



Once the detection module has been properly set up using the supervisor computer, it will be possible to disconnect the supervisor computer. Thereafter, the detection module will perform vehicle detection as a standalone unit.

2.2 Interval Traffic Data

The detection module will count vehicles in real-time and compute the average of traffic parameters over user-defined time intervals (or time slices) or traffic phases, as follows: Volume, Occupancy, Vehicle Classification, Flow Rate, Headway, Speed, Level of Service, Space Occupancy, Space Speed, and Density.

The time-interval data will be retained in non-volatile flash memory within the detection module for later transfer to the supervisor computer for analysis. The detection module will record traffic data and alarms by event or by multiple time intervals from 1 to 3600 seconds (1 hour) or by intersection cycle split for display, retrieval, and analysis.

Retrieval of data stored in the memory of the detection module will be via a standard RJ45 Ethernet communications port using manufacturer provided software.

2.3 External Interface

It will be possible for the detection module to output the detection signal directly to NEMA TS1, TS2, Type 170, Type 179, 2070, SCATS, and SCOOT controllers. It will be possible to selectively disable and re-enable any or all of the detection outputs. The manufacturer of the detection module will have a communications server software package available to allow the polling of the detection modules for traffic data. This software will be available in the form of a developer's kit or traffic data protocol and supplied when indicated by the project specification. The communications software will be able to operate as a communications server under the Windows XP, Vista and 7 operating system platforms. The detection module will provide 24 open collector TS1 outputs on the front connector and 4 jumper selectable outputs on the rear edge connector. The detection module will provide 16 TS1 open collector inputs on the front connector. The detection module will also offer 64 outputs and 32 inputs via TS2 SDLC Port 1 connector also located on the front.

2.4 Detection Zone Placement

The video detection system will provide flexible detection zone placement at any orientation within the field of view of the sensor. Preferred detector configurations will be to place detection zones across lanes of traffic for optimal count accuracy and to place detection zones parallel to lanes of traffic for optimal presence detection accuracy of moving or stopped vehicles.

Detection zones will be able to be overlapped for optimal road coverage. In addition, selective groups of detectors will be logically combined into a single output and further modified by using optional delay and extend timing and signal state inputs, if available.

The video detection system will detect vehicle passage and presence optimally when the hybrid sensor is mounted to best meet the detection objectives at the site. Optimal detection will be achieved when sensor placement provides an unobstructed view of each traffic lane where vehicle detection is required. Obstruction of the view can occur when vehicles from a lane nearer to the sensor obscure the view of the roadway of a lane further away from the sensor.

2.5 Detection Zone Programming

Placement of detection zones will be by means of a PC with a Windows XP, Vista or 7 operating system, a keyboard, and a mouse. The PC monitor will be able to show the detection zones superimposed on images of traffic scenes.