



PCE Americas Inc.
711 Commerce Way
Suite 8
Jupiter
FL-33458
USA
From outside US: +1
Tel: (561) 320-9162
Fax: (561) 320-9176
info@pce-americas.com

PCE Instruments UK Ltd.
Units 12/13
Southpoint Business Park
Ensign way
Hampshire / Southampton
United Kingdom, SO31 4RF
From outside UK: +44
Tel: (0) 2380 98703 0
Fax: (0) 2380 98703 9
info@pce-instruments.com

www.pce-instruments.com/english
www.pce-instruments.com

Manual

Dynamometer PCE-CS 10000N



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1 Introduction

Thank you for purchasing a crane scale from PCE Instruments.

The crane scale PCE-CS 10000N can weigh up to 10 tons. To do so, the scale comes with a solid shackle on top and a rotatable safety hook on the bottom side. The 5-digit LED display has a character height of 30 mm, so that it is easily readable, even from a distance. The crane scale PCE-CS 10000N can be operated from a distance up to 15 m as well by using the infrared remote control. The internal battery of the crane scale allows up to 50 hours of operation.

2 Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. There is no warranty of damages or injuries caused by non-observance of the manual.

- If the equipment is not used for a long period of time, please recharge the battery every 3 months, as well as right before the next use. Otherwise it can affect the battery life.
- In order to prevent potential hazardous situations when using this measuring equipment, it is vital to adhere to the safety precautions provided by the manufacturer.
- Do not expose the equipment to extreme temperatures, direct sunlight, extreme humidity or moisture.
- Never use the measuring equipment with wet hands.
- It is not permitted to carry out any technical changes on the equipment.
- The equipment should only be cleaned with a damp cloth. Do not use abrasive cleaners or detergents which contain solvents.
- The equipment must only be used with accessories offered by PCE Germany or with replacements of equal value.
- The environmental conditions, for example the temperature ranges in which the measuring equipment can be used, as stipulated in the operating instructions specifications, must always be adhered to. Otherwise the operation of the equipment is prohibited.
The measuring equipment is not to be used in an environment where there is a danger of explosion.
- Please mind the maximum capacity of the scale at any point. Do not exceed it.
- In order to prevent potential hazardous situations when using heavy-lifting equipment, it is vital the manufacturer and the operator adhere to certain requirements. When using the measuring equipment, no risk must be posed to the operator.
- The operator or the person responsible for operating the measuring equipment must adhere to the national regulations for example health and safety at work regulations or any other governmental safety standards.
- There are also other safety precautions to be taken into consideration when operating the equipment, for example precautions provided by the crane, lifting device or shackle manufacturer etc.
- The assembly, the commissioning and the servicing of the measuring equipment must only be carried out by properly trained personnel who have been provided with the appropriate protective equipment.
- The measuring equipment must not be altered and is only allowed to be used for the intended purpose.
- The measuring equipment as well as any other equipment (for example the crane or any other heavy-lifting equipment) must be regularly serviced and maintained and where necessary have the service history correctly logged or certified. Each time before using the equipment a visual check must be carried out. In the case of any discrepancies for example cracks, breaks or deformities, the equipment must be immediately disabled and declared unfit for use. This must also be reported where necessary to the person in your company who is responsible for health and safety.
- Repairs must only be carried out by trained service personnel and only approved replacement parts must be used when carrying out a repair. All repairs, servicing and replacement parts must be documented by the service department
- The operating instructions as well as the safety instructions must always be visible whilst using the measuring equipment.
- The measuring equipment is not explosion-proof and must not be used in an environment where there is a danger of explosion. The environmental conditions, for example the temperature

ranges in which the measuring equipment can be used, as stipulated in the operating instructions, must always be adhered to. The usage of the equipment in areas which are exposed to high levels of contamination or corrosion should be avoided. In instances of major temperature fluctuations, the equipment must be given time to acclimatise before being used.

- The measuring equipment is only to be used for lifting and weighing of freely moving loads. A twisting or stressing of the load must not occur during the weighing process. The equipment must not be used for lifting people. It is prohibited for loads to be allowed to be dropped or be pulled along the ground or pulled at an angle.
- The maximum load as stipulated in the operating instructions [MAX] must never be exceeded (this also includes the maximum load stipulated for the crane or the heavy-lifting equipment being used in conjunction with the measuring equipment).
- Whilst operating the equipment any other potential hazardous areas, directly around the equipment should also be taken into consideration. When the equipment is in operation the hazardous area must be kept clear of any personnel. Directly beneath the load is of course an obvious hazardous area, but the danger of, for example a cable snapping, should also be taken into consideration, and a sufficient amount of safety distance should be observed.

Servicing and examination

Checks to be made before the use of the measuring equipment

The equipment must be checked before the beginning of every workday. . In the course of the examination, the operator must ensure that,

- no deformations or other damages for example cracks are visible
- all the attachment parts are present and in good order and condition (for example safety splints etc.).
- the present complete system does not conceal any hazards (for example an incorrect assembly).
- there are no potential hazards within the vicinity of the operating area and if so the must be dealt with or rendered safe before operating the equipment.

Regular inspection / Servicing

After every 3 months or after 12,500 measurements, depending on which comes first.	- Check all parts for any excessive wear and tear. - Check all dimensions. - Check housing for any signs of deformation or damage. - Check all parts and ensure they are functioning correctly.
After every 12 months or after 50,000 measurements, depending on which comes first.	- Check all load-bearing parts for example hairline cracks etc. Only trained personnel are to carry out maintenance.
After every 5 years or 25,000 measurements, depending on which comes first.	- All load-bearing parts must be exchanged.
After every 10 years or 50,000 measurements, depending on which comes first.	- If the measuring equipment has reached the end of its usable life, then it needs to be replaced.

This user's handbook is published from PCE Instruments without any guarantee.

We expressly point to our general guarantee terms, they can be found in our general terms of business.

If you have any questions please contact PCE Instruments.

3 Specification

3.1 Technical specifications

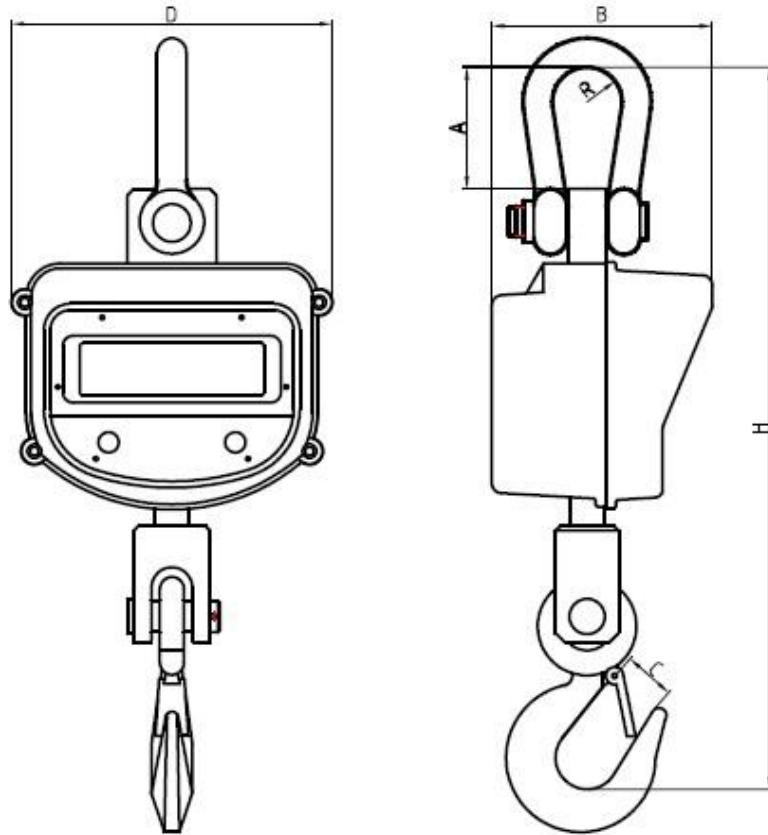
Max. capacity	10,000 kg
Min. weight	100 kg
Resolution	5 kg
Standard	According to OIML class III
Zero range	4 % F.S. (full scale)
Tare range	100 % F.S.
Settling time	≤ 10 seconds
Overload indication	100 % F.S. + 9e
Max. safety load	125 % F.S.
Ultimate load	400 % F.S.
Battery type	Fully-sealed lead-acid battery, 6 V / 1 Ah
Battery life	≥ 50 hours
Charging adaptor	9 V DC / 1000 mA
Remote control range	15 m
Remote control battery	2 x 1.5 V AAA batteries
Operating temperature	-10 ... +40 °C
Operating humidity	≤ 85 % RH under +20 °C
Dimensions	264 x 206 x 745 mm
Weight	30 kg

3.2 Delivery contents

- 1 x crane scale PCE-CS 10000N incl. Shackle, hook and battery
- 1 x charging adaptor
- 1 x remote control
- 2 x 1.5 V AAA batteries
- 1 x instruction manual

4 System description

4.1 Dimensions



A (mm)	B (mm)	C (mm)	D (mm)	H (mm)	R (mm)
124	206	48	264	745	45

4.2 Display



4.3 Remote control



Button	Function
ZERO	Zeroing Note: Use this function, if the scale is unloaded, but the display shows a reading unequal "0". In settings: Increase selected digit
TARE	Activate tare function In setting: go to next digit
SHIFT	Activate further functions in combination with other buttons (see chapter 5) In settings: confirm input
CLR (clear)	Deactivate accumulation function / delete total value In settings: Decrease selected digit
ACCU (accumulation)	Activate accumulation function
F1	Adjust display brightness
F2	No function
HOLD	Activate/deactivate hold function
OFF	Shut the scale down

4.4 Battery

The crane scale comes with a usual 6 V / 7 Ah lead-acid battery, which can be replaced if it breaks down. When fully loaded, the crane scale can be operated for ca. 50 hours. If the display of the scale begins to blink, it means that the battery voltage is low. In this case, please recharge the battery. If the battery is not recharged, the scale automatically shuts down after 1-2 hours. If this happens, recharge the battery before the next usage.

To charge the battery, use the charging adaptor (9 V DC / 1000 mA), which is included in the package. Turn the crane scale off and plug in the charging adaptor. The charging indication glows orange during charging. If the battery is fully loaded, the charging indication turns green.

If the battery voltage is low, the battery should be charged for at least 8 hours. An integrated overcharge protection prevents the battery from taking damage, if it is connected to the adaptor for too long.

5 Operation

5.1 Turn the scale on/off

To turn the crane scale on, press and hold the ON/OFF Button on the scale for 3 seconds. Now, the display shows the following:

- | | |
|-------------|--|
| 1. [88888] | 2 times |
| 2. [Ert] | 2 times |
| 3. [XXXXX] | capacity of the scale |
| 4. [U 6.XX] | current battery voltage |
| 5. [----] | waiting for stable |
| 6. [0] | reading is stable -> stable indication is active |

Now you can measure with the crane scale.

To turn the scale off, press and hold the ON/OFF button on the scale or the OFF button on the remote for 3 seconds.

5.2 Zero function

If the scale is unloaded but the display does not show "0", you can zero the scale manually. To do so, just press the ZERO button on the remote control.

Note: This cannot be done, if the displayed value exceeds 4 % of the capacity of the scale. If this is the case, please contact our customer support.

To display the current zero point, press SHIFT and ZERO on the remote at the same time.

5.3 Tare function

To use the tare function, hang a weight on the scale, wait for the reading to be stable and press the TARE button on the remote control or the TARE button on the scale itself.

The display now shows "0" and the tare indication is active.

If you already know the weight to be tared, you can also type it in manually. To do so, press SHIFT and TARE on the remote at the same time. The display now shows [0000.0].

Use ZERO and CLR to increase/decrease the selected digit and TARE to go to the next digit. If you typed in the weight correctly, press SHIFT to confirm. The display now shows the tare weight as a negative value and the tare indication is active,

5.4 Hold function

Press the HOLD button on the remote control, to freeze the current reading on the display. Press HOLD again, to unfreeze the reading.

5.5 Accumulation function

To activate the accumulation function, press the ACCU button on the remote control. The display now shows the following:

1. [No***] how many readings have been added to the sum
2. [H****] the first 4 digits of the sum
3. [L****] the last 4 digits of the sum

The current reading has been added to the sum.

After the values above have been displayed twice, the scale returns to normal weighing mode. You can also press SHIFT to return to normal weighing mode.

To display the current values of the accumulation function, press SHIFT and ACCU on the remote at the same time. The display now shows the following:

1. [No***] how many readings have been added to the sum
2. [*****] current reading
3. [H****] the first 4 digits of the sum
4. [L****] the last 4 digits of the sum

You can navigate between the individual accumulations by using TARE and ZERO on the remote control. Press SHIFT to return to normal weighing mode.

If you want to deactivate the accumulation function (all accumulation data will be deleted), press the CLR button on the remote control. The display now shows [Clr]. Press SHIFT to confirm the deletion or press CLR to cancel it.

5.6 Battery voltage

Press SHIFT and F1 on the remote at the same time to show the battery voltage. The display now shows the current battery voltage [U 6.XX]. To return to normal weighing mode, press SHIFT.

Note: If the display starts to blink, the battery voltage is low. Please recharge the battery.

5.7 Brightness

To adjust the brightness of the display, press F1 on the remote control. There are 5 different options, from dark (1) to bright (5). Option 3 is set by default.

5.8 Measuring unit

You can switch between kg and lb. To do so, press SHIFT and HOLD on the remote at the same time. The current measuring unit is displayed right next to the display.

6 Troubleshooting

Problem	Possible cause	Possible solution
Display does not show anything	Battery dead	Recharge battery
	Battery damaged	Replace battery
	ON/OFF button damaged	Contact customer support
	ON/OFF button was not pressed properly	Press and hold ON/OFF button for 3 seconds
Display starts blinking	Battery voltage low	Recharge battery
Charging indicator does not glow when charging	Charging adaptor damaged	Check/replace adaptor
	Charging adaptor not plugged in properly	Plug adaptor in properly
Display does not respond to weight changes	Load cell damaged	Contact customer support
	Load cell cable damaged	Contact customer support
	Out of calibration range	Contact customer support
Display shows excessive zero drift between measurements	Electronics do not stabilize after turning on	After turning on, let scale hang for 3-5 minutes
	Scale was put on the ground for too long	Scale should be hung
Displayed weight differs from actual weight	Scale was not zeroed before applying weight	Press ZERO before applying weight
	Calibration required	Contact customer support
	Wrong measuring unit selected	See chapter 5.8
Battery cannot be recharged	Battery damaged	Replace battery
	Charging adaptor damaged	Replace charging adaptor
Range of remote control shortened	Infrared receiver window is dirty	Check and clean
	Batteries of remote are low	Replace batteries

7 Contact

If you have any questions about our range of products or measuring instruments please contact PCE Instruments.

7.1 PCE Instruments UK

By post:

PCE Instruments UK Ltd.
Units 12/13 Southpoint Business Park
Ensign Way, Southampton
Hampshire

United Kingdom, SO31 4RF

By phone:

02380 987 035

7.2 PCE Americas

By post:

PCE Americas Inc.
711 Commerce Way
Suite 8
Jupiter
33458 FL
USA

By phone:

561 3209162

