



SISTEMI PER LA GESTIONE DEL TRAFFICO - TRAFFIC CONTROL SYSTEM



TrafiCam x-stream is an integrated camera and detector offering **vehicle presence detection** and **MPEG-4 image compression**.

This intelligent system provides detection and monitoring of moving and stationary vehicles at signalized intersections. Via detection outputs, vehicle presence information is transmitted to the traffic controller so that signal timing can be adjusted dynamically, resulting in **reduced waiting time**, improved traffic flow and less pollution.

TrafiCam x-stream is an **IP-addressable** video detection camera. **Streaming video** at full frame rate is available via Ethernet for system and traffic monitoring. Users can configure, view and control the system both on-site and remotely.

The system **setup is quick-and-easy**: a userfriendly PC tool allows connecting to all TrafiCam x-stream devices on the network. A camera image is available for accurate and fast positioning of the presence detection zones. Making the system operational is done in only a few minutes.

TrafiCam x-stream is a **cost-effective and reliable** solution that offers all benefits of video detection. This is an above-ground system without expensive installation and maintenance costs, typical for traditional inductive loops.

TrafiCam x-stream is based on **field-proven** video detection technology and is part of the La Semaforica product range.



KEY FUNCTIONALITIES

- Vehicle presence detection at signalized intersections
- Stop bar and advance detection
- Streaming video

KEY BENEFITS

- All-in-one sensor (camera + detector)
- Above-ground sensor
- Mpeg-4 image compression
- Ip-addressability
- Direct visual feedback
- Easy installation (only two wires)
- Quick configuration
- Reliable detection 24/7
- 25 Years of experience in traffic video detection



MAIN GOALS

- Reduce vehicle waiting time
- Increase traffic throughput
- Create smoother flowing traffic
- Reduce vehicle CO2 emissions



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MAIN APPLICATIONS

- Stop bar detection
- Advance detection



HARDWARE

In General:

Camera & detector board integrated in compact, esthetical housing

Material:

- Housing:
 - Front Shell: Painted semi sphere of polycarbonate
 - Back Shell: (Fiber reinforced) polyamide
 - Integrated clamps of polyamide for connection to tube
- Mounting Bracket:
 - Connection TrafiCam – Connection Box:
 - Aluminum tube
 - L = 25cm, Ø = 13mm
 - Cable inside to connection box
 - Connection Box: Fiber reinforced polyamide
 - Mounting Piece:
 - U-profile, L = 18cm, fiber reinforced polyamide
 - Attached to connection box
 - Retaining straps or bolts to be used for fixation

Mass: 750 g (excl. cable)

Height x Width x Depth (max. dimensions, housing + mounting bracket)

Vertically mounted about 45 cm x 16 cm x 12 cm

Horizontally mounted about 41 cm x 18 cm x 12 cm

Diameter: about 12 cm

Temperature Range: from -34°C to +80°C

Humidity: up to 95% non-condensing

Camera Details:

Camera type:

- Technology: Color CMOS
- Sensor Size: 1/4 "
- Resolution: 640 x 480 pixels (VGA)
- Frame Rate: 25 FPS

Lens types:

- Wide Angle (product reference number 10-6040):
 - Focal Distance = 2,1 mm
 - Field of View: Horizontal: 96°, Vertical: 70°
- Narrow Angle (product reference number 10-6041):
 - Focal Distance = 6,0 mm
 - Field of View: Horizontal: 29°, Vertical: 22°

Power Supply, Outputs & Communications:

- Broadband over Power Line (BPL) for power supply, communication of output status, configuration and monitoring (streaming video) via TI x-stream
- Input Power 24-48VAC/DC
- Current Consumption < 160mA @ 24VDC, < 80mA @ 48VDC (Power Consumption ≤ 4,0W)

Video Compression:

- Type: MPEG-4
- Frame Rate: up to 25 FPS
- Resolution: VGA
- Quality: up to 4Mbit/s

IP-addressable

REGULATORY ISSUES

- **EMC:** Electromagnetic Compatibility - 2004/108/EG
- **FCC:** FCC Part 15 class A
- **Shock & Vibration NEMA II specs**
- **Materials:** all weatherproof (UV-resistant)
- **Protection Grades:** Housing = IP68, Connection Box = IP65



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SOFTWARE

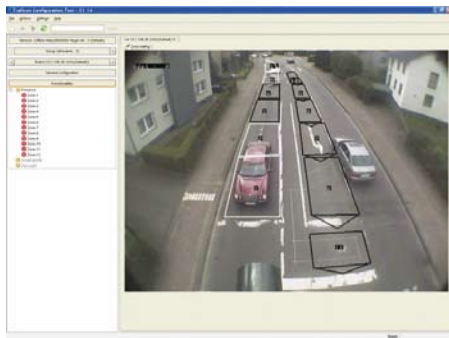
TCT (Traficon Configuration Tool) on PC with LAN connection:

Configuration via JPEG Snapshot

- Detection Zones:
- Max. 24 "virtual loops" per TrafiCam x-stream
- Virtual loops can be made direction sensitive

Output assignment:

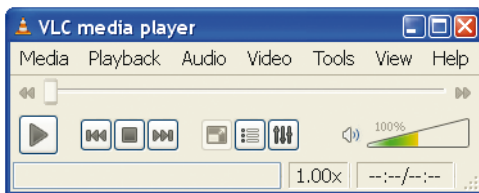
- Max. 16 outputs available per TrafiCam xstream
- An output can be assigned to multiple zones (logical functions: and, or)
- Select "close on event" (= default setting) or "open on event"



View detection via MPEG-4 streaming video

VLC Media Player on PC with LAN connection:

- View MPEG-4 streaming video
- Record MPEG-4 streaming video
- Playback MPEG-4 streaming video



CONNECTION TRAFICAM X-STREAM TI X-STREAM

Recommended type of cable: power cable, signal cable or STP cable, UV resistant

Cable diameter*: 3-8 mm

Maximum cable length**: 300 m

Required number of wires: 2

Wire diameter***:

- Min. 0,64 mm (0,32 mm², AWG22) for up to 120 m cable length
- Min. 0,8 mm (0,50 mm², AWG20) for up to 240 m cable length
- Min. 1 mm (0,75 mm², AWG18) for up to 300 m cable length

Note: cable is not included



* Determined by the cable gland of the TrafiCam x-stream connection box

** Highly depends on cable quality and local conditions, i.e. local sources of interference

*** Significant voltage drop possible. Resistance of wire may not be more than 25ohm for DC. For AC this is more critical.

CONNECTION TI X-STREAM – PC

Recommended type of cable: traditional CAT5 cable, CAT5e cable, ...



TECHNICAL SPECIFICATIONS TI X-STREAM

Name Interface: TrafiCam Interface x-stream

Abbreviation (short name) TI x-stream

Product Reference Number 10-6045

Basic Functionality

- Connecting zone output(s) from TrafiCam(s) to controller
- Providing power to TrafiCam(s)
- Connecting (portable) PC to TrafiCam(s) for system configuration & viewing

Cameras to Connect: 1, 2, 3 or 4 TrafiCam x-stream BPL units

Note: max. 4 extra TrafiCam x-stream BPL units can be connected via TI xp.*

Power IN: 24–48VAC/DC via clamps (back), power LED (front)

Power OUT: 24–48VDC to up to 4 TrafiCams via clamps

Port PC – Interface: 2 RJ45 Ethernet connectors (each 10/100Mbit/s auto switching)



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Detection Outputs

- 16 optical coupled dry contacts via clamps
- $P_{max} = 300mW$, $I_{max} = 50mA$, $U_{max} = 48VDC$
- "close on event" or "open on event" (setting in TCT)
- 16 output LEDs (green)
- "detection output 1-16" and "common detection output" **

Note: max. 32 extra detection outputs can be added via max. 2 TI xp. units *

Error Outputs

- 4 optical isolated switch components via clamps
- $P_{max} = 300mW$, $I_{max} = 50mA$, $U_{max} = 48VDC$
- "open on event" (hardware output)
- 4 output LEDs (red)
- "error output" and "common error output" **

Note: max. 4 extra error outputs can be added via TI xp. *

Function of Error Outputs

- All error outputs active = Error in TI x-stream or power supply TI x-stream down
- One error output active = Error in corresponding TrafiCam x-stream

Interface Firmware: yes

Communications TrafiCam x-stream BPL – Interface BPL, Traficon protocol (XML)

Cable TrafiCam x-stream BPL– Interface

2 wires for BPL via clamps:

- Power: + -
- Communications: broadband over power line (BPL)

Current Consumption: $\leq 160mA @ 24VDC$, $\leq 80mA @ 48VDC$

Power Consumption: $\leq 4 W$ (excl. connected TrafiCam x-stream unit(s))

Mass: 750 g

Physical Dimensions (H x W x D)

- 12,84 cm x 5,05 cm x 18,00 cm

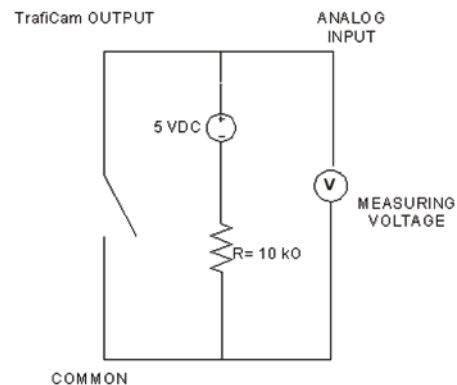
Interface Mounting: BOX, EURO-rack mountable, DIN-rail clickable

Regulatory Issues

- EMC: Electromagnetic Compatibility - 2004/108/EG
- FCC: FCC Part 15 class A
- Shock & Vibration NEMA II specs

* TI xp. = TrafiCam Interface Expansion board

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Traficon output wiring diagram

AUTHORIZED DISTRIBUTOR



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