Transmitter
WST 3

From prog. name W001A100

Operating instructions,
Quick installation

BLH NOBEL

A **VPG** Brand

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Introduction

WST 3 is a high performance transmitter, designed for industrial measuring by means of strain gauge transducers. It can be used as a slave unit, communicating with a network master/PLC by Modbus or Profibus.
The network can be used for transmission of commands and measurement values and also for set-up of the transmitter.
The compact transmitter is easy to install on a DIN rail or a flat surface.

This instruction includes the basic installation and quick set-up, required for correct measurement with the transmitter.

Additional installation and set-up of more functions, not covered by this description, can also be performed.
For a complete transmitter description, refer to publication 600 630:
WST 3 Technical Manual

This description deals with the following points:

- Measurement by the WST 3 panel.
- Quick installation.
- 'Quick set-up' for WST 3.
- Data sheet calibration.
- Deadweight calibration in two points.
- Set-up programme deltaCOM.

This description does NOT deal with the following points:

- Connection of relay output.
- Complete set-up (password, filters etc.).
- Adjustment of levels and relay functions.
- Adjustment of the analogue output.
- Using the Modbus and Profibus communication.
- Table calibration.
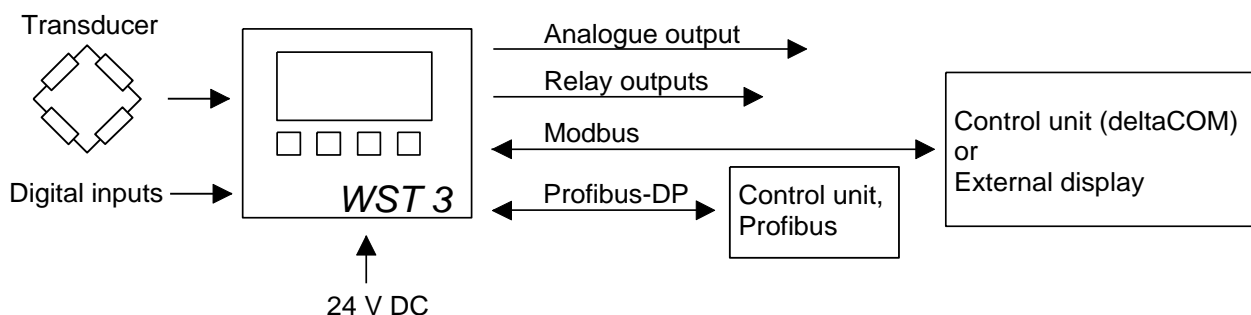- Troubleshooting.
- Diagnostics.

Figure 1. All connections to WST 3 are made through terminal block or connector.

Operating instructions

General

This section describes the display and the function key operation when WST 3 is in normal Operating mode.

Power supply

Power supply to the transmitter should not be turned off during week-ends 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 transmitter, start-up is performed.
The text 'WST 3', the programme name and the serial number of the transmitter are displayed for about five seconds.
Then WST 3 is automatically switched over into Operating mode.

> (If the transmitter is set for operator start-up, the text
> 'Press ENTER to start WST' is displayed until the function key
> to the right is pressed and the transmitter enters Operating mode.)

If an error occurs the start-up halts and an error message is displayed.
Error codes and error corrections are described in the Technical Manual for WST 3, section 8, Troubleshooting.

As WST 3 enters in Operating mode, the first view is a standard view. It contains the measurement value, status of the used relays (R1:/R2: '1' = on or '0' = off) and at the lower right corner an area with information about the Modbus communication. In this area 'EXT' means serial communication to an external display. An 'address' means that the transmitter is set for Modbus communication with a master unit, and the address flashes as a message to the transmitter is received. If the area is empty this means that the serial communication is not in use.
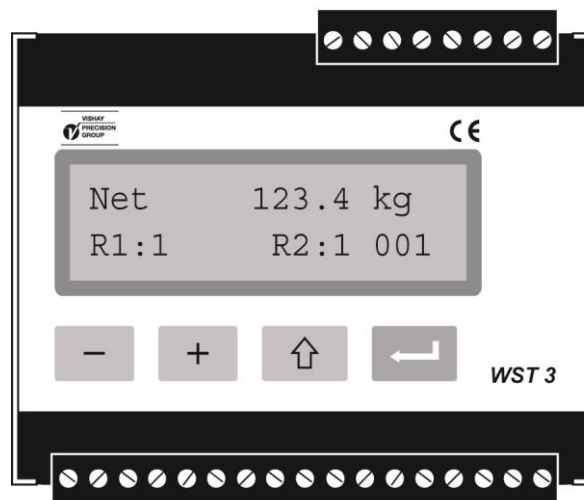

Figure 2. Front view of WST 3 in Operating mode. A weight value and information about relay status and Modbus address is displayed.

Views in Operating mode

As WST 3 is in Operating mode the views Weight value and Profibus status are always available. The remaining views can be set On or Off by parameters under 'Main menu General'.

Function keys + and − are used for selection among the available views and by swiftly pressing ⇧ WST 3 can always be switched to the Weight value view.

From any view, WST 3 switches to Quick set-up mode as the function key ⇧ is pressed for 2 seconds.

Weight value, normal view.
This view is always available. It is the first view displayed after start-up, reset or set-up mode.
The upper line displays the actual weight value as net weight (Net) or gross weight.
The lower line displays status for the used relays, R1:/R2: '1' = on or '0' = off, and an area for the Modbus address or information about the serial communication.

Zero setting.
This view is made available by parameter 'Zero function'. It displays the actual weight value as net weight (Net) or gross weight.

As gross weight is displayed it can be set to zero by the ENTER-key ↵ .

By zero setting of the gross weight, the actual tare value is also set to zero.
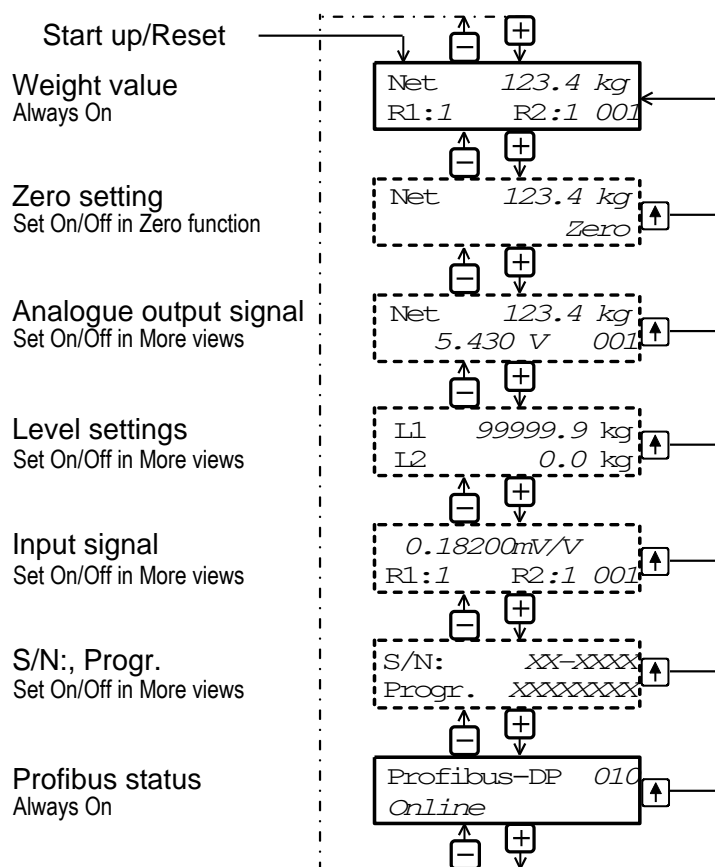

Figure 3. WST 3 in Operating mode can always display Weight value and Profibus status. Depending on the setting, alternative views can also be displayed.

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Analogue output.
This view can be made available by parameter 'More views'.
The upper line displays the actual weight value as net weight (Net) or gross weight.
The lower line displays the analogue output signal and the Modbus information area.

Level settings.
This view can be made available by parameter 'More views'.
The upper line displays the switching level used by 'Level/Setpoint 1' and
the lower line displays the switching level used by 'Level/Setpoint 2'.

Input signal.
This view can be made available by parameter 'More views'.
The upper line displays the actual transducer input signal in mV/V.
The lower line displays status for the used relays, R1:/R2: '1' = on or '0' = off,
and the Modbus information area.

S/N:, Progr.
This view can be made available by parameter 'More views'.
The upper line displays the transmitter serial number and
the lower line displays the name of the installed programme.

Profibus status.
This view is always available.
The upper line displays the Profibus address of the transmitter and
the lower line contains status information for the Profibus communication.

Taring

Taring means storing the actual gross weight as a tare value and switching WST 3 over
to display of net weight. The net weight is the difference between the gross weight and
the tare value.
Taring of WST 3 is always possible as the weight value is valid.
Taring is performed as digital input IN1 (terminal 15) is activated with 24 VDC.

The tare value is automatically set to zero by zero setting of the WST 3.

Display of Gross/Net

By weight display, an area to the left of the weight value displays 'Net' when
the net weight is displayed.
If the area is empty, the displayed weight is the gross weight.
Switching between display of net weight and gross weight takes place as
digital input IN2 (terminal 16) is activated with 24 VDC.

Zero setting

Minor correction of the zero setting can be performed during normal operation from the 'Zero setting' view, see page 4.

But to perform a basic zero setting of the gross weight, the normal operation must be interrupted and the following sequence carried out with WST 3 in set-up mode.
This type of zero setting is a part of the calibration sequences, but a separate zero setting may also be needed, for example if the equipment on the scale has been changed, influencing the weight.

Procedure for basic zero setting

1. Check that the scale is unloaded before performing the zero setting.

2. Switch to set-up mode by holding ESCAPE (⇧) pressed for 2 seconds.

3. Enter the valid password, if this is demanded.

4. The text 'Main menu Quick set-up' is displayed.
    Press ENTER (↵).

5. The first parameter name, 'Language', is displayed.
    Press + a number of times until 'Set zero' is displayed. The parameter value for 'Set zero' is a live weight value.

6. Press ↵ . The parameter value is set to zero and a flashing cursor appears to the left on the lower line.
    (The zero setting can be cancelled by pressing ⇧)

7. Press and hold ↵ for 2 seconds to confirm the new setting.
    The cursor disappears and a live weight value is displayed.

8. Press + , read and make a note of the 'Zero offset' value in Appendix 1.
    (The 'Zero offset' value can be used for set-up of a replacement unit.)

9. Press ⇧ .
    The display changes to 'Main menu Exit set-up.'

10. Press ↵ .
    The display changes to 'Save changes? No   Esc. Yes'.
    (Press ⇧ (Esc.) if you do not wish to exit from the set-up mode.)

11. Press − (No) to cancel the change and return to the previous zero setting, or
    Press ↵ (Yes) to save the new zero setting in WST 3.

12. WST 3 restarts with the selected zero setting.

Installation

Mechanical installation

Each transmitter WST 3 contains several circuit boards, built into a protective plastic housing which can be snap-mounted on a 35 mm wide DIN rail, or mounted on a flat surface by two 4 mm screws.
The transmitter should have at least 10 mm free space on each side.

Electrical installation

For the electrical connections to the connector and terminal blocks of the transmitter shielded cables are needed, except for the power supply. All cables should be routed so that electromagnetic interference from power cables is avoided.
Cable connection is shown in the diagrams below.

Transducer input

Terminals 1 – 7 (8).
Transducer connection should be handled with great care to achieve best measuring data. Integrated transducer cables may not be shortened.

> **NOTE!**
> Transducer cables must be routed at least 200 mm away from 230/380 V, 50/60 Hz power cables. By cables with other frequencies or high power, an even wider distance is preferable.

4-wire connection should be used if the integrated transducer cable can be connected directly at WST 3. By 4-wire connection, excitation and sense must be interconnected at the transmitter, see diagram below. The cable shield <u>and</u> terminal 5 should be connected to earth via the mounting rail.

6-wire connection should be used if the integrated cable must be lengthened or if several transducers should be connected to the transmitter.
Connect the cable shield <u>and</u> terminal 5 to earth via the mounting rail. In the diagram below connections are shown for the junction box SL-4 from Nobel Weighing Systems.
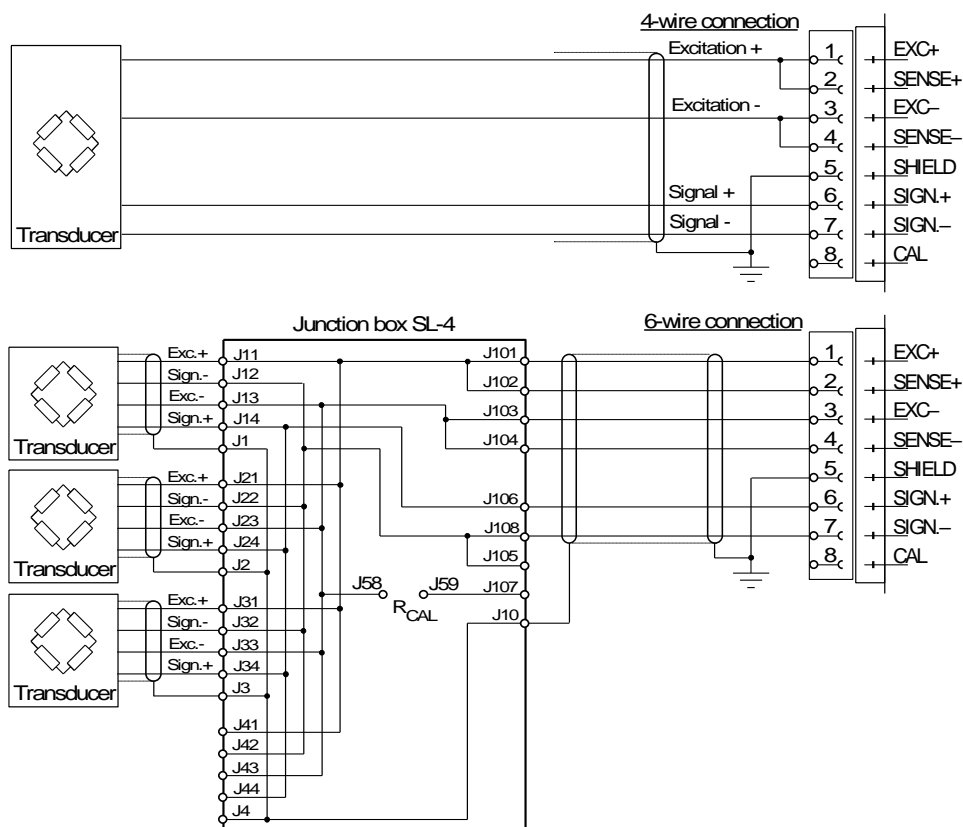
Power supply

Terminals 17, 18.
The transmitter is powered by 24 V DC.
Rail mounted power supplies can be ordered
from Nobel Weighing Systems.
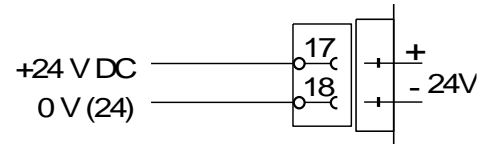
Analogue output

Terminals 24, 25.
The measurement value is presented at the analogue
output as a current or voltage signal, according to
the choice in the set-up.
Connect the cable shield to ground, preferably to
a ground terminal at the mounting rail.
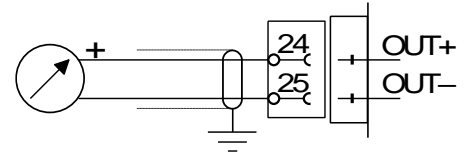
Digital inputs

Terminal 15, 16.
Connection of +24 VDC to the digital inputs causes
Taring and Gross/Net switching respectively.
Connect the cable shield to ground, preferably
to a ground terminal on the mounting rail.
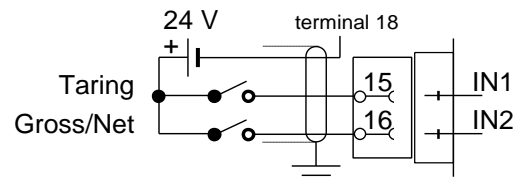
Serial communication

Terminals 19 – 23.
The transmitter has a serial port for RS-485 on
2-wires or 4-wires with common earth (COM).
If necessary, a converter unit can be connected
to adapt the interfaces.

The line must have 120 ohm terminating resistors
at both ends. At WST 3 they should be mounted
on separate terminals and connected according
to the diagrams. Refer to manufacturer instructions
for termination at the control unit (PC), or at a
possible converter unit.

Connect the cable shield to ground, preferably
to a ground terminal at the mounting rail.
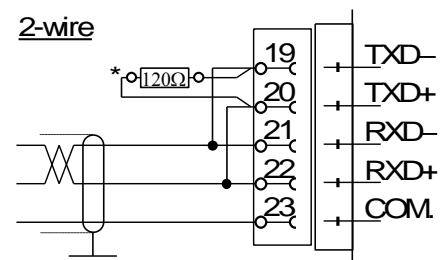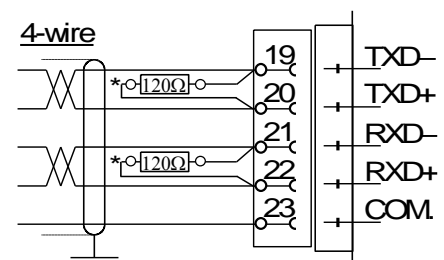
Set-up programme deltaCOM

Transmitter WST 3 should be connected to transducer(s) and power supply. Then it is
possible to perform a set-up from the front panel or from a connected PC with
Windows 95/98/2000/XP/NT4.0. A diskette with the set-up programme deltaCOM is
included in the WST 3 delivery. This diskette also contains instructions for connection
and set-up of the serial communication between the transmitter and the PC.

Through deltaCOM it is possible to find all modules communicating with the PC,
and to study and edit all set-up parameters for these modules.

Quick set-up, calibration

General

Set-up of all parameters in WST 3 can be performed from the control unit by serial communication, using the programme deltaCOM. Set-up can also be performed from the transmitter front panel, for example the 'Quick set-up' of certain parameters described in this section.

Calibration is essential to get correct measurement results.
Two calibration methods are available in the 'Quick set-up':
Data sheet calibration, for calibration when transducer data are available and the installation is free from disturbing mechanical forces.
Dead weight calibration, normally the most accurate calibration method, where known weights are used to give well defined loads on the scale.

Before selection of calibration method, the value of some common parameters must be set.

All parameter values from the calibration should be noted in the set-up list, see Appendix 1. These values are useful later, if the transmitter must be replaced.

Common parameters

These parameters define: the language, measurement unit and resolution used by the transmitter, and also the capacity and signal type for the analogue output.

Set-up

1.   Access 'Quick set-up'

At normal operation WST 3 displays the actual weight value. Status for the internal relays (R1/R2) in use and the transmitter Modbus address are also displayed.
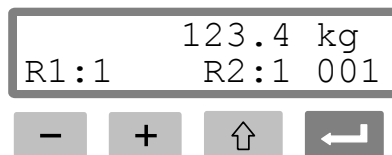
Press and hold the ESCAPE key for 2 seconds.
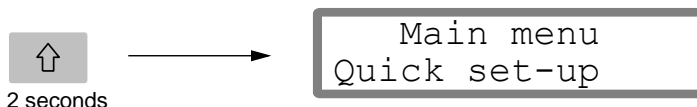
This switches the transmitter into Set-up mode, displaying the main menu for 'Quick set-up'.
As WST 3 is in Set-up mode, normal measuring functions are interrupted!

2. Showing the parameters.

Press ENTER.

```
Language
English
```

The first parameter in 'Quick set-up' will be displayed.

3. Edit the language (a choice parameter).

'Language' is a choice parameter with a number of alternatives available.
Press ENTER to make editing possible.

```
Language
English
```

A cursor starts flashing to the left on the parameter value line.

Press **+** to step forwards to next alternative, or press **—** to step backwards to the previous alternative, until the correct alternative is displayed.

```
Language
(alternatives)
```

Press ENTER for 2 seconds to accept the displayed alternative.

2 seconds

```
Language
English
```

The cursor disappears and the displayed alternative is activated.

4. Edit the measurement unit for the transmitter.

By this parameter, the measurement unit for the measurement value is defined.
Press **+** to get parameter 'Measurement unit' displayed.

```
Measurement unit
kg
```

Press ⏎ if the measurement unit should be edited,
and edit the value like in point **3.** above.

5. Edit the transmitter resolution.

With this parameter, the number of decimals and the resolution of the last digit
of the measurement value are defined.
This parameter influences all measurement values using the measurement unit.

Press **+** to get parameter 'Resolution' displayed.

```
Resolution
0.1          kg
```

Press ⏎ if the resolution should be edited, and make the editing
like in point **3.** on page 10.

In the following examples, resolution with two decimals is used.

6. Edit the transmitter capacity (numeric parameter).

This parameter defines the capacity of the transmitter, i.e. the weight value that
corresponds to full range at the analogue output.

Press **+** to get the parameter 'Capacity' displayed.

```
Capacity
500.00       kg
```

Press ENTER to make editing possible.

```
Capacity
0500.00      kg
```

A cursor starts flashing to the left on the parameter value line, indicating which digit
that can be edited.

Press ENTER to move the cursor, step by step to the right in the parameter value, to
the digit to edit.

```
Capacity
0500.00      kg
```

Press **+** (or **−**) until the wanted digit value is displayed (1 in this example).

```
Capacity
0100.00      kg
```

When necessary, press ENTER again to move the cursor to another digit to edit.

Press ENTER for 2 seconds when the capacity parameter value is correct.

```
Capacity
100.00       kg
```

2 seconds

The cursor disappears, and the edited parameter value becomes active.

7. Edit the analogue output type.

The signal type for the analogue output is defined by parameter 'Ana. output type' that has a number of alternatives.

Press **+** to get parameter 'Ana. output type' displayed.

```
Ana. output type
4-20mA
```
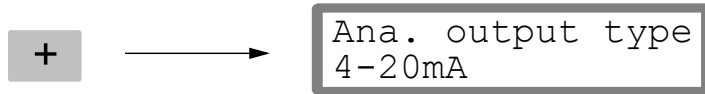
Press ↵ if the parameter should be edited, and make the editing like in point **3.** on page 10.

8. Chose a calibration type.

Press **+** to get the parameter 'Calibration type' displayed.

```
Calibration type
Data sheet
```

The value points out which type of calibration that was performed last time.

Two calibration types can be chosen in 'Quick set-up': Data sheet and Deadweight. As a new calibration shall be performed, WST 3 must first be set for editing, indicated by a cursor at the parameter value. Then one of the alternatives must be chosen and accepted.

If a new calibration shall be performed, press ENTER to switch the transmitter into set-up mode.

```
Calibration type
Data sheet
```

A cursor starts flashing to the left on the parameter value line.

Chose an alternative for the parameter like in point **3.** on page 10.

When ↵ is pressed for 2 seconds, the chosen calibration type gets active and the calibration can start.

The choice of calibration type determines which parameters will follow:
For Data sheet, se point **9.** on page 13.
For Deadweight, se point **9.** on page 16.

Data sheet calibration

This calibration type can be used when transducer data is available, the load is evenly distributed on the support points and the weighing installation is not influenced by disturbing external forces.

Before editing of the following parameters is started, set-up of common parameters, described in points **1. – 8.** on pages 9 – 12 should be performed.

9. Edit the conversion factor.

If the 'Data sheet' alternative was chosen at **8.** on page 12, next parameter will be 'Conv. factor'. This parameter defines a constant by which a weight value, expressed in the measurement unit, should be multiplied to be expressed in the data sheet unit.
Default value for the parameter, 9.80665, can be used when the data sheet unit is Newton (N) and the measurement unit is 'kg'.
If data sheet unit and measurement unit are equal, the value should be 1.00000.

Press **+** to get the parameter 'Conv. factor' displayed.

```
Conv. factor
9.80665
```

Press ENTER to make editing possible.

```
Conv. factor
09.80665
```

A cursor starts flashing to the left on the parameter value line.
Now editing can be performed for each digit individually.
See point **6.** on page 11 (numeric parameter).

Press ENTER for 2 seconds when the conversion factor is set to a correct value.

2 seconds

```
Conv. factor
9.80665
```

Cursor and leading zeros disappear, and the edited conversion factor will be active.

10. Edit the number of transducers.

This parameter defines the total number of support points for the load, including transducers and fixed supports.

Press **+** to get the parameter 'Number of transd' displayed.
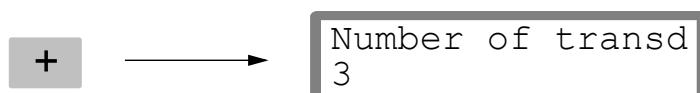
```
Number of transd
3
```

Press ⏎ if the parameter value should be edited, and make the editing like in point **6.** on page 11 (numeric parameter).

11. Set the rated load for one transducer.

It is assumed that all transducers connected to the transmitter have the same rated load and impedance. The rated load for one transducer, expressed in the data sheet unit used to calculate the conversion factor (see **9.** on page 13), should be entered.

NOTE!   If the data sheet value is for instance 5 kN,
            this parameter should be set to 5 000 (N).

Press **+** to get the parameter 'Rated load' displayed.

```
Rated load
2000.0
```

Press ⏎ if the parameter value should be edited, and make the editing like in point **6.** on page 11 (numeric parameter).

12. Set the rated output for the transducers.

Rated output for each transducer, a value in mV/V, is given in the data sheet. For fixed support points the rated output should be set to "0.00000".

Press **+** to get the parameter 'Rated output 1' displayed.

```
Rated output 1
2.03900     mV/V
```

Press ⏎ if the parameter value should be edited, and make the editing like in point **6.** on page 11 (numeric parameter).

Parameters will follow for the number of support points given at **10.** on page 13. Set the parameter value to the rated output for each transducer/fixed support.

13. Set the scale to zero.

This parameter displays the weight value with the actual settings (but with one decimal more than what is set in 'Resolution'). Use it to set the weight value to 'zero'.

Press **+** to get parameter 'Set zero' displayed, and check that the scale is unloaded.

```
Set zero
  XXXX.XXX    kg
```

Press ENTER to set the parameter value to zero.

```
Set zero
+0000.00     kg
```

The value is set to zero with leading sign and a flashing cursor.

Press ENTER for 2 seconds.

2 seconds

```
Set zero
  0000.000    kg
```

The cursor disappears and the zero setting is accepted.

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14. Read the zero offset.

By installation of a replacement transmitter later, it is useful to know
the total zero offset value for the scale.

Press **+** to get parameter 'Zero offset' displayed.

```
+  ─────────────►   ┌──────────────────────┐
                    │ Zero offset          │
                    │ X.XXX           kg   │
                    └──────────────────────┘
```

Make a note of the zero offset value in the Quick set-up list, appendix 1.

15. Exit 'Quick set-up'.

Press ESCAPE to get to 'Main menu Exit set-up'.

```
⇧  ─────────────►   ┌──────────────────────┐
                    │      Main menu       │
                    │ Exit set-up          │
                    └──────────────────────┘
```


16. Save the changes.

Before 'Quick set-up' is closed, the new parameter values should be saved,
i.e. copied to a specific memory in the transmitter.
Alternatively the new values can be cancelled, and all parameters will resume
the values they had before 'Quick set-up' was started.

Press ENTER to get the sub menu displayed.

```
↵  ─────────────►   ┌──────────────────────┐
                    │ Save changes?        │
                    │ No         Esc. Yes  │
                    └──────────────────────┘
                       ─    +    ⇧    ↵
```

(Press ⇧ if you do not wish to exit from the set-up mode.)

Press ↵ to answer 'Yes', and save the new parameter values.

Press ─ to answer 'No', and cancel the new parameter values.

In both cases 'Quick set-up' is finished. The transmitter switches over to
Operating mode, displaying a measurement value that depends on
the load and the valid parameter values.

```
                    ┌──────────────────────┐
                    │      000.00 kg       │
                    │ R1:1    R2:1 001     │
                    └──────────────────────┘
                       ─    +    ⇧    ↵
```


The scale is now ready for use.

Dead weight calibration

This is the most accurate calibration type. It requires that known weights
to at least two-thirds of the scale capacity are available.
Below, a dead weight calibration in two points is described.

Before editing of these parameters is started, set-up of common parameters,
described in point **1. – 8.** on pages 9 – 12 should be performed.

9. Set the value for calibration point 1.

If the 'Deadweight' alternative was chosen at **8.** on page 12, next parameter
will be 'Value cal. p.1'. This parameter defines the known load on the scale for
the lower calibration point.

Press **+** to get the parameter 'Value cal. p.1' displayed.

+	⟶	Value cal. p.1 X.XX kg
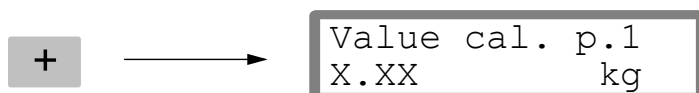
The displayed parameter value is the load on the scale that was set for the lower
calibration point in the last calibration, normally zero (= unloaded scale).

Press ENTER.

↵	⟶	Value cal. p.1 █XXXX.XXX kg

Actual measurement value for the scale is displayed (as a 'live' weight value)
with a cursor and one decimal more than what is set in parameter 'Resolution'.
Check the load on the scale (normally unloaded).

Press ENTER again to make editing possible.

↵	⟶	Value cal. p.1 +0000.00 kg

The displayed parameter value is the value for the lower calibration point from
the last calibration, with leading sign and a cursor.

The parameter value can be edited, according to point **6.** on page 11 (numerical
parameter), to correspond to the actual load on the scale, normally zero.

Press ENTER for 2 seconds.

↵	⟶	Value cal. p.1 X.XX kg

2 seconds

This finishes the editing and the load that is set for the lower calibration point
is displayed without cursor.

10. Set the value for calibration point 2.

This parameter defines the known load on the scale for the higher calibration point.

Press **+** to get the parameter 'Value cal. p.2' displayed.

```
+   ------------>   Value cal. p.2
                    500.00      kg
```

The displayed parameter value is the load on the scale that was set for the higher calibration point in the last calibration.
Press ENTER.

```
↵   ------------>   Value cal. p.2
                    ▮XXXX.XXX   kg
```

Actual measurement value for the scale is displayed (as a 'live' weight value) with a cursor and one decimal more than what is set in parameter 'Resolution'.
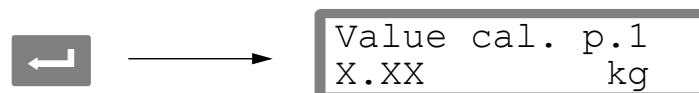
Load the scale with known weights to at least two thirds of the scale capacity.

Press ENTER again to make editing possible.

```
↵   ------------>   Value cal. p.2
                    ▮0500.00    kg
```

The displayed parameter value is the value for the higher calibration point from the last calibration with leading sign and a cursor.

The parameter value can be edited, according to point **6.** on page 11 (numerical parameter), to correspond to the actual load of known weights on the scale.
Press ENTER for 2 seconds.

```
↵   ------------>   Value cal. p.2
                    XXX.XX      kg
```
2 seconds

Editing is finished and the load that is set for the higher calibration point is displayed without cursor.

11. Read the transducer signal for calibration point 1 (read only).

By possible installation of a replacement unit later, it is useful to know the values of the transducer signal for the two calibration points.

Press **+** to get parameter 'Transd.sign. p.1' displayed.

```
+   ------------>   Transd.sign. p.1
                    X.XXXXX    mV/V
```
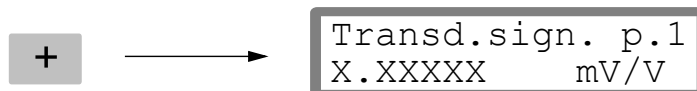
Make a note of the parameter value in the Quick set-up list, appendix 1.

12. Read the transducer signal for calibration point 2 (read only).

Press **+** to get parameter 'Transd.sign. p.2' displayed.

+   ⟶

```
Transd.sign. p.2
X.XXXXX    mV/V
```
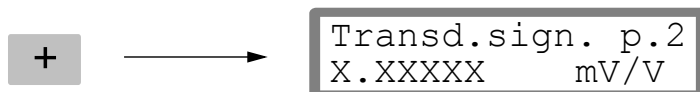
Make a note of the parameter value in the Quick set-up list, appendix 1.

13. Set the scale to zero.

This parameter displays the weight value with actual settings (but with one decimal more than what is set in 'Resolution'). Use it to set the weight value to 'zero' for the unloaded scale.

Press **+** to get parameter 'Set zero' displayed, and check that the scale is unloaded.

+   ⟶

```
Set zero
 XXXX.XXX    kg
```

Press ENTER to set the parameter value to zero.

↵   ⟶

```
Set zero
+0000.00     kg
```

The value is set to zero with leading sign and a flashing cursor.
Press ENTER for 2 seconds.

↵   ⟶
2 seconds

```
Set zero
 0000.000    kg
```

The cursor disappears and the zero setting is accepted.

14. Read the zero offset.

By possible installation of a replacement unit later, it is useful to know the total zero offset value for the scale.

Press **+** to get parameter 'Zero offset' displayed.

+   ⟶

```
Zero offset
X.XXX        kg
```

Make a note of the zero offset value in the Quick set-up list, appendix 1.

15. Exit 'Quick set-up'.

Press ESCAPE to get to 'Main menu Exit set-up'.

⇧   ⟶
```
     Main menu
Exit set-up
```

16. Save the changes.

Before 'Quick set-up' is closed, the new parameter values should be saved, i.e. copied to a specific memory in the transmitter.
Alternatively the new values can be cancelled, and all parameters will resume the values they had before 'Quick set-up' was started.

Press ENTER to get the sub menu displayed.

↵   ⟶
```
Save changes?
No       Esc. Yes
```

− + ⇧ ↵

(Press ⇧ if you do not wish to exit from the set-up mode.)

Press ↵ to answer 'Yes', and save the new parameter values.

Press − to answer 'No', and cancel the new parameter values.

In both cases 'Quick set-up' is finished. The transmitter switches over to Operating mode, displaying a measurement value that depends on the load and the valid parameter values.

```
     000.00 kg
R1:1    R2:1 001
```

− + ⇧ ↵

The scale is now ready for use.

Parameter survey

Operating mode
Start up/Reset

Weight value

```
        123.4 kg
R1:1    R2:1 001
```

⬍ for 2 seconds

Enter password:
(Wrong) (Correct)

Shown only if
'Security lock' is On.

Set-up mode,
Quick set-up

```
Main menu
Quick set-up
```
```
Main menu
Exit set-up
```

```
Language
English
```

Save changes?
No   Esc.   Yes

Shown only if
any changes
have been done.

```
Measurement unit
kg
```

```
Resolution
0.1        kg
```

```
Capacity
500.0      kg
```

```
Ana.output type
4-20mA
```

```
Calibration type
Data sheet
```
```
Calibration type
Dead weight
```

```
Conv. factor
9.80665
```
```
Value cal. p.1
0.0        kg
```

```
Number of transd
3
```
```
Value cal. p.2
500.0      kg
```

```
Rated load
2000.0
```
```
Transd.sign. p.1
0.00000    mV/V
```

```
Rated output 1
2.03900    mV/V
```
```
Transd.sign. p.2
1.66631    mV/V
```

```
Rated output 2
2.03900    mV/V
```
```
Set zero
 00123.40  kg
```

```
Rated output 3
2.03900    mV/V
```
```
Zero offset
0.00       kg
```

Shown for
the entered
number of
transducers.

```
Rated output 4
2.03900    mV/V
```

```
Set zero
 00123.40  kg
```

```
Zero offset
0.00       kg
```

*The diagram shows the parameters in 'Quick set-up' and how
the function keys are used to view the parameters.*

Quick set-up list for WST 3   Address: ....

Location/Notes: ....

Programme name: .... Ser. no.: .... Date: ....

Parameter name	Default value	Set-up value	
Language	English	....	....
Measurement unit	kg	....	....
Resolution	0.1	....	....
Capacity	500.0	....	....
Ana. output type	4–20mA	....	....
Calibration type	Data sheet	....	....
Conv. factor	9.80665	....	....
Number of transd	3	....	....
Rated load	2000.0	....	....
Rated output 1	2.03900	....	....
Rated output 2	2.03900	....	....
Rated output 3	2.03900	....	....
Rated output 4	2.03900	....	....
Value cal. p.1	0.0	....	....
Value cal. p.2	500.0	....	....
Transd.sign. p.1	0.00000	....	....
Transd.sign. p.2	1.66631	....	....
Zero offset	0.00	....	....

Appendix 1
Quick set-up list.