



DATA CAR Detectors

Brochure nº 9723.0017

Passive Infrared Detectors for Traffic Data Acquisition

Multi Channel PIR Detection

A combination of static and dynamic detection channels with appropriate optics is forming two or more detection zones. The thermal radiation contrast against the background radiation of the road surface of a vehicle *moving into or through* the detection zones gives the information of the passage or presence of a vehicle. Signal processing transforms this information into digitised information for each event.

Applications

Detection of vehicles for all purposes of traffic data acquisition as a component for

- **Vehicle Counting**
- **Average Speed Assessment**
- **Length Classification**
- **Presence Detection**

in traffic data acquisition systems.

The detectors can be mounted directly over the observed lane on a gantry, overpass or bridge or alternatively on a pole at the roadside.

A multi channel PIR detector can replace a pair of *inductive loops* without the need to dig trenches or disrupt the traffic flow.

Owing to the true presence capability, the detectors can operate accurately under all conditions including heavy traffic and congestion down to stand still.

Highlights

- **Two Way Data Communication**
- **< 50 mW Low Power Units Available**
- **Exceptional Performance/Price Ratio**
- **True Presence Detection**
- **Automatic Contrast Compensation**
- **Direct connection to DataCar 2000C/3000C Remote Electronic Units, allowing data transmission and alarms real-time via GPRS/CDMA to central computers.**

IR 250 Series

PIR Detectors Presence – Count – Speed – Length



Technical Features

Multi zone, multi channel PIR detection with intelligent logic enables the detectors to *count*, measure the *speed* and *length* of a moving vehicle and to detect the *presence* of a stationary vehicle.

Standard output is by two-way communication between several detectors and the data collection module over a single RS 485 data bus. Internal data buffer stores the relevant information for all detected events within the selected call interval.

Self-check of the detection channels gives a fault output under defined conditions.

Standard mounting hardware is supplied for quick, stable and easy installation.

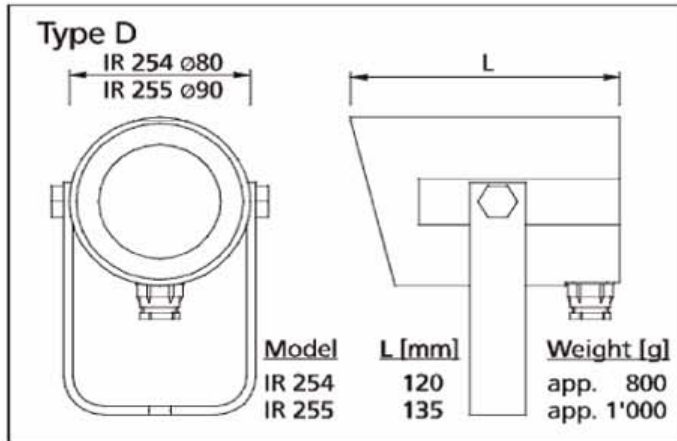
Standard Models

- **IR 254 Mounting Height 4 ... 10 m**
- **IR 255 Mounting Height 8 ... 20 m**

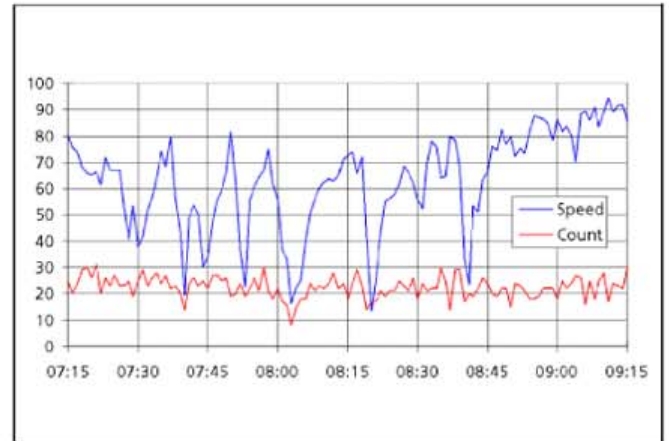


DATA CAR Detectors

Mechanical Dimensions



Traffic Data Acquisition



Specifications

Mechanical

Dimensions see diagram
Case material anodised aluminium
Cable length 1 m

Infrared

Sensors static and dynamic
Spectral response 8 - 14 μ m

Electrical

Supply voltage see ordering information
Power consumption < 8 mA @ 12 V DC typ.

Output

Data Exchange RS 485 bus, 9600, 8, e, 1
Data buffer up to 20 events per interval
Speed in 1.0 km/h increments
Length in 0.1 m increments
Turn-on time typ. 20 s from power-on

Accuracy

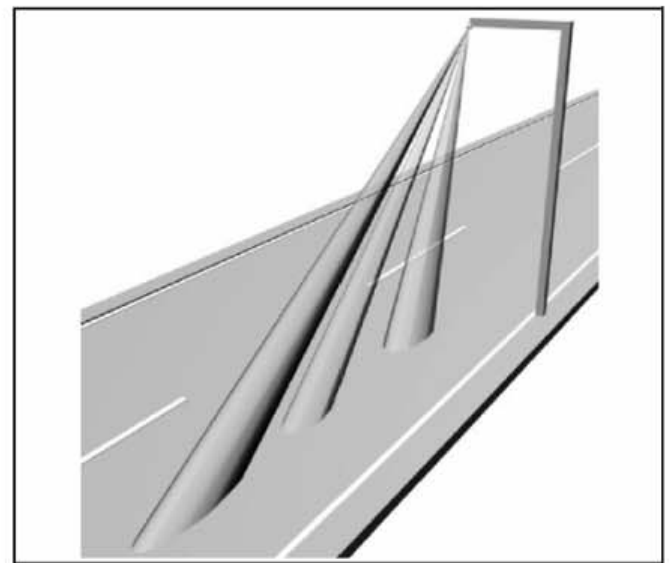
Counting typ. \pm 3%
Speed average typ. \pm 10% (\geq 20 events)
Classification depending on length classes

Environmental

Operating temp. - 40°C ... + 70°C
Humidity 95% RH max.
Sealing IP 64 splash proof

The standard model has a serial data bus for two-way communication with a data collection unit **DataCar Model 2008C/3008C**. Each detector connected to the data bus can be addressed individually by its identification number to retrieve the information from the data buffer.

Other configurations as well as special versions are available on request.



Ordering Information

	I	R	2	5	X	-	X	X	9
Detector Type									
Mounting Height 4 ... 10 m					4				
Mounting Height 8 ... 20 m					5				
Supply									
10.0 ... 14.0 V DC								4	
5.5 ... 15.0 V DC								7	
Output									
Serial Communication RS 485									5

The data is based on engineering samples and is believed to be representative.

Design and specification changes reserved without prior notice. More specific information on the products, their installation and application is available on request (info@geonica.com)