

AREA TRAFFIC CONTROL SYSTEM COMPITABLE INTERSECTION CONTROLLER

ATCS Controller (Area Traffic Control System Compatible Intersection Controller) is a microprocessor based Road Traffic Control unit, used to energize Traffic lights. The unit is placed on the road-side near an intersection.

The junction specific traffic plans i.e. signal timings are entered through standard qwerty Keyboard, easily programmable at site. The plans are stored in a non-volatile flash memory.

ATCS Controllers can intelligently control traffic flow of each direction. The loops embedded on the road senses the presence of vehicles approaching an intersection. The controller then identifies the case of 'No Vehicle with Green ON'. This time is un-utilized and eliminated by switching the traffic signal to the next available route. Thus, unwanted stops and delays at the intersection are controlled by varying 'Green' timings dynamically as per real traffic demand.

The controller uses highly accurate crystal oscillator for drift free operation of its Real Time Clock (RTC). Distributed time synchronization is also achieved through GPS.

The controller supports group level programming and has facilities to monitor Green-to-Green conflict. The controller has a LCD display with LED back lighting (40 Characters X 4 Lines LED backlit LCD), which gives very good visibility at outdoors.

- Manual Override is possible thru' police control panel.
- Forced Flash can be set.
- 4 Hurry Call options are available.



WML make ATCS Controller

The main components of ATCS Controller are as follows:-

- Control Module,
- Detector Interface Module,
- Lamp Driver Module,
- Network component are placed within the controller for connection with central control room.

MODES OF OPERATION

- Fixed Time Mode
- Manual Control Mode
- Hurry Call Mode
- Vehicle Actuated Mode
- ATCS Mode
- Flash Mode

SALIENT FEATURES

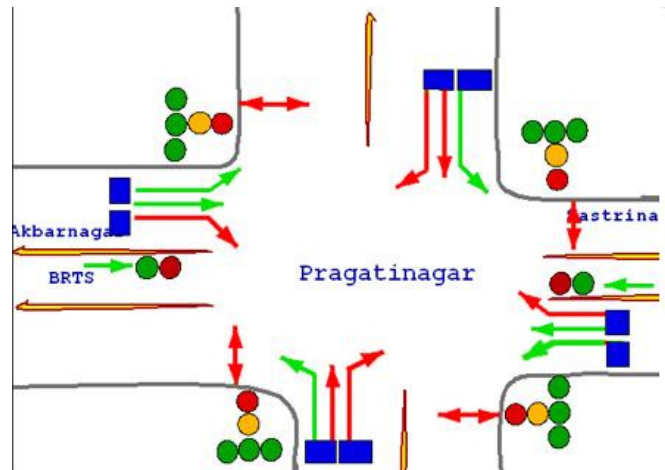
- Stages consist of multiple phases.
- Grouping of stages and its timings are programmable.
- Option exists to insert cycle Plans with varying cycle timings over a day.
- Day Plans, Week Plans, Holiday Plans, Season Plans are programmable.
- Inter green timings can be varied.
- Minimum Green time can be set.
- Night Flash duration is programmable.
- A maximum of 64 Lamp Controls are allowed.
- Priority to certain route is possible thru' Hurry Call selection switch.
- Vehicle Detection Inputs are fed to controller unit to sense the traffic.
- PC Interface is possible using RS232 port & Serial-to- Ethernet converter.
- Controllers are connected to the central control room thru' leased line.
- Data packets of intersection controller consist of traffic details like stage duration, stage timings, GPS timings, usage of green time for every stage, controller mode of operation etc.

Logging of traffic data is possible at server end.

LOOP SENSING

- Inductive loop sensors are used to sense the presence of vehicles.
- Detector electronics identifies the time gap between successive vehicles along a lane.
- If time gap > 3 sec, it indicates the end of a traffic platoon. This time is programmable.
- Early cut option allows termination of current stage and moving to the next stage.

Thus Vehicle Actuated (VA) Mode is advantageous over fixed time mode of operation.



A Typical Intersection Traffic Plan

ATCS Application Software

- Online Signal Simulation
 - Remote Monitoring and Control
- (1) Server at control room receives data packets from ATCS controllers. It stores the stage timings to analyze it.
 - (2) Provides on-line view of controller operation.
 - (3) Generates Reports on the basis of logged data.
 - (4) ATCS application Software offers 3 types of optimization - Stage Optimization, Cycle Optimization, offset optimization for a group of controllers in a particular corridor. Offset optimization ensures progressive green in the intersection of a corridor.

GENERAL SPECIFICATION

- Electrical input: 230V AC, 50 Hz
- Operating Temperature: 0 to +55°C
- Relative Humidity: 95% non condensing
- Cabinet: MS with double wall housing for control electronics.
- Cabinet colour: Siemens Grey (Powdered coated)
- Mounting: Pedestal
- Cabinet size: 960mm X 565mm X 330mm