

User manual for ThermalCapture IRnet



by



Important

Read carefully before use

Keep for future reference

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Table of Contents

1 Overview and Features.....	3
1.1 Intended Use.....	3
1.2 Scope of Delivery.....	3
1.3 Quick overview TOP USPs.....	3
1.4 Technical overview.....	4
1.5 Wiring and Connectors.....	5
1.5.1 3-pin connector.....	5
1.5.2 5-pin connector.....	6
1.5.3 SD card slot.....	6
2 Technical Data.....	7
3 Disposal and recycling information.....	7
3.1 European Union — Disposal Information.....	7
4 Contact.....	8

1 Overview and Features

This guide describes features of TeAx ThermalCapture IRnet.

The declaration of Conformity for this model can be found here: <http://www.thermal-capture.com/>

Before you begin using ThermalCapture IRnet, take some time to learn more about the product and needed steps to a setup perfectly tailored to your needs.

Being designed for FLIR Tau 2 and FLIR Vue Pro / R cores, [ThermalCapture IRnet](#) brings real-time access in drone flight operations to thermal imaging data. However, next to real-time access, it also stores full 14bit radiometric thermal data on a micro SD card. Real-time access remains available whilst radiometric data is recorded to the micro SD card and operators can also control the camera and settings via Ethernet.

1.1 Intended Use

- It is under the responsibility of the user to ensure, that during use as a surveillance camera no personal rights of third parties are violated.
- The camera is designed for use in private and commercial areas.

1.2 Scope of Delivery

- ThermalCapture IRnet
- SDHC Memory card (32GB)
- Adapter cable JST <=> Ethernet
- Power supply cable
- User Guide (PDF)

1.3 Quick overview TOP USPs

- H.264 live (real-time) streaming via Ethernet
- Radiometric thermal data recorder (storage to micro-SD)
- Controllable camera settings via network in real time
- Provides access to recordings via network – even during recording process
- Thermal digital zoom during live streaming

- Compatible with FLIR Tau 2, FLIR Vue Pro / R
- Most lightweight and smallest solution in the drone market
- Special features for “Advanced User”, e.g. configure video settings, access to Ubuntu / Linux, C++ SDK
- Powerful Processor (i.mx6)
- Customizable for special client request

1.4 Technical overview

Interfaces

- Ethernet
- Analog Video
- micro-SD
- Power (9-32V)

Pre-installed software

- Ubuntu Linux
- TeAx Camera IRnet Recorder / Streamer

1.5 Setup

To setup the ThermalCapture IRnet for usage, please connect the 3-pin connector to a suitable power-supply of 9-32VDC. After a short boot-sequence the device is accessible via the web-interface (see next section).

2 Web-Interface

The ThermalCapture IRnet is accessible by a web-interface as factory default at

<http://192.168.0.47/>

This address can be changed through the web-interface to fit your environment.

The video stream is delivered as RTP stream via UDP. It can be viewed with the following gstreamer pipeline (stream-start command from below is required) :

```
gst-launch -v udpsrc port=5000 caps="application/x-rtp" ! rtph264depay !
ffdec_h264 ! ffmpegcolorspace ! ximagesink sync=false
```

You can also view the stream with VLC. Open <http://camera/stream.sdp> with VLC. The UDP stream is enabled automatically (no stream-start command required)

The current video frame is available via HTTP. The URL <http://camera/video.jpg> returns always the latest image.

The camera is controlled via simple http requests. The following requests are implemented (please replace camera with the ip address of the camera):

Start recording:	http://camera/action?cmd=rec-stop
Stop recording:	http://camera/action?cmd=rec-start
Save single image (point of interest):	http://camera/action?cmd=poi
Change color table (1= white_hot, 2=black_hot, 3=fusion):	http://camera/action?cmd=color&table=1
Change zoom level(1..10):	http://camera/action?cmd=zoom&level=1
Stream to IP:Port :	http://camera/action?cmd=stream-start&ip=1.1.1.1&port=5000
Stop Streaming:	http://camera/action?cmd=stream-stop
Set stream bitrate (in kbps):	http://camera/action?cmd=stream-param&bitrate=1000
Set date ([MMDDhhmm[[CC]YY][.ss]]):	http://camera/action?cmd=set-date&value=1028100020017.30
Shutdown Linux system	http://camera/action?cmd=shutdown

3 Wiring and Connectors

ThermalCapture IRnet has the following connectors:

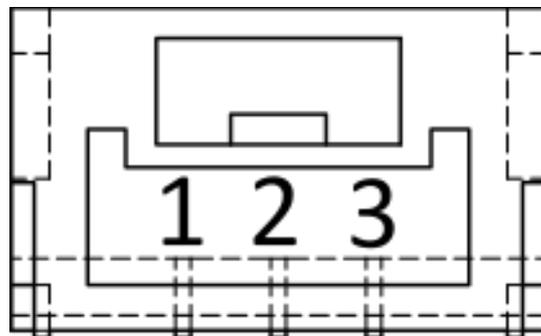
1	SD-Card
2	JST-3pin connector
3	JST-5pin connector



3.1 3-pin connector

The 3-pin connector has the following pin definition:

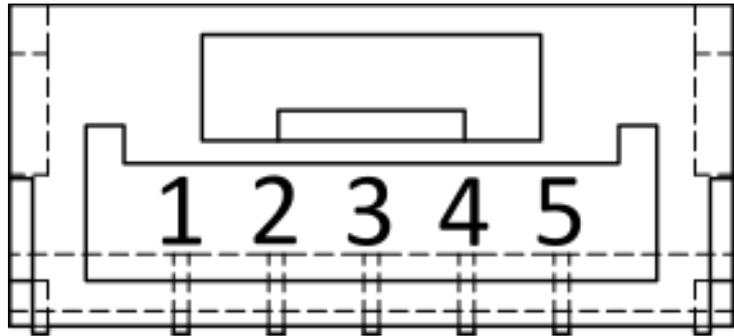
Pin	Description
1	GND
2	V+ 9-32VDC
3	UART-RX (not used)



3.2 5-pin connector

The 5-pin connector provides a 100BASE-T Ethernet interface and has the following pin definition:

Pin	Description
1	RX -
2	RX +
3	TX -
4	TX +
5	n.c.



3.3 SD card slot

This is a slot for a micro SD card. We recommend a micro SDHC Class 10 with 32GB capacity for use with this device.

It is strongly recommended to use the [SD Formatter 4.0 for SD/SDHC/SDXC](#) instead of formatting utilities provided with operating systems. Using generic formatting utilities may result in less than optimal performance for your memory cards.

4 Technical Data

Input voltage	9-32 V DC
power consumption	9W
Storage temperature	-4°F to 131°F -20°C to 55°C
Operating temperature	23°F to 113°F -5°C to 45°C
weight	150g

5 Disposal and recycling information

You must dispose of this device properly according to local laws and regulations. Because this device contains electronic components, the device must be disposed of separately from household waste. When this device reaches its end of life, contact local authorities to learn about disposal and recycling options.

5.1 European Union — Disposal Information



The symbol above means that according to local laws and regulations your product and/or its battery shall be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of your product and/or its battery at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

6 Contact

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Please provide the following information about the device when you make an inquiry:

- Name and manufacturer of your system
- Item and serial no. of the product

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