Version 1.00

KIN 1000 & KIN 2000WR Indicator

OPERATION & SETUP MANUAL

Contents

1. PRECAUTIONS AND WARNINGS:

Thank you for purchasing the Kilotech KIN Series indicator. Before you start to use your indicator, please take a moment to read through the precautions and warnings to ensure you get the most from your indicator.

1. Do not use scale in areas with excessive water and don't spray the scale or indicator with water when cleaning. Wipe off all water from the scale and indicator with a clean dry cloth.
2. To avoid electric shock, do not touch the electric plug with wet hands and avoid getting the scale wet.
3. To minimize electric shock, do not pull the plug by its cord when unplugging. Always use the plug head and ensure that it is plugged firmly into the wall. Whenever connecting or disconnecting ANY cables from the scale, be sure to hold the cables by the end connector. Failure to do so, may cause a short circuit.
4. Avoid using a shared electrical outlet and ensure that the outlet used has the proper voltage ratings.
5. Don't use organic chemistry solutions to wipe the surface and the panel of the product. In addition, do not place the scale near flammable or corrosive gas.
6. Do not overload beyond the maximum weight limit. Doing so, may cause load cell damage.
7. Avoid using in extreme heat, cold or wet, as well as an environment which has intensive change in temperature, humidity and pressure. Temperatures should not drop below 0° C / 32° F or exceed 40° C/ 104° F. Humidity should be between: 15%～85%RH, non-condensing.
8. Do not operate near an in-use cell phone, radio, computer or other electronic devices as these devices emit RF and maybe cause unstable scale readings.
9. Only use the adapter that is included in the scale. An incorrect adapter can damage the scale.
10. Load placed on platter must not exceed the maximum weighing capacity of the scale.
11. If the scale is not going to be used for a prolonged period, please clean and store it in a dry environment. A desiccant sachet is suggested to be included to prevent moisture build up. In addition, the internal rechargeable battery should be recharged very three months.
    Note: Care should be taken not to leave the internal battery on charge for too long, as this may decrease life of battery.
12. Do not disassemble the scale. Should any damage or defect occur, you must contact Kilotech directly or one of our authorized service centers. Opening the scale will void your warranty.

2. PREPARING TO USE THE INDICATOR

1. Put the scale on a firm level surface from vibrations for accurate weight readings.
2. Adjust the four leveling feet to set the level of scale platform.
3. Avoid operating the scale in direct sunlight or drafts of any kind.
4. Take away any weight that might be on the platform before the scale is switched on.
5. Once the scale has been switched on, it will go through a LCD display test and then re-zero to be ready for use.
6. Please note when  indication shows on the display, the internal battery needs to be charged.
7. All goods weighed should be placed in the center of platform for accurate weighing. The footprint of the goods being weighed should not overstep the edges of platform.

3. INTRODUCTION

3.1 SPECIFICATIONS

Model	KIN 1000	KIN 2000WR
Max Load cells	4	4
Housing Case	ABS	Stainless Steel
IP67	No	Yes
Legal For Trade	Yes	
Units of Measure	kg, lb, pcs*	
Max. Resolution	1/4800	
Internal Resolution	0~400,000	
Display Resolution	1/3000~1/3,0000	
Input Sensitivity	1.0~2.0 mv/v	
Keyboard	6 Keys	
Audio alarm	Tone for key entry confirmation, low battery and High/Low alarm	
A/D conversion rate	40 / Sec	
Load cell excitation voltage	5V	
Analog input range	1mv~20mv	
Non linearity	< 0.016% of full scale	
Humidity	15%～85%RH, non-condensing	
Working temperature	0° C ~40° C 32° F ~104° F	
Over capacity	Display “OL” when exceeds the full scale capacity	
Tare	Full capacity, push button tare	
Auto Zero tracking	Selectable to 0.9 d by 0.1 d step	
Calibration method	Software – Menu driven prompting	
RFI/EMI protection	All signal and excitation lines filtered to–65db min. @ 100M~1GHz	
Filtering	Selectable digital filter （Set by Manual ）	
Display	High contrast LCD with auto backlight	
Remote display	No	
Current consumption	0.6VA	
Digit/height	6 digits/ 26 mm	
Check weighing function	HI/LO/OK annunciate & alert buzz	
Set points	Selectable up to 2 set points for low and high limit settings	
Counting function	Yes	
Accumulate Weighing	Yes	
RS232	No	
Dimension (W x H x D)	260 x 155 x 70 mm	
Weight	1.8 kg	
Box size	255 x 150 x 95 mm	
Box weight	2.5 kg	
Power Supply	AC/DC adapter & rechargeable battery	

*Not legal for trade in Canada

3.2 POWER SUPPLY

RECHARGEABLE BATTERY

The rechargeable battery is 6V/4.5Ah. The end of red line is positive pole, while the end of black line is negative pole. Connect the wiring terminals and tighten the screws to fix battery. The rechargeable battery will be charged through adapter by plugging the adapter.

AC/DC ADAPTER

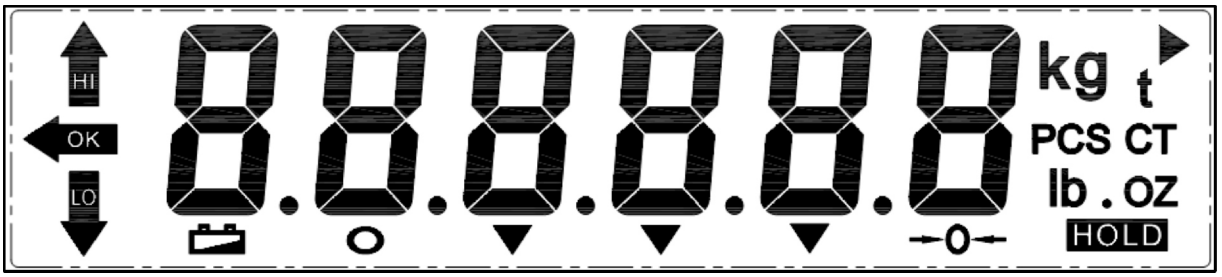
The indicator used a 12V/500mA adaptor. Insert the DC plug of the adapter into the DC socket on the indicator housing, the scale will automatically charge the internal battery if installed and power the indicator. When you are not using the adaptor, you must remove the adaptor wire; otherwise the indicator will fail to work.

3.3 LOW BATTERY WARNING AND CHARGING LIGHT

The scale will power off automatically without recharging after the table of battery capacity shows empty. We recommend that the battery should be fully recharged before using the scale again.

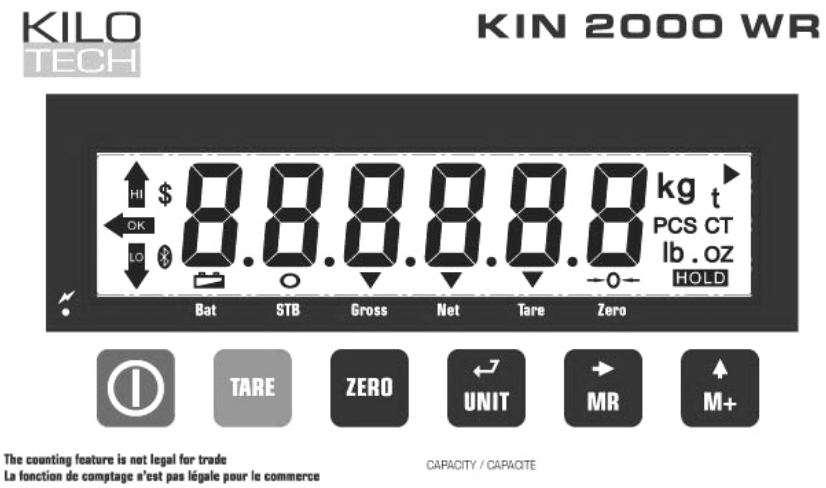
When the battery is empty and charging, the charging light will turn on and show red color. When it is half full, the light will change to yellow color. When full charged, the light will be green.

4. LCD DISPLAY SYMBOLS



O	Stable indication		Low battery indication
▼	Gross Weight indication	▼	Net weight indication
▼	Tare mode	→0←	Zero indication.
HI/OK/LO	Check weighing indication	HOLD	Animal weighing
kg,lb,PCS		Weighing units	

5. KEYBOARD



	Turn on / off. The indicator will be turned on when pressing this key. Press and hold the key for 1.5 seconds, the battery charge percentage **"bpt - -"** will show on the screen, then the indictor will power off.
TARE	Deduct the container weight. Press this key to deduct container weight and net weight indication will display.
ZERO	To re-zero the scale. Range of re-zero is ±2% of full scale.
UNIT	* Weigh unit switching or selecting the backlight mode while in weighing mode. * Press to confirm the setting when it is in set menu or calibration mode.
MR	* For recalling and printing out the accumulative weight. Accumulative time and weight will display on the screen for 1.5 second respectively. Press zero to clear accumulative weight and time. * Selective key when in setting menu.
M+	* Press the key to print out the current weight and the weight will be added up to accumulative weight * Selective key when in setting menu.

6. GENERAL SETTING

* To be able to perform the operations stated below: You must place the circuit breaker JP1 into the off position.

6.1 AUTOMATIC POWER OFF

Press and hold the [ZERO] key for 2 seconds, the screen will display OFF XX, "XX" refers to preset shut down time. There are 7 choices for preset shut down time: 10, 20, 30, 50, 60 and 0.
10~60minutes denotes respectively that indicator will power off automatically if there is no changes on weighing value and no operation on keyboard. Choice 0 means that automatic power off function is disabled.
Press [MR] key to select then press [UNIT] to confirm the selected preset time and go to next step.

6.2 BUZZER ON/OFF

The indicator will now display | bP On | or | bP OFF |.
Press [M+] to select "On" or "OFF" to turn on/off the buzzer.
Press [UNIT] to confirm and to go to next step.

6.3 SETTING OF BACKLIGHT FUNCTION

The indicator will now display | bAn X |.
X refers to the backlight mode selection.
X=0, means Non-backlight all the time.
X=1, means manual mode. Long press [UNIT] to turn on/off.
X=2, means automatic backlight function mode 1. It lights all the time when there are weight.
X=3, means automatic backlight function mode 2. It lights when there are weight but turn off after 10 seconds.
Press [M+] to select then press [UNIT] to confirm.

6.4 LOW BATTERY AUTO SHUTDOWN

The indicator will now display | **PLO XX** |.
"XX" represents minimum battery capacity percentage. When the capacity of battery is lower than the setting value, the indicator will shut down and need to be charged. Default setting is "10%".
Press [M+] to select then press [UNIT] to confirm and exit.

7. COUNTING FUNCTION OPERATION

This mode is used to indicate the number of pieces of an item that placed on the pan. To ensure accuracy, the parts that counted must be consistent in weight.
The scale uses a sampling method to determine the average pieces weight of the items that counted. For example, 30kg scale, sample weight is 200g, it is 100pcs sample units.

7.2 Entering and exiting counting mode

Hold the [UNIT] key for 3 seconds to enter and exit counting mode.
When entering the count mode, display shows "PCS" for 3 seconds then "PCS" indication lights up and starts counting.

7.3 Sampling setting

1. In the counting mode, press and simultaneously hold [TARE] and [UNIT] keys for 3 seconds. The scale will enter the sampling setup mode, and "Count" will be displayed. Then it returns to zero. If it does not display "0", press [ZERO] key to clear.
2. Load known number of sample objects on the platter. Press [UNIT] key to confirm and enter the quantity setup mode.
3. One digit will flash "0". Press [M+] key to increase the flashing digit with 1; and press [MR] key to move the digit to the left. Do this until it reaches the needed value.
4. Press [UNIT] key to confirm and start counting. Press [TARE] key to exit the set up midway.

7.4 Counting objects

Load objects to be counted onto the plate. The quantity of pieces on the platter will be displayed.

8. ACCUMULATE FUNCTION.

1. Place an item on the platter. When the scale shows the stable signal, press [M+] key. Scale shows ACC1 for 3 seconds. And return to regular weight screen (current weight).
2. Remove weight (Scale must return to zero and be stable before you are able to continue accumulate operation). Add second weight and when stable, press [M+] key. The scale shows ACC2 and return to regular weight screen (current weight). Same operations when you want to add more.
3. Press [MR] key to toggle between the Total weight and regular weight display.
4. While in total weight mode, press[UNIT] key to clear the total weight and return to normal weighting mode.

Note: During accumulation, you are not allowed to change units. Tare and zero are only allowed before the start of the accumulation process.

9. CHECK WEIGHING FUNCTION.

9.2 Set the value limit

1. Activate the Check Weighing Mode by pressing the [UNIT] and [M+] keys simultaneously for 3 seconds. The scale shows the HI / OK / LO arrow and current weighing unit.
2. Set lower value limit:
   Press the [ZERO] & [TARE] keys simultaneously, the display will first show “SET LO” for 3 seconds and then the first digit will flash “0”. Press [M+] key to increase the flashing digit with 1. Press [MR] key to move the digit to the left. Do this until it reaches the needed value.
3. Set high value limit:
   Press the [UNIT] key and the display will show “SET HI” for 3 seconds and then the first digit will flash “0”. Press [M+] key to increase the flashing digit with 1. Press [MR] key to move the digit to the left. Do this until it reaches the needed value.
4. Press [UNIT] key to confirm. The display will show “En SET ” To confirm and return to zero.

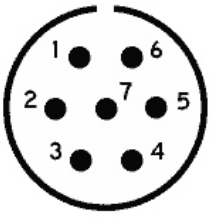
9.3 Start to weigh:

Place an item on the platter.
When the weight is below minimum weight setting: The indicator will be buzzing continuous burst (----------) and LO arrow on display is light up
When weight on the platter is within range, the OK arrow is light up and no sound is emitted.
When the weight is above the max weight settings: The indicator will be buzzing with long buzzing burst (--.--.--.--.--.--) and HI arrow on display is light up

Note: If buzzer is disabled in setup then no sound will be emitted.

10. PINOUT

10.1 PINOUT OF LOAD CELL SIGNAL WIRE.



PIN 1 E+
PIN 2 E-
PIN 3 S+
PIN 4 S-
PIN 5 Shield

11. CALIBRATION

1. Open up the outer case of indicator before calibrate, plug the circuit breaker JP1 into “on”.
2. Press and hold [TARE] key for 1.5 second, The indicator will now display CAL SP.
3. Press [MR] key to enter calibration mode, The scale will show “CAL 00” and is ready to complete the zero point calibration.
4. Press [Unit] key to confirm. The screen will show “- - - - - -” and after a few seconds, it will show the previous calibration weight on the screen.
4. Load weight on the scale. Wait for the scale to show a stable indication and press [M+] key to increase the flashing digit with 1. Press [MR] key to move the digit to the left. Do this until it reaches the needed value. Press [UNIT] key to confirm.
5. The screen will show “- - - - - -” while calibrating and then show Err 2. Remove weight to get a zero reading
6. The scale will return to weighing mode after calibration is finished.

Don’t forget to put the circuit breaker JP1 into ‘off’ position.

12. CONFIGURATION SETTINGS

Please open up the outer case of indicator before calibrate, plug the circuit breaker JP1 into ‘on’.

Step 1: Enter Setup

Press and hold [TARE] key until CAL SP .displays on the screen. Press [UNIT] key to enter into setup mode and “SET” will display. Press [MR] key to enter setup menu.

Step 2: Capacity & Division

The indicator will now display “d1 X” or “d2 X”.
d1 is for single range capacity, d2 is for dual range capacity.
“ X ” is the code of Max. Capacity and divisions. (Refer to Table 1: Capacity and divisions:)
Press [MR] key to select. Press [ZERO] key to switch between single range and dual range
Press [UNIT] key to confirm and enter into the next step.

Step 3: Zero range / Zero tracking / ASZSM

The screen will display “Ut ABC”.

A : Zero range when power on, 1~9 mean 10%~90%FS to zero, 0 mean not to zero
B: Zero tracking range. 1=0.1d, 2=0.2d,….9=0.9d
C: ASZSM. 0=0%, 1=1%,2=2%.....9=9%.
Press [MR] key to select the value.
Press [MODE] to confirm and enter to the next step.

Step 4: Baud Rate

The screen will display “bt XXXX”.
For future use

Step 5: Serial Printout Port Configuration

“Ads XX” will display on screen.
For future use.

Step 6: Output format for serial protocol
The display shows “rS = HI” or “ rS = LO”.
For future use.

Step 7: Weight response speed Filtering setting
The screen displays “ bUF – AB ”.
A = Response speed when weighing.
Speed increases by number. “4” is the slowest, “0” is fastest.
B = filter strength when weighing.
Strength increases by number. “0” is minimum, “3” is maximum.
Press [MR] key to change value and press [UNIT] key to confirm.

Step 8: Animal weighing setting.
The screen displays “ FLt – X
For future use.

Step 9: Brightness control of backlight
The screen displays “LCd – X”. It can be adjusted the brightness of backlight for saving power.
Brightness increases by number. “0” is the lowest brightness, “9” is highest brightness..
Press [M+] key to select the value.
Press [UNIT] to confirm.

Step 10: Outlay display option
The screen displays PIo - X .
For future use.

Step 11: Confirm the Configuration
The screen displays “- PASS –”. It is the final confirmation of above all configuration.
Press [UNIT] key to repeat setting from beginning
Press [ZERO] key to confirm the configuration and exit to normal weighing mode.

Don’t forget to put the circuit breaker JP1 into ‘off’ position.

13. ERROR MESSAGES

There will shows error signal when the scale have some problem.
ERROR 1: means zero range is over 4% of capacity or insufficient load cell resolution during calibration.
ERROR 2: means wrong re-zero, check the load cell if it is damaged or the setting
ERROR 3:means not allow switching the weigh units when it is in TARE mode.
OVER: means overload, loaded weight exceed the full range.

14. WARRANTY

We guarantee one-year of free maintenance since the date of purchase for any non-manmade faults in normal working conditions. For maintenance, please send the equipment with the guarantee card to our sales service.

15. LEGAL FOR TRADE SETUP.

To be able to pass the Measurement Canada and NTEP certification you must program the following 2 two settings:

Zero range / Zero tracking / ASZSM
The screen will display “Ut ABC”.
KIN 2000WR set to: 204
KIN 1000 set to 214

Weight response speed Filtering setting
The screen displays “ bUF – AB ”
set to: 23

16. CAPACITY AND DIVISIONS

X	Division 1		Devision2	
	Capacity Kg	Capacity Lb	Capacity Kg	Capacity Lb
1	3 x 0.001	6 x 0.002	0-1.5kg x 0.5g / 1.5-3kg x 1g	0-3lb x 0.001lb / 3-6lb x 0.002lb
2	6 x 0.002	12 x 0.005	0-3kg x 1g / 3-6kg x 2g	0-6lb x 0.002lb / 6-12lb x 0.005lb
3	6 x 0.002	15 x 0.005	0-3kg x 1g / 3-6kg x 2g	0-6lb x 0.002lb / 6-15lb x 0.005lb
4	15 x 0.005	30 x 0.01	0-6kg x 2g / 6-15kg x 5g	0-15lb x 0.005lb / 15-30lb x 0.01lb
5	30 x0.01	60 x 0.02	0-15kg x 5g / 15-30kg x 10g	0-30lb x 0.01lb / 30-60lb x 0.02lb
6	60 x0.02	120 x 0.05	0-30kg x 10g / 30-60kg x 20g	0-60lb x 0.02lb / 60-120lb x 0.05lb
7	60 x0.02	150 x 0.05	0-30kg x 10g / 30-60kg x 20g	0-60lb x 0.02lb / 60-150lb x 0.05lb
8	150 x 0.05	300 x 0.1	0-60kg x 20g / 60-150kg x 50g	0-150lb x 0.05lb / 150-300lb x 0.1lb
9	300 x 0.1	600 x 0.2	0-150kg x 50g / 150-300kg x 100g	0-300lb x 0.1lb / 300-600lb x 0.2lb
10	600 x 0.2	1200 x 0.5	0-300kg x 100g / 300-600kg x 200g	0-600lb x 0.2lb / 600-1200lb x 0.5lb
11	600 x 0.2	1500 x 0.5	0-300kg x 100g / 300-600kg x 200g	0-600lb x 0.2lb / 600-1500lb x 0.5lb
12	1000 x 0.5	2000 x 1	0-500kg x 200g / 500-1000kg x 500g	0-1000lb x 0.5lb / 1000-2000lb x 1lb
13	1500 x 0.5	3000 x 1	0-600kg x 200g / 600-1500kg x 500g	0-1500lb x 0.5lb / 1500-3000lb x 1lb
14	2000 x 1	4000 x 2	0-1000kg x 500g / 1000-2000kg x 1kg	0-2000lb x 1lb / 2000-4000lb x 2lb
15	3000 x 1	6000 x 2		
16	5000 x 2	10000 x 5		
17	10000 x 5	20000 x 10		
18	15000 x 5	30000 x 10		
19	20000 x 10	40000 x 20		
20	30000 x 10	60000 x 20		
21	50000 x 20	100000 x 50		