DESIS ®
PROFESSIONAL WEIGHING CENTRUM

CWS Series
Weighing Platform Scales

ETS Elektronik Tartı Sistemleri

Contents

1   INTRODUCTION

The BWS series of weighing indicator provides an accurate, fast and versatile series

of general purpose weighing scale with check-weighing functions.

All the displays are large easy to read liquid crystal type displays (LCD). The LCD's are supplied with a LED backlight.

All units include automatic zero tracking, audible alarm for pre-set weights, and an accumulation facility that allows the individual weights to be stored and recalled as an accumulated total.

2 SPECIFICATIONS

Model	CWS
Resolution	3000e ; DUAL RANGE
Interface	RS-232 Output Optional
Stabilisation Time	1 Seconds typical
Operating Temperature	-10°C - 40°C / 22°F - 104°F
Power supply	External AC adapter, 9V 800mA
Calibration	Automatic External
Display	$5^1/_2$ digits LCD display with 52mm high digits, attached LED backlight
Balance Housing	Stainless Steel Indicator
Load cell drive voltage	Max 5V/150mA
Load cells	Up to four 350 ohms cells

3 INSTALLATION

3.1 GENERAL INSTALLATION

The scales should be sited in a location that will not degrade the accuracy.

Avoid extremes of temperature. Do not place in direct sunlight or near air conditioning vents.

Avoid unsuitable tables. The tables or floor must be rigid and not vibrate. Do not place near vibrating machinery.

Avoid unstable power sources. Do not use near large users of electricity such as welding equipment or large motors.

Avoid high humidity that might cause condensation. Avoid direct contact with water. Do not spray or immerse the scales in water.

Keep the indicator clean.

4 KEY DESCRIPTIONS

ON/ OFF or ⏻
Turn on or off the power.

Zero
Set the zero point for all subsequent weighing. The display shows zero.
A secondary functionof "Enter" key when setting parameters or other functions.

Tare
Tares the scale. Stores the current weight in memory as a tare value, subtracts the tare value from the weight and shows the results.
A secondary function incrementing the active digit when setting a value for parameters or other functions.

Press **Zero** and **Tare** key together in normal weighing mode will turn on/off animal scale function.(when enter/escape animal scale mode, you will hear beeper on twice)

MR
Memory recall key, show total accumulate weight in memory.
In setting mode, this key used to move active digits right.

M+
Accumulate key, store current weight in memory.
In setting mode, this key used to move active digits left.

Press **M+** and **MR** key for MC (memory clear)

Print
To print the results to a PC or printer using the optional RS-232 interface.
Press Print during selfchecking will enter setting mode.
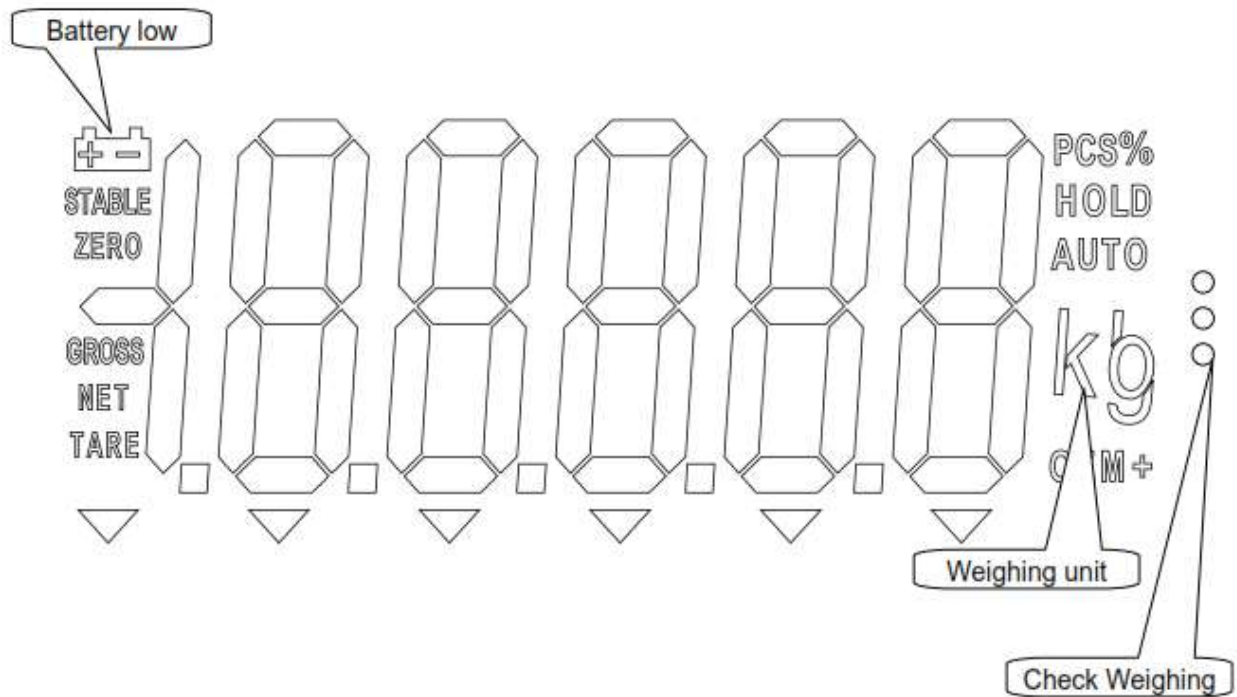
G/N
Gross weight/net weight shift key
Secondary function (ESC) , is to return to normal operation when the scale is in a parameter setting mode.

Press **G/N** and **Print** key together for setting check Weighing limit.

5 DISPLAYS

The LCD display will show a value and a unit to the right of the digits.
In addition there are labels for TARE, GROSS weight, Zero and for Low battery

6 OPERATION

6.1 Zeroing The Display

You can press the **ZERO** key at any time to set the zero point from which all other weighing and counting is measured, within +/-2% of power up zero. This will usually only be necessary when the platform is empty. When the zero point is obtained the display will show the indicator for zero.

The scale has an automatic rezeroing function to account for minor drifting or accumulation of material on the platform. However you may need to press the **ZERO** key to rezero the scale if small amounts of weight are shown when the platform is empty.

6.2 Taring

Zero the scale by pressing the **ZERO** key if necessary. The zero indicator will be on.

Place a container on the platform, a value for its weight will be displayed.

Press the **TARE** key to tare the scale. The weight that was displayed is stored as the tare value and that value is subtracted from the display, leaving zero on the display. The "NET" indicator will be on. As product is added only the weight of the product will be shown. The scale could be tared a second time if another type of product was to be added to the first one. Again only the weight that is added after taring will be displayed.

When the container is removed a negative value will be shown. If the scale was tared just before removing the container this value is the gross weight of the container plus all product that was removed. The zero indicator will also be on because the platform is back to the same condition it was when the **ZERO** key was last pressed.

6.3 Weighing a sample

To determine the weight of a sample first tare the empty container then place the sample in the container. the display will show the weight and the units of weight currently in use.

6.4 Check-Weighing

6.4.1 About check-weighing

Check-weighing is a procedure to cause an alarm to sound when the weight on the scale meets or exceeds values stored in memory. The memory holds values for a high limit and a low limit.

Check mode OK:
When check range, the display will show OK and the beeper will sound when the weight is between the limits.
Check mode NG:
When check range, the display will show OK and the beeper will sound when the weight is out of the limits.

6.4.2 Set limits

Press **G/N** and **PRINT** key together, it will display "**set h**", use **TARE** key to select "**SET H**" or "**SET L**", press **ZERO** key to enter, use **M+** and **MR** key to move active digit, use **TARE** key to change value, use **Print** key to clear value. After you enter the value, press **ZERO** key to sure, press **G/N** key to escape.

6.4.3 Set check weighing mode

Press G/N and print key together, it will display "**set h**", use **TARE** key to select beep, press **ZERO** key to enter, press **TARE** key to select ok(check mode OK), ng (check mode NG), no(no beep), press **ZERO** key to sure, press **G/N** key to escape.

NOTE
Checkweighing function only available when weight more than 20d (min).

To disable the Check-Weighing function enter zero into both limits by pressing the **PRINT** key when the current limits are shown then pressing **ZERO** to store the zero values.

6.5 Accumulated Total

The scale can be set to accumulate manually by pressing the **M+** key. See the PARAMETERS Section for details of selecting the method using function "**P2 com**".

Please note before every accumulate operate, scale need return to zero, and only press **M+** key when stable, when weight less than 20d, accumulate operate will be invalid.

6.5.1 Accumulate operate

The weight displayed will be stored in memory when the **M+** key is pressed and the weight is stable.

The display will show "**ACC 1**" and then the total in memory for 2 seconds before returning to normal. (after do accumulate operate, "M+" indicator will turn on) If the optional RS-232 interface is installed the weight will be output to a printer or PC.

Remove the weight, allowing the scale to return to zero and put a second weight on. Press the **M+** key, the display will show "**ACC 2**" and then the new total.

Continue until all weights have been added.

6.5.2 Memory recall

To view the totals in memory press **MR** key.

6.5.3 Memory clear

To clear the memory, just press **M+** and **MR** together

6.5.4 Automatically accumulate

Press Print key during selfchecking, enter setting mode, press Tare key until display show "**P2 COM**", press **ZERO** key to enter, press **TARE** key to select "**mode**", press **ZERO** key to sure, display will show current RS-232 mode, press TARE key to select Auto. After you set, AUTO indicator on.

Press weight on platform, after stable, you will hear beep on twice, you can add or remote weight now, scale will beep on again after stable, at last, remove all weight on platform, the last weight value will store in memory

6.6 Animal Scales

Let the animal on the platform, after some second, if reading data change not a lot, you can hear beep sound and reading data will be locked.

In reading data lock mode, if you add/remove big weight, display will still update and lock new reading data.

You can press **ZERO TARE** together to enter/escape animal weighing mode.

6.7 Keyboard lock

You can use keyboard lock when this function enable after keyboard haven't use for 10 minutes, keyboard will be lock, after enter lock status, if you press any key, display will show "**K-LCK**".

If you want to escape lock mode and return work mode, hold **PRINT** , **MR** , **ZERO** key 2 seconds, display will show "**ULCK**", return normal mode.

6.8 Set backlight

Hold **ZERO** key 3 second, display will show "setbl", press **ZERO** key to enter backlight setting, press **TARE** key to change backlight mode (BL ON: always on, BL AU: auto backlight, backlight will on when press any key or add load on scale, BLOFF: backlight always off), press **ZERO** key to sure, press **G/N** key to escape.

6.9 Set auto power off

Hold **ZERO** key 3 second, display will show "setbl ", press **TARE** key, display show "setoff", press **ZERO** key to enter auto power off setting, press **TARE** key to change auto power off time (of ON: always on, of 5: auto power off after standby 5 minutes, of 15: auto power off after standby 15 minutes), press **ZERO** key to sure, press **G/N** key to escape.

7   BATTERY OPERATION

The weighing indicator can be operated from the battery if desired. The battery life is approximately 70 hours.

When the battery needs charging a symbol on the weight display will turn on. The battery should be charged when the symbol is on. The scale will still operate for about 10 hours after which it will automatically switch off to protect the battery.

To charge the battery simply plug into the mains power. The scale does not need to be turned on.

The battery should be charged for 12 hours for full capacity.

Just under the quantity display is an LED to indicate the status of battery charging. When the scale is plugged into the mains power the internal battery will be charged. If the LED is green the battery has a full charge.   If it is Red the battery is nearly discharged and yellow indicates the battery is being charged.

As the battery is used it may fail to hold a full charge. If the battery life becomes unacceptable then contact your distributor.

8 RS-232 OUTPUT

The CWS Series of scales can be ordered with an optional RS-232 output.

Basic information
Specifications:

> RS-232 output of weighing data
> ASCII code
> 7/8 data bits
> Parity setable
> Baud rate from 600bps to 9600bps

Connector: 25 pin d-subminiature socket
  Pin 2:   Input,
  Pin 3:   Output
  Pin 5:   Signal Ground

Normal print out
Data Format for normal weighing operations, parts counting or recalling of totals from memory will all be different.   Examples follow:

Normal Output

S/N	The number increments every time a new value is stored in memory
GW	GW for gross weight, NT for net weight and a unit of weight
<lf>	
<lf>	Includes 2 line feeds

When recalling the Total weight stored in the accumulation memory the output format is:

***************		A line of stars is shown
<lf>		Includes 1 line feed
Total No:	3	Times of the accumulation memory
Total wt.:	0.447KG	Weight of the accumulation memory
***************		

Continuously output protocol
con1: weighing mode

					-/							k	g	CR	LF
-HEADER1--			-HEADER2-			--- WEIGHT DATA --						-WEIGHT UNIT		TERMINATOR	

HEADER1: ST=STABLE   US=UNSTABLE
HEADER2: NT=NET   GS=GROSS

9 PARAMETERS

To set parameter, turn on the scale.

- Press [PRINT] key during the self checking.

- Display will be show Pn

- Press [M+], [G/N] and [TARE] to enter, display will be show "**P0CHK**".

Menu	Sub Menu		Description
P 0 CHK	SEt H		Set high limits for check weighing
	SEt Lo		Set low limits for check weighing
	bEEP	no	No beep for check weighing
		ot	Beep, when check weighing between the limits
		nG	Beep, when check weighing out of the limits
P 1 rEF	A 2n 0		Automatic zero tracking Options: $0.5d$, $1d$, $2d$, $4d$
	0AUto		Zero setting range, after switching on the scale to zero. Options: 0 , 2 , 5 , 10 , 20 , 50 , 100
	0rAnGE		Manually zero setting range. Options: 0 , 2 , 5 , 10 , 20 , 50 , 100
	0tArE		Auto zero tracking for NET mode. (After pressing tare, NET weight will be zero) Option: on / oFF
	SPEEd		Set the ADC speed Option: 7.5 / 15 / 30 / 60
	2Ero		Set new zero point,
P 2 Con	nodE		**This option is used to set accumulation and RS-232 communication** Options: $Cont$: data send continues $St\ 1$: Send data one time, when stable. $St\ C$: Send data continuously, when stable $P\ r1$: Send data one time, when press print Key (in printer mode) $Pr\ 2$: Send data to print and accumulation,

		When press ![M+] key **AUto** : Auto accumulate and auto print mode. When weight stable and return to zero. **ASt** : Ask mode, Command R: read data Command T: Tare Command Z: Zero **ūirELES**: Wireless mode (communication through wireless) **Fit 1** :	
	bAUd	To set the baud rate. Options: **600 / 1200 / 2400 / 4800 / 9600**	
	Pr	To set the parity Options: **7 E1 / 7o1 / 8n1**	
	PtYPE	To set printer model Options: **tPU P** : set the Tscale printer tpup **LP50** : Set the Tscale printer LP-50	
	L Ab	To set the print format for gross weight / accumulation options Options: **LAb 0 / LAb 1 / LAb 2 / LAb 3**	
	Prt	To set the print format for date / time options. Options: **Prt 0 / Prt 1 / Prt 2 / Prt 3 /** **Prt 4 / Prt 5 / Prt 6 / Prt 7**	
	L AnG	To set language. Options: **EnG** for English **CHn** for Chinese	
P4 otH	**LoCt**	To set keypad lock Options: **on / oFF**	
	Anī	To set animal mode. Options: **on / oFF**	
P5 Unit	**FG /Lb Lb-o2 / tJ / HJ**	To set unit. Options; on / Off . when the unit option is on, that unit can be active. Tj and Hj can't use at the same time.	
P 6 ECL		External calibration	
P7 rSt		To reset the parameter back to the factory settings	
P8 Uī b	**U ū b**	**on**	Set the Bluetooth function on or off, When the Bluetooth function set as on, RS-232 could not be use.
		oFF	

10 ERROR CODES

ERROR CODES	DESCRIPTION	RESOLUTION
- - - - -	Over range	Remove weight from the scale. If the problem persist contact your dealer.
Err 4	Zero Setting Error	The scale was outside the normal zero setting range either when it was turned on or when the ZERO key was pressed. Remove weight from the scale and try again. Use the TARE key to set the display to zero value. If the problem persist contact your dealer.
Err 6	A/D out of range	The values from the A/D converter are outside the normal range. Remove weight from the scale if overloaded, make sure the pan is attached. Indicates the load cell or the electronics may be faulty. If the problem persist contact your dealer.

DESIS®

PROFESSIONAL WEIGHING CENTRUM

CE

Brand: DESIS

Model: CWS

Type: Weighing Platform Scale

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