

pepper

Charging Station Guide

This document is a complement to the Pocket Guide and the Beginner's Guide.

If you use Pepper for the first time, make sure you read the Beginner's Guide for information about charging Pepper and talking to Pepper.

Please read this document carefully before using the Charging Station.

The latest version of our documents are available online: <https://www.softbankrobotics.com/us/support/welcome/>

If you have any question, please contact Customer Care: <https://account.aldebaran.com/support/>

About the Charging Station

The Charging Station is an extension to the Battery Charger that automates the recharging of Pepper and gives it independence.

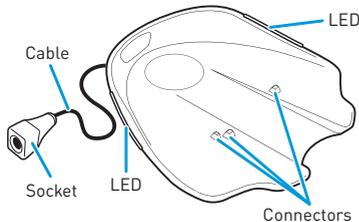
Instead of manually plugging in the Battery Charger every time you want to charge Pepper, you connect the Battery Charger to the Charging Station once and for all.

After configuring the Charging Station, Pepper can go and charge itself in three different ways:

- When its Battery level is low (around 15%), Pepper automatically goes to the Charging Station. You can set Pepper to leave its Charging Station before it reaches 100% if you want to shorten the Battery charging time.
- When you use a vocal command, such as: "Go to your Charging Station" and "Leave your Charging Station".
- Using the Charging Hours (only if you activated and configured them). The Charging Hours are a time frame you can set in which Pepper uses its Charging Station. Pepper does not leave its Charging Station before the end time, even if you ask it using a vocal command, and no matter what its Battery level is. Ideally, set a time frame in which you do not need your robot.

Contents

■ Charging Station



■ Charging Station Guide (this document)

■ Fixing strips

You also need: Pepper and the Battery Charger that came with Pepper.

Setting up the Charging Station

Follow this whole section (A to E) to set up your Charging Station.

According to your type of floor, you may or may not need to use the fixing strips (determined in the chapter **Securing the Charging Station**).

A. Preparing the Charging Station

1. Place the Charging Station

The chosen location must meet the following criteria. If it does not, it may be dangerous for Pepper or prevent it from using the Charging Station.

- Keep the floor around the Charging Station free from obstacles (e.g. cables), and ensure there are no obstacles on Pepper's way to the Charging Station.
- Ensure it is at least 3 m (approx. 10 ft) away from any step.
- Direct sunlight can prevent Pepper from detecting the Charging Station.
- Ensure it is at least 10 cm (approx. 4 in) away from a wall to give Pepper freedom of movement.
- Avoid thick rugs and carpets.
- Put the Charging Station on a flat and level surface.

2. Connect the Charging Station

- a. Plug the Battery Charger into a wall socket.

The Battery Charger is not included with the Charging Station. Use the charger that came with Pepper.

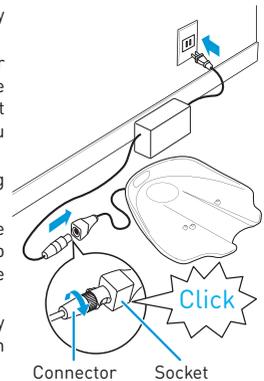
- b. Check that the Battery Charger LED is ON.

- c. Insert the Battery Charger Connector into the Charging Station Socket and turn right until you hear a click.

The LEDs of the Charging Station blink blue once.

- d. Tidy the cables behind the Charging Station and keep them out of the way of the Robot and of people.

When the LEDs are steady blue, the Charging Station is ready to use.



B. Preparing Pepper

1. Ensure the Charging Flap of Pepper is closed

When the Charging Flap is open, a safety feature blocks the wheels, preventing Pepper from moving around.



C. Configuring the settings

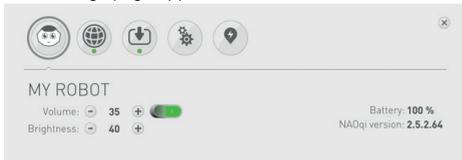
Pepper does not need to be standing on the Charging Station during the configuration.

This procedure is designed for NAOqi 2.5.2. It may not apply to your Pepper. For other versions, check the online documentation. Open the Settings page to check your NAOqi version.

1. Open the Settings page

- When Pepper is idle, press the Tablet once to display the App Launcher.
- Press the **Settings** icon .

The Settings page appears.



2. Press the Charging Station settings button

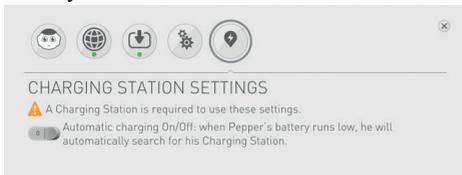
If the button is not displayed, you can either:

- Update Pepper's software in the Applications update menu 

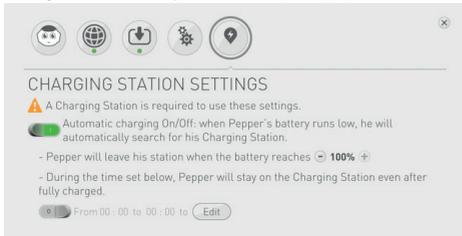
Or

- Download the Auto recharge App in the App store.

3. Press the grey switch to allow Pepper to automatically use the Charging Station when its Battery is low



The switch turns green and optional settings appear. To configure them, see part **D. Configuring optional settings**.



If you do not configure optional settings, Pepper uses the Charging Station only when its Battery level is low, and leaves it when its Battery reaches 100%.

4. Leave the Settings page

- Press the exit button  in the top right of the screen.

A confirmation window appears.

- To leave the Setting page and save your modifications, press **Exit**. To stay on the Settings page, press **Cancel**.

D. Configuring optional settings

1. Go to the Charging Station settings page.

2. To set the Battery percentage at which Pepper leaves its Charging Station, use the + and - buttons

- Pepper will leave his station when the battery reaches  100% 

Default setting is 100%.

3. Set Charging Hours

- Press the grey switch at the bottom of the page to activate Charging Hours.

 From 00 : 00 to 00 : 00 to 

The switch turns green.

- Press **Edit**.

- Press the drop-down menus to select Charging Hours as follows: "From (start hour) (start minute) to (end hour) (end minute)".

 From 00 : 00 to 00 : 00 to  

- To save the Charging Hours you selected, press **Apply**. To quit the selection of Charging Hours without saving your modifications, press **Cancel**.

E. Checking the first use

It is recommended to watch over this manoeuvre the first time to ensure it is carried out successfully. The whole procedure lasts a few minutes.

Commands are given vocally. Make sure Pepper identifies you and listens to you before talking (see Beginner's Guide).

1. Say to Pepper: "Go to your Charging Station"

- Pepper looks around for the Charging Station.

It searches an area of 3 meters (around 10 ft) and 180° in front of it. If it doesn't find the Charging Station, it turns 90°, and checks again until it completes a full turn on itself.

- Pepper sees the Charging Station and positions itself right in front of it.
- Pepper aligns with the Charging Station, then turns around.

Pepper may be loud when it aligns with the Charging Station.

- Pepper rolls back onto the Charging Station.
- When Pepper is connected, the LEDs of the Charging Station turn OFF.

You can interact with Pepper when it is on the Charging Station but it can't move its wheels.

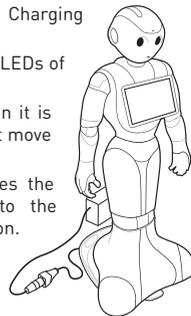
The Battery charger LED indicates the charging status. Please refer to the Pocket Guide for further information.

2. Say to Pepper: "Leave your Charging Station"

Pepper leaves the Charging Station and stops in front of it.

3. When Pepper docks, check if the Charging Station moves

If the Charging Station has moved, please refer to **Securing the Charging Station** and follow the instructions.



Securing the Charging Station

If you find that the Charging Station moves during docking or undocking, secure the Charging Station using fixing strips according to the following procedure.

Fixing strips are made of two parts: one part is already glued to the Charging Station.

There are spare fixing strips in the bag. Only two are needed.

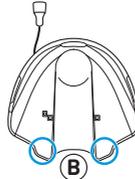
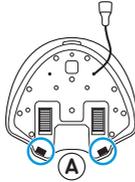
To secure the Charging Station, you have to stick fixing strips on the floor. Removing them may damage the floor surface.

SoftBank Robotics will not be liable for any damage caused.



Placing the fixing strips

1. Carefully choose the location of the Charging Station
2. Turn the Charging Station upside down.
3. Locate the two strips already glued to the Charging Station (see figure A).
4. For each glued fixing strip, take another fixing strip from the bag and place it over with the hooks facing down. Push down.
5. Peel off the two protective films.
6. Turn the Charging Station over and place it on the floor at the exact chosen location.
7. Firmly press the Charging Station directly above where the strips are located (see figure B) to ensure the Charging Station is secured.



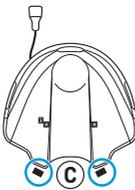
Removing the Charging Station

If you need to remove the Charging Station, carefully lift up the Charging Station from the rear.

The fixing strips free themselves.

Placing the Charging Station back

1. Put the Charging Station on the floor, behind the fixing strips (see figure C), and align the fixing strips on the ground with the ones under the Charging Station.
2. Gently lift the Charging Station from the front and drag it forwards so that the fixing strips align vertically.
3. Firmly press the Charging Station directly above where the strips are located (see figure B) to ensure the Charging Station is secured.



installation and service instructions closely, and store them for safekeeping.

Label information

Danger	Failure to follow this is highly likely to lead to death or serious injury (1)
Caution	Failure to follow this is likely to lead to death or serious injury (1)
Attention	Failure to follow this is likely to lead to slight injury (2) or damage to property (3)

(1) Serious injury is any of the following: blindness, 2nd and 3rd degree burns, electric shock, bodily injuries, fractures, poisoning, that results in hospitalization. In addition these may be followed by complications.

(2) Slight injury is any of the following: other bodily injuries, burns and electric shocks that do not result in hospitalization.

(3) Damage to property is any of the following: consequential damage to property equipment or furniture, injury to pets or other animals.

Indicates prohibition (Do not do it)	Always follow the instructions.
Do not use in wet environment. Do not expose to water.	Unplug the device from the wall socket.

Handling the Charging Station

Danger	
	Keep away from heat sources (fire, direct sunlight, heating devices). High temperatures can cause fire, electric shock or damage to the Charging Station.
	Do not cover. Keep away from objects that may cover it accidentally. Covering the Charging Station may cause it to malfunction or overheat, and may result in burns. Part of case will be hot and may cause scald. Operating temperature must be between 5 °C (41 °F) and 35 °C (95 °F).
	The Charging Station is designed for indoor use only. Do not use outside.
	Keep the Charging Station dry at all times, otherwise it may cause fire, electric shock or damage. Carefully chose a suitable location. Operating humidity range must be between 20% and 80% uncondensed.
	Do not touch the connectors. Do not handle the Charging Station with wet hands. It can cause fire, electric shock or damage.
	Do not force the connectors when plugging or unplugging. In case of trouble, refer to the online documentation.
	The Charging Station is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lacking experience or knowledge, unless they are supervised or given instructions concerning use of the appliance by a person responsible for their safety. Keep away from children under 14.
	If the Charging Station is broken or damaged, do not use.
Caution	
	Do not open, modify or attempt to repair the Charging Station yourself. It can cause fire, electric shock or damage.
	To prevent the spread of fire, keep candles or other open flames away from Charging Station at all times.
	Do not let conductive materials (e.g. pencil lead, metal fragments, etc.) touch the plug or connectors of the Charging Station. They may cause fire or malfunction.
	Never attempt to dry the Charging Station with an external heat source such as a hairdryer or an oven. It can cause fire, electric shock or damage to the Charging Station.

Safety instructions

IMPORTANT: It is strongly recommended that people handling the Robot and the Charging Station follow these safety guidelines for their personal safety. NOT DOING SO MAY LEAD YOU TO VOID THE WARRANTY OF PEPPER, THE BATTERY CHARGER OR THE CHARGING STATION. The guidelines will help you protect the Robot, the battery charger, the Charging Station and their working environment from damage.

This documentation also covers disposal, recycling, and regulatory information. These safety instructions do not cover all possible conditions that may occur.

At all times remember that safety to Humans always comes first; safety to Robots, always comes second. Always follow

⚠ Caution

-  Only use the recommended battery charger provided with Pepper. Other chargers may damage the Charging Station and may cause fire or electric shocks.
-  Do not touch the Charging Station during a storm. The Charging Station can cause an electric shock.
-  Do not use the Charging Station in (or with) any heating appliance, for example ovens, IH cooker, etc. It may cause overheating, smoke, fire, or malfunction.
-  Do not use the Charging Station where humidity is saturated or water may splash such as a bathroom. It can cause fire or electric shock.
-  Verify that the available supply voltage is adequate for the Charging Station.
-  When using a power extension cable or a multiple socket adapter, make sure it is grounded and has sufficient current rating.
-  If there is dust on the plug, it may cause fire. Unplug the Charging Station and clean the plug with a soft dry cloth.
-  Connect the Charger to the wall socket before connecting to the Charging Station.
-  If unused for a long period (e.g. a week), unplug, and store in an area free from dust.

⚠ Attention

-  The Charging Station must not be subjected to any impact or other force, whether plugged or unplugged. This can cause fire, injury or damage.
-  Ensure the Charging Station is used in a clean area. Small objects or particles can get stuck in Pepper's wheels while docking or undocking and can cause fire, injury, damage or malfunction.
-  If there is smoke, sparks or smell coming from the Charging Station casing, unplug immediately from the wall socket and contact Pepper technical support.
-  Do not step on the Charging Station or put objects on it other than the Robot.
-  Do not step on the cable of the Charging Station or put objects on it other than the Robot.
-  If the cable is damaged, do not use it.
-  Since there is no ON/OFF switch, ensure there is easy access to the wall socket.
-  Do not pull on the power cable to unplug. Remove the plug from the wall socket

Maintenance

To clean the Charging Station:

1. Unplug all cables from the Charging Station.
 2. Unplug the Charger from the wall socket.
 3. Clean the dust and dirt on the surface of the Charging Station using a soft damp cloth.
 4. Wipe off with a dry cloth.
- Do not use abrasives, aerosols or other fluids, as they may contain flammable substances or may damage the plastic finish. Never spray or submerge the product in water or any other liquid.
 - Do not disassemble. You don't need to maintenance internal parts.
 - Use the Charging Station only when it is completely dry.

LED notifications

Flashing blue (1 s)	Start up
Steady Blue	Ready to use

Off	Charging
Flashing red	Error*

*If the LEDs are red, unplug the Charging Station and plug it again. If the problem persists, please contact Customer Care (refer to the Pocket Guide).

Specification

Input voltage	29.2 V DC
Output voltage	29.2 V DC
Output current	8.0 A
Dimension (hwxwxl)	75 x 390 x 370 mm (2.95 x 15.35 x 14.56 in)
Cable length	1.3 m (4.26 ft)
Weight	1.86 kg (2.87 US lb)
Waterproof level	IPX0

Compliance information and symbols

The labels are found under the Charging Station.

	Europe: Waste Electrical and Electronic Equipment Directive is the European Community directive 2012/19/UE
	Europe: Complies with CE directives and regulations
	Japan: VCCI certification Complies with the VCCI rules
	China: Complies with GB 60 950 Do not use in tropical climate regions
	China: Complies with GB 60 950 Do not use at altitude exceeding 2000m
	NRTL Curtis Strauss Mark: Complies with ANSI/UL rules for the US and Canada
	Australia (RCM mark): complies with Australian regulations and requirements
	Indoor use only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Materials

Item	Material / Coating
Casing	PP, ABS-PC, Silicone, Paint, UV coating
LED	PC
Socket	ABS-PC, Silicone, Paint / UV coating
Connectors	Beryllium copper