InTranSe

सी डैक CDAC

WiTraC

Wireless Traffic Controller

Wireless Traffic Controller

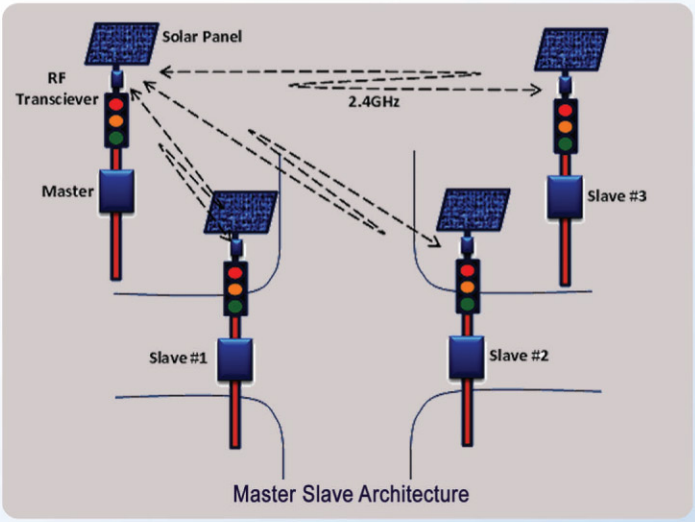
WiTraC is a vehicle actuated road traffic signal controller that controls the signal lamps over wireless medium. WiTraC is Area Traffic Control System (ATCS) compatible having features to perform at isolated intersections or as part of a synchronized chain of controllers. The controller supports remote 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 WiTraC. WiTraC has been developed under the "Intelligent Transportation System Endeavour (InTranSe) for Indian Cities" which is a National level Collaborative Research and Development Program funded by the Department of Electronics and Information Technology (DeitY), Ministry of Communications and Information Technology, Government of India.

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

- 32 bit microcontroller based
- Distributed architecture
  - 1 Master controller and up to 15 Slave controllers
- Signal switching and feedback on wireless medium
  - No armored cable required for signal lamps
  - No road cutting required for Hume pipes / signal cables
- Use unlicensed 2.4GHz Band
- Optimized Solar Power
  - 12 V DC operation
- Pole mountable Master and Slave controllers
- Inbuilt hardware conflict monitor



Master Slave Architecture

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

EXTENDED FEATURES

- Programmable
  - All Red
  - Start Amber
  - Red Extension
  - Stage skipping
- Early start in VA mode

SIGNAL SWITCHING

- Wireless ISM Band
- CAN

MASTER CONTROLLER

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

SLAVE CONTROLLER

- 16 optically isolated solid state lamp driving outputs
- 4 optically isolated Vehicle detector interface supports inductive loop, camera and microwave based vehicle detection
- USB interface
  - Firmware update
- CAN interface
  - Signal Switching (Optional)
- RS232 debug port
  - Status monitoring and data logging

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

SAFETY FEATURES

- Self diagnosis on Power up and runtime
- Green-Green Conflict Monitoring
- Lamp failure / Short circuit Monitoring
- Battery Voltage Monitoring (Solar Power)
- Fallback on secondary frequency in case of wireless signal jam
- Automatic selection of Flashing program on error conditions and communication failure
- Error logs sent to traffic monitoring centre when networked

ELECTRICAL

- 12V DC ±10% - Solar Power Compatible
- Power consumption
  - Master - 3.6 W
  - Slave - 3 W

CERTIFICATION

- IEC - 60068 (ERTL)

ENVIRONMENTAL

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

L250 X W120 X D110 mm
Slave Controller

L607 X W298 X D176 mm
Master Controller

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