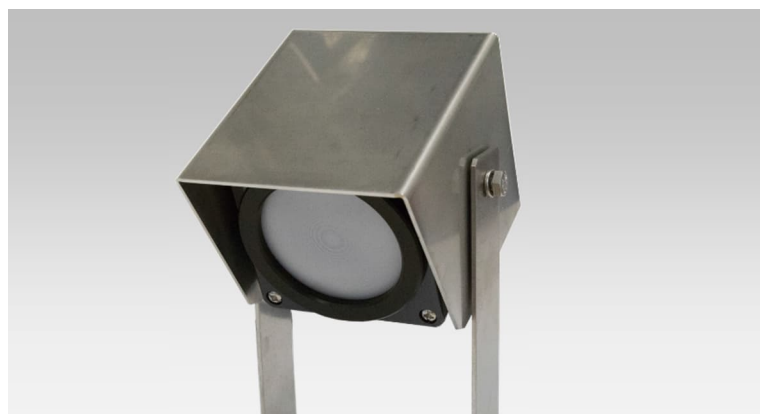


TDD1-PIR30

Lane Selective Detection of Approaching Vehicles



The TDD1-PIR is an advanced traffic detector for detecting approaching vehicles at intersections. The detector utilizes a single, focused PIR detection zone to detect small temperature changes caused by passing vehicles. Passing vehicles cause the digital output to activate to announce their approach for traffic light controller to activate or extend green phase. The digital output returns to its original state and calls are not held when a vehicle comes to a stand-still inside the detection zone. The detection is dynamic only.

Typical Applications

ADEC TDD1-PIR detector is specifically designed for a variety of intersection applications, primarily approaching vehicle detection.

- Lane-selective detection of approaching vehicles at intersections
- Detection of vehicles entering or passing through small, focused detection zone

Working principle

The TDD1-PIR traffic detector employs a single, focused PIR detection zone. The detection zone's opening angle is only 1.3°, corresponding to approximately 0.7 m at 30 m distance allowing for lane-specific alignment. The sensor element detects slightest changes in thermal infrared radiation, such as the difference in temperature of a passing vehicle from the road surface background temperature. Sudden temperature changes like that correspond to a passing vehicle, while gradual temperature changes such as caused by variations in the environmental conditions etc. are too slow to cause detection. Superior performance, environmental immunity and zero-configuration deployment are a result of:

- Dual channel opposite PIR sensor
- Full temperature compensation across entire temperature range
- μ P-controlled signal processing

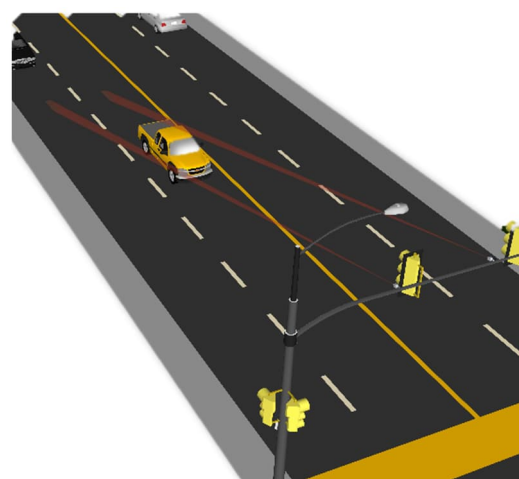
Mounting

Recommended mounting points are stable structures such as posts or beams for traffic light heads, streetlight poles etc.

Features

- **Detection of approaching vehicles**
Precise, focused detection zone for lane-selective vehicle detection applications
- **Zero-configuration deployment**
Simple, quick, and cost-effective installation
- **Digital Output**
Transistor Open Collector
- **Environmental immunity**
Reliable detection of approaching vehicles in any environmental condition
- **Flexible mounting range**
Detection of 30 meters
- **Wide operating temperature range**
-40 to +70°C (-40 to +158°F)
Optimal performance in all weather and climate conditions
- **Wide voltage range**
Accepts supply voltage from 6 to 30 V DC
- **Low power consumption**
Consumes 60 mW max. @ 6V

Field of view



Technical Specifications

| Electrical | |
|------------------------------|-----------------------------------|
| Supply Voltage | 6 ... 30 VDC |
| Power Consumption | typ. 10 mA @ 6 V DC |
| Connector | 2 m cable with pre-soldered leads |
| Output* (digital) | Transistor Open Collector Output |
| 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 | Dual-opposite PIR |
| PIR Spectral Response | 6.5 ... 14 μm |
| Nom. Det. Range | TDD1-PIR30: 30 m (100 ft.) |
| Environmental | |
| Operating Temperature | -40 to +70°C (-40 to +158°F) |
| Humidity | 95 % RH max. |
| Sealing** | IP 64 splash proof |

* CAUTION switching voltage must not exceed supply voltage!

** in mounted condition

Accessories (Sold Separately)

Mounting Accessories

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



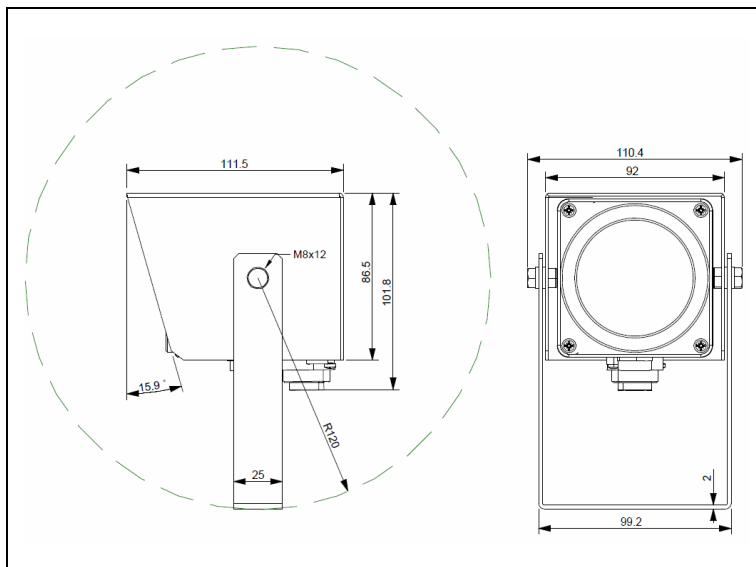
Alignment Tool

Mechanical alignment tool for quick and accurate installation. The tool is put on top of the device for the alignment process



TDC-AH: **12601**

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.

Model Overview

- TDD1-PIR30 (Order Number: **10031**)