Foxeer Predator 5 Micro

Analogue 1000TVL FPV camera with OSD
User manual



Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

www.rotorama.com

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1. Safety instructions

WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

- **Age recommendation:** not for children under 14 years. This is not a toy.
- **NOTICE:** This product is only intended for use with **unmanned, hobby-grade, remote-controlled vehicles and aircraft**. FOXEER disclaims all liability outside of the intended purpose and will not provide warranty service related thereto.
- Power the camera only within the permitted range of **DC 4.5–20 V** (VCC wire). Before connecting power, check that all wires are connected correctly according to Chapter 3.1.
- **CAUTION:** If you are using ESCs with active braking, we recommend powering the camera system through a BEC or voltage regulator.
- Always carry out all wiring and soldering with the **flight battery disconnected**.
- Do not expose the camera or cables to moisture, water or temperatures outside the operating range given in Chapter 2.3. Make sure the wires are not pinched by the frame or within reach of the propellers.
- Do not modify or disassemble the camera beyond replacing the bracket or case.

SUPPORT: Visit www.foxeer.com to get more information.

2. Product description

2.1 Purpose and versions

The Foxeer Predator 5 Micro is an analogue FPV camera in the micro size (19 × 19 mm) designed for racing and freestyle FPV drones. It outputs the image as an analogue CVBS signal to the video transmitter (VTX). The camera has its own OSD – it can overlay the battery voltage, camera title (ID), time and crosshair on the image – and is set up with the OSD switch board supplied or via the flight controller (FC).

The camera is supplied in two versions – **Naked** (camera board in an open bracket) and **Full Case** (camera in a full housing) – and in several case colours. This manual applies to all versions and colours; they differ only in weight and outer dimensions (see Chapters 2.3 and 2.4).

2.2 Package contents

Qty	Item
1×	Foxeer Predator 5 Micro camera (Naked or Full Case version)
1×	OSD switch board (OSD Board)
1×	2-pin OSD cable
1×	connection cable (servo cable)
4×	bracket screw
4×	bracket ring

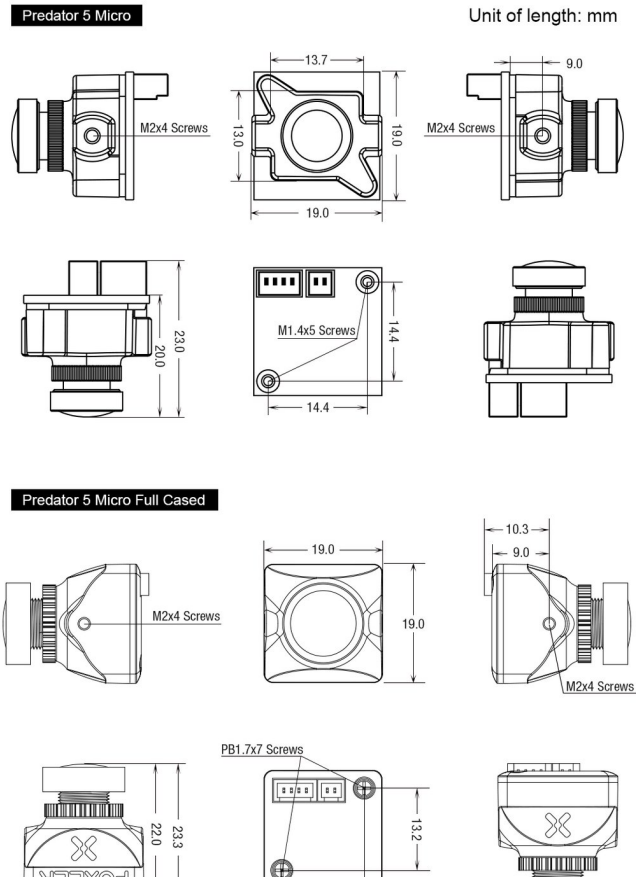
※ The video transmitter, flight controller, drone frame and battery are not included.

2.3 Specifications

Parameter	Value
Sensor	Sony 1/3" CMOS
Resolution	1000TVL
Lens	M8, 1.7 mm
Field of view (FOV)	horizontal 125°, diagonal 155°
Latency	4 ms
Video output	CVBS analogue signal
TV system	PAL (default) / NTSC, switchable
Aspect ratio	4:3 (default) / 16:9, switchable
Shutter speed	auto; PAL 1/25–1/10000 s, NTSC 1/30–1/10000 s
Minimum illumination	0.01 lux
White balance	auto
Noise reduction (DNR)	3DNR, 2DNR
WDR	Super WDR
Image flip	yes (FLIP)
OSD	voltage, camera title, time, crosshair
Menu languages	ENGLISH, DEUTSCH, FRANCAIS, PYCCKNN (Russian), PORTUGUES, ESPANOL, Chinese
Input voltage	DC 4.5–20 V
Consumption	50 mA ± 15 % at DC 12 V; 115 mA ± 15 % at DC 5 V
Operating temperature	−10 °C to 50 °C
Operating humidity	20–80 % (manufacturer also states max. 90 % RH)
Storage temperature	−20 °C to 70 °C
Front size	19 × 19 mm
Weight	Naked 5.8 g; Full Case 6.3 g (excluding cable)

※ Data as stated by the manufacturer on the camera product page.

2.4 Dimensions



Dimensions in mm – top: Naked version (Predator 5 Micro), bottom: Full Case version (Predator 5 Micro Full Cased). Side mounting with M2×4 screws.

3. Connection

3.1 Camera pins

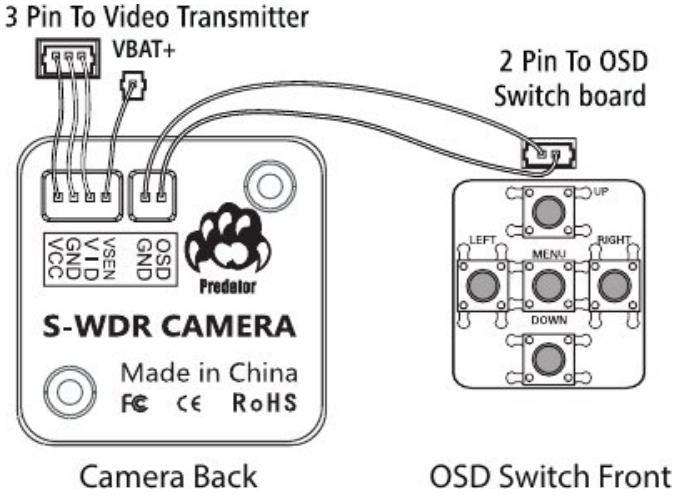
There are two connectors on the back of the camera: a 4-pin connector (VCC, GND, VID, VSEN) and a 2-pin connector (OSD, GND) for the OSD switch board or the flight controller.

Pin	Wire colour	Function
VCC	red	power input DC 4.5–20 V
GND	black	ground (−)
VID	yellow	video output
VSEN	blue	voltage sensor (input for the voltage shown in the OSD)
OSD	white	OSD menu control

※ Connect the VSEN cable wherever you want to detect the voltage – typically to the positive terminal of the flight battery (VBAT+).

3.2 Camera–video transmitter (VTX) connection

To connect the camera directly to the video transmitter, plug the 3-pin wiring harness from the video transmitter (VCC, GND, VID) into the camera, leaving the OSD pin open or connecting the OSD switch board to it.



Camera back (left) and OSD switch board front (right): 3 pins to the video transmitter, VBAT+ to the VSEN wire, 2-pin cable to the OSD switch board.

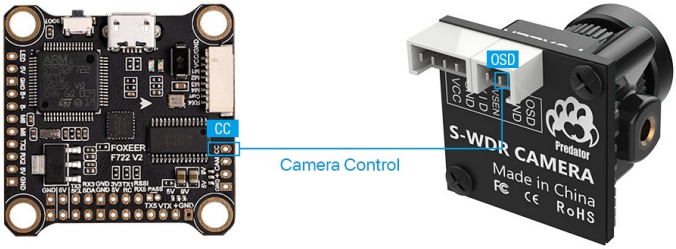
3.3 OSD switch board

Connect the OSD switch board (OSD Board) to the OSD/GND connector of the camera with the 2-pin cable. The board has five buttons:

Button	Function
MENU (centre)	short press – opens the main menu *SETUP MENU*; in the menu confirms the selection
UP (top)	hold for 3 s – opens the OSD menu *DISPLAY*; in the menu moves up
DOWN (bottom)	moves down in the menu
LEFT / RIGHT	modify the value of the selected item; hold RIGHT in standby – quick mode switch (Chapter 4.2)

3.4 Control via the flight controller (FC)

Instead of the OSD switch board, the OSD pin of the camera can be connected to the **CC** (Camera Control) pad of the flight controller (FC). The camera menus can then be opened with stick commands on the radio:



Connecting the camera OSD pin to the CC pad of the flight controller (example: Foxeer F722 V2).

Starting stick position	Movement	Result
YAW and PITCH centred	YAW right	camera setting menu (*SETUP MENU*)
YAW and PITCH centred	PITCH up, long push	screen OSD setting (*DISPLAY*)

※ The Camera Control function must be supported and enabled in the flight controller; see the documentation of your flight controller for the setup procedure. Operate the camera menus only while Disarmed (motors off).

4. OSD menu settings

Use the UP/DOWN buttons to move up and down through the menu, the LEFT/RIGHT buttons to modify the menu parameters and the MENU button to confirm. The menu items are shown in English (or in the selected language, Chapter 4.3).

4.1 DISPLAY menu

Press the top button (UP) for 3 s to access the *DISPLAY* menu.

Item	Function and options
TIME	time display: ON / OFF
POWER	voltage display: ON / OFF
VOL ALARM	low-voltage alarm boundary (per cell); press LEFT/RIGHT to decrease / increase the value, 3.6 V default
V CAL	voltage calibration, range −0.5 to 0.5
MODE	image mode: DAY / NIGHT / LED / B&W
N/P	TV system NTSC / PAL
SIZE	aspect ratio 4:3 / 16:9
CROSSHAIRS	crosshair: ON / OFF
VER	camera firmware version (display only)
EXIT	leave the menu

※ The manufacturer's product page lists the modes DAY / CLOUDY / NIGHT / LED. The MODE menu may therefore differ depending on the production batch; the options offered by your camera apply.

4.2 Quick mode switch

In standby (outside the menu), long press the right button (RIGHT) on the OSD switch board to quickly change the image mode (MODE). The current mode is shown once at the place where the time is otherwise displayed.

4.3 Main menu SETUP MENU

Push the centre button (MENU) to go to the main menu *SETUP MENU*. It contains the items CAMERA ID, PICT ADJUST, DAY/NIGHT, LANGUAGE, CAMERA RESET and EXIT.

▶ 1. CAMERA ID

Camera ID: ON / OFF. You can set up the pilot name and its position on the screen. Characters are selected from the character set (A–Z, 0–9 and special characters); move with the arrows ←→↑↓, **CLR** clears the text and **POS** sets the position. **RETURN** takes you back.

▶ 2. PICT ADJUST – picture adjustment

- **FLIP** – image flip: OFF / H-FLIP (horizontal) / V-FLIP (vertical) / HV-FLIP (horizontal and vertical)
- **BRIGHTNESS** – brightness
- **CONTRAST** – contrast
- **SHARPNESS** – sharpness
- **HUE** – hue
- **COLOR GAIN** – colour gain (saturation)

▶ 3. DAY/NIGHT

DAY/NIGHT includes **AUTO** and **MANUAL**. Select MANUAL to set a permanent colour image (**COLOR**) or black-and-white image (**B/W**).

▶ 4. LANGUAGE

7 languages: ENGLISH / DEUTSCH / FRANCAIS / PYCCKNN (Russian) / PORTUGUES / ESPANOL / Chinese.

▶ 5. CAMERA RESET

Restores the default camera settings.

▶ 6. EXIT

- **SAVE ALL** – saves all settings.
- **NOT SAVE** – the values are kept temporarily, but are not saved once power is off.
- **CANCEL** – cancels the setup.

5. Maintenance and troubleshooting

5.1 Maintenance

- Clean the lens only with a dry soft cloth or optical cleaning tissue; do not use solvents.
- After a crash, check the lens, case and cables; replace a damaged cable.
- Store the camera in a dry place at a temperature within the range given in Chapter 2.3.

5.2 Troubleshooting

Problem	Possible solution
No image	Check the power supply (VCC/GND), the video wire (VID) to the video transmitter and the channel setting on the receiver / goggles.
Image flickers, is black and white or distorted	Set the TV system (N/P) to match your goggles or monitor; check the DAY/NIGHT and MODE settings.
Interference in the image when throttling up	Power the camera through a BEC or voltage regulator (especially with ESCs with active braking).
Image is upside down	Adjust the FLIP item in the PICT ADJUST menu.
Voltage is not displayed	Switch POWER on in the DISPLAY menu and check the VSEN wire connection.
Displayed voltage is incorrect	Fine-tune it with the V CAL item according to a voltmeter reading.
Settings are lost after power-off	Select SAVE ALL when leaving the menu.

6. Information for the EU and Czech Market

6.1 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

6.2 Product conformity

CE

- The product bears the **CE** marking and complies with the requirements of the applicable European Union harmonisation legislation.
- A copy of the **EU Declaration of Conformity** is available from the importer at the address stated above or at the e-mail address info@rotorama.cz.
- **Product identification:** type designation: Foxeer Predator 5 Micro; the back of the camera is printed with *Predator* and *S-WDR CAMERA*. The camera firmware version is shown by the *VER* item in the *DISPLAY* menu.

6.3 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.

7. 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 6.1.
- 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.