Bullet Connector Set

2 mm, 3.5 mm and 4 mm connectors
User Manual



Read the entire manual before first use and keep it for future reference.

Rotorama, s.r.o. · www.rotorama.com

Contents

1. Product description

1.1 What it is for

1.2 Technical data and package contents

2. Use

2.1 Safety instructions

2.2 Choosing the connector size

2.3 Soldering the connector to a wire

2.4 Connecting and disconnecting

2.5 Inspection, maintenance and storage

3. Information for the EU and Czech Market

3.1 Importer and responsible person in the EU

3.2 Disposal

4. Warranty and rights arising from defective performance

1. Product description

1.1 What it is for

The set contains bullet connectors (cylindrical male and female connectors) in three sizes – 2 mm, 3.5 mm and 4 mm. Bullet connectors provide a detachable connection of power wires in models and FPV drones, typically between a motor and an electronic speed controller (ESC) or on power leads. The connector is soldered onto the wire and the joint is insulated with heat-shrink tubing.

Thanks to the detachable joint, a motor or other part can be replaced without repeated soldering, and the direction of motor rotation can easily be reversed by swapping two of the three motor wires. The connectors are supplied in male + female pairs, so each joint is made from two pieces of the same size.



Bullet connector set in a box with compartments

1.2 Technical data and package contents

Product designation	Bullet connector set
Type	Bullet connectors, male and female
Sizes	2 mm, 3.5 mm, 4 mm
Package contents	10× 4 mm bullet male 10× 4 mm bullet female 20× 3.5 mm bullet male 20× 3.5 mm bullet female 20× 2 mm bullet male 20× 2 mm bullet female
Number of pairs	10 pairs 4 mm, 20 pairs 3.5 mm, 20 pairs 2 mm
Not included	wires, heat-shrink tubing, solder, soldering iron and other tools

2. Use

2.1 Safety instructions

- The soldering iron tip and the connector become very hot during soldering. Let the connector cool down after soldering and do not hold it with bare fingers – use tweezers, pliers or a holder.
- Solder in a well-ventilated area on a non-flammable surface and wear safety glasses. Do not inhale flux fumes.
- Never solder or connect connectors to live wires. Always disconnect the battery before working.
- A short circuit of a Li-Po battery can cause a fire. Uninsulated metal parts of the connectors must not touch each other or any other conductive objects.
- Always insulate every joint with heat-shrink tubing. An uninsulated connector on the battery side is dangerous.
- The connectors are small parts – keep them out of the reach of children and animals. Choking hazard.

2.2 Choosing the connector size

The larger the connector diameter, the thicker the wire that can be soldered to it and the higher the current that can flow through the joint. Always choose the size according to the wire cross-section and the current that will flow through it:

- **2 mm** – thinner wires, for example smaller motors.
- **3.5 mm** – thicker wires, for example the connection between a motor and an electronic speed controller (ESC).
- **4 mm** – the thickest wires in this set, for example power leads carrying higher current.
- Always connect a male and a female of **the same size**. Connectors of different sizes do not fit together.
- If you are not sure what current flows through the wire, use a larger connector and follow the recommendations of the motor, ESC or battery manufacturer.

※ The manufacturer does not specify the current rating, material or dimensions of the connectors. Therefore follow the recommendations of the motor, ESC or battery manufacturer.

2.3 Soldering the connector to a wire

You will need a soldering iron with sufficient power, solder with flux, heat-shrink tubing of a suitable diameter and a hot-air gun or a lighter. Procedure:

① Cut the wire to the required length and strip it to roughly the depth of the solder cup of the connector.

② Slide the heat-shrink tubing onto the wire before soldering the connector. Move the tubing far enough away from the soldering point so that it does not shrink prematurely.

③ Tin the stripped end of the wire.

④ Fix the connector in a holder or pliers with the solder cup facing up and heat the cup with the soldering iron. Fill it with molten solder.

⑤ Insert the tinned wire into the molten solder all the way to the bottom of the cup and remove the soldering iron. Do not move the wire until the solder solidifies.

⑥ Check the joint: the solder must be shiny and smooth, the wire must hold firmly and there must be no solder on the outside of the connector or on the spring part of the male connector.

⑦ Slide the tubing over the soldered area and shrink it with heat. On a female connector, pull it all the way to the mouth of the connector; on a male connector, cover the soldered part and leave the rest of the contact free.

※ On the side of the battery or any other voltage source, use a female connector covered with tubing all the way to its mouth. An uninsulated male connector on the source side can cause a short circuit if touched accidentally.

2.4 Connecting and disconnecting

- Push the male connector into the female connector all the way. The joint must hold firmly and must not slide out.
- When disconnecting, pull on the connectors or the tubing, never on the wires.
- With a three-wire motor the order of the wires does not matter – swapping any two wires reverses the direction of motor rotation. After every change, check the direction of rotation without propellers.
- On DC power leads, observe the polarity (+ and −). Mark the positive and negative wires with colour to be safe.

2.5 Inspection, maintenance and storage

- Before each use, check that the joints hold firmly, that the tubing is not damaged and that the connectors are not blackened or deformed.
- A connector that gets very hot during operation is loose or has a damaged contact – replace it.
- Always replace a worn or oxidised connector together with its mating counterpart.
- Store unused connectors in a dry place, in the box, sorted by size.

3. Information for the EU and Czech Market

3.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

3.2 Disposal

- The connectors contain no electronics or batteries. Hand over unused or discarded connectors at a collection yard as metal waste. Do not dispose of them in mixed municipal waste.
- If the connectors are soldered to electrical equipment (a motor, an ESC, a battery lead), hand them over together with it at a take-back point for electrical equipment. Take-back is free of charge for the end user.
- Dispose of the plastic box and packaging in separated waste according to local rules.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

4. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 3.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.

※ We sell throughout Europe. If you use the product outside the Czech Republic, the law of the country in which you use it is decisive; consumer rights under that legal system are not affected by the text above.