TrafiCam C-WALK

PEDESTRIAN PRESENCE SENSOR

C-Walk is an above-ground sensor for pedestrian detection.

C-Walk is an integrated camera and detector for **pedestrian presence detection** at signalized intersections and mid-block crossings.

C-Walk is a **cost-effective and reliable** solution that combines the benefits of video detection with state-of-the-art CMOS sensor technology.

The main goal of C-Walk is to **improve pedestrian protection** as the pedestrian crosses the street (e.g. at zebra crossing near schools). By detecting crossing pedestrians and, at the same time, by managing and controlling traffic lights more dynamically, this intelligent sensor also **reduces unnecessary delays to motorists**.

This **above-ground sensor** avoids expensive installation and maintenance costs. Via a user-friendly configuration tool, setup can be done quickly. No specialist knowledge is required.

C-Walk is based on **field-proven** video detection technology and is part of the **Traficon** product range. Traficon is worldwide recognized as the market leader in traffic video detection.

KEY FUNCTIONALITIES

- » DETECTION OF WALKING PEDESTRIANS (OUTPUT GENERATION)
- » PEDESTRIAN DETECTION AT INTERSECTIONS AND MID-BLOCK CROSSINGS

KEY BENEFITS

- » ALL-IN-ONE SENSOR (CAMERA + DETECTOR)
- » ABOVE-GROUND SENSOR
- » ACCURATE ZONE POSITIONING
- » DIRECTIONAL DETECTION ZONES
- » MPEG-4 STREAMING VIDEO
- » IP-ADDRESSABILITY
- » RELIABLE DETECTION 24/7
- » COST-EFFECTIVE SOLUTION
- » FIELD PROVEN PEDESTRIAN DETECTION ALGORITHM

At zebra crossings, C-Walk can increase safety and efficiency for both pedestrians and motorists.

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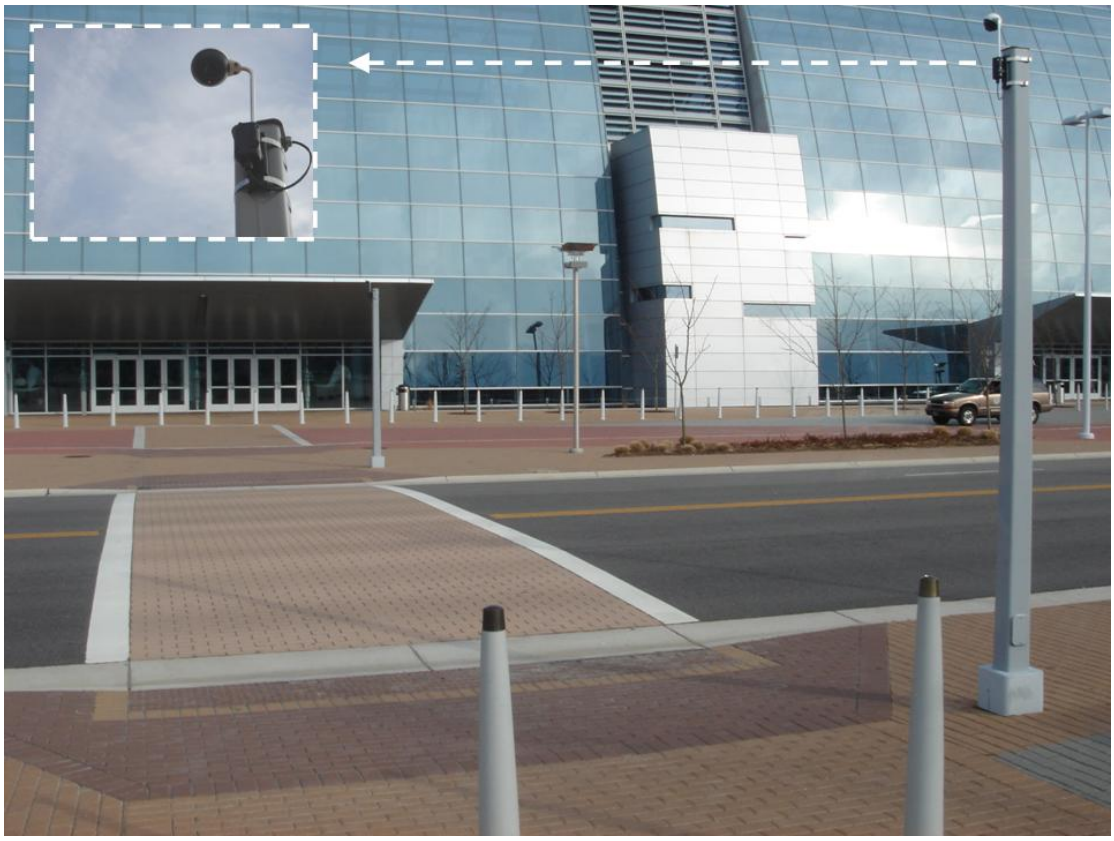
PEDESTRIANS CROSSING THE STREET

C-Walk detects pedestrians who are crossing the street. As soon as a pedestrian enters a predefined detection zone ("virtual loop") in a predefined direction, a detection output is provided to the traffic light controller, enabling the software **to lengthen the green time for the pedestrian** and delay the green time for vehicles.



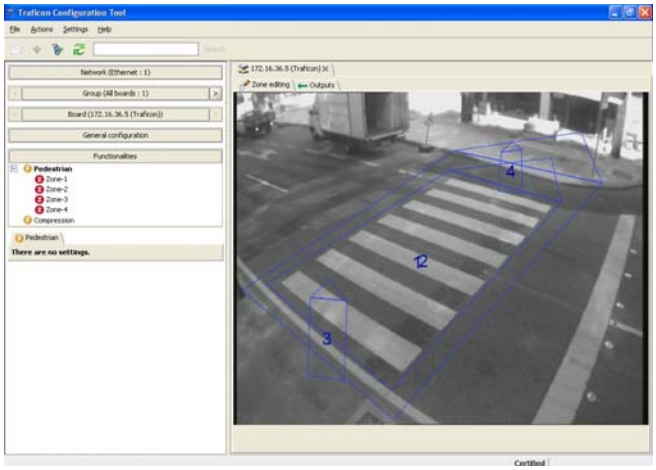
With C-Walk green light extension when slower pedestrians are crossing the street is made possible.

FAST & EASY SYSTEM SETUP

C-Walk is easy to install. It can simply be mounted on existing infrastructure. Also, a flexible bracket allows horizontal and vertical mounting.

Configuration of the sensor is done via portable PC with pre-installed **user-friendly** software.

Using camera images (JPEG snapshot), virtual pedestrian detection zones can be positioned accurately. Verification and viewing of the detection is possible via **MPEG-4 streaming video**.



C-Walk PC software allows quick and easy configuration.

TrafiCam
C-WALK
PEDESTRIAN PRESENCE SENSOR

TECHNICAL SPECIFICATIONS C-WALK

HARDWARE:

- **General:**
  - Camera & detector board integrated in compact, esthetical housing
  - Material:
    - Housing:
      - Aluminum, with integrated rain/sun shield (additional sunshield optional)
      - Window in glass
      - Screw Connectors:
        - BPL version: 1 connector with 3-pins for Broadband over Power Line (BPL)
        - ETH version: 1 connector with 3-pins for power supply and 1 connector with 8-pins for Ethernet (4), outputs (2) and not used pins (2)
    - Mounting Bracket: Aluminum tube; L = 25cm, Ø = 13mm
    - Mounting Piece:
      - U-profile, L = 18cm, glass fiber reinforced polyamide
      - Attached to mounting bracket
      - Retaining straps or bolts to be used for fixation

  - Mass ≈ 880 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

- **Power Supply, Outputs & Communications:**
  - BPL version:
    - Broadband over Power Line (BPL) for power supply, communication of output status, configuration & monitoring (streaming video) via TI x-stream interface
    - Input Power 20VDC via TI x-stream interface
    - Current Consumption < 165mA @ 24VDC (Power Consumption ≤ 4,0W)
  - ETH version:
    - Power supply separately and Ethernet for communication for configuration & monitoring (streaming video) with 1 optical coupled dry contact available
    - Input Power 12-48VAC/DC direct
    - Current Consumption < 125mA @ 24VDC (Power Consumption ≤ 3,0W)

- **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: Focal Distance 2,1mm
    - Narrow Angle: Focal Distance 6,0mm

Product type	Focal distance	Field of view	Effective horizontal detection distance
Wide angle (ETH version: 10-6048 and BPL version: 10-6042)	2,1 mm	Horizontal: 96° Vertical: 70°	0-10 m 2-12 m
Narrow angle (ETH version: 10-6049 and BPL version: 10-6043)	6,0 mm	Horizontal: 29° Vertical: 22°	10-20 m 15-25m

- **Video Compression:**
  - Type: MPEG-4
  - Frame Rate: up to 25FPS
  - Resolution: VGA (640x480)
  - Quality: up to 4Mbit/s

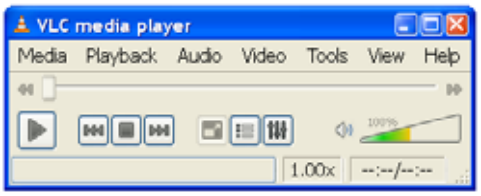
- **IP-addressable**

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, Connectors = IP67

SOFTWARE:

- **TCT (Traficon Configuration Tool) on PC with LAN connection:**
  - Configuration via JPEG Snapshot
    - Detection Zone:
      - 1 "virtual loop" per C-Walk
      - Direction sensitive in 1 or 2 directions
    - Output assignment:
      - 1 detection output per C-Walk
      - Select "close on event" (= default setting) or "open on event"
      - BPL version: output generation via TI x-stream (EDGE)
      - ETH version: output generation direct (1 output) and/or via TCP/IP
  - 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 C-WALK BPL – TI X-STREAM (EDGE):

- **Recommended type of cable:** power cable, signal cable or STP cable, UV resistant
- **Cable diameter*:** 4-8 mm
- **Maximum cable length**:** 300 m
- **Required number of wires: 3 (+, -, PE)**
- **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 200 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 connector
** 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 15 ohm for DC.

CONNECTION C-WALK ETH – POWER SUPPLY:

- **Recommended type of cable:** same as previous

CONNECTION C-WALK ETH – PC:

- **Recommended type of cable:** Industrial CAT5e cable (SF/UTP)

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