

Vehicle Detection

By CF-24P Photoelectric Vehicle Scanner

Vehicle detection in automated tolls is a tough task characterized by an extremely harsh environment. This environment has been fully addressed in the design and manufacture of CF-24P vehicle scanners that have continuous improvement for over 13 years.

The CF24P system for vehicles detection is based on two 1.5 m. columns (for the standard version) mounted on each side of the traffic lane. This allows to obtain exhaustive information for each vehicle crossing the scanner.

The highest technology allows its usage on high speed lanes in both senses, maintaining its characteristics of reliability and toughness. It also presents high degree of immunity to any possible environmental situation, like rain, snow and direct sun. It changes automatically to degraded mode, when malfunction or dirt affects any detecting module.

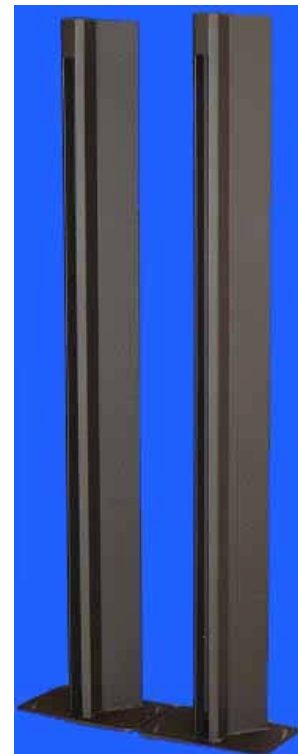
Functional Performance

The CF-24P provides the following information:

Presence: The system detects the presence of any object larger than 15 mm interfering beams of detection.

Height on the first axle: The standard vehicle scanner model provides the height of the vehicle on the first axle when it moves through the beams. The flexibility of the system allows the installation of additional external detection devices at different heights to meet special requirements of height discrimination.

Separation of vehicles: The high resolution of the scanner allows it to detect trailer hitches without losing the "presence" of the vehicle. The vehicle scanner ensures to discriminate between different vehicles at speeds of 100 km/h.



Specific Design for Vehicle Detection

The high performance of the vehicle scanner is based on the following main aspects:

Direct Insolation: High degree of immunity to solar and fluorescent light. The sun has no impact on performance.

Rain: Tested with rain volumes up to 10000 liters / hour.

Dirt environment: When malfunction is due to external agents (dirt, small animals, etc) the CF-24P is able to operate in degraded mode automatically and the scanner continues to provide all their service.

Degraded mode: The CF-24P can work even if parts of the electronics are not working correctly.

Installation: Easy to install with a wide range of alignment and orientation, LEDS for user guidance.

Detection efficiency: Unlike other modular equipments, the CF-24P scanner uses 100% of the processing time of the CPU, without "blind spots" for multiplexing or other artifices.

Therefore, it is not only advisable, but you might almost say it's inexcusable, the use of sensors designed exclusively for the detection of vehicles, which take into account all aspects of tolls environment and the variability in the shapes of vehicles.



Technical Specifications

- Distance between columns 3 to 5 meters (optional 10m).
- Supports reversible installation.
- Vehicles speed range for detection:
 - From 0 km / h (stationary vehicles or caravan) to 100 km / h.
- Presence Error Rate: Less than 1 / 10000 vehicles.
- Error rate on the Height on first axle: less than 1 / 10000 vehicles.
- Error rates constant over the entire speed range [0 .. 100] km/h
- MTBF: 40,000 hours
- Immunity to sunlight, ambient light and rain.
- Vertical resolution: 15mm.
- Useful height detection: 1.5m from the base.
- Automatic error detection from the system itself or from external agents.
- Operation in degraded mode.
- Communications RS232C / RS422.
- 2 relay outputs (Presence, Height).
- Status LEDs for easy installation and maintenance.
- Electronic circuitry container IP65 protected.
- Tropicalized Electronics ensures long protection against external agents.
- Temperature Range: -20 ° C to 85 ° C
- Weight: 17Kg/column.
- Supply Voltage: 24VDC.
- Maximum consumption: 20W.

Meets environmental conditions regulations UNE 20.501/2.1, UNE 20.501/2.2, UNE 20.501/2.38 and watertighting UNE 20.324-93.



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