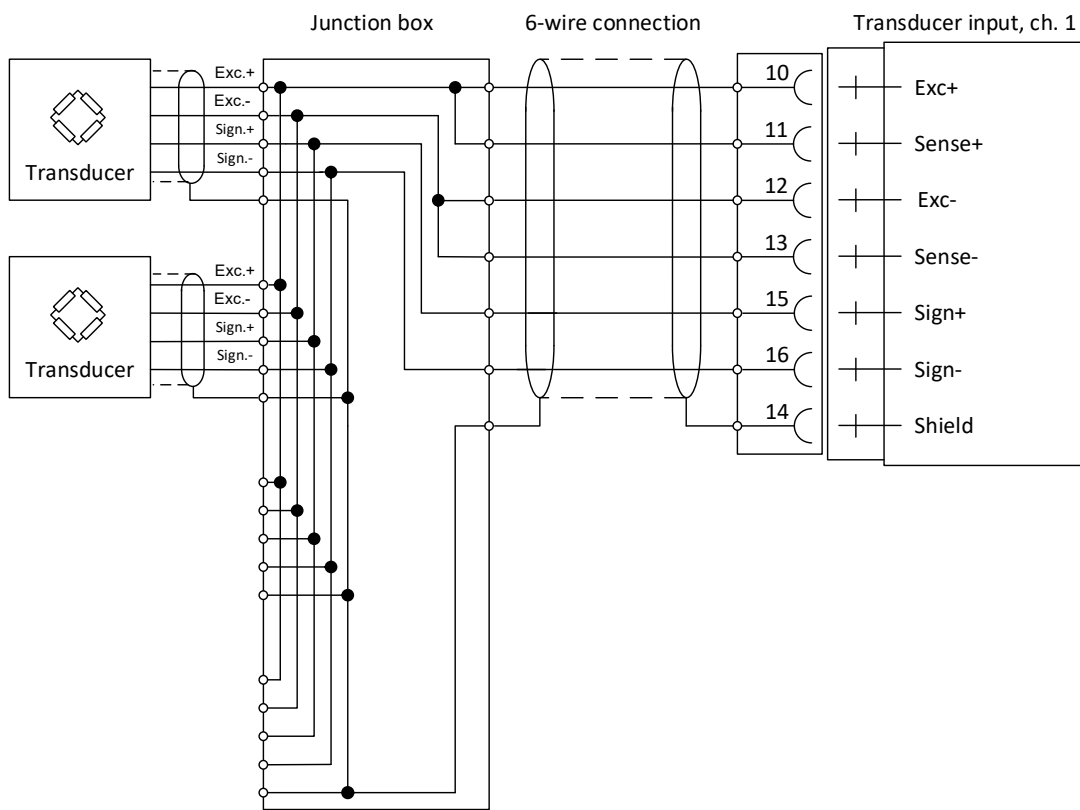
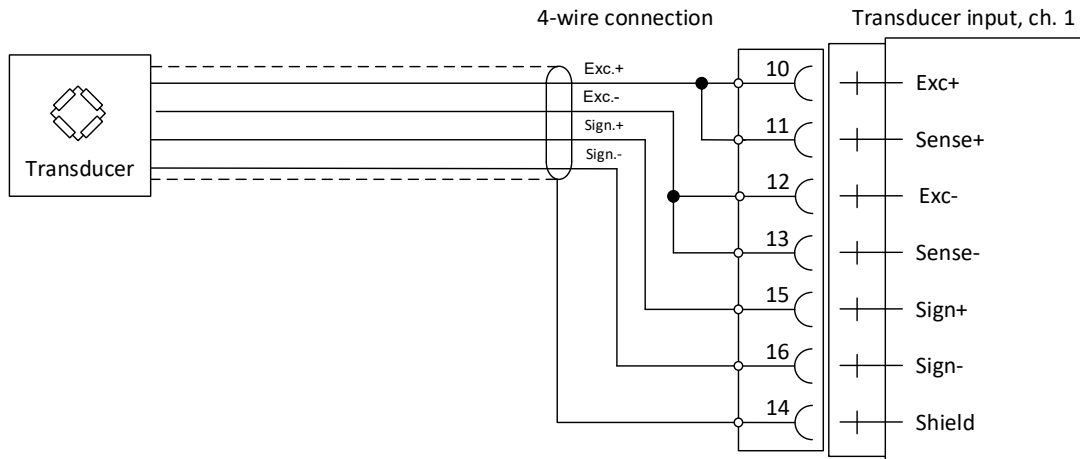
4-wire connection should be used if the transducer integrated cable is long enough to be connected directly to a transducer input. At 4-wire connection, some terminals must be interconnected as shown in the figure on next page.

6-wire connection should be used if the integrated cable must be lengthened or if several transducers should be connected to one transducer input.

The channel 1 cable shield must be connected to terminal 21 and the channel 2 cable shield must be connected to terminal 14.

In WFIN and WFIN2 the shield terminals are internally connected to the G6 housing, which is internally connected to ground via the power supply connector terminal 3 (Shield). The shield shall not be connected at any other point.

In HSWF2 the transducer input channels are separately isolated by operational insulation and the shields can be connected to the most convenient ground/earth point. This can be the junction box when using multiple transducers or at the barrier ground when using Ex Zener barriers.



A transducer may be connected directly to terminals at the transducer input.

*For several transducers or long distances,
a junction box and lengthening cable is needed.*

*For a HSWF2 channel, the shield can be connected to
ground/earth at any point*

Basic set-up

General

All operating functions in G6 are controlled by parameters, stored in the instrument memory. The actual setting of the parameter values can be edited during normal weighing operation, using the touch display and the keys on the front panel.

WARNING

Changes done during editing of set-up parameters will affect the behavior of the instrument immediately. The user must take all necessary precautions to prevent any undesired effects in the process monitored or controlled by the G6 instrument or a connected control system.

It is strongly recommended to activate the set-up lock in the instrument to prevent any unauthorized changes of set-up parameters.

This section proposes a number of parameters to set, that will rapidly give the instrument a useful presentation mode and basic measuring properties. It contains setting of, for example, the measurement unit and resolution for the weight value, and also some parameter settings for data sheet calibration and deadweight calibration in two points.

If you are dealing with an already working instrument, we recommend that you perform a backup of the set-up parameters before you make any changes to the instrument.

When the set-up is finished, all parameter values should be noted (see appendix 1 and 2) or backed up in a file. Backup to an USB memory (or internal file) can be done from menu 'Maintenance', sub menu 'Create Backup'.

Appendix 1 and 2 to this manual contains suitable forms to fill in for the instrument hardware configuration and for the set-up parameters, covered by this manual.

Hardware configuration

The instruments G6, type PM, have room for one fieldbus module and six other modules. The configuration of installed modules used measuring channels, and scale numbers is made in set-up parameter menu 'Hardware Config.'. At delivery of an instrument, the hardware configuration normally corresponds to the set-up. If any mismatch between installed modules and hardware configuration occurs, an error message will be shown at instrument start-up. Consult 'G6 Multi Channel Weighing Instrument Technical Manual PM type' if you need to change the hardware configuration.

Security lock

With an instrument G6 it is possible to perform set-up operations during normal operation, which may influence for example the performance of a scale. To prevent these dangers, the instrument is equipped with security locks at two levels that can be activated to protect from unauthorized access to editing of parameters and values. Four-digit codes for the locks can be defined by the customer. By default setting the code for both locks is: 1 9 3 7 .

Common parameters

G6 has a number of parameters that are common for the whole instrument. They are found in menu 'General', a sub menu to 'Set-up parameters'.

Press the key marked 'Info' at the upper right corner of the instrument panel.

In the 'Main Menu', use the arrow keys 'up' or 'down' to position the indicator on line 'Parameter Set-up'.

Press 'Enter' to open 'Parameter Set-up'.

In menu 'Parameter set-up' position the indicator on line 'General'.

Press 'Enter' to open 'General'.

In menu 'General', position the indicator on the parameter to edit.
Some basic parameters are explained below.

Press 'Enter' to open the editing menu.
The Set-up Code or the Operator Code may be needed.

Language

'Language' was selected in menu 'General'.

Use the arrow keys to position the indicator on the desired language.

The selected language will be used for all displayed text at the screen, and for all parameter names.

Finish by 'Enter', and menu 'General' will appear again.

2024-06-24 19:07

Scale: 1 Gross

034.5 kg

Levels ☐ ☐ ☐ ☐

----- P.Tare Levels -----

Main Menu

Levels
Setpoints
Preset Tare
Max/Min
Accumulated weights
Clock Set-up
Parameter Set-up
System Information
Maintenance
Network Configuration

Enter Escape

Parameter Set-up

General
Hardware Config.
Calibration
Communication
Level Supervision
Setpoints
Inputs
Outputs
Program Options

Enter Escape

General

Language	English
Instrument Name	Water
Start Mode	Auto
Display Mode	1 & 2 & 4 Scales
Info Line 1 Mode	Batching Status
Info Line 2 Mode	Not in use
Date Format	YYYY-MM-DD
Time Format	24 h
Gross/Net key	On
Tare key	On

Enter Escape

Edit: Language

English
Svenska

Enter Escape

Date Format

'Date Format' was selected in menu 'General'.

Use the arrow keys to position the indicator on the desired date format.

Y = year, M = month, D = day.

Finish by 'Enter', and menu 'General' will appear again.

Edit: Date Format

YYYY-MM-DD
YYYY-DD-MM
DD-MM-YYYY
DD/MM/YYYY

Enter Escape

Time Format

'Time Format' was selected in menu 'General'.

Use the arrow keys to position the indicator on the desired time format.

Finish by 'Enter', and menu 'General' will appear again.

Edit: Time Format

12 h
24 h

Enter Escape

Set-up Lock

For security reasons, we recommend setting of this parameter to 'On'.

'Set-up Lock' was selected in menu 'General'.

Use the arrow keys to select 'Off' or 'On' for the Set-up Lock. If the lock is set to 'On', a 'Set-up Code' will be needed to perform editing of set-up parameters, and a parameter for the 'Set-up Code' will be available. See below.

Finish by 'Enter', and menu 'General' will appear again.

Edit: Set-up Lock

Off
On

Enter Escape

Set-up Code

As the above parameter 'Set-up Lock' was set to 'On', this parameter appeared in the list of parameters in menu 'General'.

'Set-up Code' was selected in menu 'General'.

Use the numeric keypad to edit the default code value '1 9 3 7' to another four-digit value.

Finish by 'Enter', and menu 'General' will appear again.

Edit: Set-up Code

Value: 1937

Maximum value: 9999
Minimum value: 1

Enter Escape

In menu 'General', press 'Escape' twice to return to the 'Main Menu'.

See next page to perform Clock Set-up for the instrument.

Clock set-up

Date/time information is always presented at the G6 weight display.

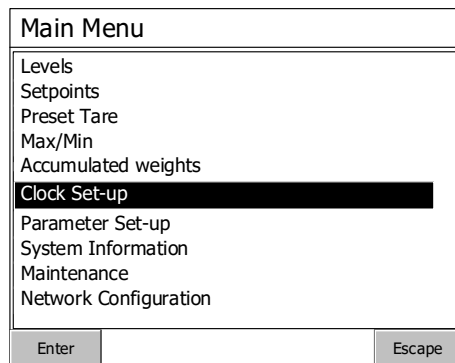
Setting of correct date and time is performed in 'Clock Set-up', a sub menu to the 'Main Menu'.

Setting of date and time doesn't interrupt normal weighing operation.

(To open 'Main Menu' from normal weight display, press the key marked 'Info' at the upper right corner of the instrument front panel.)

In the 'Main Menu', use arrow keys 'up' or 'down' to position the indicator on line 'Clock Set-up'.

Press 'Enter' to open 'Clock Set-up'.

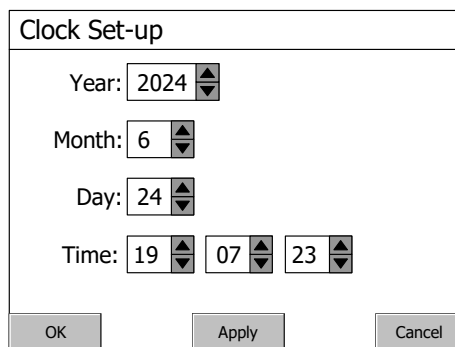


The 'Main Menu' screen displays a list of options: Levels, Setpoints, Preset Tare, Max/Min, Accumulated weights, Clock Set-up (highlighted with a black bar), Parameter Set-up, System Information, Maintenance, and Network Configuration. At the bottom, there are 'Enter' and 'Escape' buttons.

A flashing cursor line appears at 'Year'.

Use arrow keys to edit the value in the selected field.

Use the Tab-key () to move it from field to field.



The 'Clock Set-up' screen shows fields for Year (2024), Month (6), Day (24), and Time (19:07:23). Each field has up and down arrow buttons for editing. At the bottom, there are 'OK', 'Apply', and 'Cancel' buttons.

Press 'OK' to accept the new values and return to the 'Main Menu'.

Press 'Apply' to accept the new values and stay in the 'Clock Set-up' menu.

Press 'Cancel' to reject the new settings and return to the 'Main Menu'.

Scale calibration

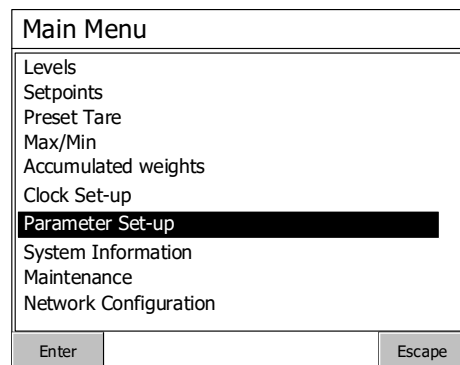
All calibration set-up parameters are set individually for each scale. The scale number is used to distinguish similar parameters in different scales. The following example shows a set-up sequence for Scale 1, so all parameter names will begin with **1:** .

Individual parameters for the scales are found in menu 'Calibration', a sub menu to 'Parameter Set-up'.

('Parameter Set-up' is a sub menu to the 'Main Menu'. To open 'Main Menu' from normal weight display, press the key marked 'Info' at the upper right corner of the instrument front panel.)

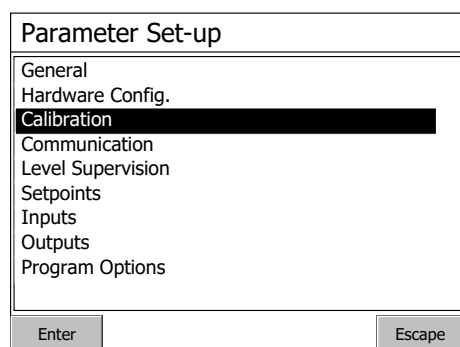
In the 'Main Menu', use the arrow keys 'up' or 'down' to position the indicator on line 'Parameter Set-up'.

Press 'Enter'.



In menu 'Parameter Set-up', use the arrow keys to position the indicator on line 'Calibration'.

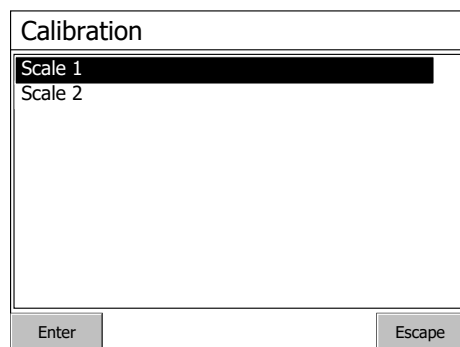
Press 'Enter' to open 'Calibration'.



Menu 'Calibration' displays the scales that are in use.

Use arrow keys to position the indicator on the desired Scale number, in this example Scale 1.

Press 'Enter' to open 'Scale 1'.



In menu 'Scale 1', arrow keys can be used to scroll the list of parameters, and to select a parameter name by positioning the indicator on the corresponding line. Some basic parameters are explained below.

Press 'Enter' to edit the value of a selected parameter.

The Operator Code or the Set-up Code may be needed to continue.

1:Measurement Unit

This parameter defines the measurement unit that will be used for the measured value and for related set-up parameters.

Use the arrow keys to position the indicator on the desired unit.

Press 'Enter' to accept.

Menu 'Scale 1' will appear again.

1:Resolution

This parameter defines the smallest change in measured value that will be shown, and the decimal point position for the scale.

0.1 means the scale will display 0.0 – 0.1 – 0.2 – 0.3 etc.

0.2 means the scale will display 0.0 – 0.2 – 0.4 – 0.6 etc.

0.5 means the scale will display 0.0 – 0.5 – 1.0 – 1.5 etc.

Use the arrow keys to position the indicator on the desired resolution.

Press 'Enter' to accept.

Menu 'Scale 1' will appear again.

1:Capacity

This parameter defines the nominal range for the scale.

The value of 'Capacity' is shown with measurement unit and decimal point position according to the settings above.

Use the numerical keypad to write the desired value of capacity for the scale.

Press 'Enter' to accept.

Menu 'Scale 1' will appear again.

Scale 1	
1:Scale Name	
1:Measurement Unit	kg
1:Resolution	0.1
1:Capacity	500.0 kg
1:WFIN Update Rate	37 Hz
1:Filter Window	1.00 kg
1:Motion Detect Window	0.10 kg
1:No Motion Delay	1.0 s
1:Motion Check	Off
1:Min. Weight Print	0.0 kg
Enter	Current Gross Weight: 111.36 (0.42971 mV/V)
Escape	

Edit: 1:Measurement Unit	
NONE g kg t lb oz N daN kN psi	
Enter	Current Gross Weight: 111.36 (0.42971 mV/V)
Escape	

Edit: Resolution	
0.001 0.002 0.005 0.01 0.02 0.05 0.1 0.2 0.5 1	
Enter	Current Gross Weight: 111.36 (0.42971 mV/V)
Escape	

Edit: 1:Capacity	
Value: 500.0 kg	
Maximum value:	999999 kg
Minimum value:	0.5 kg
Enter	Current Gross Weight: 111.36 (0.42971 mV/V)
Escape	

The last line in menu 'Scale 1' gives access to menu 'Scale 1 Calibration', where calibration type can be selected.

Use the arrow keys to position the indicator on line 'Scale 1 Calibration'.

Press 'Enter'.

Menu 'Scale 1 Calibration' shows the current type of calibration for scale 1, and the parameter values of that calibration.

To perform a new calibration, use arrow keys to position the indicator on line '1:Calibration Type' Press 'Enter'.

1:Calibration Type

This parameter defines the type of calibration to perform for the scale.

Three calibration types are available.

'Data Sheet' calibration for fast calibration when transducer data is available and the installation is free from mechanical disturbances.

'Deadweight' calibration, the most accurate calibration type, where known weights are used to give well defined load on the scale.

'Table' calibration for entry of recorded values from a previous calibration.

Use arrow keys to indicate the desired type of calibration.

Press 'Enter'.

A question will be displayed.

To start the calibration, tap at 'Yes'.

Performing a data sheet calibration is described on pages 32 - 34.

Performing a deadweight calibration is described on pages 35 - 37.

Scale 1	
1:WFIN Update Rate	37 Hz
1:Filter Window	1.00 kg
1:Motion Detect Window	0.10 kg
1:No Motion Delay	1.0 s
1:Motion Check	Off
1:Min. Weight Print	0.0 kg
1:Overload Check	Off
1:Zero Tracking	Off
1:Tare Corr. Mode	Auto
Scale 1 Calibration	
Enter	Current Gross Weight: 111.36 (0.42971 mV/V)
Escape	

Scale 1 Calibration	
1:Calibration Type	Data Sheet
1:Conversion Factor	9.80665
1:Number of Transducers	3
1:Rated Load	2000.00
1:Rated Output 1	2.03900 mV/V
1:Rated Output 2	2.03900 mV/V
1:Rated Output 3	2.03900 mV/V
1:Set Zero	0.00 kg
1:Zero Offset	0.00 kg
Enter	Current Gross Weight: 111.36 (0.42971 mV/V)
Escape	

Edit: 1:Calibration Type	
Data Sheet Deadweight Table	
Enter	Current Gross Weight: 111.36 (0.42971 mV/V)
Escape	

Do you want to start a new calibration? (Current calibration will be lost)	
Do you want to start a new calibration? (Current calibration will be lost)	
Yes	No

Data sheet calibration

This calibration method can be used when data sheets for the transducers are available and no external forces influence the weighing installation.

If fixed supports are included, the load must be evenly distributed on all supports.

Data sheet calibration can be performed without any transducers connected, but the transducers must be connected as the zero setting is performed.

A data sheet calibration for a scale should start with the scale parameters, described on page 30.

This example shows a Data Sheet calibration for Scale 1.

When data sheet calibration has been selected and you have accepted to start a new calibration, menu 'Scale 1 Calibration' will be displayed again.

Use arrow keys 'up' and 'down' to select a parameter to edit, then press 'Enter' to accept.

All parameters are explained below.

Scale 1 Calibration	
1:Calibration Type	Data Sheet
1:Conversion Factor	9.80665
1:Number of Transducers	3
1:Rated Load	2000.00
1:Rated Output 1	2.03900 mV/V
1:Rated Output 2	2.03900 mV/V
1:Rated Output 3	2.03900 mV/V
1:Set Zero	0.00 kg
1:Zero Offset	0.00 kg

Enter Current Gross Weight:
111.36 (0.42971 mV/V) Escape

1:Conversion Factor

This parameter defines the relationship between a weight value expressed in transducer data sheet unit and the same weight value expressed in measurement unit. The default value, 9.80665, can be used when transducers in N (Newton) are used for weighing in kg.

Use the numeric keypad to write a new value for '1:Conversion Factor'.

Press 'Enter' to accept.

Menu 'Scale 1 Calibration' will appear again.

Edit: 1:Conversion Factor	
Value:	9.80665
Maximum value:	100
Minimum value:	0.01

Enter Current Gross Weight:
111.36 (0.42971 mV/V) Escape

1:Number of Transducers

This parameter value should be set to the number of support points for the load, including all transducers and fixed support points. The number will affect the number of lines '1:Rated Output'.

Use the numeric keypad to write a new value for '1:Number of Transducers'.

Press 'Enter' to accept.

Menu 'Scale 1 Calibration' will appear again.

Edit: 1:Number of Transducers	
Value:	3
Maximum value:	4
Minimum value:	1

Enter Current Gross Weight:
111.36 (0.42971 mV/V) Escape

1:Rated Load

Rated load for the transducer is a value, given in the data sheet. All the transducers in the scale must have the same impedance and rated load. The rated load value, expressed in the unit of the data sheet, should be entered for this parameter.

Use the numeric keypad to write a new value for '1:Rated Load'. Press 'Enter' to accept.

Menu 'Scale 1 Calibration' will appear again.

Edit: 1:Rated Load	
Value:	2000.00
Maximum value:	999999
Minimum value:	1
Enter	Current Gross Weight: 111.36 (0.42971 mV/V) Escape

1:Rated Output 1, 2, etc

The number of lines '1:Rated Output ...' corresponds to '1:Number of Transducers' above. These parameter values should be set to the output signal values for the transducers, given in the data sheets.

For a fixed support point the value of the rated output should be set to 0.00000 mV/V.

Use the numeric keypad to write a new value for '1:Rated Output 1'. Press 'Enter' to accept.

Menu 'Scale 1 Calibration' will appear again and the rated output value for all transducers and fixed support points can be entered in the same way.

Edit: 1:Rated Output 1	
Value:	2.03900 mV/V
Maximum value:	9.99999 mV/V
Minimum value:	0 mV/V
Enter	Current Gross Weight: 111.36 (0.42971 mV/V) Escape

1:Set Zero

This parameter is used to make the scale display gross weight zero when it is unloaded. Make sure the scale is completely unloaded before this setting is performed.

The current gross weight is indicated in the display.

The value '0.00 kg' is proposed for '1:Set Zero'.

Press 'Enter' to accept 0.00 kg.

Edit: 1:Set Zero	
Value:	0.00 kg
Maximum value:	999999 kg
Minimum value:	-999999 kg
Enter	Current Gross Weight: 111.36 (0.42971 mV/V) Escape

Menu 'Scale 1 Calibration' will be displayed with the 'Current gross weight' changed to the new value of '1:Set Zero' ('zero' in this example). The value of '1:Zero Offset' has changed correspondingly.

1:Zero Offset

This parameter shows the offset value needed to make the scale display the gross weight 'zero' for unloaded scale.

The value of '1:Zero Offset' should not be edited.

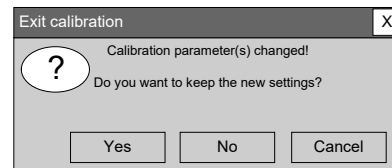
Scale 1 Calibration	
1:Calibration Type	Data Sheet
1:Conversion Factor	9.80665
1:Number of Transducers	3
1:Rated Load	2000.00
1:Rated Output 1	2.03900 mV/V
1:Rated Output 2	2.03900 mV/V
1:Rated Output 3	2.03900 mV/V
1:Set Zero	0.00 kg
1:Zero Offset	111.36 kg
Enter	Current Gross Weight: 000.00 (0.42971 mV/V) Escape

Exit calibration

To exit calibration, press 'Escape' twice.

A question will be displayed.

Answer **Yes** to keep the new settings in the instrument memory,
answer **No** to exit calibration without saving (all changes will be rejected).



In both cases the instrument switches to sub menu 'Calibration'.

Answer **Cancel** to continue the calibration for Scale 1.

Now it is possible to perform calibration of any remaining scales, or to return to normal weight display by pressing 'Escape' several times.

Deadweight calibration

This is the most accurate calibration method. It requires that known weights to at least two-thirds of the scale capacity are available.

A deadweight calibration of a scale should start with the scale parameters, described on page 30.

An asterisk (*) will be shown at the calibration parameters that have not yet been stored.

This example shows a two-point Deadweight calibration for Scale 1.

When deadweight calibration has been selected and you have accepted to start a new calibration, menu 'Scale 1 Calibration' will be displayed again.

Use arrow keys 'up' or 'down' to select a parameter to edit, then press 'Enter' to accept.

All parameters are explained below.

Scale 1 Calibration	
1:Calibration Type	Deadweight
1:No of Calibration points	2
1:Value Cal. P1*	0.0 kg
1:Value Cal. P2*	500.0 kg
1:Transd. Signal P1	0.00000 mV/V
1:Transd. Signal P2	1.66631 mV/V
1:Set Zero	0.00 kg
1:Zero Offset	0.00 kg

Enter
Current Gross Weight:
111.36 (0.42971 mV/V)
Escape

1:No of Calibration Points

This parameter defines the number of calibration points. Up to six points can be selected, parameters for load value and transducer signal will be displayed for the selected number of points.

In this example a two-point calibration is described.

Use the numeric keypad to write '2'

for '1:No of Calibration Points'.

Press 'Enter' to accept.

Menu 'Scale 1 Calibration' will appear again.

Edit: 1:No of Calibration points	
Value:	2
Maximum value:	6
Minimum value:	2

Enter
Current Gross Weight:
111.36 (0.42971 mV/V)
Escape

1:Value Cal. P1

This parameter defines the load for the lowest calibration point. Normally the scale should be unloaded and the parameter value set to 0 (zero). This weight value and the corresponding transducer signal value are automatically stored for the scale. The current gross weight is indicated at the bottom line in the display.

If necessary, use the numeric keypad to write a new value for '1:Value Cal. P1'.

Press 'Enter' to accept.

Menu 'Scale 1 Calibration' will appear again.

Edit: 1:Value Cal. P1*	
Value:	0.0 kg
Maximum value:	999999 kg
Minimum value:	-999999 kg

Enter
Current Gross Weight:
111.36 (0.42971 mV/V)
Escape

1:Value Cal. P2

This parameter, in a two point calibration, defines the load for the highest calibration point. Normally the scale should be loaded to at least two-thirds of the scale capacity.

This weight value and the corresponding transducer signal value are automatically stored for the scale. The current gross weight is indicated at the bottom line in the display.

Use the numeric keypad to write the actual load on the scale for '1:Value Cal. P2'. Press 'Enter' to accept.

Menu 'Scale 1 Calibration' will appear again.

Edit: 1:Value Cal. P2*	
Value:	100.0 kg
Maximum value:	999999 kg
Minimum value:	-999999 kg
Enter	Current Gross Weight: 098.29 (0.67298 mV/V)
Escape	

1:Transd. Signal P1 and 1:Transd. Signal P2

These parameters are only shown and cannot be edited.

1:Set Zero

This parameter is used to make the scale display gross weight zero when it is unloaded. Make sure the scale is completely unloaded before this setting is performed.

The current gross weight is indicated in the display.

The value '0.00 kg' is proposed for '1:Set Zero'.

Press 'Enter' to accept 0.00 kg.

Edit: 1:Set Zero	
Value:	0.00 kg
Maximum value:	999999 kg
Minimum value:	-999999 kg
Enter	Current Gross Weight: -000.38 (0.42965 mV/V)
Escape	

Menu 'Scale 1 Calibration' will be displayed with the 'Current gross weight' changed to the new value of '1:Set Zero'.

The value of '1:Zero Offset' has changed correspondingly.

1:Zero Offset

This parameter shows the offset value needed to make the scale display the gross weight 'zero' for unloaded scale.

The value of '1:Zero Offset' should not be edited.

Scale 1 Calibration	
1:Calibration Type	Deadweight
1:No of Calibration points	2
1:Value Cal. P1	0.0 kg
1:Value Cal. P2	500.0 kg
1:Transd. Signal P1	0.42971 mV/V
1:Transd. Signal P2	0.67298 mV/V
1:Set Zero	0.00 kg
1:Zero Offset	-0.38 kg
Enter	Current Gross Weight: 000.00 (0.42965 mV/V)
Escape	

Exit calibration

To exit calibration, press 'Escape' twice.

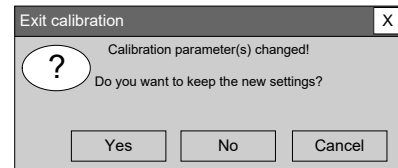
A question will be displayed.

Answer Yes to keep the new settings in the instrument memory,
answer No to exit calibration without saving (all changes will be rejected).

In both cases the instrument switches to sub menu 'Calibration'.

Answer Cancel to continue the calibration for Scale 1.

Now it is possible to perform calibration of any remaining scales, or to return to normal weight display by pressing 'Escape' several times.



Zeroing of gross weight

When the scale installation is calibrated, a zeroing is performed in order to get the gross weight zero when the scale is unloaded. If mechanical equipment is added later, this will affect the weight display for the scale, and a new zeroing of the gross weight becomes necessary.

NOTE! The scale must be unloaded when zeroing is performed.

Access 'Set Zero' for any calibration type.

Navigate to menu 'Calibration' and select the desired scale, in this example 'Scale 1'. The sequence is described on page 29.

In menu 'Scale 1', use arrow key 'down' to position the indicator at the bottom line: 'Scale 1 Calibration'.

Press 'Enter'.

Scale 1	
1:WFIN Update Rate	37 Hz
1:Filter Window	1.00 kg
1:Motion Detect Window	0.10 kg
1:No Motion Delay	1.0 s
1:Motion Check	Off
1:Min. Weight Print	0.0 kg
1:Overload Check	Off
1:Zero Tracking	Off
1:Tare Corr. Mode	Auto
Scale 1 Calibration	

Enter

Current Gross Weight:
111.36 (0.42971 mV/V)

Escape

In menu 'Scale 1 Calibration', use arrow key 'down' to position the indicator at line '1:Set Zero'.

Press 'Enter'.

The Set-up Code or the Operator Code may be needed.

Scale 1 Calibration	
1:Calibration Type	Deadweight
1:No of Calibration points	2
1:Value Cal. P1	0.0 kg
1:Value Cal. P2	500.0 kg
1:Transd. Signal P1	0.38793 mV/V
1:Transd. Signal P2	1.66631 mV/V
1:Set Zero	0.00 kg
1:Zero Offset	0.00 kg

Enter

Current Gross Weight:
111.36 (0.42971 mV/V)

Escape

Menu 'Edit: 1:Set Zero' is displayed, and the current gross weight is indicated on the bottom line in the screen.

The value '0.00 kg' is proposed for '1:Set Zero'.

Press 'Enter' to accept 0.00 kg.

Edit: 1:Set Zero	
Value:	0.00 kg
Maximum value:	999999 kg
Minimum value:	-999999 kg

Enter

Current Gross Weight:
111.36 (0.42971 mV/V)

Escape

Menu 'Scale 1 Calibration' will be displayed with the 'Current gross weight' changed to the new value of '1:Set Zero'.

The value of '1:Zero Offset' has changed correspondingly.

Press 'Escape' to exit calibration, like described for 'Deadweight' calibration on page 37.

Scale 1 Calibration	
1:Calibration Type	Deadweight
1:No of Calibration points	2
1:Value Cal. P1	0.0 kg
1:Value Cal. P2	500.0 kg
1:Transd. Signal P1	0.38793 mV/V
1:Transd. Signal P2	1.66631 mV/V
1:Set Zero	0.00 kg
1:Zero Offset	111.36 kg

Enter

Current Gross Weight:
000.00 (0.42971 mV/V)

Escape

Common set-up values

Note: Only the set-up parameters covered in this manual are listed.

Location/Notes:

Software version: Serial number:

Date:

Hardware position	Module	Serial no.	Notes
Slot 1			
Slot 2			
Slot 3			
Slot 4			
Slot 5			
Slot 6			
Fieldbus module (at the CPU-unit)			

Parameter name	Default value	Set-up value
Language	English	.....
Date Format	YYYY-MM-DD	.....
Time Format	24 h	.....
Set-up Lock	Off	.....
Set-up Code	1 9 3 7	.....

Scale set-up values

Note: Only the set-up parameters covered in this manual are listed.

Locations/Notes:

.....

Module: Ser. no.: Slot no.:

Channel number:

Scale number:

<u>Parameter name:</u>	<u>Default values</u>		
X:Measurement Unit	kg	.....	.....
X:Resolution	0.1	.....	.....
X:Capacity	500.0	.....	.....
X:Calibration Type	Data sheet	.....	.....
X:Conversion Factor	9.80665	.....	.....
X:Number of Transd.	3	.....	.....
X:Rated Load	2000.0	.....	.....
X:Rated Output 1	2.03900	.....	.....
X:Rated Output 2	2.03900	.....	.....
X:Rated Output 3	2.03900	.....	.....
X:Rated Output 4	2.03900	.....	.....
X:No of Calibration Points	2	.....	.....
X:Value Cal. P1	0.0	.....	.....
X:Value Cal. P2	500.0		
X:Transd. Signal P1	0.00000		
X:Transd. Signal P2	1.66631		
X:Zero Offset	0.00		

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Vishay Nobel AB
Box 423, SE-691 27 Karlskoga, Sweden
Phone +46 586 63000
blhnobel.se@vpgsensors.com
www.blhnobel.com

BLH
951 Wendell Blvd, Wendell, NC 27591, USA
Phone: 781-298-2200 Fax: 781-762-3988
blhnobel.usa@vpgsensors.com
www.blhnobel.com