



TRAFFIC DETECTION SYSTEM

USMI 9601 RADAR+ULTRASONIC+INFRARED



INTEGRATED SYSTEMS WITH ABOVE GROUND TRAFFIC DETECTORS

The traffic detection system based on USMI 9601 sensor allows to know the main vehicles characteristics like counting, speed, length, height and to have information on traffic conditions like normal flow or queue, etc.

The system is made by the sensors, the local control unit complete of modem, and a software suite for Control Centre.

The USMI 9601 sensors use a radar-microwave technology, a ultrasonic and a passive infrared technology.

The radar is able to measure the vehicle's speed using the "doppler effect" and the vehicle's length (based on time of permanence of the vehicle under the radar beam).

Other features, like the counting of vehicles at low speed and the height detection of the vehicles, are devoted to the ultrasonic head and infrared beams.

The data detected by the 3 heads (speed, length, height, of the vehicle, gap, headway, etc.) are processed by a microprocessor with proprietary algorithms in order to obtain low error's level in all traffic conditions (including queue and stop&go).

The microwave sensor is a "patch antenna" type (the horn-antenna radar has been substituted because

too much sensible to electromagnetic fields) with side suppression of lobes in order to narrow the beam and to detect only the vehicles on the corresponding lane.

The USMI 9601 sensors are installed over the lane oriented on incoming traffic.

The data collected/processed for each vehicle are:

- Class
- Speed
- Length
- Height
- Time between vehicles
- Presence of queue and queue time.

The vehicles are selected in eight or less different classes based on length and height of vehicles.

The classes can be selected and changed via software.

A control unit manufactured by Comark (UCC 1010) can drive all the sensors of a road section. All data are stored, processed and sent to a Control Centre via GPRS or Lan/Wan.

All parameters (like aggregation's time, transmission timing, filtering time, queue parameters, etc) can be settled remotely via software.

Thanks to the low consumption of all the devices, the traffic sensors and the local Control Unit, the system can be powered by photovoltaic energy.



USMI 9601 TRIPLE TECH DETECTOR

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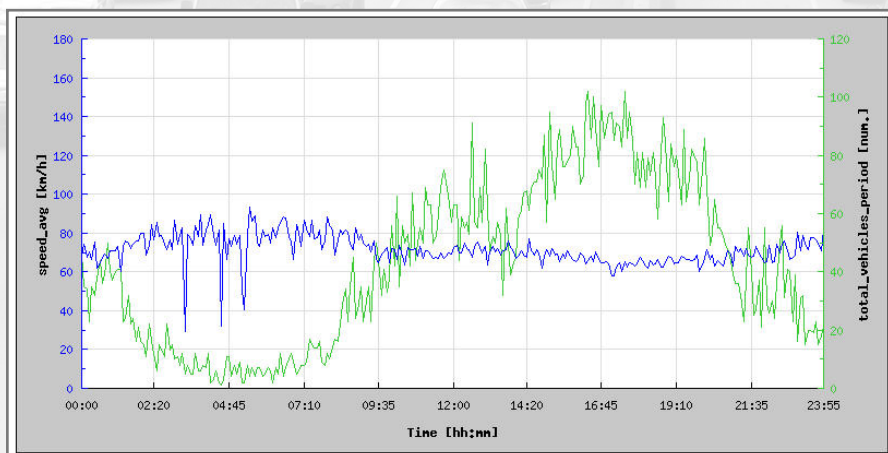
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Survey Time	Speed Avg	Total Vehicles	Classe1len	Class2len	Class3-8len	Lane Occupation	Traffic Classification
22-11-2009 23:55:02	81	21	0	8	13	0	2
22-11-2009 23:50:01	71	18	0	10	8	0	2
22-11-2009 23:45:01	74	15	0	9	6	0	2
22-11-2009 23:40:02	77	23	0	10	13	0	2
22-11-2009 23:35:01	77	19	0	8	11	0	2
22-11-2009 23:30:01	78	20	0	5	15	0	2
22-11-2009 23:25:02	72	20	0	13	7	0	2
22-11-2009 23:20:02	74	15	0	6	9	0	2
22-11-2009 23:15:01	79	32	0	11	21	0	2
22-11-2009 23:10:02	71	31	0	13	18	0	2
22-11-2009 23:05:01	81	16	0	9	7	0	2
22-11-2009 23:00:01	69	39	0	18	21	0	2

USMI 9601 :
Example of data collection



USMI 9601:
Graphic of data collected

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