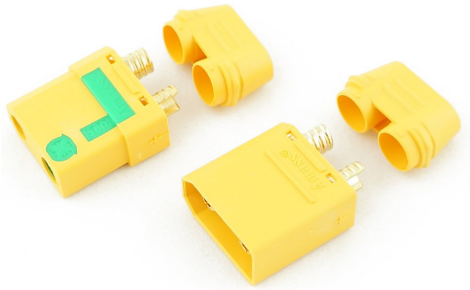
XT90S

XT90 anti-spark connector (1 pair)
User manual · manufacturer Amass



Read the entire manual before soldering and connecting a battery. A short circuit or reverse polarity may cause fire and damage to electronics.

Rotorama, s.r.o. · www.rotorama.com

Contents

1. Product description

1.1 What it is for

1.2 Specifications and package contents

2. Use

2.1 Placement of the parts and polarity

2.2 Connecting the battery

2.3 Disconnecting the battery

3. Fitting to a cable (soldering)

3.1 What you will need

3.2 Procedure

3.3 Check after fitting

4. Safety, maintenance and troubleshooting

4.1 Safety instructions

4.2 Maintenance

4.3 Troubleshooting

4.4 Applicable regulations

5. Information for the EU and Czech Market

5.1 Importer and responsible person in the EU

5.2 Disposal of electrical equipment

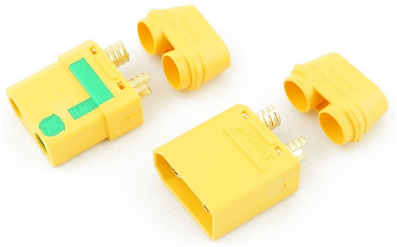
6. Warranty and rights arising from defective performance

1. Product description

1.1 What it is for

Amass XT90S is a two-pole power connector of the XT90 series designed for connecting a flight battery to a drone, aircraft or other model with high current draw. The package contains one pair: an anti-spark socket part (with green elements on the housing) and a mating part with pins. Both parts are soldered to power leads; the solder joints are covered by the supplied covers.

Anti-spark means that when the connector is being inserted, the circuit is first closed through an integrated resistor. Through it, the capacitors on the electronic speed controllers (ESC) are charged with a limited current, and only after full insertion are the main contacts connected. As a result, no spark is produced when the battery is connected – a spark burns the connector contacts and increases their contact resistance.



Package contents: XT90S anti-spark socket part (left, green marking), XT90 mating part with pins (right) and two solder joint covers

1.2 Specifications and package contents

Product designation	Amass XT90S – XT90 anti-spark connector, 1 pair (anti-spark part per manufacturer's catalogue: XT90S-F)
Manufacturer	Changzhou Amass Electronics Co., Ltd., China www.china-amass.com, hzy@china-amass.com
Type	two-pole cable power connector, solder type, anti-spark
Current rating	max. 45 A (10 AWG wire, temperature rise < 85 °C)
Withstand voltage	500 V DC
Contact resistance	≤ 1.0 mΩ
Insulation resistance	≥ 2000 MΩ
Operating temperature	−20 °C to 120 °C
Material	housing PA, contacts gold-plated brass

Mechanical life	100 mating cycles
Protection rating	IP40
Flammability rating	UL94 V-0
Salt spray resistance	48 h

▶ Package contents

- 1× XT90S anti-spark socket part (green marking on the housing)
- 1× XT90 mating part with pins
- 2× solder joint cover

▶ Not included

- power leads (cables), battery and model,
- solder, flux, soldering iron and heat-shrink tubing.

2. Use

2.1 Placement of the parts and polarity

We recommend fitting the socket part (anti-spark) to the **battery** and the part with pins to the **model**. The battery contacts, which are permanently live, then remain recessed in the housing and cannot be accidentally short-circuited.

- Observe the polarity according to the **+** and **−** marks on the connector housing: positive lead (usually red) to the + contact, negative lead (usually black) to the − contact.
- The housing is shaped so that the parts can be mated only one way. Never force the connector together in any other position.
- Fit the parts in the same way on all batteries and models you intend to use together – otherwise there is a risk of reverse polarity.

2.2 Connecting the battery

① Make sure the model is standing in a safe place and the propellers (if fitted) cannot hit anyone. If you use a radio transmitter, switch it on first.

② Align the connectors according to the shape of the housing and the polarity marks.

③ Push the connector in **smoothly in one movement all the way**. Do not stop halfway – the anti-spark resistor only serves to briefly charge the capacitors, not to carry the operating current.

④ Check that the connector holds firmly and both housings are fully seated.

2.3 Disconnecting the battery

- Disconnect the battery only after the motors have been switched off (Disarm) and the propellers have stopped.
- Grip both connector housings, not the cables, and pull straight. Do not rock the connector sideways – this loosens the contacts and the solder joints.

※ The anti-spark feature limits sparking when connecting, but it does not replace a switch or a fuse. The model is live once the battery is connected.

3. Fitting to a cable (soldering)

3.1 What you will need

- a soldering iron with sufficient power and a wide tip – power joints draw away a lot of heat,
- flux-core solder, or separate flux,
- silicone wires with a cross-section matching the current; the manufacturer states the current rating for 10 AWG wire,
- a holder or vice, wire strippers and a multimeter for checking.

3.2 Procedure

① **Slide the cover onto the wires before soldering**, openings facing the connector. This will not be possible after soldering.

② Strip the wire ends only to the length of the connector's solder cups.

③ Tin the wire ends and the solder cups.

④ Clamp the connector in a holder. We recommend mating it with its counterpart while soldering – the contacts then stay in the correct position even if the plastic softens from the heat.

⑤ Solder the wires with the correct polarity (+ / −). Solder quickly and with sufficient power; prolonged heating may deform the housing.

⑥ Let the joint cool down and inspect it: the solder should be shiny, without cracks and without protruding strands.

⑦ Push the cover onto the back of the connector all the way. The cover insulates the solder joints, so heat-shrink tubing is not necessary.

3.3 Check after fitting

Before connecting a battery for the first time, use a multimeter to verify that there is no short circuit between the + and − contacts and that the polarity matches the marks on the housing and at the other end of the cable.

※ If you solder the connector directly to a battery, always work on one wire at a time. Never cut both wires at once and never let their bare ends touch.

4. Safety, maintenance and troubleshooting

4.1 Safety instructions

- Li-Po batteries deliver very high currents. A short circuit across the connector or the wires may cause burns, fire and destruction of the battery.
- Do not exceed the current rating given in Chapter 1.2 and use wires of an appropriate cross-section.
- Do not use a connector with a cracked or deformed housing, loose contacts or signs of overheating.
- There is a risk of burns when soldering. Work in a well-ventilated area and protect your eyes.
- The connectors and covers are small parts – keep them out of the reach of children.

4.2 Maintenance

- Keep the contacts clean and dry; the connector has an IP40 rating and is not protected against water.
- The manufacturer states a mechanical life of 100 mating cycles. If the connector holds loosely or the contacts are discoloured or burnt, replace the whole pair.

4.3 Troubleshooting

Problem	Cause and solution
Connector heats up in operation	Worn or dirty contacts, cold solder joint, thin wire or current above the rating. Re-solder the joint or replace the connector.
A spark appears when connecting	The connector was not pushed in smoothly all the way, or the anti-spark part is damaged. Replace a damaged part.
Connector holds loosely	The contacts are worn. Replace the whole pair.
Model does not respond after connecting	The connector is not fully inserted, a joint is broken or the polarity is reversed. Check with a multimeter.

4.4 Applicable regulations

The information in Chapters 5 and 6 describes the situation in the Czech Republic. If you use or dispose of the product in another country, follow the regulations of the country in which the product is operated – these are decisive.

5. Information for the EU and Czech Market

5.1 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

5.2 Disposal of electrical equipment



- The crossed-out wheeled bin symbol on the product, its packaging or in the documentation means that at the end of its service life the product **must not be disposed of together with mixed municipal waste**.
- Hand it over at a take-back point for electrical equipment – at a collection yard, at a take-back point of a collective system, or at the retailer when purchasing a new equivalent product. Take-back is free of charge for the end user.
- The obligations under Act No. 542/2020 Coll., on end-of-life products, are fulfilled by the importer through a collective take-back system.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

Through its contractual partner **ASEKOL a.s.**, the company ensures the take-back of waste electrical equipment from households and the separate collection of waste electrical equipment, batteries and accumulators in accordance with the applicable legislation. The customer is entitled to hand over old electrical equipment or a battery or accumulator at any collection point of the above contractual partner. The addresses of these take-back points are listed at www.asekol.cz, www.ecobat.cz and also https://visoh2.mzp.cz/RegistrMistZO/RegistrMistZOPublic/MapaMistZpetOdberu.

6. 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 5.1.
- 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.