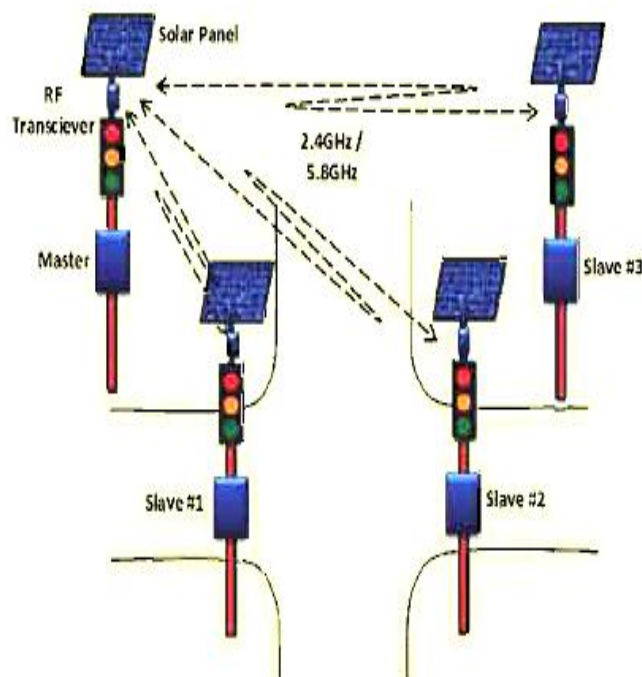


Wireless Traffic Controller

Wireless Traffic Controller is a Vehicle Actuated road traffic signal controller that controls the signal lamps over wireless medium. This is Adaptive Traffic Control System (ATCS) compatible having features to perform at isolated intersections or as part of a synchronized chain of controllers. The Controller supports remote monitoring and management of signal plans over various medium of communication network. Optimized Solar power operation , PWM based intensity control of signal lamps, GPS/server based distributed time synchronization, pole mountable miniature architecture are other features of the Wireless Traffic Controller. This controller has been developed under the “Intelligent Transportation System Endeavour which is a National level Collaborative Research and Development program developed by the Department of Electronics and information Technology, Ministry of Communication and Information Technology, Government of India. This Technology has been adopted by Envoys Electronics and manufacture the Controller under their Licence.



MODES OF OPERATION

- Pre- timed
- Vehicle Actuated
- Semi- Actuated
- ATCS
- Combination of the above modes in any order
- Hurry Call
- Manual
- Forced Flash
- Pedestrian push button (optional)

SALIENT FEATURES	EXTENDED FEATURES	SAFETY FEATURES
32 bit microcontroller based	Programmable - All Red - Start Amber - Red Extension - Stage Skipping	Self diagnosis on Power up and runtime
Distributed architecture 1 Master controller and up to 15 Slave controllers	Early start in VA mode	Green- Green conflict Monitoring
Signal Switching and feedback on wireless medium - No armored cable required for signal lamps - No Road cutting required for hume pipes/signal cables		Lamp failure/short circuit monitoring
Use unlicensed 2.4GHz Band		Battery Voltage Monitoring (solar Power)
Optimized Solar Power -12V DC operation		Fallback on secondary frequency in case of wireless signal jam
Pole mountable Master and slave controllers		Automatic selection of flashing program on error conditions and communication failure
Inbuilt hardware conflict monitor		Error logs sent to traffic monitoring centre when networked

1. Wireless Traffic controller is compatible with Area Traffic Control system (ATCS) and can communicate with a central server for online time update and efficient synchronized operation in a network of road functions and the signal plans can be downloaded remotely through ATCS server (*Optional*)
2. Wireless Intersection controller consists of a Master Controller and maximum of 16 slave Controllers. Master controller and slave controller communicates by wireless link. Controller Area Network (CAN) is used as redundant communication method in case of wireless failure.
3. Wireless Traffic controller can also be used as an independent system at isolated intersections or as part of a synchronized chain of controllers for coordinated control of traffic Signal.
4. Wireless Traffic Controller is compatible with solar powered 12 V DC power supply. Energy efficient 12 V DC/24v dc LED array as signal lamps are used for reducing the power consumption.

MASTER CONTROLLER	SLAVE CONTROLLER
16 optically isolated solid state lamp driving outputs	16 optically isolated solid state lamp driving outputs
Ethernet - Remote Administration - ATCS	4 optically isolated Vehicle detector interface supports Inductive loop, camera and microwave based vehicle detection
16 optically isolated Vehicle detector interface supports inductive loop, camera and microwave based Vehicle detection	USB interface - Firmware update
Inbuilt GPS module for time synchronization	CAN interface - Signal Switching (Optional)
User friendly man- machine interface - Menu driven - 20X4 LED backlit LCD and 5X4 keypad	RS232 debug Port - Status monitoring and data logging
USB - Firmware update	
CAN - Signal Switching (optional)	
RS 232 debug port Status monitoring and data logging	
8 Auxiliary I/O interface	

SIGNAL PLANS

- 32- Phases
- 32- stages
- 24- cycle Plan
- 20- Day Plan
- 4- Week Plan
- 20- special Day Plan
- 4- Hurry Calls

EXTENDED MODES OF OPERATION

- » Cable-less synchronization
 - > Pre-timed
 - > Vehicle Actuated
 - > Semi Actuated
- » Remote Administration
 - > Hurry Call
 - > Forced Flash
 - > Junction off
 - > Real –time clock (RTC) update
 - > Signal time Update
 - > Plan Download
- » Wireless Police Panel

SIGNAL SWITCHING

- » Wireless ISM Band
- » CAN

CERTIFICATION

- » IEC -60068(ERTL)

ELECTRICAL

- » 12 V DC $\pm 10\%$ - Solar Power Compatible
- » Power consumption
 - > Master -3.6 W
 - > Slave -3 W

ENVIRONMENTAL

- » 0 TO 55° C
- » 95% RH Non- condensing at 40° C

POWER SAVING

PWM Based Intensity control

- > Greater than 50% Power saving during night

Selective Switching of Flashing lamps

- > Primary
- > Secondary
- > Tertiary
- > Combination of the above