



Magic Pie kits Assembly guide

Version 4.2 ~ 20/04/2012



Do not waste paper

Only print the essential pages of this document.

- Print on both sides
- Print several pages on the same sheet of paper

Thank you

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Table of contents

1 . Opening the parcel.....	4
2 . Before getting started.....	5
1 - Recommendation.....	5
2.2.Technical support.....	5
2.3.Guarantee, resending and after-sales service.....	5
2.4.How to report an anomaly.....	5
2.5.Checklist of the tools necessary for the assembly of your kit.....	6
2.6.Pre-requisite and duration of the assembly of your kit.....	6
3 . Setting up the motor.....	7
3.1.Setting up a FRONT motor wheel.....	7
1 - Setting up a REAR motor wheel.....	9
2 - Disassembly of the brake levers from the original controls panel.....	11
3.2.Setting up the new controls panel.....	12
1 - INTERNAL controller : connecting the controls on the controls panel.....	13
2 - Recommendation before setting up an EXTERNAL controller.....	15
.....	15
3 - EXTERNAL controller : connecting the controls to the controls panel.....	16
4 - Battery : wiring the battery to the power cable.....	18
5 - Adjusting the V-brake.....	18
3.3.End of the assembly.....	19
4 . Use of the electric bike.....	20
4.1.Important recommendation for the kit's use :.....	20
4.2.Maintenance of the kit.....	20
4.3.Maintenance and use of the battery.....	21
4.4.IMPORTANT : what you should never do !.....	21
5 . Analysis of the failures (keep this document with your bike).....	22
5.1.The different failure cases.....	22
a)The bike does not start, the controller is mute, no bip :	22
b)The controller utters one or several bips :	22
c)Other malfunctions.....	22

1 . Opening the parcel

After opening the parcel, you will find the kit's following components (according to your order*) :

The motorized wheel	
Kit Magic Pie	
4x Anderson connectors to solder 	Power brake handles 
Thumb or twist throttle ** 	12 clamps 
The cruise control with horn button 	Le pedelec (détecteur de pédalage), optionnel 

* Non-contractual pictures , setup according to the choice of the user.

2 . Before getting started

1 - *Recommendation*

The Goldenmotor kits have been checked and packaged in our workshop in order to make the assembly easier and more reliable.

We recommend to follow the assembly steps.

It is important to check that all accessories are properly fixed to the bike, that the electric connections are fixed and protected from the rain and water spatters and finally and most important : that **the wheel is securely screwed to the fork of your bike.**

Cycloboost is not responsible for a bad assembly or a bad use of our kits. The guarantee does not cover an abnormal or non-conform use of our products.

Please consult the general sales condition on our website www.cycloboost.com :
www.cycloboost.com/conditions-generales-de-ventes/

The Magic Pie kits are reserved for **a use on private roads**. The purchase of these items and their use are under your responsibility.

Carefully read the recommendations
on chapter 4 : **Use of the bike.**

2.2. *Technical support*

In spite of all our efforts, there may still be some technical information difficult to understand. Cycloboost is at your disposal to make it clearer and to guide you if you need it :

You can contact us @ support@cycloboost.com

2.3. *Guarantee, resending and after-sales service*

Cycloboost's technical support is at your disposal to answer all questions related to :

- The dysfunction of one of the elements of the kit
- The resending of the products
- The after-sales service

2.4. *How to report an anomaly*

Before reporting to the after-sales service, please check the wiring as well as the charging state of the battery.

If the anomaly remains, send an e-mail to the after-sales service @ support@cycloboost.com with the following information :

- Your name
- Your invoice number
- The serial number of your motor, controller of battery
- The precise description of the failure : how it happened (while cycling, at a standstill, at the start, while charging the battery, while braking, while speeding up ...)
- The tests or handlings you made

2.5. Checklist of the tools necessary for the assembly of your kit

In order to assemble your kit, you need to have the following tools. You can get them in any bicycle or DIY shop.

3 Allen wrenches diameter 2,5mm, 3mm & 6mm 	A spanner 21 
A pair of scissors 	A metal file (optional) 

2.6. Pre-requisite and duration of the assembly of your kit

The assembly of a Goldenmotor kit prepared by Cycloboost is simple. You just need to know how to use the tools mentioned above.

The « **technical part** » of the assembly is the one where you have to adjust, if need be, the V-brake in order to brake safely.

We consider that replacing a flat tire is moderately difficult .

		Difficulty (1)	Duration
1	Setting up the motorized wheel		30mn
2	Setting up the controls panel		60mn
3	Setting up and wiring the controller		45mn
4	Setting up and wiring the battery		45mn
5	Checking the transmission (rear wheel)		20mn

(1) Here is our scale :

	Very easy
	Easy
	Medium
	Difficult
	Very difficult

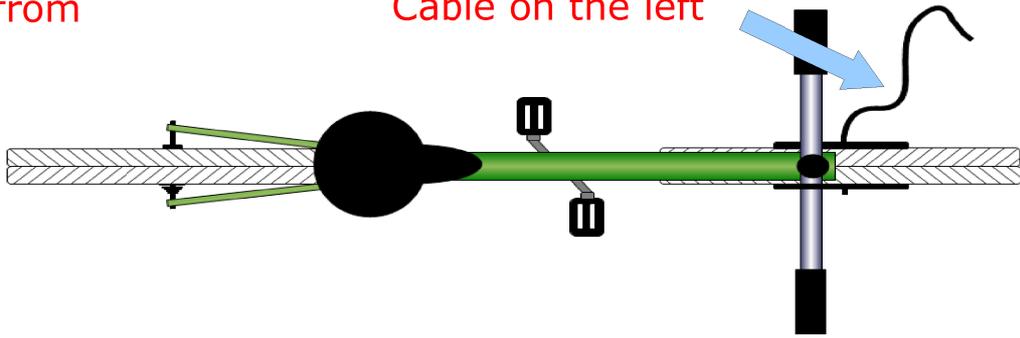
If you have any **difficulty on the mechanical part**, do not hesitate to get in touch with a professional (bicycle shop or big brand, Cycloboost partners – the list is available here <http://www.cycloboost.com/revendeur-velo-electrique/>) or consult the website <http://velo-reparation.fr/>.)

3 . Setting up the motor

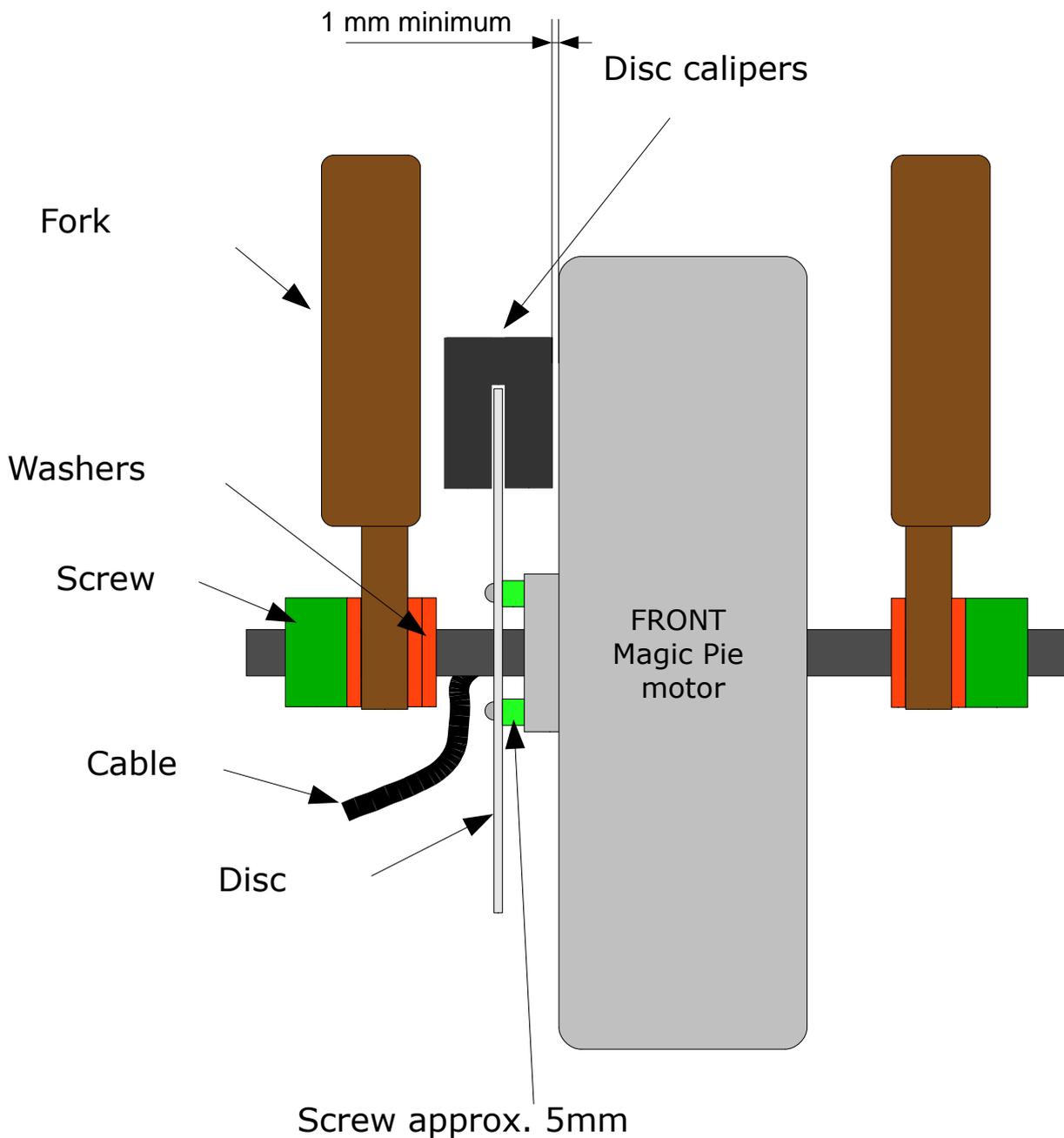
3.1. Setting up a FRONT motor wheel

Bike seen from above

Cable on the left



Put your bike upside down on the ground and put the axis of the wheel in the fork ends



The screws will enable you to move **the disc** away from the motor's side (about 5mm) in order for the disc to fit in the calipers. Then you just need to **adjust the caliper** thanks to the **2 screws** to get **the best centering**.

Before screwing your wheel, make sure the wheel is centered in the fork and the torque washers fit in the fork ends.

Note : It may be useful to move the washers to get the best centering.

Screw your wheel thanks to **a spanner 21**. **Do not use universal pliers for the tightening**, it will not be enough.

Trick : during the tightening, **tighten little by little on both sides of the motor** to prevent the motor from moving in the fork ends.

All bikes do not have exactly the same dimensions. For a perfect adjustment, you may have to **turn and move the torque washer on the other side of the fork end**.

For **1 or 2mm max**, you can also slightly spread the fork.

Adjusting the V-brakes

Check the centering of the wheel on the fork. **For a perfect adjustment, you may have to turn and move the torque washer on the other side of the fork end**.

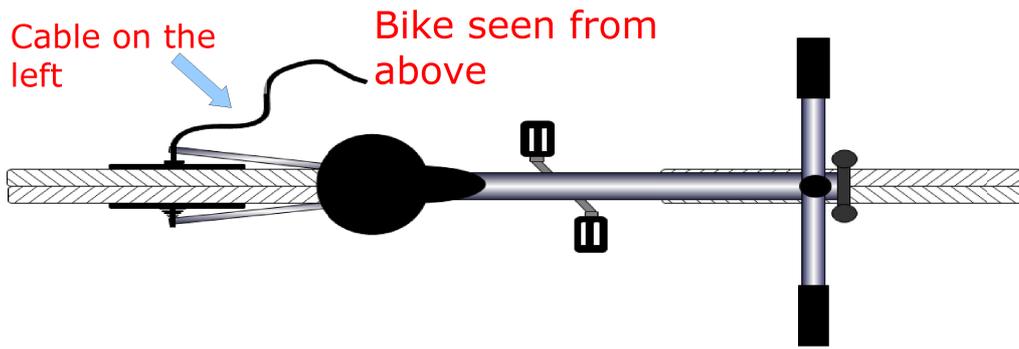
Turn your wheel manually, make sure the brakes are symmetrically flat against the rim. You will adjust the tension of the brakes cable at the end of the assembly.

Important : A badly screwed wheel can break your fork and cause a wrenching of the power cable. Cycloboost is not responsible for a bad assembly, carefully check your assembly and tightening.

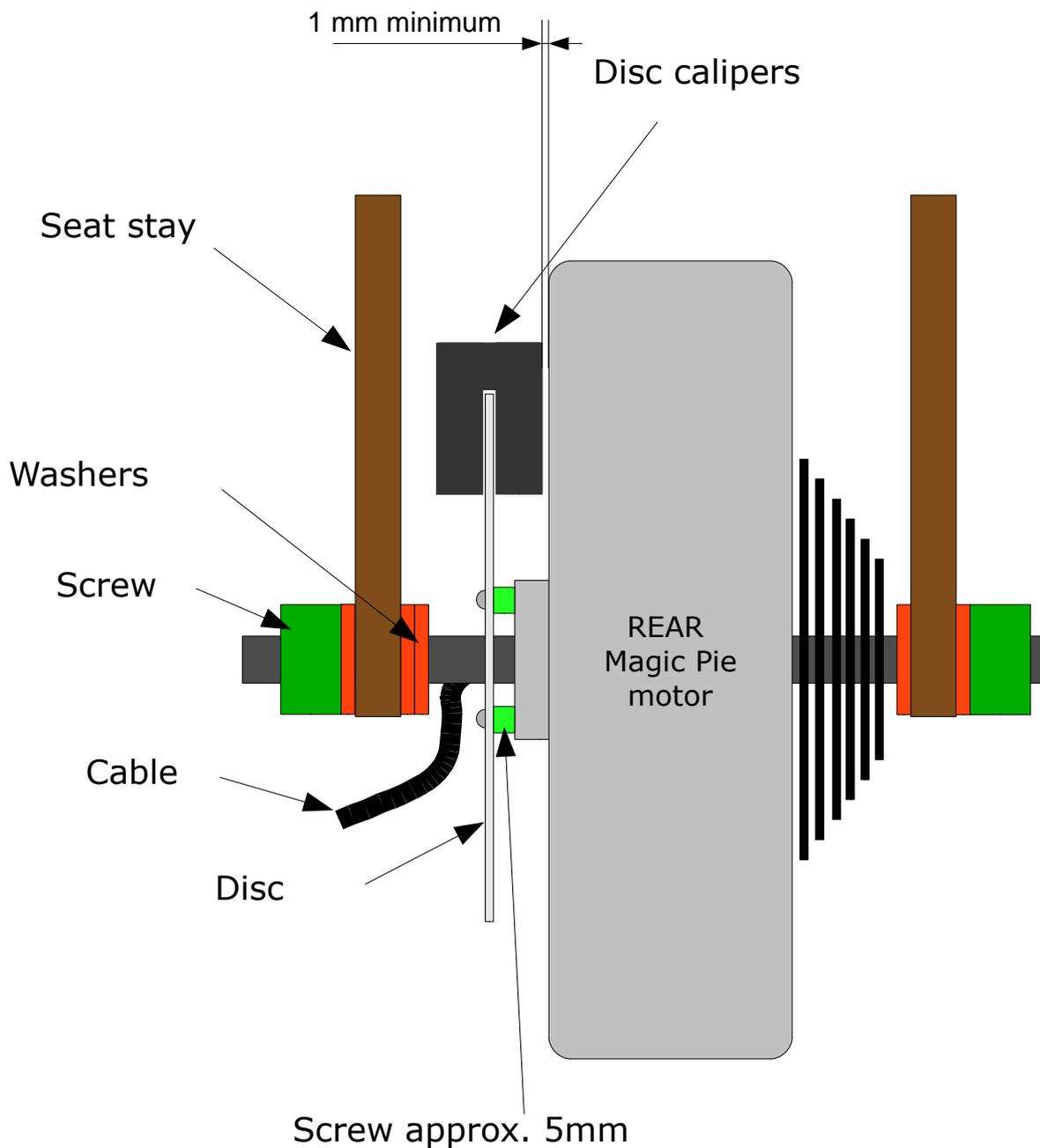
We recommend the use of **Torque arms** (<http://www.cycloboost.com/torque-arm-renfort-fourche-velo-electrique.html>) to strenghten the forks.

At this point, the wheel and the brakes must be set up : **tighten your wheel strongly**.

1 - Setting up a REAR motor wheel



Put your bike upside down on the ground and put the axis of the wheel in the frame ends (at the end of the seat stays) :



The screws will enable you to **move the disc away** from the motor's side (**about 5mm**) so the **disc** will **fit in** the **caliper**. Then, your just need to **adjust the caliper** thanks to the **2 screws** to get **the best centering**.

Before putting the wheel into place, **put the rear derailleur on the little sprocket** so the chain will not touch and damage the side of the motor.

Before screwing your wheel, make sure the wheel is centered on the frame and the torque washers fit in the frame ends.

Trick :

- During the tightening, tighten little by little on both sides of the motor so it will not move into the fork ends.
- According to the forks, it may be useful to move the washers (struts) to get the best centering.

Important : Before screwing, make sure nothing prevents the wheel from turning. Otherwise, just correct it by moving or adding one of the washers furnished.

Screw your wheel with **a spanner 21**. **Do not use universal pliers for the tightening**, it may not be enough.

Adjusting the V-brakes

Make sure the wheel is centered in the seat stays. For a perfect adjustment, you may have to **turn and move the torque washer on the other side of the seat stay**.

Turn your wheel manually, make sure the brakes are symmetrically flat against the rim. You will adjust the tension of the brakes cable at the end of the assembly.

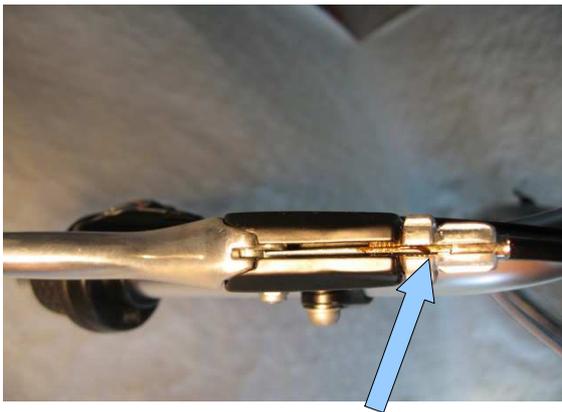
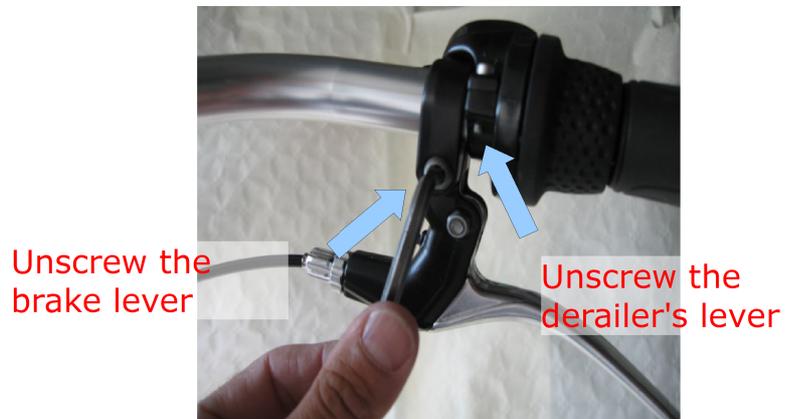
Important : A badly screwed wheel can break your fork and cause a wrenching of the power cable. Cycloboost is not responsible for a bad assembly, carefully check your assembly and tightening.

We recommend the use of **Torque arms** (<http://www.cycloboost.com/torque-arm-renfort-fourche-velo-electrique.html>) to strenghten the forks.

At this point, the wheel and the brakes must be in place : **tighten your wheel strongly**.

2 - *Disassembly of the brake levers from the original controls panel*

Remove the rubber grips, the original brake levers and the front and back derailer's levers with an **Allen wrench** :



Align the 2 alloy
screws to remove the
cable

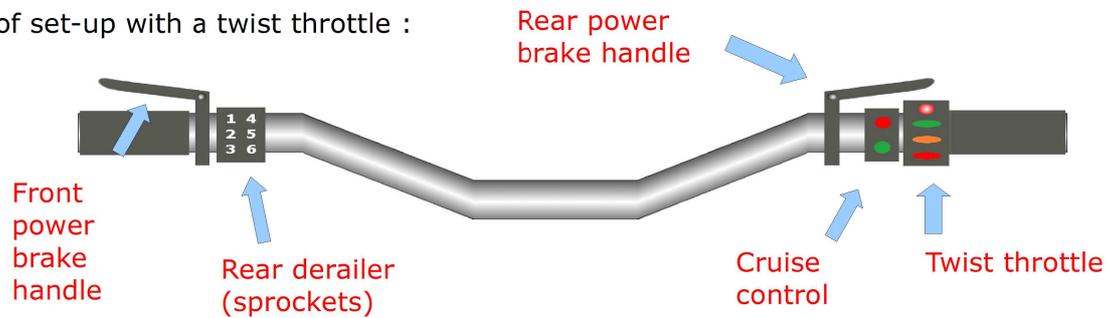


Remove the cable
from its
compartment

3.2. Setting up the new controls panel

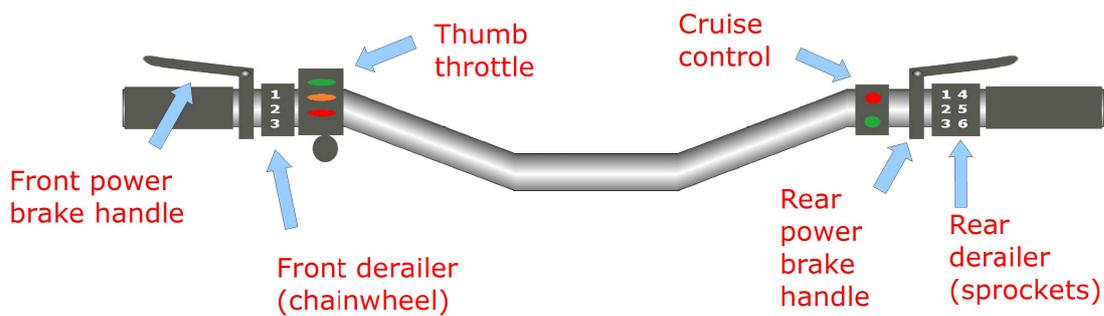
Important : If you set up a **twist throttle**, you may not be able to use the gear lever AND the twist throttle **with only one hand**.

- Example of set-up with a twist throttle :



The front derailer's controls has been removed in this example.

- Example of set-up with a thumb throttle :



After setting up the different controls, tighten them with the proper Allen wrenches.

Important : put the **cables** of the V-brakes in the new handles.

You just need to connect the cables on the controller, see the following chapters.

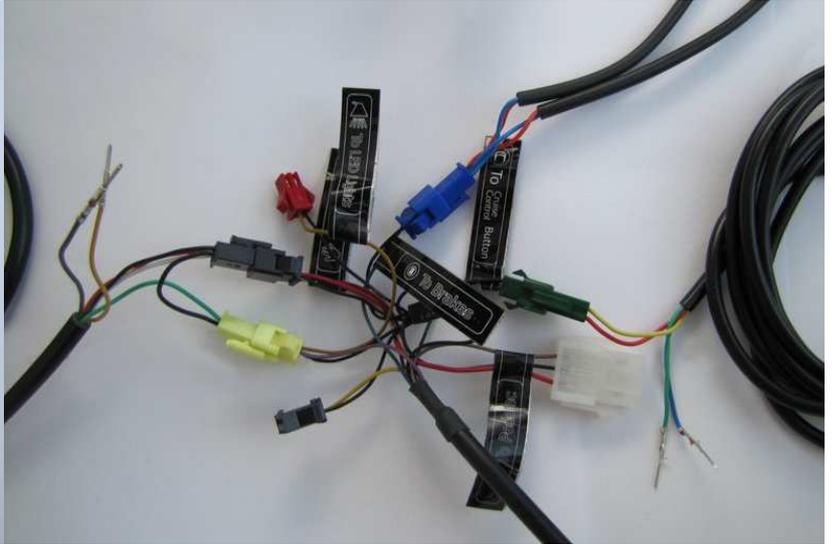
Note : The power brake handles are not compulsory for a proper functioning of the kit. It is just an extra security.

1 - INTERNAL controller : connecting the controls on the controls panel

Here are the detail and functions of the connectors.



Main cable of connection of the accessories with its colored connectors



Connection of the accessories on the main cable



Power brake handles

- blue connector
- Compatible with all cable brakes.

The connection of this accessory **is not compulsory** for a proper functioning of the kit.



Thumb throttle :

- black connectors 3 threads (throttle)
- yellow connector (battery warning light)*

Optional : the 2 threads yellow and brown can be used to control the lights (optional) thanks to the red button.

* The connection of this accessory **is not compulsory** for a proper functioning of the kit.



Cruise control

- green connector (Cruise control)

The 2 threads green and blue can be used to control the horn (not supplied) thanks to the green button.

The connection of this accessory **is not compulsory** for a proper functioning of the kit.



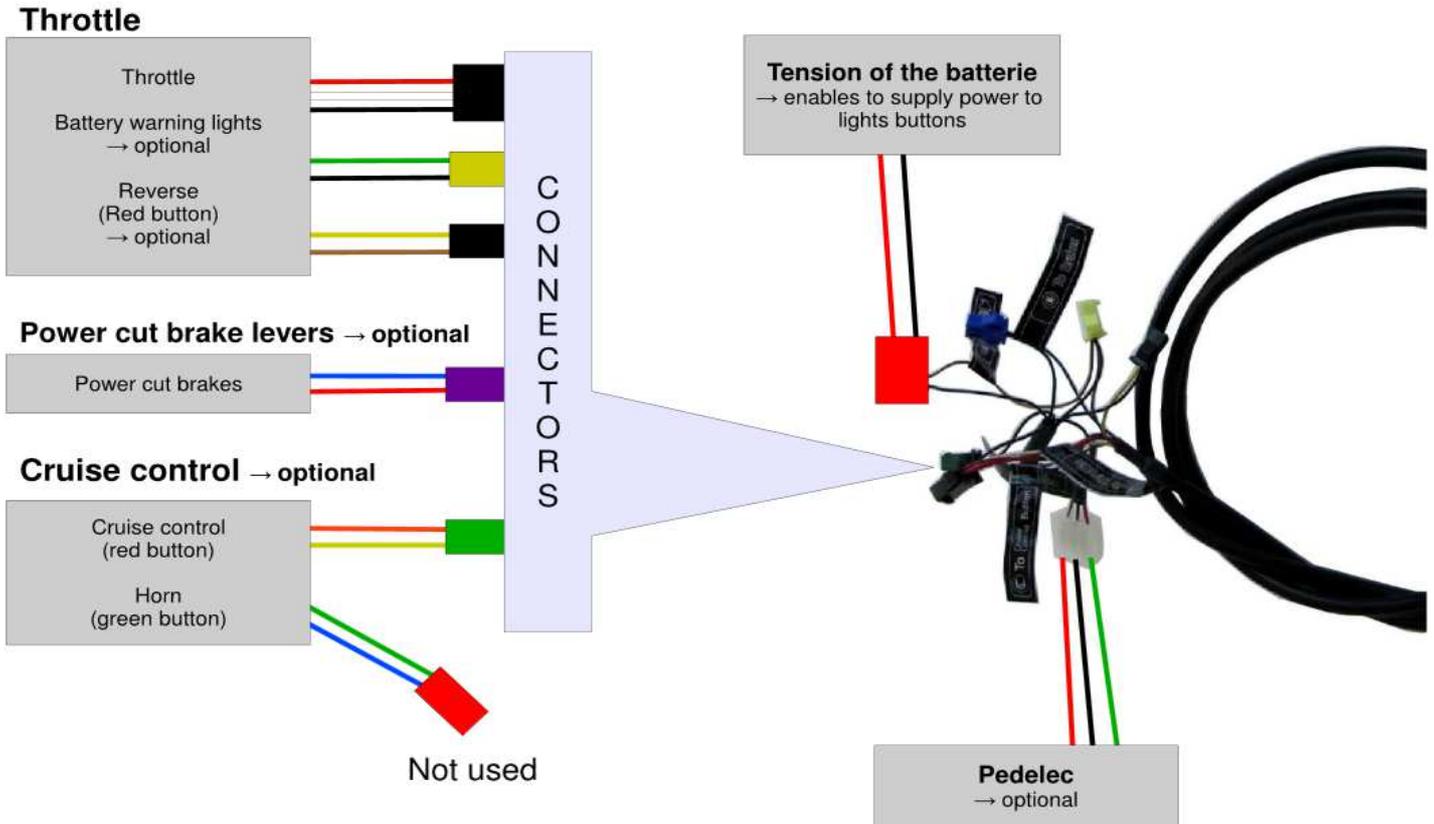
Power supply of the motor

- red thread (+)
- black thread (-)

You can put use Anderson connectors.

The Anderson connectors' assembly guide is downloadable on our website : http://www.cycloboost.com/media/guide-installation/Cycloboost_Guide_Anderson_powerpole.pdf

You can now connect the connectors of identical colour like this :



2 - Recommendation before setting up an EXTERNAL controller

In normal use, the controller **heats up** : do not put the controller in a box or bag **too small** and **airtight**. It needs enough space (20x10x10cm minimum) and **openings** to allow for the heat to evaporate.

The controller must be ventilated at all times. The bag containing the controller must be opened enough to create an air flow.

Trick : with a soldering iron, you can make little holes in the controller's bag to let the heat evaporate. No problem in case of rain if a few drops go through the holes. You just must not immerse the controller in water.

 **The bottom part of the controller must be ventilated** and must not be set against the bag or casing. There must be at least 3cm (see picture above) for the ventilation of the controller's radiator.



In case of rain, think about a waterproof hood for the bag or casing containing the controller, if necessary.

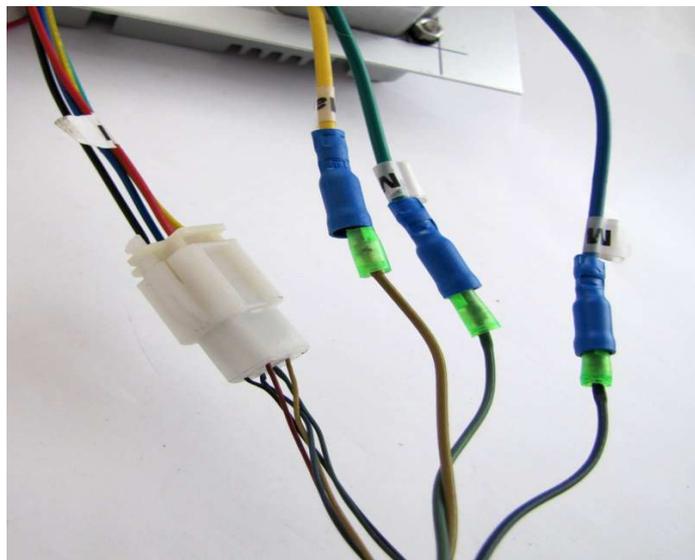
Leave the horn connected to the controller, even if you do not use it as a horn. The controller may use the horn to warn you of an anomaly. It is an analysis tool.

3 - EXTERNAL controller : connecting the controls to the controls panel

Here are the details and functions of the connectors :



Global view of the controller with its connectors



Connection of the motor on the controller :
- connector 6 white plastic pins
- 3 motor phases threads (yellow, green, blue)



Power brake handles

- blue connector

Compatible with all cable brakes.

The connection of this accessory **is not compulsory** for a proper functioning of the kit.



Thumb throttle :

- black connector 3 threads (throttle)
- yellow connector (battery warning light) *
- black connector 2 threads (red button) *

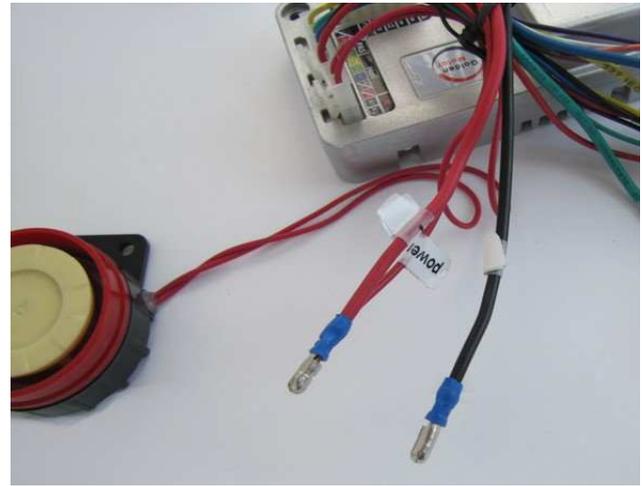
* The connection of these connectors **is not compulsory** for a proper functioning of the kit.



Cruise control

- green connector (Cruise control)
- red connector (Horn)

The connection of this accessory **is not compulsory** for a proper functioning of the kit.



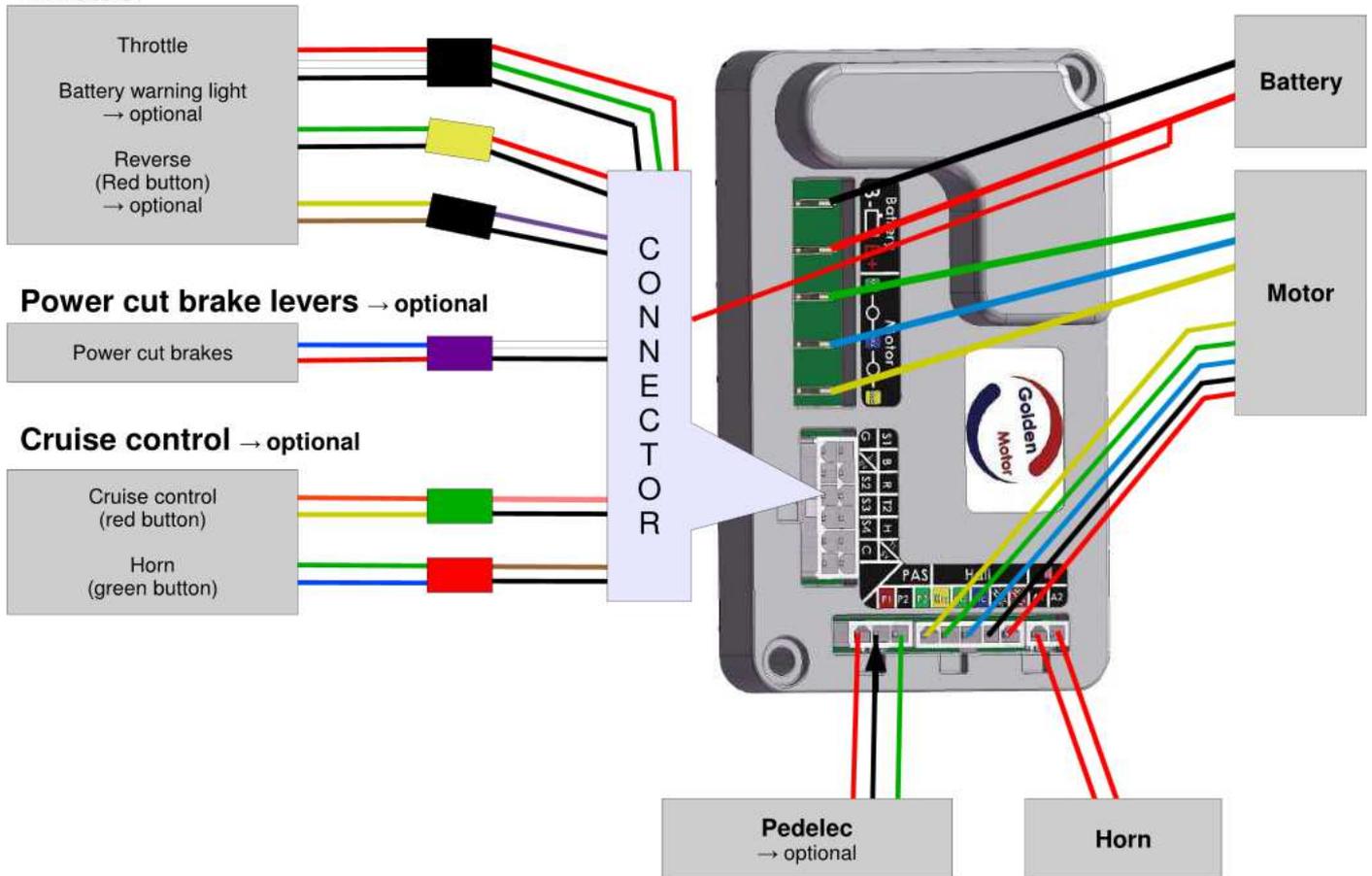
Power supply to the motor

- red thread (+)
- black thread (-)

You can use Anderson connectors.

You can now connect the connectors of identical colour like this :

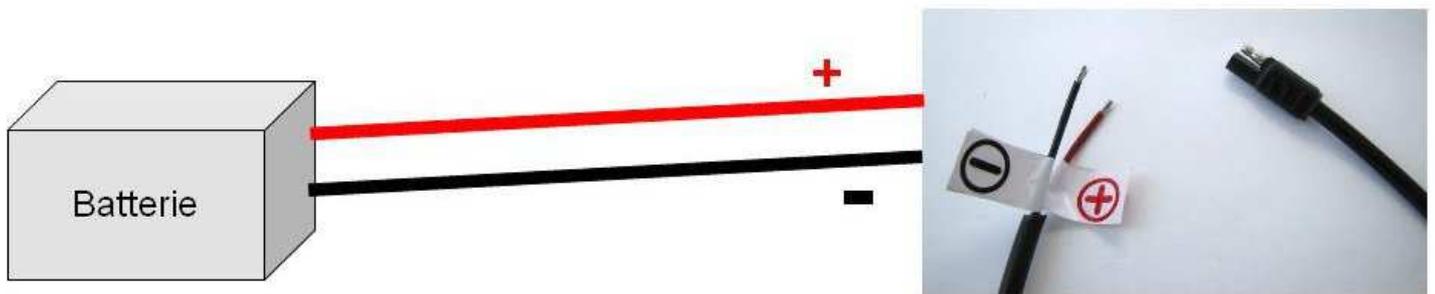
Throttle



Important :

- the connection of accessories and connectors with the label 'optional' is not compulsory for a proper functioning of the kit.
- After wiring the cables, make sure you have not pinched or stretched the cable around or inside your seat or handlebar bag. It may cause a wrenching, bad contact or a failure of the electronics.

4 - Battery : wiring the battery to the power cable



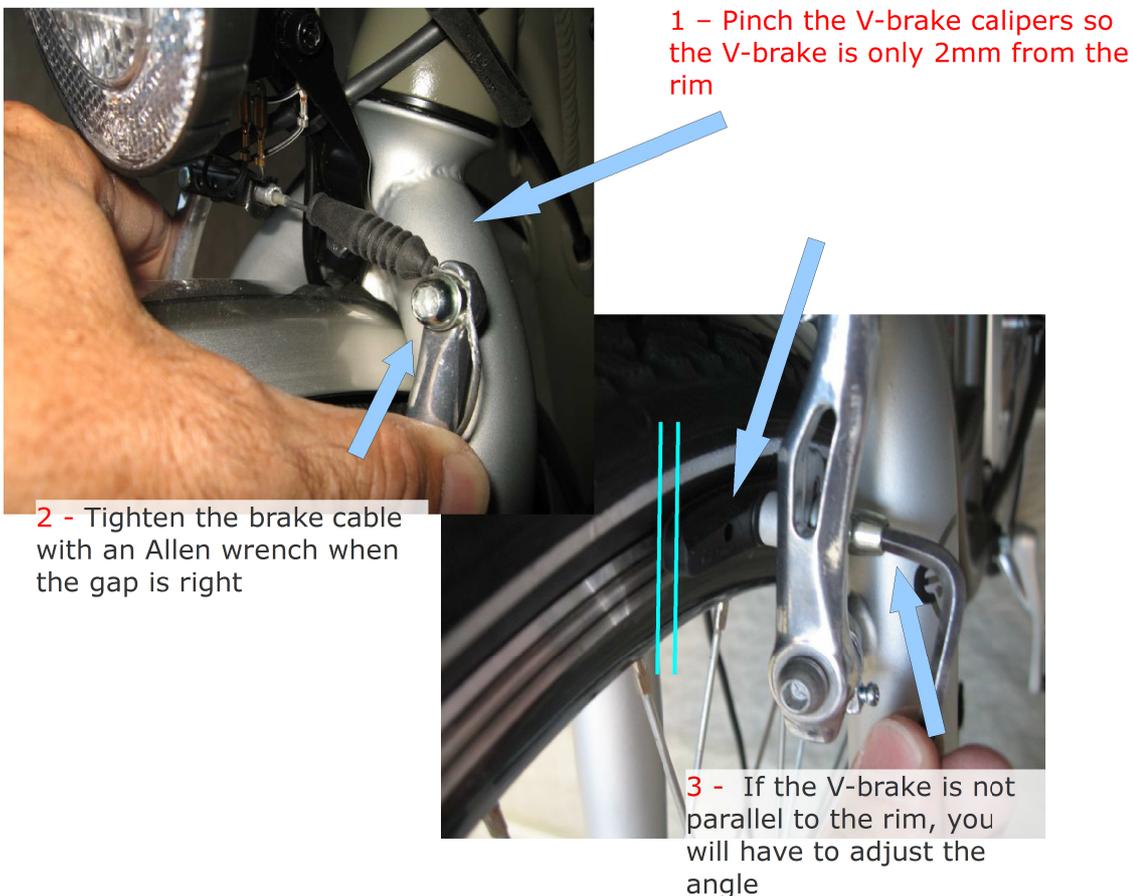
You can directly solder the power cable of the Magic Pie to the battery or put **Anderson connectors** (see the Anderson connectors' assembly guide).

Important :

Take all **necessary measures** to prevent short circuits : **isolate the red thread with electrician tape** when you work on the black thread.

5 - Adjusting the V-brake

This step is very important because braking is essential for your security. You should not meet any difficulty if your wheel is properly centered.



If you meet any problem at this point, do not hesitate to contact a professional (bicycle shop or big brand) and consult the website <http://velo-reparation.fr/>.

3.3. End of the assembly

This is the end, **congratulations** ! You just need to connect your battery to the controller in order to try out your electric bike.

Just **push or gently turn the throttle** while **pedalling** and let's go !

Enjoy the ride :-)

4 . Use of the electric bike

4.1. Important recommendation for the kit's use :

Your new electric bike is above all a bike. It is the association of the **muscle power** and **electric power** which will enable you to get a **good output** of your motor and a **good autonomy**.

We strongly recommend **to pedal** when using your bike on flat roads but also and **above all at the start and uphill**. To improve your autonomy, we recommend to :

- regularly pedal when using your kit
- pedal more strongly at the start, uphill, facing the wind ...
- reduce your speed if the motor forces
- adapt the choice of sprocket according to the speed and the difference in height
- disconnect your battery when the bike is at a standstill
- check the tire pressure : under-inflated tires deeply increase the electric consumption and reduce the vehicle's performances

Tricks : we recommend the use of a cycle-analyst (with **partial adding-machine** function). With a few tests, it will enable you to measure your autonomy.

The kits must not be used like a scooter : **pedalling regularly is necessary** for the good functioning of the kit.



Regularly check the temperature of the controller in the following cases :

- high speed
- uphill and/or facing the wind
- during frequent starts
- if you pull a trailer

If this kit is too strongly sollicited, you may '**burn out**' the kit's or the battery's electronics. **This kind of use is not covered by the guarantee.**

4.2. Maintenance of the kit

There is no maintenance. At the beginning, you can check from time to time that the connexions have not moved.

Important :

- Regularly check the tightening screws of your motor wheel
- Check the tension at the spokes
- From time to time make sure the wiring has not moved because of the vibrations
- Check the forks' ends if the motor is at the front

4.3. Maintenance and use of the battery

Consult the batteries' 'Use guide' for use and run-in process.



- Disconnect the battery when the bike is at a standstill
- Disconnect the battery during the charge
- Keep the battery protected from dampness, cold and rain
- Charge the battery in a clear and ventilated space (do not cover the battery during the charge)
- Let the battery charge (until the green light is stable)

Trick : To protect your battery, do not discharge it completely : stop at 90% of its capacity, for example 55km if the maximum autonomy is 60km.

4.4. IMPORTANT : what you should never do !

Do not force the motor uselessly : if your bike can not go up a steep hill even if you are pedalling, there is no need to insist. You may overheat the electronics part of **the kit** or **the battery**. In that case, do not hesitate to walk and push your bike.

Do not hose down or use a Karcher© to wash the elements of the electric kit : motor, accessories and battery. Use a damp sponge and use a dry cloth.



The guarantee does not cover an abnormal or non-conform use of the products : competition, research, use with assistance like a motorbike or a scooter, forced use uphill ...



The use of handmade batteries is not covered by the guarantee.

For more information, please consult :

<http://www.cycloboost.com/velo-electrique/>

5 . Analysis of the failures (keep this document with your bike)

5.1. The different failure cases

a) The bike does not start, the controller is mute, no bip :

- Check the tension of the battery
- Make sure the power really comes to the controller
 - You should hear a little sound coming from the horn
- Check the connections at the level of the controller. Sometimes, some connections are not enough pushed in during the wiring process.
- Check the connections at the level of the battery
- Check the battery fuse and replace it if need be
- Check the connection of the power brake handles

If this did not help you to identify the failure, before contacting the after-sales service, you can use your bike if you disconnect, at the level of the controller : the connector with 6 pins and 3 big phases threads : the yellow, green and blue threads.

b) The controller utters one or several bips :

- **1 long bip** : the controller **overheats**

When the controller overheats, it cuts the power in order to protect itself.

What you need to do :

- disconnect the battery
- **ventilate** the controller
- wait a few minutes before starting again and **do not force the motor**

- **2 short bips** : check the connection of the connector with 6 pins

When the controller notices a malfunction of the hall sensor of the motor, it utters 2 loud bips, then it enters in 'save mode' (without the hall sensors)

Turn the shifter to start the motor. It may be necessary to pedal to start the motor if it does not start immediately.

- **4 short bips** : check the connection of the power brake handles
- **5 short bips** : the controller is out of order (get in touch with the after-sales service)

c) Other malfunctions

- Malfunctions of the security while braking :

Disconnect the power brake handles (blue connector), report the anomaly to the after-sales service (see following paragraph §5.2).

- Unknown malfunctions :

If the electric assistance of your bike does not work (unknown reason), you can try to force the controller into save mode :

- Grasp both brake levers
- Push the cruise control's red button 5 times

You will hear a loud bip.

Then, you can use your bike at half its maximum speed if you push the red button of the cruise control.

To put the controller back into normal mode, you have to disconnect and connect again the battery as soon as the problem is solved.