

# TDC2 Series

Dual-Technology PIR & US Traffic Detector for Traffic Counting, True Presence, Height Discrimination



The TDC2 Series are advanced traffic detectors using Passive Infrared (PIR) and Ultrasonic (US) technology. Vehicle events (count) and distance (height) are provided via RS 485 databus, additional true-presence is available via relay output.

## Typical Applications

ADEC TDC2 Series detectors is specifically designed for a variety of **Traffic Data Collection** and traffic control applications where true presence detection are required:

- Vehicle counting (volume)
- Traffic light control, green light request
- Object / vehicle true presence
- Vehicle discrimination by height

## Working principle

TDC2 traffic detectors employ PIR and US detection zones. A combination of static and dynamic detection channels form a total of two overlapping detection zones. The thermal radiation contrast of a vehicle moving into or through the detection zones against the background radiation of the road surface correlates to the passage of a vehicle, the changes in distance from the detector provide information about the presence and/or height of a vehicle. Sophisticated algorithms transform the sensors data into height, occupancy and directional information for each event without the need for external computing equipment.

## Mounting

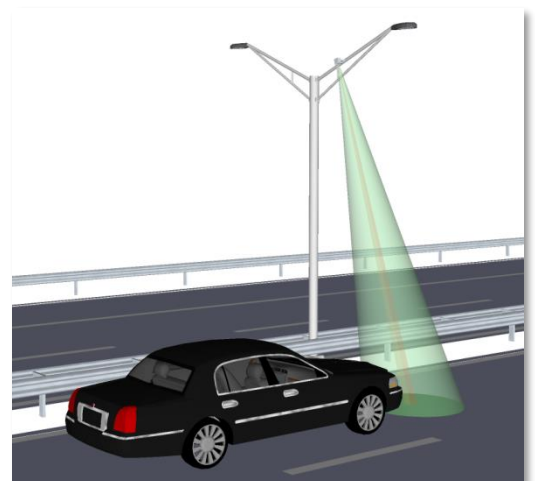
Recommended mounting points are gantries, overpasses or bridges or alternatively on a pole at the roadside. Clearly superior performance and reliability are a result of:

- Quad-channel PIR detection combined with single US zone
- Full temperature compensation across entire temperature range
- Sophisticated algorithms eliminating impact of environmental changes

## Features

- **Detection of standing vehicles**  
True-presence detection
- **Vehicle discrimination by height**  
Distinguish cars from trucks and busses
- **Dual-sensor detection**  
Responsive action combined with true presence detection
- **Auto calibration**  
Auto calibration using distance / height thresholds via dedicated commissioning software
- **Wide mounting height range**  
Detection range up to 10 meters,  
*Application-dependent limitations apply*
- **Wide operating temperature range**  
**-30 to +65°C (-22 to +149°F)**  
Optimal performance in all weather and climate conditions
- **Remote configuration and setup**  
With dedicated commissioning and installation software

## Field of view



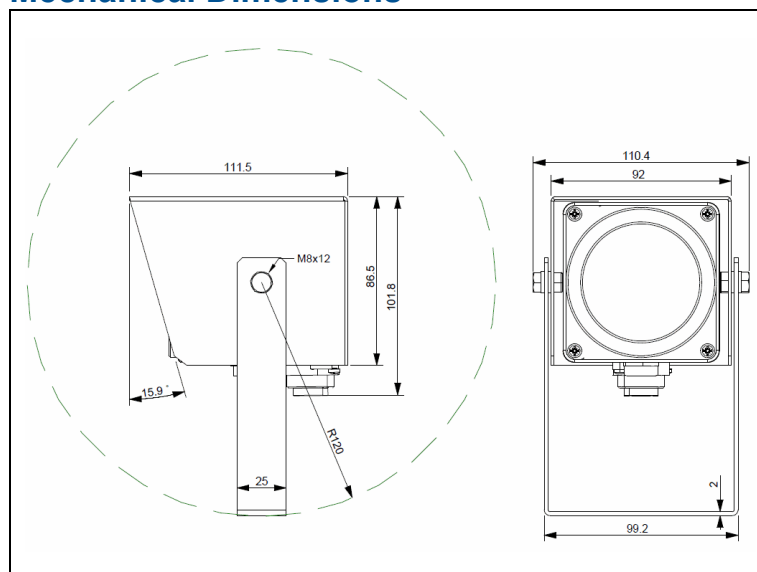
## Technical Specifications

Electrical	
Supply Voltage	10 ... 30 V DC
Power Consumption	typ. 40 mA @ 12 V DC
Output (Data Transfer)	RS 485 (other options on request)
Output* (digital)	SPST Relay Output > 2 · 10 <sup>5</sup> cycles @ 1A / 30 V DC (mechanical > 10 <sup>8</sup> cycles)
Turn-on Time	typ. 20 s from power on
Mechanical	
Dimensions	see drawing
Case Material	Polycarbonate, dark grey
Weather Protection Enclosure	stainless steel V4A
Weight	app. 960 g incl. bracket
Detection	
PIR Sensors	Quad-channel PIR
PIR Spectral Response	8 ... 14 μm
US Sensor	40 kHz, 13 – 30 pulses / second
Accuracy	
Counting	typ. ± 3%
Distance	typ. ± 2%
Environmental	
Operating Temperature	–30°C to +65°C (–22 to +149°F)
Humidity	95 % RH max.
Sealing**	IP 64 splash proof

\* CAUTION switching voltage must not exceed supply voltage!

\*\* in mounted condition

## Mechanical Dimensions



### Important:

Data is based on samples and believed to be representative.  
Design and specification changes reserved without prior notice.  
For more specific information on the products, their installation and application please refer to the installation manual or contact the manufacturer.

## Accessories (Sold Separately)

### Interface RS 485 & Software

For the communication between detectors and a PC during commissioning and maintenance an interface module in combination with the dedicated service software is necessary.  
USB IF 485: **12501**



### Mounting Accessories

Bracket for mounting the detector on a round pole. Includes stainless steel washer and safety nut.  
TDC-PMA: **14101**



### Alignment Tool

Mechanical alignment tool for quick and accurate installation. The tool is put on top of the device for the alignment process.  
TDC-AH: **12601**



### Connector

Matching 7-pin Amphenol C16 female connector, right-angled, for soldering, for cables up to 12 mm (0.44") diameter  
TDC-C-F90: **64013**



### Connection Box

Ruggedized wiring box features two PG cable feeds and two interconnected eight-pin push-terminals to simplify wiring of detector into legacy systems.  
JBL2W: **14205**



### Connection Cable

1 m (3 ft.) connection cable with female connector to wire the detector to a junction box or custom connector via open-ended, pre-soldered cable leads  
K-C16FR-10x7: **66120**



## Model Overview

- **TDC2-PIRUS** (Order Number: **10020**)