



Direct-Viewing Digital Crane Scale  
Model: DWP-C2X  
User Manual

January 2012

## Preface

Thanks for choosing our products!

In order to properly utilize the product and fully realize its superior performance, please read the manual carefully before use.

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## Chapter 1 Proper use and maintenance

1.1 This charging circuit is uniquely designed requiring lower voltage than regular ones, make sure do NOT use other chargers or it could be burned or become non-chargeable.

1.2 The Crain Scale should be charged regularly in case the damage of the battery as it is with self-discharge, usually once for every two months and 12 hours for one time.

1.3 If you have to replace the battery by yourself, don't forget applying water-proof glue to the welding exposed area.

1.4 This product is a sophisticated electronic equipment. Keep away from **violent collision** and moisture.

1.5 Over lifting may cause permanent damage or incident.

1.6 To ensure the safe use, please check all screws& pins for loose or falling before use.

## Chapter 2 General Introduction

This direct-viewing digital crane scale is combined by hanging part, high precision transfer, A/D converter and display. The layout is as below. This display with 1.2" super bright digital screen (or LCD) with 5 digits allows clear reading from far away. Advanced compassed circuit and unique data processor make this crane scale a real accurate, convenient and reliable weighing equipment used in the warehouse, dock, plant and lifting occasions etc.

## Chapter 3 Scale characters

- ◆ Accuracy Class: National Scale Standard Grade 3
- ◆ Low power design with auto power saving, 100 hours continuous use after charging.
- ◆ Over-discharging protection circuit protects the battery from life shortening or damage caused by over-discharging.
- ◆ Percentage of battery capacity display at startup and shutdown helps good knowledge of the battery and in-time charge.
- ◆ High compassed, high reliability

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- ◆ Power-saving mode and auto turn off function (Optional)
  - ◆ Tare, hold, and accumulation functions
  - ◆ Stable weighing, which will not be effected by shaking
  - ◆ Convenient wireless remote can be operated within 20 meters for zeroing, record checking and shutdown
  - ◆ High heat insulation and anti erosion versions are available

## Chapter 4 Main Technical functions

- 1、 Applicable temperature range: - 10°C ~ +40°C
- 2、 Relative Humidity: ≤90% RH
- 3、 Display: 5 digits super bright 1.2" LED digital tube (or LCD), letter highness 40mm
- 4、 New advanced high precision SCM with extremely strong magnetic resistant function and reliable steady weighing.
- 5、 **Gravity correction function makes it suitable for all over the world.**
- 6、 Safe over-lifting: 150% F.S
- 7、 Damaging over-lifting: 200% F.S
- 8、 Steady reading: <5 seconds
- 9、 Precision: Grade III
- 10、 Zeroing range: ≤10%F.S
- 11、 Tare range: 10% ~ 100%

## Chapter 5 Operation

### 5.1 Switch On/Off

#### 5.1.1 Startup

Under "OFF" situation, press "Tare On/Off" on the front panel, switch on and release the button when the display shows on. It first shows "UEr6.0" of the copyright and self-check (showing figures 9-0) in one second. (With decimal point, tare/stability lights flashing on), then it shows the battery capacity percentage as "pbt85", then it enters into zero reformat, showing"-----" (it will not show if the reformatting has been completed after self-check).By the end of Zeroing it shows"0" or "0.0", entering into weighing status

#### 5.1.2 Shutdown

On switch-on regime, press button [Tare on/off] in the front panel or [ $\Rightarrow 0 \Leftarrow$ ] on the remote for one second, showing tAr-9, release the button and press again to display the battery capacity like [pbt85], then release the button to automatically cut off power supply.

#### 5.1.3 Energy saving mode and auto shutdown

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This function is optional (check details in 7<sup>th</sup> section parameter setting). When the weighing is continually stable or at Zero status for 15 minutes, it enters into power saving mode, each digit on display shows "\_" one by one. When button or weighing changes it automatically returns to normal weighing display

After 60 minutes continual steady weight, it will automatically cut off the power and shutdown.

## 5.2 Maintaining and lifting the weight display

Press button (H) to hold the display which won't change when real weight changes. Press (H) again to lift the display, enters into normal weighing process.

## 5.3 Tare ( Zero)

### 5.3.1 Tare ( Zero)

In the "Tare" off state, lift the goods and press the "Tare On/off" button or the **【→0←】** on the remote, the scale will remove the weight and display will only show "0" or "0.0"

① If the weight is  $\leq 10\%F.S$ , Zero it (whatever the weighing is stable or not), it shows "0" and the "Tare" light off

② If the weight is  $> 10\%F.S$  and the weighing is stable then tare it, shows "Zero" and press "Tare". If the weighing is not stable then nothing needs to be done.

### 5.3.2 9 seconds to automatically tare delay

Press "Tare On/Off" button for one second, showing "tAr-9", and release the button; reduce value by 1 per second speed display. If the weighing is not stable, it will show "-----" for waiting; When it becomes stable, it will tare automatically, and shows "Zero" with the "Tare" indicating light on (if the weight  $\leq 10\%$  or  $2\%F.S$ , Zero it and it will show "0" with "Tare" indicating light off). If the display value reduces by 1 per second showing "tar-x", press "Tare On/off" button, it will start measuring the voltage and showing the value, and shutdown automatically by releasing the button

In the state of "Tare" (with the tare light on), press the button "Tare On/Off" or the " " button on the remote, tare clearance and it will show the gross weight, and quit "tare" ("Tare" indication light off)

## 5.4 Check (Look back) the past 5 weighing records

The green button at the front panel of the scale is for checking. Press once for the latest display, (Showing LSt-1 for one second and the value for 4 seconds) twice for second latest display, and so on. It will show max.5 records at one time by pressing the button. It returns to weighing status 5 seconds after checking the record.

In the state of "checking", press "Tare On/off" to quit "checking weight value" immediately and return to the weighing status.

## 5.5 Net weight accumulation

When the auto accumulation function is off and the net weight ( $> 20d$ ) display becomes stable, press (\*) to manual accumulate the net weight and it will show "n xy" and return to weight status in 2 seconds. N stands for net weight accumulation, xy stands for times of accumulation. Next net weight accumulation will only be after the net weight showing value  $\leq 20d$  (empty). Max.99 times

When the auto accumulation function is on, it will automatically accumulate when the display value becomes stable. Next net weight accumulation will only be after the net weight showing value  $\leq 20d$

(empty). Max.99 times

## 5.6 Display and clearance of net weight accumulation value

Press (▲) button in the state of weighing, it will show accumulated times of the net weight (n 20), press again, it will show the highest 4 numbers [H 10], press once more, it will show the lowest 4 numbers (L5000), press again to return back to weighting, then the net weight accumulation value is 105000kg. When there are the above three figures, press [≥0<] to clear the times and the value.

Press (Tare On/Off) to quit "net weight accumulation", and return to weight status

## 5.7 Charging Instruction

When the battery is less than 15%, the light will flash and remind user to charge in time

When the battery is less than 10%, it will automatically cut off the power (will not cut off during self-inspection when scale starts)) to prevent from over-discharging of the battery

The plug hole is at the back of Crane scale. It takes about 12 hours to charge up every time.

## 5.8 Error Indication

1) Over-loading indication: when the weight of weighing is more than the full weighing range plus 9d it is over-loaded and shows " -OF-"

2) Error Notice: The weighed value is negative and the highest no.is not "0" or "1" it will show"E rr--"

# Chapter 6 Password Input

6.1 This operation should only be taken within one minuet after startup, and can only enter into parameter set-up and calibration after inputting the password correctly.

6.2 Under this function, press (▲) button the number move up 1 by each pressing , every press on button(→0←) the flashing no. will reduce by 1, press (\*) button to confirm and the flashing position will move rightward by one bit

For example:

Step	Operation	Display	Remark
1	Press(H)till display shows(00000 )	[ * * * * * ] [ 0 0 0 0 0 ]	It shows the value under weighing status Enter into password inputting, the highest digit will flash. The password is 33333.
2	PRESS(▲) Press (*) Press(▲)  After all done press(*)	[ 3 0 0 0 0 ] [ 3 0 0 0 0 ] [ 3 3 0 0 0 ]	Press 3 times of (▲), it will show 3 Press one time of (*) the flashing no. will move rightward one bit Press 3 times of (▲), the number will show 3  Press once it will stop flashing If press(▲) Highest digit flash to start resetting the password

3	Press (*)	[ * * * * *] [CAL 1]	If input incorrect password, it will return back to weighing state. If input correct password, it will enter into Calibration.
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**Remarks:**

1. Press(H)button to quit the password inputting at any time and return to weighing status.
2. Can enter into parameter setting and calibration only after input the password correctly.
3. After complete the password input it will automatically quit accumulation status.
4. Can not enter into "password input" under "Tare" status.

## Chapter 7 Parameter setting (Setup)

1. Can not have parameter set under the "Tare" situation, should quit first.
2. In the state of "Parameter Setting ", press (▲) will plus, every press on (→0←) will minus, press (\*) as confirmation and enter into next operation, press (H) to quit setup status

Step	Operation	Display	Remarks
1	Press(*) after password confirmed	[ CAL 1 ]	<u>Option: CAL 1 to setup the parameter</u> <u>CAL 2 to enter into calibration</u>
2	Press(▲)  Press(*)	[ dc *] [ dc 0]	<b>Set decimal digits</b> Press (▲) to choose the decimal digits, option: 0/1/2/3 <u>Enter into next parameter setting( Division Value)</u>
3	Press (▲)  Press	[ d **] [ d 10]	<b>Set Division Value</b> Press(▲) to select the required Division value <u>Enter into next setting</u>
4	Press(*)  Press(*)  Press(*)	[ * * * * *]  [ 0 0 0 0 ]  [ 0 3 0 0 ] [ 0 3 0 0 ] [ 0 3 0 0 ]	<b>Set the max. Weighing range</b> With the highest digit flashing, press (▲) to choose the figures. The fourth digit flashes, press (▲) to choose the figures, for example press 3 times of (▲) it will show 3. Press (*) the figures stop flashing  Press (▲), when the highest digit flashes, enter into resetting the max.



			<p>Weighing range</p> <p>Otherwise, if press(*), it will automatically show the overload warning value of FS+9d</p> <p><b><u>Enter into next setting( Zero tracking range)</u></b></p>
5	<p>Press(▲)</p> <p>Press (*)</p>	<p>[ 0 d * ]</p> <p>[ 0 d 2 ]</p>	<p><b><i>Set Zero trace range(Od=Zero tracking range)</i></b></p> <p>Press(▲) to choose the required zero tracking range</p> <p>Option: 0-9, each figure match accordingly as below:</p> <p>0--0.45d 1--0.6d 2--0.7d 3--0.8d 4--0.9d 2--1.0d 6--1.5d 7--2.0d 8--2.5d 9--3.0d</p> <p><b><u>Enter into next setting(filter wave)</u></b></p>
6	<p>Press(▲)</p> <p>Press(*)</p>	<p>[ L * * ]</p> <p>[ L 12 ]</p>	<p><b><i>Set filter coefficient (L stand for times of smooth views L=8-20)</i></b></p> <p>Press (▲) to set the parameter of wave (each press the parameter adds by 1.</p> <p><b><u>Enter into next setting(Power saving)</u></b></p>
7	<p>Press(▲)</p> <p>Press(*)</p>	<p>[ J d * ]</p> <p>[ J d 1 ]</p>	<p><b><i>Option: 0-off, 1- on</i></b></p> <p>Press((▲) for options</p> <p><b><u>Enter into next setting(Auto accumulation)</u></b></p>
8	<p>Press(▲)</p> <p>Press (*)</p>	<p>[ LJ * ]</p> <p>[ LJ 1 ]</p>	<p><b><i>Option for auto accumulation: 0-Off; 1- On</i></b></p> <p>Press (▲) for option</p> <p><b><u>Enter into next setting(Weight unit)</u></b></p>
9	<p>Press(▲)</p> <p>Press(*)</p>	<p>[ Lg * ]</p> <p>[ Lg 1 ]</p>	<p><b><i>Press ((▲) for weigh units option: 0-kg; 1-Lb</i></b></p> <p>Only the LED display has this function</p> <p><b><u>Enter into next setting(Gravity Speed)</u></b></p>
10	<p>Press(*)</p> <p>Press (*)</p> <p>Press(*)</p> <p>Press(*)</p>	<p>[ 9 * * * ]</p> <p>[ 9 3 0 0 0 ]</p> <p>[ 9 3 0 0 0 ]</p> <p>[ 9 3 0 0 0 ]</p> <p>[ 9 3 0 0 0 ]</p> <p>[ 9 3 0 0 0 ]</p>	<p><b><i>Set gravity parameters (Remark 3)</i></b></p> <p>The highest digit is 9, and the one next to it flashes ,press (▲) for option</p> <p>Move to the next digit for selection</p> <p><b>After all digits set, it stops flashing.</b></p> <p>When press (▲), the next high digit flashes, restart setting</p> <p><b><u>Enter into next setting(Back lightness of LCD)</u></b></p>

11	Press(▲)	[ brt * ]	<b>Set backlight brightness for LCD</b> Press(▲) to select the brightness: Brt=1~64 Press [ >0< ] on remote, each press minus the parameter by 1 Quit the setting and back to weighing status
	Press [*]	[ brt 6 ]	

Remarks:

1. Can quit "Setup" at any time and return to weighing status, the data becomes effective only after all processes completed.
2. The bigger setup data the more stable weighing, and with longer time for staying stable. And vice versa.
3. The original setup gravity is 9.7936. The user can adjust it into local one; program will automatically correct the gravity. If the user has calibrated at the local, the gravity doesn't need to be adjusted.

## Chapter 8 Weighing Demarcation & Compensation Demarcation

1. Calibration (this operation must be after password setting. The initial password is 33333)

Press (▲) for plus, and (→0←) for minus, (\*) for confirmation and enter into next step, press (H) to quit setting mode.

Step	Operation	Display	Remarks
1	Press (*)	[ CAL 1 ]	<b>Option: CAL 1 Parameter setting CAL 2 Calibration</b> Switch to calibration operation <u>Enter into calibration status</u>
	Press(▲)	[ CAL 2 ]	
	Press(*)		
2		[ * * * * * ]	<b>check scale ZERO</b> Make sure the scale is empty and check if the display is zero. If not, press [TARE ON/OFF] on the scale panel or ( >0< ) on the remote to make it zero. If it is zero, enter to next step.
		[ 0 0 0 0 0 ]	
3	Load weight	[ # # # # # ]	<b>Load weight( load weight as close as to the max. capacity</b> Load weight on the scale, ##### is the weight after loading. <u>Enter into input of calibrating weight status</u>
	Press (*)		

<b>4</b>	Press(*)	[ 0 0 0 0 ]	<p><b>input calibration weight value</b></p> <p>The highest digit flashes, press(▲) to choose figures. Press (▲) the flashing move to the next digit, same way for other digits. Press three time to input [3] flashing stops after selection of all the figures Then press(▲) to make the highest digit flash, re-input the calibration weight value</p> <p><b>Otherwise, press (*) to calculate "Zero Tracking" parameter, "Calibration parameter", and save the data automatically, quit the calibration and return to weighing status.</b></p> <p><i>During this process when the figures are flashing the flashing number will minus by 1 after each pressing on (→0←) on the remote.</i></p>
	Press(*)	[ 0 0 0 0 ]	
	Press(*)	[ 0 3 0 0 0 ]	
	Press(*)	[ 0 3 0 0 0 ]	
	Press(*)	[ 0 3 0 0 0 ]	
	Press(*)	[ 0 3 0 0 0 ]	

Remarks:

- 1) Preheat 8-10 minutes by turning the power on before operating, and set up the data first according to **Parameter setting**.
  - 2) This operation must be within one minute after startup and data setup.
  - 3) 1.Press [H] to quit at any time and return to weighing status, the data could only be effective and saved after all procedures completed.
  - 4) *Weight for weight calibration would be better as it be closer to the max.weight. If the loaded weight is <10%F.S, the calibration is invalid, the original calibration parameter is still valid.*
  - 5)If the five digits input by the user are all 9, it will restore the factory parameter.**
  - 6) *It can not enter into "Calibration" under the "Tare" status.*
  - 7) *It will automatically quit "Accumulation" status after this process.*
2. Compensation calibration (must be after password setting)  
E.g.: When the actual weight on the scale is 1,000kgs, but it shows 1020kgs. it can be corrected by compensation without taking off the weight from the scale.  
Details show below:

Step	Operation	Display	Remarks
1	After inputting password, Press(▲) Press (*)	[ CAL 1 ]  [ CAL 2 ]	<b>Option: CAL 1 Parameter setting; CAL 2 Calibration</b> Press (▲) and enter into calibration  <b><u>Enter into (Compensation) status</u></b>
2	Press (*)	[ 1 0 2 0 ]	shows current weight value Press(*) into next operation
3	<b>repeat step 4 of calibration</b>		

## Appendix 1 Glitch and self- maintenance

Error	Reason	Check method	Solution
Unable to startup	Battery pack damaged	Use power meter to measure the voltage of the two ends of battery, lower than 5.0V means breakdown,	Replace battery
	Bad connecting of battery wire	Shake gently the connecting wire	Reconnect or weld the battery wire
	On/Off button damaged	Open the front panel and the two ends behind the short-circuit on/off button can be startup.	Replace the On/Off button
Charger indicator does not light	Charger damaged	Connect through the power, the charger light not on, voltage meter shows less than 8V output	Replace charger
	Charger not plug on	Less than 8V output, check the plug connecting	Re-plug on the charger
	No electricity on the socket or not press down the socket button	Use Volt meter to check if the socket light is on	Replace to socket with electricity or press down the button
Battery can not be charged up	Battery damaged	8V output of the charger but no voltage going up after connected	Replace the battery
	Plug damaged	Sometimes it works when shake the charger connector	Replace the charger
Short battery life	Not our charger, Long-term damage to the battery over-voltage charge.	Check if the output power is more than 8V	Replace the charger, our company's charger output is 7.4-7.8
	Battery Lifetime expired	The voltage drops down fast after charging up	Replace the battery
	Self-discharge caused by bad seal	Battery polarity welding is not sealed or water in battery pack by poor sealed.	Seal the battery welding area and the battery case by glue.
Unstable display	Items shake seriously while weighing	Intensely shaking or over shaking	Wait till it is stable
	The transfer is damaged by over loaded or the insulation is damaged	The output and input of the transfer change too much or the value is 1 when use Voltage meter at 20MQ	Replace the transfer with the manufacturer.

	The wire of transfer is broken or damaged	Press at different area of the transfer wire, the data changes obviously	Reconnect the wires(protect from short-circuit)
	Serious scale body moisture	See vapor inside after open the front cover	Dry wet parts
	Insufficient welding during maintenance	Welding points not smooth or with small gaps	Redo the welding
	Insert loose	check the loose by eyes, or shake the insert, the value changes	Re plug or replace insert
Not show "0" when the scale empty	The preheat time is not enough when startup	Preheat time 3-5 minutes	Shows "0" after 3-5 minutes
	Startup when the scale is not hung up	Should startup with hung up empty scale	Zero
Huge tolerance of weighing value	Inaccurate reference standard	Reference to "standard" is not a standard weight, not test or test for a long time	Calibrate with standard weights or weight together with a new scale from the distributor.
	Inaccurate placement of the hanger	Check if any rope messed up, over side load, protruding after knotted during weighing	Avoid any slapping. No centered, make sure no stuck of the hanger
Remote working not	Low battery	Check the battery capacity	Replace battery
	Long distance	Move closer to the scale	
	Button failure	Other buttons work normally	Replace the remote