Core MMCX 85mm

TrueRC — 5.8 GHz RHCP antenna
MMCX connector, 85 mm length



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

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1. Product description

1.1 Intended use

TrueRC Core MMCX 85mm is an omnidirectional, circularly polarized antenna for the 5.8 GHz band made by the Canadian manufacturer TrueRC. It is intended for analog and digital FPV video transmission and connects via an **MMCX** connector directly to a video transmitter (VTX) that has an MMCX antenna connector. Thanks to its 85 mm length it is particularly suitable for smaller drones and 5" racing drones.

The radiating element is protected by a durable polycarbonate housing that survives inevitable crashes. A flexible coaxial cable connects the antenna head to the connector. The antenna is passive – it does not transmit on its own and needs no power supply.



① antenna head (radiating element in polycarbonate housing) · ② coaxial cable · ③ MMCX connector

1.2 Specifications and package contents

Product designation	TrueRC CORE 5.8 – MMCX, MMCX 85mm, RHCP
Manufacturer	TrueRC (Canada), truerc.com
Frequency band	5.8 GHz; bandwidth 5.5–6.7 GHz
Gain	1.9 dBic
Polarization	circular, RHCP (right-hand)
Cross-polar rejection	−10 to −20 dB
Radiation efficiency	98 %
SWR	≤ 1.2 : 1
Head dimensions	diameter 16.9 mm × height 13.1 mm
Length	85 mm
Connector	MMCX, straight
Housing material	polycarbonate
Package contents	1× antenna
Not included	video transmitter, adapters and extension cables, antenna mount, cable ties

※ The manufacturer does not state the weight for the individual cable and connector versions.

2. Use

Never power up the video transmitter (VTX) without an antenna connected. The transmitter may be permanently damaged.

2.1 Connecting the MMCX connector

① Before connecting, disconnect power from the video transmitter (unplug the battery).

② Place the MMCX connector at the end of the antenna cable perpendicularly against its mating socket on the transmitter and align it exactly on centre.

③ Press the connector in evenly until it audibly and noticeably clicks into place. Do not press it at an angle or with excessive force.

④ Check that the connector holds and cannot be pulled out with a light pull. A latched MMCX connector can rotate in its socket – this is normal.

⑤ To disconnect, pull straight on the body of the connector, never on the cable. Do not lever the connector or its mating socket on the transmitter board sideways.

2.2 Placement and mounting

- An omnidirectional antenna radiates best sideways around its axis (the axis is perpendicular to the round face of the head). Along the axis, i.e. above the face of the head and below its base, the signal is weaker. On a drone, the antenna is therefore usually pointed diagonally backwards and upwards.
- Place the antenna head outside the frame so that it is not shielded by carbon or metal parts – they block the signal.
- Keep the head as far as possible from motors, electronic speed controllers (ESC), wiring and other sources of interference.
- Secure the antenna cable (with an antenna mount or a cable tie) so that crash forces and vibration do not act directly on the MMCX connector and its mating socket on the transmitter board.
- Do not bend the cable at sharp angles and do not pinch it between frame parts.

2.3 Polarization

This antenna has right-hand circular polarization (**RHCP**). The antenna on the receiving side (FPV goggles, video receiver) must have the same polarization. Combining RHCP and LHCP antennas significantly reduces range and degrades image quality.

2.4 Radio regulations

The antenna does not transmit on its own, but it affects the radiated power of the whole setup: the effective isotropic radiated power (e.i.r.p.) is determined by the video transmitter output power and the antenna gain. The user is responsible for setting the output power and choosing the channel.

- **The law of the country in which you operate the equipment is decisive.** Permitted frequency bands and maximum transmit powers differ from country to country.
- In the Czech Republic, general authorisation of the Czech Telecommunication Office (ČTÚ) No. VO-R/10 permits operation in the 5725–5875 MHz band at a maximum of 25 mW e.i.r.p. Check the current wording at www.ctu.cz.
- Operation outside these bands and limits may require an individual authorisation, e.g. an amateur radio licence.

2.5 Care and inspection

- Before every flight, check that the MMCX connector holds properly and that the cable is not cut, pinched or broken at the connector or at the antenna head.
- Do not use a damaged antenna – it degrades video transmission and may damage the transmitter.
- Do not paint the antenna housing with metallic paints or cover it with metal foils.
- Clean the antenna with a soft dry cloth; do not use solvents.
- This product is not a toy. Keep it out of the reach of children – small parts may be swallowed.

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 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.

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.