



In the following {x} represents a push on button x on the keyboard. Csx:N refer to calibration step x with chosen function N.

At start the following numbers are displayed:

Program number.

Display test. Switching between all segments on and off 5 times.

Program date written ymmdd. y is last digit of the year, mm month and dd day.

FUNCTION INDICATORS.

Far right decimal point indicates load receptor (input) 2.

MOTION

Indicates the stability of the weight. The last measurement is compared with the mean value, (or if it not exists, next last measurement), and for no motion, the difference must be less than the motion limit, selectable from 1/99 to 99 units (Cs25).

It can be chosen, that this condition must be true during 2 or more successive measurements (Cs18).

During motion no serial is sent out on command, but it can be chosen to be sent, when motion disappears (Cs19:+2). The last digit may be blanked during motion (Cs19:0).

Motion is very important for automatic weighing.

OVERLOAD

Indicates that the load exceeds full scale + 3 increments, or that the load is below calibrated value -0.8%.

ZERO

Indicates that the load is within $\pm 1/4$ of a unit from zero. 00000 is indicated within $\pm 1/2$ unit. The tare indicator must be off.

The indicator may be set to zero by {ZERO} or by zero tracking in the zero range. This may be chosen -0.8% to 3.1% or $\pm 0.8\%$ of full scale in Cs5. There are 3 zero tracking speeds, 16, 32 or 64 measurements to full meanvalue, which are selected in Cs10. The indicator tries to make a meanvalue. The last measurement must be within $\pm 1/2$ a unit of the mean value, otherwise a new attempt is started.

When a full meanvalue has been reached, zero is moved to this, if the shift is less than the value specified in Cs26 (1/99 to 99 units).

At power on, the last stored zero is used.

MINUS

Indicates that the displayed value is negative.

NET

Indicates net value. May be selected as indicator for 0 or 8L (Cs2:1, Cs3).

0L 8L or e1 indicates the status of setpoints 0L or 8L or the lowest increment in multiple range indicators, dependent on the calibration.

1L 9L or e2 indicates the status of setpoints 1L or 9L or the second lowest increment in multiple range indicators, dependent on the calibration.

Older indicators have **TARE**, which indicates that NET and GROSS values are different, and **GROSS**, which indicates gross value. The tare indication is switched off by {ZERO} in the zero range.

KEYBOARD.**{ZERO}**

Sets the indicator to zero when signal is between -0.8% and +0.8% or +3.1% of full scale (Cs5) from calibration zero.

When pressed, the distance from the calibration zero is displayed. In this way, the zero drift of the transducer may be checked.

{ZERO} and the zero tracking will not work, when Cs39, step 2 is not 00000. This is used for liquid level measurement with displacement body.

{PRINT/TEST}

Print command. After this the display is switched on and off for test.

Resets the display in peak value mode.

{F} {T}

Switches between load receptors (U1272 only).

{F} {1} {ENTER}

Selects load receptor 1. (The smaller platform. U1272 only.)

{F} {2} {ENTER}

Selects load receptor 2. (Far right decimal point on. U1272 only.)

{F} {NET/GROSS}

Switches between peak value and normal display, when this function is selected at calibration (Cs3:+4).

{n} {m} {F} {ENTER}

Print label nm (Cs11:3).

{F} {S}

Enter automatic adding program (Cs11:2).

{F} {9} {0} {ENTER}

Printing and reset in automatic adding program (Cs11:2).

{F} {9} {7} {ENTER}

Calibration sequence is entered. New values temporary stored until reset (Cs0:+8).

{F} {9} {8} {ENTER}

Enter programmable continuous serial output calibration (Cs6:2 or Cs13:2).

{F} {9} {9} {ENTER}

Enter programmable printer (label) serial output calibration (Cs11:3).

{F} {1} {0} {0} {ENTER}

Identification number of program, date (5 last digits displayed) and the decimal (displayed) and hex value of the checksum is displayed and printed out.

{F} {x} {x} {x} {ENTER}

xxx and corresponding register according to B00900 (programmable serial output) is sent out. xxx can be 176-178, 180-185, 189-195, 197-199, 202-204 or 206-218.

{F} {2} {4} {8} {ENTER}

Display of weight from Denver scale until any {}.

{F} {2} {4} {9} {ENTER}

For tests. Distance to calibration zero is displayed, and the indicator is set to zero with it (Cs0:+2).

{F} {2} {5} {0} {ENTER}

For tests. No mean value is made (Cs0:+2).

{F} {2} {5} {1} {ENTER}

For tests. Switches between weight and AD-value (Cs0:+2).

{F} {2} {5} {2} {ENTER}

For tests. Some registers may be displayed (Cs0:+2).

{F} {2} {5} {3} {ENTER}

Reset. Some registers are cleared including zero and tare.

{NET/GROSS}

Switches the display between the tared and the whole weight.

{TARE}

Is used when indicator is autotared or when the tare value is entered direct from the keyboard. The value is stored in the tare register 0T.

During motion indication autotare is not performed.

{T}

Is used to enter values in, and tare with tare registers 0T to 99T. Printing is performed. When pressed, the value in the register is displayed. If the register number has been chosen by default, this number is displayed for about 1 second.

{L}

Is used to enter values in the limit registers. 0L to 7L are compared with sum registers 0S to 7S. 8L to 15L are compared with displayed weight.

Switches between 5 least and 5 most significant digits in 0L to 7L.

To enter counting mode and calculate weight/unit. This is stored in 17L.

{S}

Is used to enter values and add weights in the sum registers 0S to 49S. Addition is performed with a full mean value. The corresponding sum number register 100S to 149S is incremented one unit for each addition. Printing is performed. If the register number has been chosen by default, this number is displayed for about 1 second.

100S to 149S are not chosen by default.

Register 59S is incrementing one unit in weighing mode for each {PRINT}.

In counting mode {S} adds displayed pieces to a special sum register.

Switches between 5 least and 5 most significant digits in sum.

{ENTER}

Is used to enter new values in the registers and to execute commands. Always print command. During the serial output - - - - is displayed.

{C}

For return to weighing mode, when an incorrect button has been pushed.

When entered before {R}, a full mean value of the weight is displayed after {S} or {T} for entering. During the mean value calculation, last digit is off.

{C} {n} {L}

Enters counting scale. n = number of pieces. If {n} is omitted, the last calculated unit weight in 17L is used. The unit weight may also be entered direct in 17L with 6 digits, in thousandth of the normally displayed weight of load receptor 1.

{R}

For reading and changing registers. {R} before {ENTER} switches sign in T, L and S registers, where this is relevant.

REGISTERS:

0L – 7L	10 digits.	Sign. Max value 2,147,483,647.
8L – 15L	5 digits.	Sign.
16L	6 digits.	Without sign and decimal point.
17L	6 digits.	Without sign. Unit weight. Load receptor 1 weight/1000.
18L	6 digits.	Without sign and decimal point.
19L	6 digits.	Without sign and decimal point.
20L	6 digits.	Without sign. 4 decimals.
21L	6 digits.	Without sign. 2 decimals.
22L	6 digits.	With sign. 2 decimals.
24L	6 digits.	Without sign and decimal point. After {ENTER}.
25L	6 digits.	Time. Format:hmmss. Only U1275/6. Works only with power on the indicator.
26L	6 digits.	Date. Format:yymmdd. Only U1275/6. Works only with power on the indicator.
0T – 99T	5 digits.	(Sign cannot be used for tare).
0S – 49S	10 digits.	Sign. Max value 2,147,483,647.
59S	5 digits.	Without sign and decimal point.
100S – 149S	5 digits.	Without sign and decimal point.

When two load receptors are used, the registers are not recalculated (except 17L). The user must thus remember, which registers he uses for each load receptor.

EXAMPLES:

TARE.

{TARE}

The indicator is tared with the present weight. Register 00T is used.

{x} {x} {x} {x} {x} {TARE}

The indicator is tared with xxxxx. Register 00T is used. Print command.

{y} {y} {T}

The indicator is tared with the value in register yyT. The tare value is displayed as long as {T} is pushed. Print command.

{T}

The indicator is tared with the value in the previous used default tare register. Register number is displayed for about one second. Print command.

{R} {y} {y} {T}

The value in the tare register yyT is displayed.

{R} {T} {ENTER}

The value in the last used tare register is printed out.

{R} {y} {y} {T} {x} {x} {x} {x} {ENTER}

The value xxxx is stored in the register yyT. Print command.

{C} {R} {y} {y} {T} {ENTER}

The value on the display is entered in the register yyT. Print command.

Tare register yyT can be chosen from 0T to 99T. 0T is also used for autotare.

Negative values may be stored in the tare registers, but they can not be used for tare.

SUM.**{y} {y} {S}**

The present weight is added to sum register yyS. One unit is added to sum number register 1yyS. The weight in the sum register is displayed as long as S is pushed. Print command.

{S}

The present weight is added to last used sum register. One unit is added to corresponding sum number register. Register number and value are shown according to the above. Print command.

{R} {y} {y} {S} {S}

The value in the sum register yyS is displayed. {S} switches between the 5 most and least significant digits.

{R} {S} {ENTER}

The value in the last used sum register is printed out.

{R} {y} {y} {S} {x} {x} {x} {x} {x} {S} {x} {x} {x} {x} {x} {ENTER}

The value xxxxxxxxxx is stored in the sum register yyS. Print command.

{R} {y} {y} {S} {x} {x} {x} {x} {R} {ENTER}

The value -xxxx00000 is stored in the sum register yyS. Print command.

{R} {y} {y} {S} {0} {ENTER}

Sum register yyS and sum number register 1yyS are set to zero. Print command.

Register yyS can be chosen from 0S to 49S. Last used register by default.

Sum number registers are 1yyS i.e. 100S to 149S.

Register 59S stores the number of performed printings by {PRINT}.

LIMIT (Setpoint).**{R} {y} {y} {L} {x} {x} {x} {x} {ENTER}**

The value 0xxxx is stored in the limit register yyL (5 digit). Print command.

{R} {y} {L} {x} {x} {x} {x} {x} {L} {x} {x} {x} {x} {x} {R} {ENTER}

The value -xxxxxxx is stored in the limit register yL (10 digit). Print command.

Limit registers 0L to 7L are compared with respective sum registers (0S to 7S) and are 10 digit.

8L to 15L are compared with weight and are 5 digit. If Cs3:+8, the weight is the mean value (display).

Else a weight is calculated from the last measured weight and the weight change during the 80 ms period. The comparison is then made each 3.33 ms or 300 times per second. If Cs30:+1 is chosen, the four last preceding measurements are used for the weight change calculation. They have a decreasing influence: 12/32, 10/32, 7/32 and 3/32. This gives a more stable value of the weight change. With this feature, a high speed, accurate dosage may be performed.

Other limit registers are special registers.

COUNTING SCALE.**{C} {z} {L}**

In normal weighing mode. Tare the indicator and put on z pieces on the load receptor. Push the sequence. A full meanvalue is calculated. First the weight/unit is displayed a short period and then the number of pieces on the load receptor.

The weight/unit is printed out and stored in 17L with six digits. When {z} = 0 or omitted, the previously stored weight/unit in 17L is used. During {L} in counting mode, the net weight is displayed.

{z} {L}

In counting mode. Calculates new weight/unit.

{ENTER}

The number of units is printed out.

{x} {x} {x} {x} {x} {x} {ENTER}

Number xxxxxx and the number of units are printed out. Note that the most significant digit is not displayed.

{S}

In counting mode the number of pieces is added to a sum register. - - - - is displayed for about one second. The number of units, sum and the number of additions are printed out.

{R}

As long as pushed, the sum in 10 digits is displayed switching, first the 5 most significant digits (upper indicators on) and then the 5 least significant (lower indicators on). There is also a print command.
The sum and the number of additions are printed.

{0} {S}

This sets the sum and sum number register to zero.
{TARE}, {x} {x} {x} {x} {x} {TARE} and {NET/GROSS} can be used in counting mode.

The weight/unit can be entered with 6 digits in register 17L in 1/1000 steps, e.g. if the scale is calibrated in kg, the weight/unit is in g.

{C}

Leave counting mode.

When 2 load receptors are used, the unit weight is transferred from 1 to 2.
Load receptor 1 is the smaller one. 2 is indicated by far right decimal point on.

{F} {T}

Switches between load receptors.

{F} {1} {ENTER}

Selects load receptor 1. (Smaller load receptor.)

{F} {2} {ENTER}

Selects load receptor 2. (Far right decimal point on.)

A high resolution Denver scale may be connected via the serial interface (Cs7:+8, Cs31:+1). When the selected load receptor is unloaded, the reference number may be put on the Denver scale, and the unit weight may be received according to above.

PEAK VALUE INDICATION.

It is chosen by Cs3:+4.
Peak value display mode is indicated by blinking overload.
During normal display, peak value is also stored.

{F} {NET/GROSS}

Switches between peak value and normal display.

{PRINT/TEST}

Resets and prints.

FURTHER FUNCTIONS AND REMARKS.

{x} {x} {x} {x} {x} {x} {ENTER}

For 6 digit printout with or without weight, dependent on what has been chosen in Cs1.
If the label program (Cs11:3) has been chosen, no printing is performed.

{R} {2} {2} {2} {T}

Print all non zero tare registers.

{R} {2} {2} {2} {L}

Print all non zero limit registers.

{R} {2} {2} {2} {S} {ENTER}

Print all non zero sum registers.

{R} {2} {2} {2} {S} {ZERO} {ENTER}

Print all non zero sum register and reset to zero.

{ZERO} & {TEST/PRINT}

When pressing both simultaneously at power on, all registers are set to zero, when battery backup is used.

Any forbidden button push results in returning to weighing mode. For deliberate return we recommend {C}.

Digits are shifted in from the right. The first digit entered sets the remaining digits to zero. The whole number must be entered.

In the key board mode, all mode indicators except sign are on.

Minus sign is entered by {R} according to the above.

By default at {T}, {L} and {S}, previous used register numbers are chosen.
This is however not valid for the sum number registers 59S, 100S to 149S, tare register 00T when chosen with {TARE} and L registers $\geq 16L$.

MEAN VALUE.

The indicator tries to make a mean value of the measurements. Up to 2, 4, 8, 16, 32 or 64 measurements can be used (Cs20).

The mean value is made, if the latest measurement does not deviate more from the mean value than the limit, selectable between 1/99 and 99 units in Cs24.

If the latest measurement deviates more than the mean value limit, it is replaced by the mean value if Cs1:0. When two successive measurements deviates more than the limit, the indicator tries to make a new mean value.

The mean value gives a more stable display and a virtual higher resolution, corresponding to 17 bits.

CHECK OF MEASUREMENT DATA ACCORDING TO OIML R 76-1.

All relevant data are checked each measuring cycle by calculating the checksums for the EPROM and the EEPROM and comparing with the stored values.

The RAM is tested by reading zero and one in 32 bytes each measuring cycle. A complete test of the 2048 bytes RAM thus takes 64 measurement cycles or 5 seconds.

If a fault should be detected (very low probability), the indicator stops measuring, and as long as the fault lasts, the display switches between:

- EPROM The calculated checksum and - - 0 - -.
- EEPROM The calculated checksum and - - 1 - -.
- RAM The fault address and - - 2 - -.