DATA FROM SKY

TrafficDrone Unit

Rugged video processor optimized for drone stream analysis in real time – that is the TrafficDrone Unit. Prepared for action in minutes, persistent for hours – the system boasts the most advanced DataFromSky AI technology to detect and track objects of interest from the aerial perspective. Relentless in attention and accuracy, prepared to face the elements, TrafficDrone provides you with actionable insights so that you can focus on your task – making the right decisions.

TrafficDrone is designed to be transported in a passenger car, it can be hand-carried by a single person. It is discrete and easy to set up. It requires only power and video signal to operate. Ideal for quick deployment in the field.

The system accepts video signal from all drone ground stations – simply connect HDMI or SDI cable to your ground station and you are ready to go. Alternatively, any RTSP video stream in H264/265 format can be connected via wired or wireless network. No matter the source, you can rely on deep insights provided by DataFromSky AI.

The configuration of detection tasks is performed using a visual programming language called FLOW, specifically by parallel or serial connection of spatial, temporal and attribution filters or other operators. This way, monitoring of tailgating, speeding or wrong-lane driving is just a few clicks away. The system is fully interactive and responds to updated configuration on-the-fly.

The system is also able to provide statistical data about the events in various aggregation modes such as whole history, time blocks, floating window or defined time interval. This data can be visualized on a user defined dashboard using interactive widgets for heatmap data, tables, trajectories, statistical values etc. Historical data together with the real-time detected events are available via open API, webhooks, can be translated into direct actions by relay contacts etc. The actions/outputs are scriptable and can react to any single detected event in the video or user-defined performance metrics.

Get situational awareness better than with a police helicopter – at a fraction of a cost!

Applications

- Law enforcement
- Traffic monitoring
- Public safety
- Perimeter security

Road safety

- Velocity measurement
- Headways
- Stationary vehicles
- Illegal maneuvers

Traffic management

- Object presence
- Classification
- Counts, statistics
- Level of service

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Powered by FLOW, the most powerful traffic framework

FLOW is a fully interactive video analytical traffic framework designed for real-time driven applications. It is the fastest and the most efficient way to transform any video stream into a stream of actionable insights. The first tool ever which visualizes traffic data live right at your fingertips and communicates with the other parts of your smart infrastructure using open APIs. FLOW is built for all imaginable traffic scenarios thanks to the powerful combination of unique visual traffic programming language, trajectory-driven design and AI-based image processing. Take the advantage of the one unified solution for smart traffic, parking, retail and security, which runs everywhere.

Video detection features

FLOW is powered by a proprietary developed and globally trusted video analytical engine utilizing deep-learning. This engine is capable of detecting and tracking hundreds of objects in multi-camera environments simultaneously.

Interactive data visualization

FLOW allows you to visualize the extracted information and analyses using interactive widgets on the customizable dashboards. Create a beautiful live visualization of the current traffic situation composed from the histograms, heat-maps, trajectory views, graphs and other graphical elements.

Traffic analysis functions

FLOW supports various traffic analytic functions and operators that can be combined into a comprehensive traffic analysis running in real-time. Thanks to the unique visual traffic programming language, you become the designer of a monitoring solution tailored to your specific needs.

Data interfaces

FLOW was born for integration with other parts of smart infrastructure. Any type of extracted traffic insights can be continuously delivered to 3rd party systems using an open API which supports multiple communication protocols including UDP and REST.

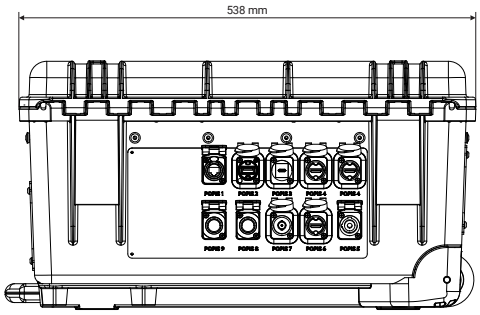
powered by FLOW INSIGHTS

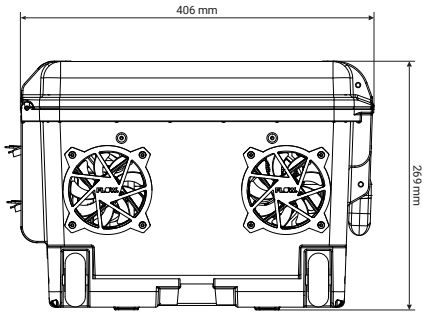
Model

TrafficDrone Unit
TD-U-01

Description

AI-infused rugged video processor optimized for drone video streams





General properties	
Power supply and consumption	100-230V AC, 11 A@100 V or 5.5 A@240 V, nominal consumption 450W
Weight	16kg
Dimensions	538 × 406 × 269mm
Case	Pelican iM2620 Storm case, injection molded resin
Access	2× press&pull latch
Transportation	soft-grip handle, trolley handle, wheel system
Display options	15,6” wired touchscreen, 12” wireless rugged tablet (optional), external monitor via HDMI (2x, optional)

Video analytics	
Analytic engine	DataFromSky FLOW: 7 detection categories, exact target traces, georegistration, stabilization, detection masks, dynamic and static anonymization
Signal source	HDMI, SDI, RTSP (H.264/H.265), file streamer
Recommended resolution	1080p30
Processing power	>20fps @ 1080p30

Environmental conditions	
Operating temperature	5°C to 40°C
Storage temperature	-20°C to 45°C
Relative humidity	15% to 90% non-condensing (30%/hr max gradient)
Shock resistance – operation	10G (half-sine shock pulses of 2 ms)
Shock resistance – storage	50G (non-repetitive half-sine shock pulse of 2 ms)

Interfaces	
Data Interfaces	REST API, UDP API, Webhooks, MJPEG, Xprotect (VMS-Milestone), GPIO pins (optional)
Inputs	1× Power terminal powerCON Neutrik NAC3MPA 1× HDMI 2.0a 1× SDI 10-bit SD/HD/Ultra HD (BNC)
Outputs	1× RJ45 etherCON Neutrik NE8FDY-C6-B 2× HDMI; maximum resolution 7680x4320@60Hz 2× USB-A 3.0 2× USB-C 3.1 gen 1 1× USB-C 3.1 gen 2 Thunderbolt 3 cable
Wireless	1x WiFi adapter - IEEE 802.11b/g/n 2.4 GHz, IEEE 802.11a/n/ac 5 GHz

Packing list

- TrafficDrone processing unit
- How to start guide
- Wireless keyboard
- Wireless mouse
- Carrying case for accessories

Cabling

- Power cable with NAC3FCA terminal
- Spare NAC3FCA terminal
- RJ45 cable with NE8MC6-MO terminal
- HDMI video input cable
- SDI video input cable

Optional accessories

- Drone (DJI M210v2 + DJI X5s)
- Tether (Elistair LighT V4)
- Touchscreen 15.6”
- Rugged tablet Dell 7220
- IO expander – 1/4/8/16 relays

All specifications are subject to change without notice.

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