

# INSTALLATION MANUAL

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## KIT FOR CONVERSION OF BIKE TO ELECTRIC BIKE (EV BIKE)

EVBIKE is one of the cheapest vehicles with minimal running costs. This assembly pack is meant for conversion of your current bike to electric bike.

### Specifications

- Engine power 500 W at 36 V (voltage 24 - 48 V when running)
- Maximum speed up to 30 km/h (limited by regulator, two steps of regulation\*)
- Driving range 30 - 70 km in flat terrain (depending on intensity of pedaling)
- Size and material of rim 26" x 1,75", Alluminium alloy 6061, double wall
- Drive Front/rear\*\*
- Battery Lithium 36 V/10 Ah
- Weight of battery 4,8 Kg



\* Due to European union laws for electric bikes, maximum speed is limited to 20 km/h. You can easily remove this limit to increase speed up to 30 km/h.

\*\* You can choose front or rear wheels, we offer both solutions

For succesful assembly of EVBike, you will also need following

- solder, tin, rosin
- strip belts (to hold cabels)
- 4 pcs screws, washers, nuts
- usual tools for assembly
- special puller tool (pic. 1)
- voltmeter
- basic technical knowledge



## DETAILED MANUAL

### 1. Breaks, accelerator, handle

- First take off original handles along with breaking levers. Removing the breaks from bike is very depending on your bike, this is why we aren't covering this part.
- Mount the recieved brake levers and tighten screws. Fix the brake cable to clamping screw and end of cable to yoke of lever (pic. 2).



- On the right side of handlebars place twist throttle, behind throttle slip over small plastic ring and short rubber handle (pic. 3). Tighten the throttle with screw at bottom. On left side of handlebars, place second longer handle.



## 2. Changing of Rim with engine (example of front wheel instalation)

- To change rim, the wheel have to be removed. Flip the bike, remove rim from fork and then swap tire.
- Rim with engine and already mounted tire have to be assebled so cabel is on right side while wheel is in normal position. (pic. 4).



- Create a space between both pads at each side and assemble rim with engine to fork.
- The way rim is hold differs from bike to bike. In case you have fork with circle slot for rim axis you must use anti-slip ratchet. You can see thier installation on pictures 5 and 6. Ratchet is installed due to rim axis slip. Most of a new bikes have fork prepared for this kind of axis.
- Flip the bike back on Wheels.



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### 3. Pedal assistant

- Now, the pedal assistant have to be installed, it is used for detection of pedaling intensity. When you start pedaling, the bike will automatically adjust power.
- To install this part, you must remove pedal part of bike. Removing requires special puller tool as shown in picture 1, it should be available in every bike shop. If you are unsure how to remove pedals, please contact your bike servis.
- After the pedals are removed, free the matrix and place pedal assistant sensor underneath (pic. 7) then fix the matrix back. Put back middle axis with left pedal (pic. 8) and install plastic wheel with magnets in correct direction (direction is shown on wheel by arrows)



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- There must be around 5-10mm space between plastic wheel and sensor. In case of contact, you can carefully flex the sensor.
- Assembly back pedal part with chainrings.

#### 4. Battery holder

- For battery holder assembly, you need 4 pcs of M8 screws including pads and nuts. Length of screws depends on your bike construction. These screws aren't part of package.
- Fix the distance rods to bottom part of holder (pic. 9), rods allow the holder to be set in three positions (pic. 10). Choose optimal settings to keep the holder in horizontal position. Assembly the rods to holder using provided screws.



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- Fix the holder to rear wheel at chainrings (pic. 11).



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- Rest of rods (pic. 12) are used to fix the holder with seat stay under saddle. Use provided screws with rubber thread (pic. 13).



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- Choose correct distance and fix the rods to holder tube using provided screws (pic. 14).
- Right after is the holder attached to bike, you can put in the battery.

## 5. Controller and cabling

- Controller placement is your choice, in our case we use bike bag (bag is not included in package) fixed to battery holder. Align all cables to controller while holding them with plastic strips to bike tubes (pic. 15 - 17)



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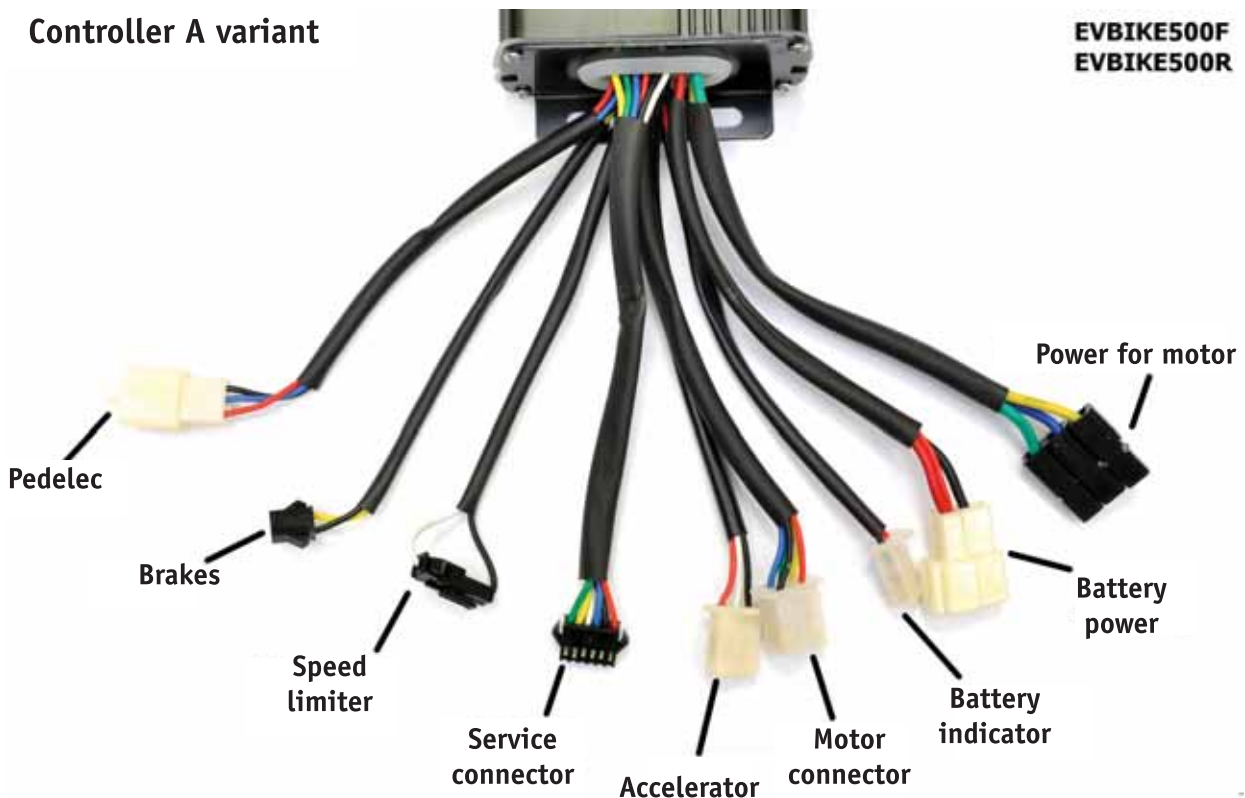
- Connect the connectors with controller and place it in the bag (pic. 18).



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- We have different controllers in our bike kits, please choose controller that is matching with yours and proceed with installation. Connectors have unique shape and cannot be used wrongly. Only exception are engine power cables, please pay extra attention to installation, plug them correctly by colors.

**Controller A variant**

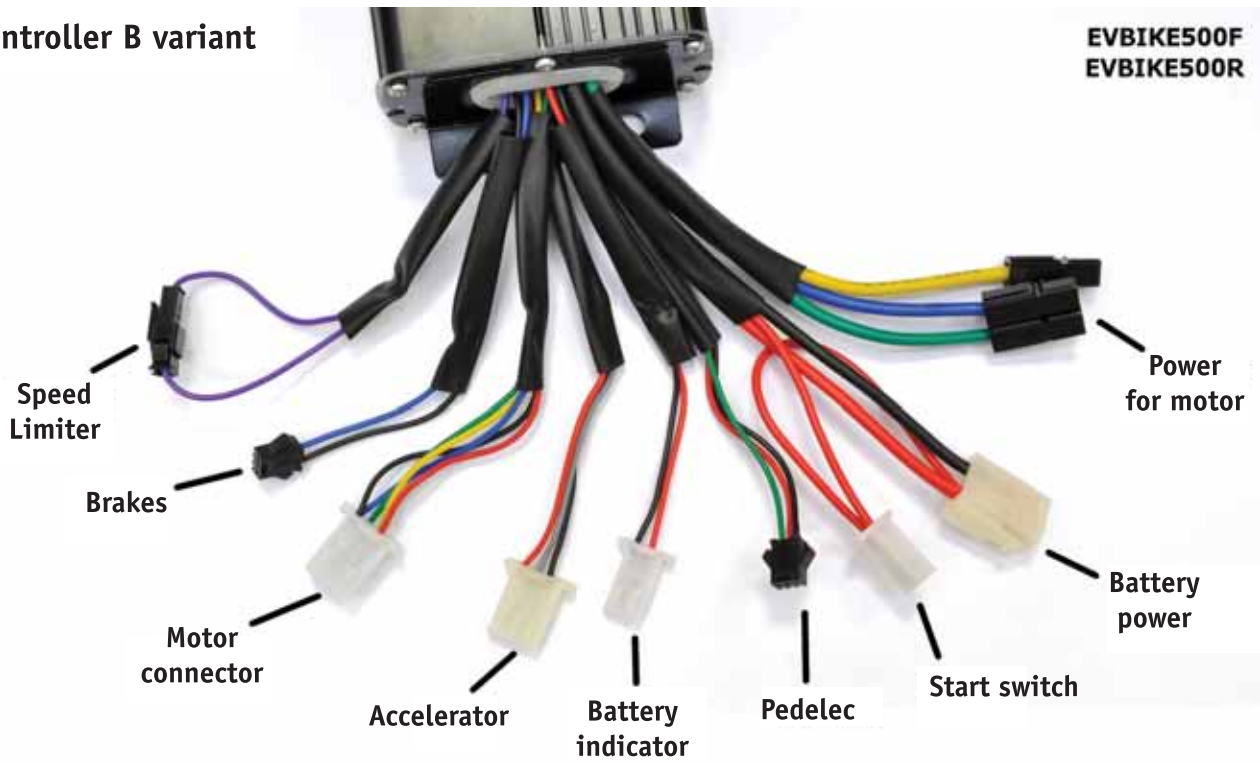


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Controller B variant

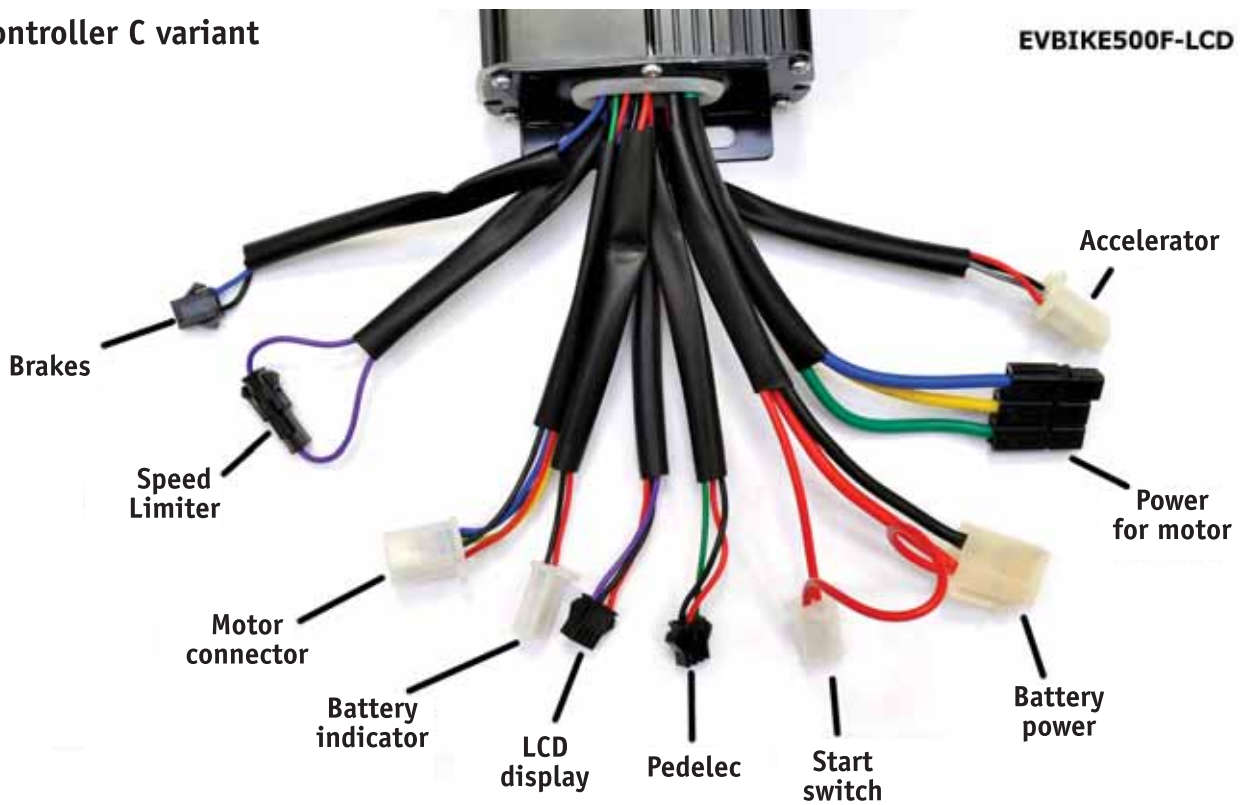
**EVBIKE500F  
EVBIKE500R**



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Controller C variant

**EVBIKE500F-LCD**

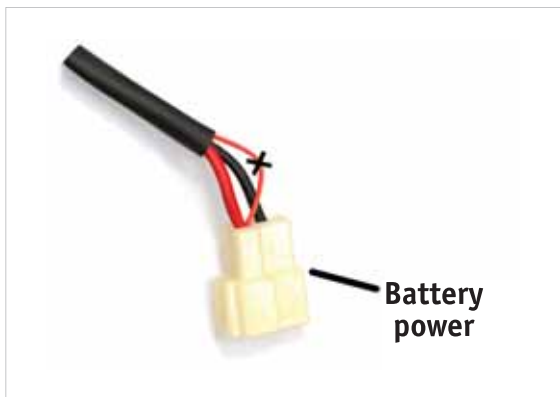


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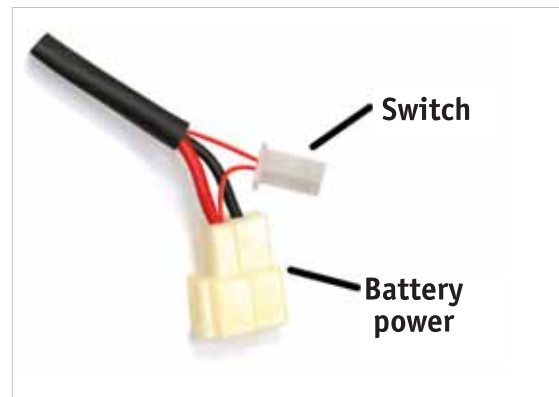
### ⚠ COMMENT FOR INSTALLATION OF ADDITIONAL START SWITCH

Controller is equipped with option to install additional engine start switch. This setup is suitable to be used if you want to control switch on/off the start of engine and yet keep the rest of system powered by battery (light powering as example).

**Controller A:** To enable the start function, cut the thin red cable from battery power and both ends connect with engine start switch (pictures 22 and 23). Engine start switch is not part of package.

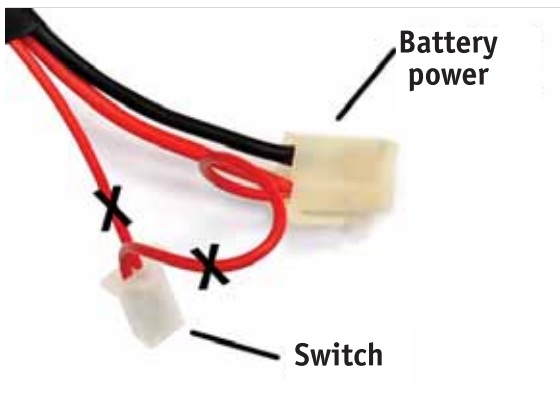


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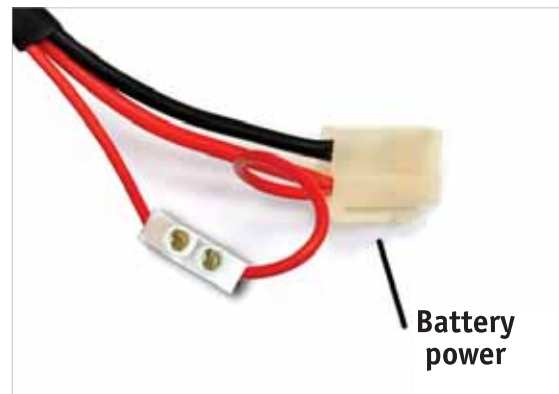


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**Controller B,C:** Controller already include connector for engine start switch. Connect the switch to enable this function. If you won't use this switch, you must cut the connector (pic. 24) and connect the cable with terminal (pic. 25). The switch or terminal aren't part of package.



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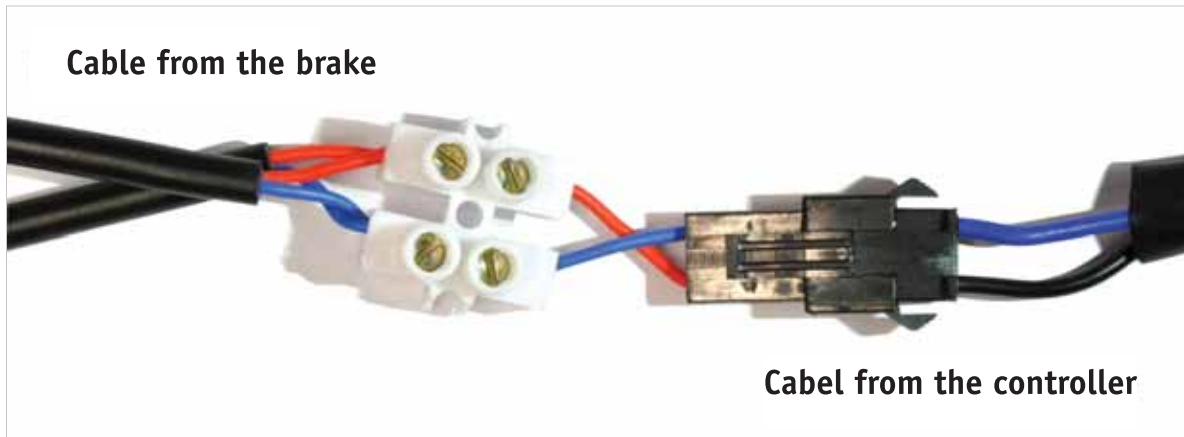


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### ⚠ COMMENT FOR BRAKE INSTALLATION

Some bikes are equipped with integrated footbrake in rear wheel. In this case use the one connector for brake. If your bike is equipped with two brakes, you must connect both to input connector of controller.

This easy modification is shown on picture 26.



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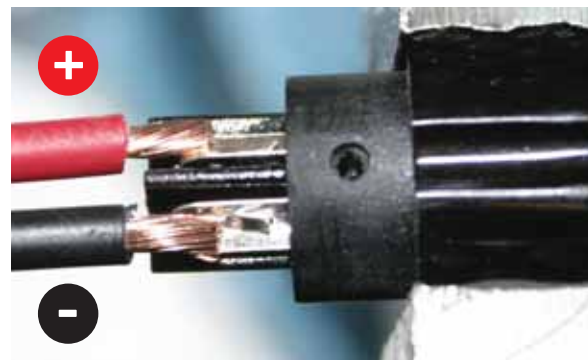
1. It is necessary to cut connectors from brakes in 3-5cm distance from connector. Remove the isolation from the ends of cable and connect the same color to terminal. Pay attention to sufficient length of cable that will allow you connection to output side of terminal. You have opportunity to modify the cable from brakes to desired length now.
2. To input side of terminal, connect one cut connector by color. Then proceed as with one brake by connecting the brake connectors with controller.

## 6. POWER CONNECTOR AND CABEL

- To connect a battery, use supplied connector and two-wire cable (pic. 27).



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- Cut off the original connectors, modify the cable to desired length and remove isolation from the end. Dismember the battery connector by removing the little screw and open. Put the connector as shown on picture 27 (careful when using clamp, connector might be damaged by pressure). Now you can see two contacts, top one is plus (red wire) and bottom is minus (black wire). Solder the wires to connector. Assemble the connector back using removed screw and insert to battery. Before we connect the connector to controller, check the polarization with voltmeter. You have to switch on the ignition to test polarization.

Default position of ignitor is UNLOCK. Turn the position to PUSH and push the key inside. There is a lock at bottom side of battery, it will fix battery to holder. Then turn to OFF, ON. Now the battery is locked to holder and system is powered (picture 29).



## 7. CHARGING

As accessory, you have a charger with very simple controls. All you have to do, is plug in the charger to battery and then to 230V grid. The charger will disconnect the battery when it's charged protecting from overcharging.

- Current state of charging is indicated by LED colors on charger. RED – charging in progress. GREEN – charging finished (charger is now disconnected from battery).
- Charge period is about 6 hours.

Charger specifications:

Input: 100 - 240 V, 50 - 60 Hz AC

Output: 43,8 V/2 A DC

- By default, this conversion kit doesn't have the regenerative brake switched on.



**BEFORE FIRST RIDE, PROCEED WITH CHECKING ALL SCREWS AND ALL FUNCTIONS OF BIKE SYSTEM INCLUDING BRAKES.**

### WARNINGS FOR BATTERY USE - POSSIBLE DANGERS

#### Danger of shortcut and following fire

Charged or uncharged cells contains a high amount of electric power, it may cause a electric sparks when contacts are in shortcut. Batteries are not flammable, but fire may be created from sparks or high temperature connectors (temperature caused by shortcut).

#### Danger of injury caused by DC current

When connecting more cells or batteries to serie, the danger of injury increases. Never touch the electric wires or other components that are powered.

### Chemical material danger

Lithium cells and batteries does not contain any caustics or acids. Still materials that are affecting human body are inside. We recommend you to use following guidelines when manipulating with Lithium cells.

- **Eye protection:** use eyewear to prevent intrusion of any chemicals in eye.
- **Skin protection:** use protection clothing and gloves. Prevent contact of chemicals with your skin.
- **Inhale protection:** Manipulate with cells or batteries only in ventilated areas.

### End user instructions

Batteries and cells can be used only by person, instructed to use Lithium batteries and cells. This instruction is done by last reseller. When the batteries are sold and shipped, instruction is done via enclosed manual, more details to be found at reseller website.

### Warnings

Protect against unqualified manipulation, protect against kids. Protect against water or other liquids. Use the batteries with control or constant management of Battery protection/control system. Protect the cells and batteries against overcharge and deep discharge. Don't brake battery case, don't manipulate with damaged batteries.

### Battery and cell recycling – legal obligation informations

- a) Of the manner of re-collection; for this purpose, the seller publishes actual list of affordable way to take back and separated collect. Including at least name of the place and address.

Place to take back and separated collection: **i4wifi a.s., Průmyslova 11, Praha 10**

- b) About possible negative effects of materials used in batteries or accumulators to environment and human health.

**Batteries and cells contain chemical materials that have negative effect on environment and human health.**

- c) About meaning of graphical symbol for separated collection or take back and about meaning of markings



**THIS IS GRAPHICAL SYMBOL FOR SEPARATED COLLECT OR TAKE BACK.  
DO NOT PUT BATTERIES TO MUNICIPAL WASTE BUT HANDLE THEM IN PLACE  
FOR SEPARATED COLLECT OR TAKE BACK.**

