

## Instruction Manual Electronic Balance PCE-HS N Series



## 1. Introduction

The hanging scales of the PCE-HS N series are applied in industrial sectors as well as in private sectors. The scales stand out due to a long life time, a simple design and useful functions. They are delivered as a ready-to-work article, so that you can start as soon as the package has arrived.

Functions of the hanging scales:

- Auto ON / OFF function (can be deactivated)
- Various measurement units: kg, lb and N (Newton)
- Mode for weighing animals (filter for moving objects)
- Several Hold functions (Auto HOLD / Key HOLD / AUTO key HOLD)
- Peak value indication (PEAK)
- Backlight

## 2. Technical specifications

	<b>PCE-HS 50 N</b>	<b>PCE-HS 150 N</b>
<b>Maximum load</b>	50 kg	150 kg
<b>Minimum load (without indication)</b>	0.20 kg (200 g)	0.50 kg (500 g)
<b>Reading Precision ( d )</b>	0.02 kg (20 g)	0.05 kg (50 g)
<b>Tolerance / Accuracy</b>	± 0.08 kg (80 g)	± 0.20 kg (200 g)
<b>Overload indication -oooo-</b>	from 50.18 kg	from 150.45 kg
<b>Tare weight</b>	for entire measuring range (multiple-tare possible)	
<b>Display</b>	LCD backlit (Auto-OFF within 5 s) / digit height 19 mm	
<b>Measuring unit</b>	kg / lb / N (Newton)	
<b>Power Supply</b>	3 x 1.5 V AA batteries (3.6 V ... 5 V)	
<b>LO Display (weak battery)</b>	from 3.4 V ± 0.1 V	
<b>Power Consumption</b>	<20 mA	
<b>Enclosure</b>	plastics	
<b>Operation temperature</b>	5 ... 35 °C	
<b>Storage temperature</b>	0 ... 60 °C	
<b>Weight (incl. hook &amp; carabiner)</b>	approx. 400 g	
<b>Adjustment / Calibration linear</b>	10 kg / 20 kg / 40 kg / 50 kg	40 kg / 80 kg / 120 kg / 150 kg

### 3. Delivery content and assembly


Please check immediately, after the package has arrived, whether the following items are included.

**Delivery content:** 1x hanging scales PCE-HS N series, 1x hook, 1x shackle, batteries and instruction manual.

#### Assembly:

1. Please remove the packaging from the scales.
2. Insert battery into scales.
3. Attach mounting parts to the scales.

### 4. Precautions

	<p>The scales may only be plugged into a socket with earth conductors (PE) according to regulations. The protective effect cannot be abolished by using an extension line without earth conductors. In case of voltage supplies from networks without connected earth conductor, a comparable protection according to the effective installation guidelines is to be built by a specialist.</p>
<ul style="list-style-type: none"> <li>- In case of operation in surroundings of more strict safety requirements the relevant guidelines must be followed. Use only extension lines with earth conductors.</li> <li>- If the line cord is damaged, the device has to be disconnected from the power network, effective immediately, and the line cord has to be replaced.</li> <li>- If there is any reason to doubt a risk-free operation of the scales, the device has to be disconnected from the power network and safeguarded against accidental operation.</li> <li>- The instruction manual is to be read by every operator and must be always within reach at the workplace.</li> <li>- Do not enter the danger zone, regardless of whether the scales are loaded or unloaded.-</li> </ul>	
<p><b>DANGER</b></p>	
<p>Do not place any flammable material onto, under or next to the device. Do not operate the scales in possibly explosive areas. Please be cautious not to let any fluids get inside the device or into the connections at the back of the device. In case a fluid is spilled onto the device, disconnect the device immediately from the power network. The device may only be reinstated, after inspection by a competent PCE Inst. specialist.</p>	

#### 4.1 “LO” = Low battery voltage

In case a battery load is lower than 3.4 V  $\pm$ 0.1 V, the scales will show an error indication “LO” at the display. Then the batteries should be replaced. You will require three 1.5 V AA batteries.

#### 4.2 “oooo” = overload

If the scales are loaded above its maximum range, the display will indicate “oooo” (see table). Please unload the scales and check them afterwards. That error indication may also occur if the calibration of the scales is wrong and the scales assume to be overloaded. Please perform a calibration of the scales then.

### 5. Disposal

For the disposal of batteries, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.


In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

If you have any questions, please contact PCE Instruments.?




## 6. Operation

### 6.1. Starting the scales

In order to start the scales, please press the  button at the control panel. The scales will first shortly activate all segments of the display (1<sup>st</sup> image) and will then show which HOLD functions are activated (2<sup>nd</sup> image shows HOLD key). Then the scales will automatically skip to the scaling mode (3<sup>rd</sup> image) and the weighing can be started.





Since the scales only indicate weights above 10 d (compare with table “minimum load”) it may occur that later on these values will lead to faulty measurements. We advise to press the  button previous to every weighing to delete the values that cannot be indicated.

### 6.2. Tare function

The scales have a tare function, e. g. in order to subtract the packaging from the gross weight.

- To do so, hang the empty container onto the scales, so it will only indicate the weight of that package.

- Then press the  button, so that the display will show  again.

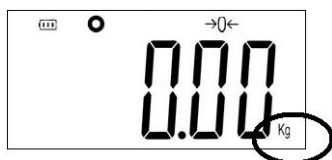
- You can also use the tare - function repeatedly (**multiple tare**).

The range for the tare function of the scales covers the entire weighing range. However, please consider that the weighing range of the scales cannot be extended with that function. For example, if you have the 50 kg scales and you use the tare function with a container of 5 kg, you will only have a total weighing range of 45 kg left. So if the maximum weighing range is exceeded, the display will indicate the following error notice:



### 6.3. Measuring unit “UNIT”


The scales can perform measurements in “kg” (kilograms), in “lb” (pounds) and “N” (Newton). The measuring unit is indicated at the right corner of the display. The “unit” switch is installed **at the back** of the scales. The unit that is set will remain active as long as you do not switch to the next unit.




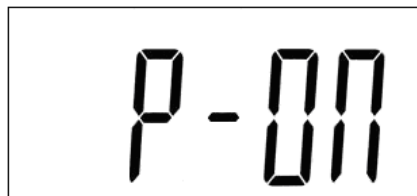
1 kg = 1000 g  
1 kg = 2.204 lb  
1 kg = 9.81 N

## 6.4. AUTO Power OFF

The scales have an automatic switch-off function to preserve the batteries. If the scales remain un-operated for 5 minutes (no alternation of the weight, no manipulation of the keys), the scales will **switch off** themselves. But this function can also be deactivated. Press and hold the "UNIT" key at the back of

the scales while also pressing the  button in order to start the scales. "P-ON" (power on) will be indicated in the display for a short time. If you activate the scales this way, they will remain active until you switch off the scales yourself by pressing the

 button or until the batteries are flat. At the next start of the scales the AUTO Power OFF function will be active again. Thus an unintentional waste of the battery power of the scales will be avoided.




## 6.5. Backlight


The display lights of the scales will be activated as soon as the scales are in use. If the scales are not operating, the lights will shut down after 5 seconds. This adjustment is preset and cannot be changed.


## 6.6. Adjustment / calibration

The scales have the option of a linear adjustment. Hereby the scales are adjusted with several weights. Thus a more precise accuracy for the entire weighing range is achieved.


To do this, press the  key and the "UNIT" key at the back of the scales, hold

both keys pressed while starting the scales via the  key. "CAL" will be indicated in the display. Now release the keys and the display will indicate "S-20". Via the "Unit"-key, you can now search for the weighing range of the scales, e. g. S-

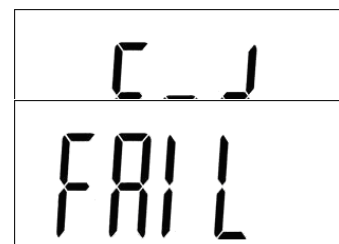
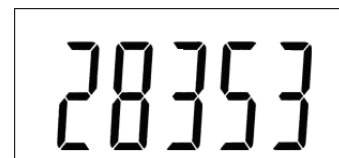
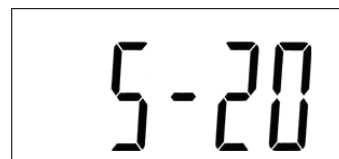
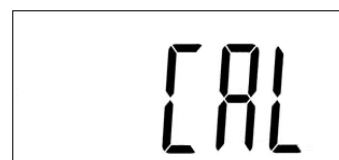
150, which can then be confirmed by pressing the  key. After that there will be a number in the display, e. g. 28353. Now you have to put the scales into the wanted

calibration position and then press the  key.

As soon as the weight required for the calibration will be indicated shortly in the display, the adequate calibration weight must be hung onto the scales. Then you


have to wait until the value is stabilized. Then press  and the next weight to hang on for calibration will be indicated in the display (e. g. PCE-HS 150 N shows: *40 kg / 80 kg / 120 kg and 150 kg*). You have to hang each of these weights one after another onto the scales for proper calibration. Follow each step until the display indicates "End".

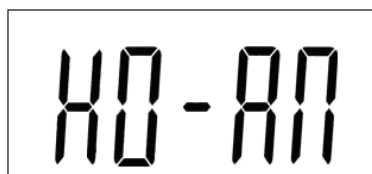
If "FAIL" is written on the display, the adjustment went wrong and you are advised to repeat all adjustment steps.



## 6.7. HOLD function (MAX and weighing animals)

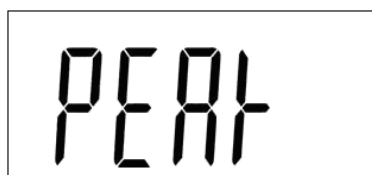
The scales support various "HOLD" functions. The HOLD functions determine when to show a result in the display of the scales.

In order to access the adjustment options for the "HOLD" function, press and hold the  key, so that several HOLD functions will be shown one after another.



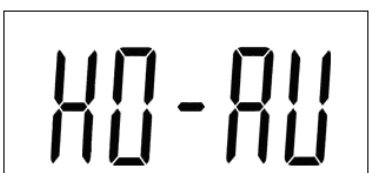
### HOLD / ANIMAL      Mode to weigh animals

This function allows weighing moving objects. Therefore, the scales automatically calculate an average value out of several weights. The average value will be indicated in the display after 6 ... 8 seconds. The average value is calculated from approx. 14 ... 16 measurements.



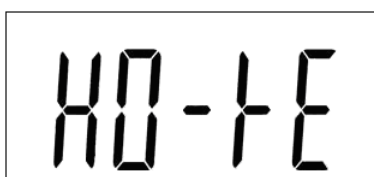
### PEAK      Indication of maximum value

This function keeps the maximum value in the display until that value is exceeded. This function is often used for tensile tests (500 ms ... 0.5 s).



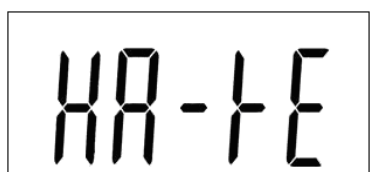
### HOLD / AUTO      Automatic Hold of value

This function automatically freezes the value in the display, as soon as it is stable. The stability will be indicated at the left upper corner of the display as a circle. Further weighings can be performed by pressing the "HOLD" button. During the measuring process, the "HOLD" symbol flashes. As soon as a stable value is reached, the "HOLD" symbol will freeze in the middle upper area of the display and will not flash anymore.



### HOLD / KEY      Freezing value by key press

This function freezes the value in the display that is indicated during pressing the "HOLD" button. Therefore, the value does not need to be stable. For further weighing, please press the "HOLD" button again.



### HOLD / AUTO / KEY      HOLD by key press for stable values

The value will only be frozen in the display after the "HOLD" key is pressed and the value on the display is stable enough.

For further questions and information on calibration, please contact us: **PCE Inst.**

## **7 Contact**

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

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