TrueRC Core 125mm RHCP

5.8 GHz omnidirectional circularly polarised antenna
User manual – SMA and RP-SMA versions



Read this manual before use and keep it for future reference.

www.rotorama.com

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1. Product description

1.1 What it is for

The TrueRC Core 125mm RHCP is an omnidirectional circularly polarised antenna for the 5.8 GHz band from the Canadian manufacturer TrueRC. It is used for FPV video transmission – it connects to the video transmitter (VTX) on a drone or to a video receiver or goggles. With its 125 mm length it is well suited to freestyle and long-range drones.

The radiating element is enclosed in a durable polycarbonate housing that withstands the usual impacts of crashes. The antenna has a reinforced connector with knurling for easy hand tightening and a sturdy semi-flexible coaxial cable that holds its shape after bending. It is sold in two connector versions – **SMA** and **RP-SMA**; you can identify the version by the designation on the packaging and by the connector (see Chapter 2.3).



TrueRC Core – radiator in polycarbonate housing and connector (illustrative photo)

1.2 Technical data and package contents

Product type	omnidirectional circularly polarised (CP) antenna
Frequency band	5.5–6.7 GHz
Gain	1.9 dBic
Polarisation	RHCP (right-hand)
Cross-polar rejection	−10 to −20 dB
Radiation efficiency	98 %
SWR	≤ 1.2:1
Head (radiator) dimensions	diameter 16.9 mm × height 13.1 mm
Length	125 mm (125 mm version)
Cable	TrueRC RG402 Semi-Flex
Connector	reinforced SMA or reinforced RP-SMA – depending on the selected version
Radiator housing	polycarbonate
Package contents	1× antenna
Not included	video transmitter (VTX), video receiver, goggles, connector adapters
Product designation	TrueRC CORE 5.8 – SMA 125mm, RHCP TrueRC CORE 5.8 – RP-SMA 125mm, RHCP

2. Use

2.1 What you will need

- a 5.8 GHz device with an antenna connector of **the same type** as your antenna (SMA or RP-SMA) – a video transmitter (VTX) on a drone, a video receiver or FPV goggles,
- an antenna with the same polarisation (RHCP) on the other side of the link, see Chapter 2.3,
- an antenna mount on the drone frame, if required.

2.2 Mounting the antenna

① Switch off the device to which you will connect the antenna. On a drone, disconnect the battery.

② Check that the device has a connector of the same type as the antenna (SMA or RP-SMA) and that the connectors are clean and undamaged.

③ Fit the antenna connector straight onto the device connector, without tilting it, and screw on the coupling nut.

④ Tighten the nut by hand only, with care – the knurled connector is designed for this. Do not use pliers or other tools.

⑤ Bend the antenna cable to the required position (the cable holds its shape) and secure the antenna in the frame mount if needed.

⑥ Check that the joint is secure and that the antenna head does not touch the propellers or other moving parts. Only then switch the device on.

2.3 Connector and polarisation

SMA and RP-SMA: SMA and RP-SMA connectors have the same thread, but differ in the arrangement of the centre contact. When SMA is connected to RP-SMA, the centre contacts do not connect and the antenna will not work. Connect the SMA version only to a device with an SMA connector and the RP-SMA version only to a device with an RP-SMA connector – or use a suitable adapter.

Polarisation: the antenna has right-hand circular polarisation (RHCP). The antennas on the transmitting and receiving sides must have the same polarisation – RHCP with RHCP. Combining RHCP and LHCP antennas significantly degrades the quality and range of the video link. When flying in a group, polarisation can be used to separate signals – agree on it with the other pilots.

2.4 Antenna placement

- Position the antenna head so that it protrudes above or behind the frame and is not covered by carbon parts, the battery or cables – carbon and metal block the signal.
- Route the antenna away from the propellers. Contact with a spinning propeller will damage both the antenna and the propeller.
- Do not bend the cable repeatedly at the same point and do not bend it sharply right next to the connector or the antenna head.

2.5 Safety and care

- Never switch on a video transmitter (VTX) without an antenna connected – it may be damaged. After every antenna change, check that it is properly connected.
- Tighten the joint by hand only. Overtightening can damage the thread or the device connector.
- After a crash, check that the joint has not loosened and that the housing and cable are undamaged. Replace a damaged antenna.
- Keep the connectors clean and dry.
- When operating FPV equipment, follow the legislation of the country in which you operate it – in particular the permitted frequencies and transmit powers.

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 product is a passive antenna – it contains no electronics or batteries.
- At the end of its service life, take it to a scrap metal collection point or dispose of it in accordance with the rules of your municipality.
- In some EU countries, passive conductive parts may also fall under the take-back of electrical equipment – follow the rules of the country in which you dispose of the product.

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.