



- Analog FPV Thermal Camera with High Resolution
- Wide-angle 9 mm lens — ideal for situational awareness and search
- Vanadium oxide uncooled infrared detector with 12 μm pixel pitch
- Compatible with flight controllers

Product Specification	
Product Name	FPV camera Partizan Thermal T640
Model	Thermal T640
SKU	5054
Electrical parameters	
Analog Video	CVBS
Power Supply	5V
USB output typical power consumption @25°C	<0.9W
Physical Properties	
Weight	25g
Dimensions (L × W × H)	30.5mm × 21mm × 21mm
Mounting hole diameter	M2
Mounting hole spacing	12mm
Overview	
Detector type	Vanadium oxide uncooled infrared focal plane detector
Resolution	640×512
Detector Frame Rate	60Hz
Pixel Size	12 μm
Response Wave Band	8-14 μm
NETD (Noise Equivalent Temperature Difference)	≤40mK@25°C, F#1.0,25Hz
Thermal Time Constant	<12ms
Optical Parameters	
Lens Specifications	9.1mm F1.0
Lens type	Non-removable lens
Image Adjustments	
Non-uniformity Correction	Shutter correction/stop less algorithm correction
Brightness/contrast Adjustments	0-100 steps are optional
Polarity/false Color	White hot/black hot
Electronic Zoom	1.0-8.0× continuous zoom (step size 0.1)
Image Mirroring	Up and down/left and right/diagonal
Environmental Adaptability	
Operating Temperature	-40°C - +80°C
Humidity	5%-95%, non-condensing
Vibrate	6.06g , random vibration, all axes
Impact	80g @ 4ms , rear peak sawtooth wave, 3-axis 6-way
Package includes	
1x FPV camera Partizan Thermal T640 1x Cable (240mm length)	
Note:	
The above parameters are measured under laboratory conditions.	

Analog Video Signal Connection for FPV Drone

PIN 1 (orange) — Video signal

PIN 15 (black) — Ground (GND)

PIN 16 (red) — Power supply +5V



Make sure the pin assignments on your flight controller match the required connections.

Interface Definition

Pin Number	Pin Name	Signal Description	Line Color	Butt End
1	PAL	Analog video	Orange	BNC Cable 1-pin BNC Video Cable Male (Center cable)
2	AGND	Simulated video grounds	Grey	BNC Cable 2-pin BNC Video Cable Male (Edge Cable)
3	RS232_RX	RS232 reception	Brown	DB9 female 3-pin with white thread
4	RS232_TX	RS232 transmission	Yellow	DB9 female 2-pin with red line
5	GND	GND	Blue	DB9 female 5-pin, shielded wire
6	USB_2.0_DP	USB positive	Green	TYPE-A 3 pin with green line
7	USB_2.0_DM	USB negative	White	TYPE-A 2 pin with white line
8	GND			
9	KEY1			
10	KEY2			
11	KEY3			
12	KEY4			
13	KEY5			
14	GND			
15	GND	Power supply Negative /-	Black	TYPE-A4 FOOT, BLACK LINE
16	POWER	Power supply Positive /+	Red	TYPE-A1 FOOT, RED LINE