KW series

Weighing Indicator

User's guide

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SECTION 1 INTRODUCTION

The KW series of bench scale provides an accurate, fast and versatile series of general purpose weighing with counting and check-weighing functions.

There are 3 series s within the range, the platform size from 350mm x 450mm to 600mm x 800mm, the capacity range from 30kg to 1000kg

All the keypads are sealed, color coded membrane switches and the displays are large easy to read liquid crystal type displays (LCD). The LCD's are supplied with a 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.

SECTION 2 SPECIFICATIONS

Model	SKW	MKW	LKW
Platform size	350mm x 450mm	420mm x 520mm	600mm x 800mm
Capacity	30kg/60kg/150kg	60kg/150kg/300kg	300kg/600kg/1000kg
Resolution	1:15,000		
Interface	RS-232 Output Optional		
Stabilisation Time	1 Seconds typical		
Operating Temperature	0°C - 40°C / 32°F - 104°F		
Power supply	External AC adapter, 9V 800mA		
Calibration	Automatic External		
Display	6 digits LCD display with 24mm high digits, attached LED backlight		
Balance Housing	Indicator ABS Plastic		
Load cell drive voltage	Max 5V/150mA		
Load cells	Up to four 350 ohms cells		

SECTION 3 INSTALLATION

GENERAL INSTALLATION

The s 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 s in water.

Avoid air movement such as from fans or opening doors. Do not place near open windows.

Keep the s clean.

Do not stack material on the s when they are not in use.

INSTALLATION OF KW SERIES

The pillar is attached to the base using a bracket that must first be attached to the base frame using the 4 bolts supplied.   The Pillar is secured to the bracket using 2 set screws.   The cable from the base to the indicator module is run through the tube, out through the plastic support at the top.   Excess cable can be stored within the tube.

The KW Series comes with a stainless steel platform packed separately. Place the platform in the base.

Level the scale by adjusting the four feet. The scale should be adjusted such that the bubble in the spirit level is in the center of the level and the scale is supported by all four feet. If the scale rocks readjust the feet.

Attach the indicator module to the pillar by sliding it over the bracket with the flanges engaged in the groves on the base.   Attach the cable from the base to the connector on the rear of the indicator.

Attach the AC power adapter to the connector on the back of the indicator.

Load cell connect as below(5pin air connecter)

EXC+

SEN+

SIG+   LOAD CELL   SIG-

SEN-

EXC-

SHIELD

5
5
3
2
4
4
1
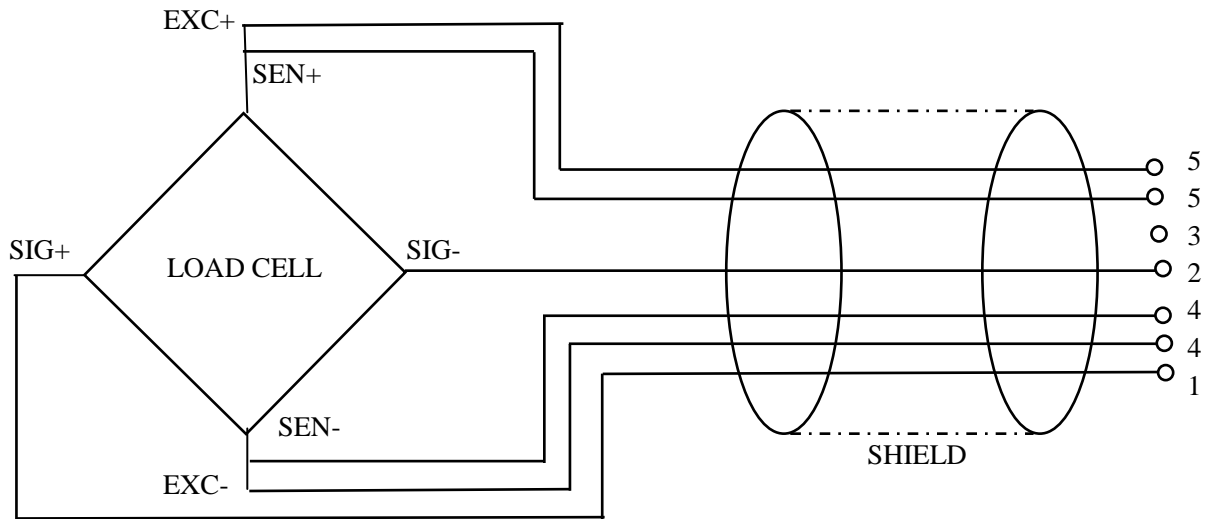
SECTION 4 KEY DESCRIPTIONS

Zero or ⭕

Set the zero point for all subsequent weighing. The display shows zero.

A secondary function ⬅, of "Enter" key when setting parameters or other functions.

Tare or ◈

Tares the . Stores the current weight in memory as a tare value, subtracts the tare value from the weight and shows the results. This is the net weight. Entering a value using the keypad will store that value as the tare value.
A secondary function ⬆, of incrementing the active digit when setting a value for parameters or other functions.

Smpl or ⛀

Enter counting mode from weighing mode. Shift unit weight, counts and total weight when counting mode. Move the active digit right when setting values for other functions.

UNIT or U

Press this key to select the weight unit. Move the active digit left when setting values for other functions.

Func or **F**

Used to select the function of the scale.   If the scale is weighing it will select parts counting.   Of it is not in weighing mode it will return the user to weighing.
Secondary function (C) , is to act as a clear key when setting values for parameters or other functions.

Print/M+ or ⊙

To print the results to a PC or printer using the optional RS-232 interface.   It also adds the value to the accumulation memory if the accumulation function is not automatic.
Secondary function (ESC) , is to return to normal operation when the is in a parameter setting mode.

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

SECTION 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

Battery low

Percentage weighing

stable

Parts counting

GROSS
NET
ZERO
TARE
AUTO

HI
OK
LO

Σ ◊ %
g / pcs
台港斤
t HOLD
kg lb OZ

Check weighing

Weighing unit

SECTION 6 OPERATION

6.1 Zero

You can press the **ZERO** key at any time to set the zero point from which all other weighing and counting is measured, within 4% 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.
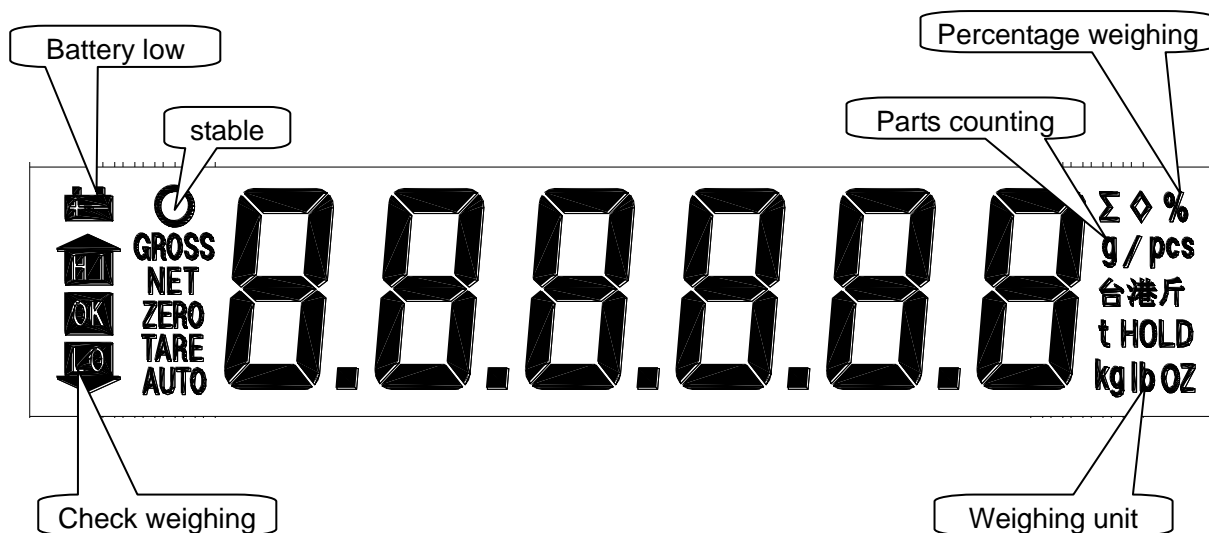
The scale has an automatic rezeroing function to account for minor drifting or accumulation of material on the platform. However you may need to press the **ZERO** key to rezero the scale if small amounts of weight are shown when the platform is empty.

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 "TARE" 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 Parts Counting

When the scale is showing weight, pressing the **SMPL** key will start the parts counting function.

Before beginning, tare the weight of any container that will be used, leaving the empty container on the scale. Place the number of samples on the . The number

should match the options for parts counting, 10, 20, 50, 100 or 200 pieces.

Press the **SMPL** key to begin. The scale will show "$P\ \ I0$" asking for a sample size of 10 parts. Change the sample size by pressing the **TARE** key. the display will cycle through the options: 10,20, 50, 100, 200 and back to 10.

Press the **SMPL** key when the number matches the number of parts used for the sample. As more weight is added the display will show the number of parts (pcs).

Press the **FUNC** key to return to normal weighing.

6.5 Check-Weighing

6.5.1 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 1:
No beep sound in the limits.
Check mode 2:
When the weight is between the limits, the display will show OK and the beeper will sound
Check mode 3:
When the weight is out of the limits, the display will show OK and the beeper will sound

6.5.2 Set limits

Press **Func** key, display will be shown "$F0\ \ H\text{-}L$", press **ZERO** key to enter, use **TARE** key to select "$SEt\ \ H\ i$" or "$SEt\ \ Lo$", press **ZERO** key to enter, use **SMPL** key to move active digit, use **TARE** key to change value, use **FUNC** key to clear value. After you enter the value, press **ZERO** key to sure, press **Print** key to escape.

6.5.3 Set check weighing mode

Press F key to enter setting mode, press **TARE** until display show "$F4\ \ oFF$", press **ZERO** key to enter, press **TARE** key until display show "$bEEP$", press **ZERO** key to enter, press **TARE** key to select $bP\ \ 2$(check mode 2), $bP3$ (check mode 3), $bP\ I$(no beep), press **ZERO** key to sure, press **Print** key to escape.

6.5.4 NOTE

The weight must be greater than 20 divisions for the check-weighing to operate.
To disable the Check-Weighing function enter zero into both limits by pressing the FUNC key when the current limits are shown then pressing ZERO/ENTER to store

the zero values.

6.6 Accumulated Total

6.6.1 Note

The can be set to accumulate manually by pressing the PRINT key. See the PARAMETERS Section for details of selecting the method using function "F5 P rt". The accumulation function is only available when weighing. It is disabled during parts counting.

Ensure, before every accumulate operation, scale needs return to zero, and only press Print key when display stable. When weight less than 20d, accumulate operate will be invalid.

6.6.2 Accumulate operate

The weight displayed will be stored in memory when the PRINT 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, Σ 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 PRINT key, the display will show "ACC 2" and then the new total.

Continue until all weights have been added.

*Note: after you change weighing unit, accumulate value will be clear.

6.6.3 Memory recall
To view the totals in memory, press Print key in zero point (ZERO indicator on).

6.6.4 Memory clear
To clear the memory, just press Func key

6.6.5 Automatically accumulate

At first, you need set scale to auto accumulate mode, press Func key, it will display "F0 H-L", press TARE key until display show "F5 Prt", press ZERO key to enter, press TARE key to select "P AUto", press ZERO key to sure, then you need set baud rate and print format, printer type, see detail in SECTION 7
After you set, AUTO indicator will be 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

6.7 Animal scale

KW can use vibrate loads for weighing. This function can use for weigh animals.
- Bring the load on to the platform.
- When the load few seconds get stable, the reading will be locked for few seconds and will be follow beep.
- It can add or remove loads, also update the weighing locked values.

For this function set parameter $P4\ CHH$ to $\bar{n}odE2$, for settings see details in SECTION12.

6.8 Subtraction

This is used for hopper, you need set auto zero range to 0 (see detail in SECTION 7) and set scale mode to mode3/mode4 (see detail in SECTION12)

Turn on power, scale will show "$E_{rr}4$", then show current total weight on platform, press TARE key, display show 0.00, then remove goods in hopper, display will show it's weight in "-" mode, press Print key, scale will print out weighing ticket, mode3/mode4 only different is print format.

SECTION 7 PARAMETERS

The scale has 6 parameters that can be set by the user plus a method of entering the calibration section.

To set parameters, press the **FUNC** key.

The display will show the first function, "*F0 H-L*".
By pressing the **TARE** key will cycle through the other functions.
By pressing **ZERO** will allow you to set the function.
It may be necessary to either use **TARE** or set a value using the **SMPL** key to move the active digit and then using the **TARE** key to increment a digit, followed by the **ZERO** key to enter the value.
Use the **PRINT** key to leave a parameter unchanged.

For example when the display shows "*F0 H-L*" press the **ZERO** key to begin.

The display will show "*SEt Lo*", press the **ZERO** key to set the low limit, or press the **TARE** to skip to the next parameter, "*SEt Hi*" for setting the high limit.

After pressing the **ZERO** key to set a limit, use the **SMPL** keys to change the flashing digit, then use the **TARE** key to increment the flashing digit. Continue to the next digit and set it as needed.

When all digits have been set press the **ZERO** key to store the value. The display will go back to the parameter just set, i.e. "*SEt Lo*". Advance to another parameter if needed or press the **PRINT** key to return to weighing.

FUNCTION MENU SETTINGS

Menu	Sub-Menu	Description
F0 H-L Weighing with set limits	SEt Lo	Lower limit value
	SEt Hi	Upper limit value.
F1 toL	to CLr	Clear the accumulation memory with out printout
	to P-C	Print the total accumulation memory and clear the total memory
	to Prt	Print the total accumulation and keep all the memory.
F2 Unt	HG	Weighing units
	Lb	
	o2	

F3 t ı	SEt dA	Set date	
	SEt t ı	Set time	
F4 oFF	bL	EL on	Display of back light on
		EL AU	Display of back light on automatically
		EL oFF	Display of back light off
	bEEP	bP 1	Beep sound off during the check weighing
		bP 2	Beeper will be sounded with in the check weighing limits
		bP 3	Beeper will be sounded above the check weighing limits
P 5 Prt	**RS 232 mode**		
	P Prt	By pressing Print key , weighing value will be added to the memory and print the print out	
	P Cont	Send data continuous	
	SE ırE	Also send data continuous	
	ASt	Bi- direction , through PC Commands R= Send, T= Tare, Z= Zero	
	P Cnt 2	No documented	
	P StAb	Send data of stable weighing values	
	P AUto	Automatic accumulation. Individual weighing values are automatically added	
	Set BAUD rate After setting the RS 232 mode, display will be shown current baud rate b**XXX**. Avail able baud rate: b600,b 1200,b2400, b4800 and b9600 If necessary change the baud rate by pressing Tare and enter by pressing Zero		
	Set print out format If enter settings P Prt, P AUto, P Cont and connected optional printer		
	Pr **X**	M+ format- Date/Time	Only for P Prt, P AUto format
	LAb **X**	M+ format –Gross/Accumulation	
	Cont 1	Only for P Cont only	
	Cont 2	N.A	
	Cont 3		
	Set printer type		
	tY-tP	Ticket printer	
	tY 711	Label printer	
	LP 50	Label printer	
ProG	P ın	Enter the programming and calibration menus by using password	

Print out format form 1 (for TpuP printer)

Lab \ prt	0	1	2	3
0	GS: 0.888kg	NT: 0.666kg TW: 0.222kg GW: 0.888kg	GS: 0.222kg TOTAL: 0.222kg	NT: 0.222kg TW: 0.666kg GW: 0.888kg TOTAL: 0.222kg
1	DATE: 04/06/06 GS: 0.888kg	DATE: 04/06/06 NT: 0.666kg TW: 0.222Kg GW: 0.888kg	DATE: 04/06/06 GS: 0.222kg TOTAL: 0.444kg	DATE: 04/06/06 NT: 0.222kg TW: 0.666kg GW: 0.888kg TOTAL: 0.444kg
2	TIME: 11/11/11 GS: 0.888kg	TIME: 11/11/11 NT: 0.666kg TW: 0.222kg GW: 0.888kg	TIME: 11/11/11 GS: 0.222kg TOTAL: 0.666kg	TIME: 11/11/11 NT: 0.222kg TW: 0.666kg GW: 0.888kg TOTAL: 0.666kg
3	DATE: 04/06/06 TIME: 11/11/11 GS: 0.888kg	DATE: 04/06/06 TIME: 11/11/11 NT: 0.666kg TW: 0.222kg GW: 0.888kg	DATE: 04/06/06 TIME: 11/11/11 GS: 0.222kg TOTAL: 0.888kg	DATE：04/06/06 TIME: 11/11/11 NT: 0.222kg TW: 0.666kg GW: 0.888kg TOTAL: 0.888kg
4	NO.: 4 GS: 0.888kg	NO. : 4 NT : 0.666kg TW: 0.222kg GW: 0.888kg	NO.: 4 GS: 0.222kg TOTAL: 1.000kg	No.: 4 NT: 0.222kg TW: 0.666kg GW: 0.888kg TOTAL: 1.000kg
5	DATE: 04/06/06 NO.: 5 GS: 0.888kg	DATE: 04/06/06 NO.: 5 NT: 0.666kg TW: 0.222kg GW: 0.888kg	DATE: 04/06/06 NO.: 5 GS: 0.222kg TOTAL: 1.222kg	DATE: 04/06/06 No.: 5 NT: 0.222kg TW: 0.666kg GW: 0.888kg TOTAL: 1.222kg
6	TIME: 11/11/11 NO.: 6 GS: 0.888kg	TIME: 11/11/11 NO.: 6 NT: 0.666kg TW: 0.222kg GW: 0.888kg	TIME: 11/11/11 NO.: 6 GS: 0.222kg TOTAL: 1.444kg	TIME: 11/11/11 No.: 6 NT: 0.222kg TW: 0.666kg GW: 0.888kg TOTAL: 1.444kg
7	DATE: 04/06/06 TIME: 11/11/11 NO.: 7 GS: 0.888kg	DATE: 04/06/06 TIME: 11/11/11 NO.: 7 NT: 0.666kg TW: 0.222kg GW: 0.888kg	DATE: 04/06/06 TIME: 11/11/11 NO.: 7 GS: 0.222kg TOTAL: 1.666kg	DATE: 04/06/06 TIME: 11/11/11 No.: 7 NT: 0.222kg TW:: 0.666kg GW: 0.888kg TOTAL: 1.666kg

Print out format form 2 (for LP-50/A711 label printer, only "PRT" parameter available)

0	2000/00/00 00:00 S/N 1 GW 0.888kg	4	2000/00/00 00:00 S/N 4 GW 0.888kg
1	DATE: 2000/00/00 TIME: 00:00 GW: 0.888kg	5	DATE: 2000/00/00 TIME: 00:00 GW: 0.888kg
2	DATE: TIME: 00:00 S./NO.: 2 GROSS WT: 0.888kg	6	DATE: TIME: 00:00 S./NO.: 6 GROSS WT: 0.888kg
3	2000/00/00 00:00 S/N 0003 GW 0.888kg	7	2000/00/00 00:00 S/N 7 GW 0.888kg

SECTION 8 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 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.

SECTION 9 RS-232 OUTPUT

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

9. 1 basic information
Specifications:

        RS-232 output of weighing data
        ASCII code
        8 data bits
        No Parity
        Baud rate from 600bps to 9600bps

Connector: 9 pin d-subminiature socket
    Pin 2:   Input,
    Pin 3:   Output
    Pin 5:   Signal Ground

Checkweighing output(9 pin d-subminiature socket)
pin 1 VB
pin 4 vcc (5V)(output)
pin 5 com (gnd) public
pin 6 ok (output)
pin 7 low (output)
pin 8 hi (output)
pin 9 beep (output)

9. 2 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

Date AND TIME	The will be set date and time
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

When parts counting weight, unit weight and count will be print,

Date:	The scale hasn't printed
Time: 00:00	The scale will be set time
Gross wt: 0.149KG	GW for gross weight, NT for net weight and a unit of weight
Unit wt: 7.4257G	The average piece weight computed by the
Quantity : 20PCS	The number of parts counted
<lf>	
<lf>	

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
Date:
Time:           00:00
Total No:       3         Times of   the accumulation memory
Total wt.:      0.447KG   Weight of the accumulation memory
***************
```

9. 3 continuously output protocol

con1: weighing mode

		,			−/␣							k	g	CR	LF

|-HEADER1--| |-HEADER2-| | --- WEIGHT DATA -- | |-WEIGHT UNIT-| |TERMINATOR|

con1: counting mode

P	C	S	:							␣	p	c	s	CR	LF

| - QTY - | | -QTY UNIT- |

HEADER1: ST=STABLE， US=UNSTABLE

HEADER2: NT=NET， GS=GROSS

Con2:

Header0	Header1	Header2	Header3	Weight1	Weight2	Weight3	Weight4	Weight5	Weight6	Tare1	Tare2	Tare3	Tare4	Tare5	Tare6	Terminator1	Terminator2

Header0=02H

Header1 follow decimal point

Decimal point=0, header1=22H

Decimal point=1, header1=23H

Decimal point=2, header1=24H

Decimal point=3, header1=25H

Decimal point=4, header1=26H

Header2 follow weigh status, default value=20H

If in net mode (tare value not 0), header2=header2|01H

If gross weight "-", header2=header2|02H

If overload or gross weight "-", header2=header2|04H

If unstable, header2=header2|08H

If weighing unit=kg, header2=header2|10H

Header3 follow weighing unit

If weighing unit=g, header3=21H

If weighing unit=oz, header3=23H

Weight1~weight6: weighing data

Tare1~tare6: tare value

Terminator1: 0DH

Terminator2: 0AH

Con3:

Header0	Header1	Weight1	Weight2	Weight3	Weight4	Weight5	Weight6	Weight7	Unit1	Unit2	Status	Terminator1	Terminator2

Header0=01H

Header1 follow weight "+" or "-"

When weight "+", header1="+", when weight "-", header="-"

Weight1~weight7: weight data (include decimal point)

Unit1~unit2: weight unit

Status: when stable, status=0, when unstable, status=1

Terminator1: 0DH

Terminator2: 0AH

SECTION 10 CALIBRATION

Turn the power off.

Turn the power back on, during the counting from 9 to 0 press the **FUNC** key.

The display will show "*CAL* " for a few seconds. While it is showing "*CAL* " press the **UNIT**, **PRINT** and **TARE** keys in sequence to enter the Calibration section. The display will show "*nonL in*".

1. Normal calibrate
press the **ZERO** key. the display will show: "*UnLoAd*".

Remove any weight from the platform. After stable indicator on, press the **ZERO** key.

Then the display will show the last calibration weight used. If this is correct you can continue by pressing the **ZERO** key. If it is not correct use the **UNIT, SMPL**, **TARE** keys to change the calibration weight value. When it is correct press the **ZERO** key.

Then display will show "*LoAd*". Place the calibration weight on the. After stable, press the **ZERO** key.

2. Linearity Calibrate

Press **ZERO** key to enter calibrate. Press **TARE** key. Then the display will show " *L inEr* ".

press **ZERO** key to enter calibrate. The display will show "*LoAd0*".

Remove any weight from the platform. After stable indicator on, press the **ZERO** key.

Then the display will show "*LoAd 1*", apply the reference weight of the full capacity of the scale just in the center of the platform. The span adjustment will automatically be achieved.(Calibrate weight request: the front digits if the full capacity. For example, the full capacity is 300kg, the 30kg/40kg… to 290kg (integer value)) will be accepted. then press the **ZERO** key.

Then the display will show "*LoAd2*", apply the reference weight of the full capacity of the scale just in the center of the platform. The rule is the same as "*LoAd 1*". then press the **ZERO** key.

Then the display will show "*LoAd3*", apply the weight of the full capacity, the full

capacity will automatically be achieved. then press the **ZERO** key.

If the calibration is acceptable the display will return to normal.   If an error message is shown try calibration again as a disturbance may have prevented a successful calibration.

If the problem persist then contact your dealer.

After calibration the   should be checked to verify the calibration and linearity is correct.   If necessary repeat calibration, especially be certain the   is stable before accepting any weight.

SECTION 11 ERROR CODES

Error Message	Description	Solution
-----	Maximum load exceeded	Unload or reduce weight
$Err\ 1$	Incorrect date	Enter the date by using format "yy;mm:dd"
$Err\ 2$	Incorrect time	Enter the time by using format "hh:mm:ss"
$Err\ 4$	Zero setting error	Zero setting range exceeded due to switching on.(4%max) Make sure platform empty.
$Err\ 5$	Key board error	Check the keys and connecter.
$Err\ 6$	A/D value out of range	Make sure platform empty and check the pan is installed proper. Check the load cell connectors.
$Err\ 9$	Unstable Reading	Check any air variation, vibration, RF noise and touching some where. Check the load cell and connecters.
$Err\ 17$	Tare out of range	Remove the load and restart scale again.
--oL--	Over range	Remove the load. Re calibrate
FAiL H / FAiL L	Calibration Error	Re calibrate
$Err\ P$	Printer error	Check the printer and settings
bA Lo / Lo bA	Battery low	Re charge battery, check the voltages.

SECTION 12 TECHNICAL PARAMETERS

Press **Func** key when normal weighing mode, display shows "*FΠ H-L*", press **Tare** key until display shows "*ProG*", press *2Ero* key, display shows "*P in*", You can press **Unit**、**Print**、**Tare** key to enter setting mode, press **Tare** key to select parameter, press **Zero** key to sure, press **Print** key to escape.

Menu	Sub Menu	Description	
P1 rEF	*A2n 0*	*05d*	Auto zero point settings
		1d	
		2d	
		4d	
	0 - AUto	*P1 0*	Zero setting range.
		P1 2	When the display is turn on the scale is set to zero
		P1 5	
		P1 10	
		P1 20	
	0 - rAnGE	*P2 0*	Manually zero setting range, by pressing Zero
		P2 2	
		P2 5	
		P2 10	
		P2 20	
	SPEEd	*S 7.5*	
		S 15	
		S 30	
		S 60	
P2 CAL	*dEC i*	*C 0*	Decimal point settings
		C 00	
		C 000	
		C 0000	
		C00000	
	inC	*1*	Increment settings
		2	
		5	
		10	
		20	
		50	
	CAP	*00000*	Enter the scale capacity
	CAL	*L inEAr*	Linear calibration
		nonL in	Normal calibration
P3 Pro	*tr i*	This display will be show XXXXX. For trimming the load cells, showing primary weight. You can calculate new rate by this formula: $N2 = N1 + N1 \times [(K2 - K1) \div K2]$ N1: primary rate, N2: new rate, K1: calibrate weight, K2: display weight	

	CoUnt	This display will show XXXXX for indicating the internal counts.
	rESEt	Factory default settings
	GrA	Set the local gravity
P4 CHt	modE 1	Normal weighing mode. (check weighing, accumulation)
	modE 2	Animal weighing mode. (scale will lock reading unstable loads, when display get little stable)
	modE 3	This is a subtraction scale (print out "-" weight)
	modE 4	As the mode 3, but M+ out format different