This is a part of the calibration manual B01950. It shall only be used for adjustments due to drift or change of operating place.

Calibration sequence.

The calibration switch S1 is located under the panel. When S1 is switched on, the software calibration mode is entered and the 6 digit internal AD-value is displayed. U137 and U235 only presents the 5 most significant digits for the AD-value. In the following calibration sequence, the functions and calibration may be changed. When S1 is switched off, the indicator enters weighing mode. Restart the indicator to get all changes.

Keyboard functions.

The software calibration is performed via the serial input or the keyboard (U235 & U2373 must have a separate keyboard, U2395). The functions of the keys at calibration are as follows:

{ZERO}	Steps forward one position in the calibration sequence. Previous step is stored.
{TARE}	Steps back one position in the calibration sequence. Previous step is stored.
{NET/GROSS}	Selects the digit position of data. In sign position, the NET indicator blinks. Switches between increment and decrement in Cs1 to 20. (Cs = Calibration step).
{COUNT}	Increments or decrements the digit value and changes sign.
{F} {ZERO}	Cs21-23. Gets the signals AD-value. {F} at once after gets the old value back.
{F} {TARE}	Extrapolates the AD-value in Cs23 from Cs21 and Cs22.
{PRINT/TEST}	Prints the calibration sequence and program information.
{F} {F}	Returns to the AD-value (before Cs1). Skips change after {F} {ZERO} or {TARE}.
{F} {PRINT/TEST} {ZERO}	Enters preset values, when the AD-value is displayed. **Destroys the calibration!**

Use {ZERO} or {TARE} to step forward or back in the calibration sequence.
The display shows XX N. XX is Cs(Calibration step) for 01 - 22, 28 and 29. N is the chosen function code.

Cs 23 to 25 have three part steps: 1. Step number. 2. Calibration weight. 3. Corresponding AD-value.

23	First calibration point (lowest AD-value).
00000	Weight 1. Must be an even number. Always 00000 for scales.
audited	Internal AD-value 1. U137 and U235 only presents the 5 most significant digits for the AD-value.
24	Second calibration point.
wwwww	Weight 2. Must be even number. One digit increase must be > 1.25 AD-units and < 5000 AD-units.
audited	Internal AD-value 2.
25	Third calibration point.
wwwww	Weight 3. Must be even number.
audited	Internal AD-value 3. Cs25 is not used, when this value is lower than that in Cs24.

Full AD-converter range is from 1480 to 980020, but only values between 7960 and 945060 are allowed (no mode indicators on) at the calibration. Values above 700000 gradually increase the response time. Note! U137 and U235 only presents the 5 most significant digits for the AD-value.

Cs26 and 27 have two part steps: 1. Step number. 2. Gravity g.
26 xxxxx Gravity g at place of calibration in m/s^2. $6.5537 \leq g \leq 13.1071$, else 9.8190 is entered.
27 xxxxx Gravity g at end user in m/s^2. If Cs25 = Cs26, there is no correction.
Important! If the scale is adjusted at the place, where it is used, the gravity in both steps must be equal! This is normally not the case for a new scale.

Short instruction.

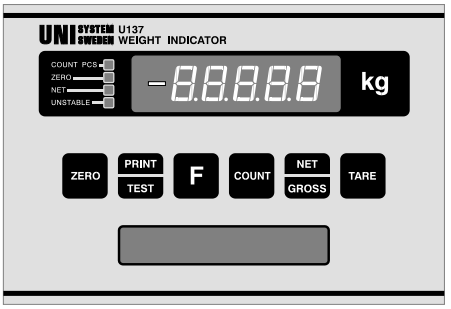
1 Switch S1 to calibration. The present AD-value (internal signal) is displayed.
2 Step back with {TARE} until step 27 is displayed. Step forward one step with {ZERO} and note the value used for g (gravity), which must be that for the place of use.
3 Step back until 26 is displayed and step forward one step. Read the value for g at the place where previous calibration was made. Change if necessary. If the calibration is made at the place, where the scale is used, enter the value in step 27.
Entering of values is made by {NET/GROSS} and {COUNT} according to Keyboard functions above.
4 Unload the load receptor. Step back until 23. This is the first (lowest) calibration point. Step forward one step. The value must be 00000. Step forward one step. The AD-value at previous calibration for no weight is displayed. Push {F}{ZERO} after each other. The present AD-value is displayed. When this is stable, step forward to 24. This stores the new AD-value.
5 Step forward one step, and the weight at previous calibration is displayed. Load the load receptor with this or any other suitable weight, e.g. max weight and enter this value. Step forward one step and get the AD-value. When OK step forward to 25.
6 The third calibration point may be used for linearization, which normally isn't necessary or extrapolation when max weight isn't available.
In the first case put max weight on the load receptor and proceed as above.
In the second case, step forward one step, where max weight must be. Step forward and push {F}{TARE}. The indicator calculates the AD-value, from the two previous points, and this is stored by one more step.
The third calibration point is omitted, when the AD-value is lower than in step 25.
7
The scale enters weighing mode by switching S1 off.

Note! Do not enter negative values for the weight. This may be done for other purposes.
Be careful and do not change any other calibration steps.

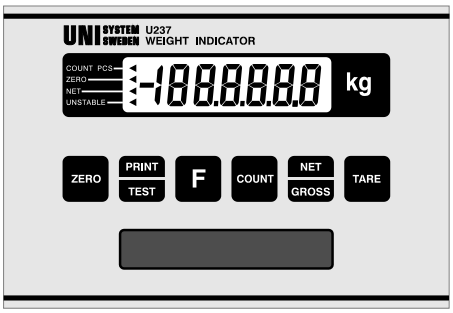
Load cell connector: 9p D–sub female. Standard Unisystem connections.

Pin 1 +Signal.
2 -Signal.
4 +Sense.
5 +Excitation.
6 Shield/case. The shield must be connected at both ends, at lest to the case.
8 -Sense.
9 -Excitation.

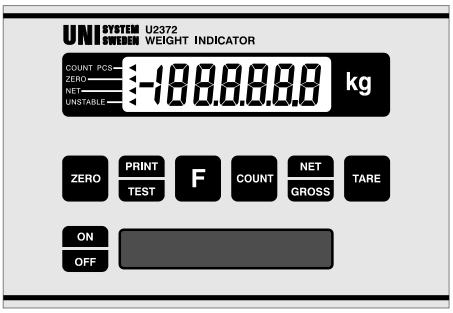
Pictures:



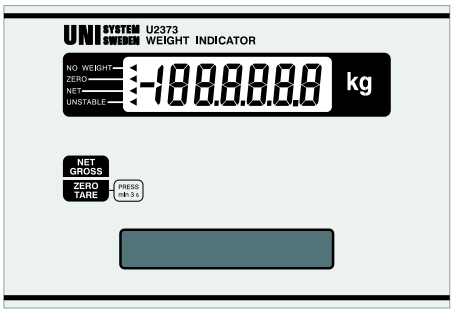
U1370



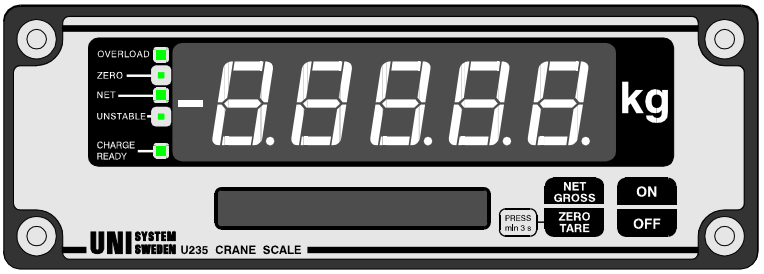
U2370 U2371
U2375 U2379 (Ex)



U2372



U2373



U235 for crane scales.