OCSM Series

Light Duty Crane Scale

User's Guide

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1. Safety Guides

For good performance and precise measurement on daily operation, observe the following safety guides and maintenance recommendations:

- Do NOT overload the scale. This may damage the load cell and will void the warranty.
- Do NOT leave the load hanged on the scale for too long. This will decrease scale's accuracy and shorten the load cell's life span.
- Inspect the shackle and hook before using. Check clips, pins and screws properly fitted and installed.
- Check battery frequently. When scale drained its battery, charge the battery with its dedicated charger or replace it with a new one
- Avoid rotating the scale, this may damage the load cell
- Do NOT use scale under thunder or rain.
- Hang the scale on shelf or in dry and well-ventilated room. Do NOT put the scale on the ground directly.
- Do NOT attempt to repair the scale by yourself. Contact your local dealer or to the Technical Support.

2. Features

This scale is a combination of sound and proven mechanical design, with nowadays' most advanced electronics to provide a superb feature sets. It is versatile, reliable, accurate and easy to operate.

- **Superb Quality**. Strictly in accordance with OIML R76, Chinese GB/T11883-2002 National Standards, and European CE directives.
- **Great Safety**. Aluminum-casting case, high firm hook and ring, dedicated weighing load cell for safety installation.
- **Strong Reliability**. Cutting-edge technology, quality integrated circuit for high performance and long time stability.
- **Broad Applicability**. Popular and applicable in storage, textile, metallurgy industry, and so forth.
- **Easy to Use**. Infra-red remote controlling design. Easy to operate on the scale or in distance.
- **Complete Function**. Division switch, unit conversion, automatic power saver, battery inspection, idle mode, tare set, etc.

3. Specifications

Accuracy Class	Chinese GB/T 11883-2002 Class III Equivalent to OIML R76
Tare Range	100% F.S.
Zero Range	4% F.S.
Stable Time	≤10sec
Overload	100% F.S. + 9e
Safety Load	125% F.S.
Ultimate Load	400% F.S.
Battery	6V/5Ah lead acid battery.
Charger	AC220V or 110V input, DC9V/1500mA output
Op. Temp.	-10℃ ~ +40℃
Op. Humidity	20℃ ≤90%
Display	30mm (1.2inch) LED or 35mm(1.38inch) LCD

4. Capacities

model	max. cap.	min. cap.	resolution	division
OCSM-200lb	200lb	2lb	0.1lb	2,000
OCSM-400lb	400lb	4lb	0.2lb	2,000
OCSM-600lb	600lb	4lb	0.2lb	3,000
OCSM-1000lb	1000lb	10lb	0.5lb	2,500
OCSM-2000lb	2000lb	20lb	1lb	2,000

5. Display & Keys

Scale & Remote Controller keys

key	name	function
	On/Off	press for 1sec, power-on scale.
		press for 1sec, power-off scale.
		exit without saving
	Zero	zero scale
		with  , unit switch
		increase digit
	Tare	tare in/out
		with  , tare set
		right scroll digit

	Hold	lock/unlock
		with , enter User Setup
		confirm
	2nd	2nd function
		with , enter Password mode
		exit and save
	Acc	accumulate weight
		with , switch resolution
		decrease digit
	Del	delete last weight
		with , clear all weight
		left scroll digital
F2	View	view accumulated weight
		with , view battery level
F1	F1	NC

Indicators

indicator	name	note
STB	Stable	lit when weight is stable
ZERO	Zero	lit when weight is at zero
TARE	Tare	lit when weight is tared
HOLD	Hold	lit when weight is locked
lb	lb	lit when weight is in lb
kg	kg	lit when weight is in kg *(some models have no kg label or annunciator)*

Messages

Message	Stand for	note
-----		Weight over range
- - - - -		Detect weight
-----		Weight below range
SEtUP	SETUP	User setup
End	END	Save and exit
oFF	OFF	Power off

6. Operations

On/Off

- Press  for 1sec, will power-on scale.
- Scale performs initialization and boot-up testing then display flashes 3 times, and displays max. cap., battery power, then detects weight and Auto-Zero.

For information about Auto-Zero, refer to Scale Setup in Technical Manual.

- Press  or  for 1sec, power-off scale.

Scale displays battery power and off message, then cut off power

Zero

- Press  or  , will zero the scale.
  Indicator ZERO *lights on.*
- Scale must not be locked, otherwise hoLd displays.
- Scale must be stable, otherwise UnStb displays.
- Scale must not be tared, otherwise tArE displays.
- Weight must be in Manual-Zero Range, otherwise displays.

  For information about Manual-Zero Range, refer to Scale's Configuration in Technical Manual.

Tare In / Tare Out

- In gross mode, press  or  , will store the load as tare.
  Indicator TARE *lights on*
- Scale must not be locked, otherwise hoLd displays.
- Scale must be stable, otherwise UnStb displays.
- Weight must more than 0, otherwise displays.
- Weight must be lighter than 100% F.S., otherwise displays.

*Tare will reduce the apparent overloading range of scale. For example, if a 5000*2kg scale has a 1000kg container as tare, the scale will overload at a new weight of 4018kg (5000 – 1000 + additional 9 divisions).*

- In net mode, press →T← or ⇨, will remove the tare stored. *Indicator* TARE *lights off.*
- Scale must not be locked, otherwise hoLd displays

Lock / Unlock

- Press ■, will hold the reading in the scale. *Indicator* HOLD *lights on*.
- Scale must be stable, otherwise UnStb displays.
- Press ■, unlock scale. *Indicator* HOLD *lights off.*

Accumulate

- Press ▬, will accumulate the current weight. ACC will display indicating weight is accumulated. Scale uses displayed weight, so gross or net weight is added into the same accumulator.
- Scale must not be locked, otherwise hoLd displays.
- Scale must be stable, otherwise UnStb displays.
- Weight must exceed 0, otherwise ----- displays.
- Scale must return zero before new weight can be accumulated otherwise InuLd displays

View

- Press F1, enter the View mode. *Display flashes accumulated weight.*
- Scale must not be locked, otherwise hoLd displays.
- If accumulated weight is zero, noACC displays.
- Press ■, to view high 5-digital and low 5-digital.
- Press ⏻ or ⏻ to exit View mode.

Delete

- Press , will delete last accumulated weight.
  dEL will display indicating last accumulated weight is deleted.
  Delete function only deletes the last weight.
- Scale must not be locked, otherwise hoLd displays.
- If last accumulated weight has been deleted, nodEL displays

Clear

- Press , then press , will clear all weights registered.
  CLEAr will display indicating all weight are cleared.

Unit Switch

- Press , then press , switching unit between kg, lb, USR.
  When unit switches to kg, Un KG displays, indicator lights on *(some models do not have kg label or annunciator)*. When unit switches to lb, Un Lb displays, indicator lights on. When unit switches to USR, UnUSr displays, indicator kg and lb lights off.
- Unit Switch changes unit temporarily. Scale does not save unit unless System Unit is changed.

  For more information about USR, refer to Scale's Configuration in Technical Manual

Tare Set

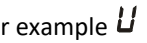
- In gross mode, press , then press or , will enter Tare Set mode.
  Scale displays 00000, waiting for user input.
- Press or , and or , input weight. Press , enter weight.
  Indicator TARE lights on.
- Scale must be in gross mode, otherwise tArE displays.
- Weight must exceed 0, otherwise ----- displays.
- Weight must be lighter than 100% F.S., otherwise ----- displays

Resolution Switch

- Press  , and then press  , switch display resolution
  - Scale displays new resolution.
  - High resolution offers better accuracy at the cost of longer measuring time and stricter requirement of load's stability.
  - Designed to meet the OIML R76's directive, the scale has the best (default) performance at 2000 to 3000 division.
  - Resolution Switch changes the apparent overloading range of scale. For example, if a 3000*1kg scale is switched to 3000*0.5kg, it will overload at 3004.5kg (3000 + 9*0.5), while by default, it overloads at 3009kg (3000 + 9*1).
  - Default resolution will be restored next time when scale is powered on or enter User Setup. To save changes in resolution for later, enter User Setup and change Resolution.

  For information about Resolution, refer to User Setup.

Battery Power View

- Press  , and then press  to view battery power.
- Scale displays battery voltage, for example  , indicating 6.38V.

  For information about battery, refer to Battery Maintenance

7. User Setup

- Press  , and then press  , enter User Setup mode.
- Message  displays.
- Press  will enter Resolution.

Resolution

Scale displays resolution to be set. For example E 0.5*, indicating resolution is set to 0.5.*

- Press or →0←, ◀ and ▼, change resolution
- Press ⏻ or ▼, exit without saving. Press ▲, exit and save.
  Designed to meet the OIML R76's directive, the scale has thebest (default) performance at 2000 to 3000 division
- Press ■ will enter Auto-Off.

Auto-Off Time

- Scale displays auto-off time, e.g., oFF 15 indicating 15min.
- Press →0← or ◀, and ▼, change Auto-Off time.
- Press ⏻ or ▼, exit without saving. Press ▲, exit and save.
  Auto-Off function maximizes scale's battery life against people's carelessness not to power off scale when it's not working.
  Auto-Off starts countdown timer when there's no action or load is stable. Any key pressing or motion in load restarts countdown timer.
  Auto-Off time can be set to: 0 (never auto-off), 5min, 15min, 30min, 60min.
- Press ■ will enter Idle Mode setting.

Idle Time

- Scale displays idle time, e.g., I dL 30 indicating 30sec.
- Press →0← or ◀, and ▼, change idle time.
- Press ⏻ or ▼, exit without saving. Press ▲, exit and save.
  To maximize battery life, scale automatically enters Idle Mode, when there's no action or the load is stable. In Idle Mode, scale works in low-power consumption status. Any key pressing or motion in load wakes up scale from Idle Mode.
  Idle time can be set to: 0 (never ilde), 5sec, 15sec, 30sec, 60sec.
- Press ■ will enter to Brightness / Backlight setting.

Brightness / Backlight

Scale displays LED brightness / LCD backlight status.

- Press →0← or ◀, and ▼, change LED brightness / LCD backlight status.
- Press ⏻ or ⏻, exit without saving. Press ▲, exit and save.
  Dim LED brightness or turn off LCD backlight saves battery power dramatically.
  LED brightness can be set to: 1(dim), 2(normal), 3(bright)。
- Press ■ will enter Anti-Motion

Anti-Motion

Scale display Anti-Motion level to be set, e.g.,  *indicating level 1.*

- Press →0← or ◀ , and ▼, change Anti-Motion level.
- Press ⏻ or ⏻, exit without saving. Press , exit and save.
  At the cost of measuring time, Anti-Motion function intelligently settles weight reading when scale is in motion. The weaker Anti-Motion is, the faster weight reading displays, but the longer it takes to be stable.
  Anti-Motion can be set to: 0 (off), 1 (weakest), 2 (weak), 3 (normal), 4 (strong), 5 (strongest).
- Press ■ will enter Auto-Off again.

8. Battery Maintenance

To maximize battery life, observe the following battery maintenance guides:

- This scale is powered by a 6V rechargeable lead-acid battery.
- Battery is permanently attached to battery door. To remove battery pack, remove both screws on the access door, pull battery pack straight out, and unplug battery cable from scale.
- Depending on LED brightness or LCD backlight setting, battery works from 40 hours to 100 hours.
- In order to conserve battery life, enable Auto-Off and Idle Mode, dim LED brightness or turn off LCD backlight.

- Charging time for a completely discharged battery is approximately 8 hours.
- To obtain maximum service life, battery should be stored between -20℃ (-4°F) and +50℃ (122°F). Stored batteries should be recharged every three months.
- When charging battery, charging indicator being green indicates lack of power, being red indicates full.

9. Troubleshooting

Symptom	Possible Cause	Suggested Solution
not power-on after ⏻ is depressed	discharged / defective battery	check battery and charge
	defective ⏻ key	press harder and keep pressing 2sec
	defective power cable	open front panel, check power cable
	defective mainboard	contact representative
display flashes	discharged battery	charge battery
no action taken after key pressed	scale is disturbed	re-plug power cable
	defective key	contact representative
weight reading not stable	load in motion	keep load stable
	weak Anti-Motion	change Anti-Motion level
	damped loadcell or mainboard	dry loadcell or mainboard
	defective mainboard	contact representative
weight reading not zero when no load	discharged battery	charge battery
	load-cell stressed too long	hang scale in storage
	drifting loadcell	contact representative
large error in weight reading	scale not zeroed before applying load	manual Zero scale before loading
	wrong unit	switch to correct unit
	scale requires calibration	calibrate scale
	defective loadcell or mainboard	contact representative
battery cannot be recharged	defective charge board	contact representative
	defective battery	
short remote controlling distance	discharged / defective remote battery	replace remote controller batteries

10. Notes

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