CDAC Urban Traffic Control Equipment

C-DAC Urban Traffic Control Equipment CUTE is a road traffic signal controller having features to perform as pre-timed controller or vehicle actuated controller at isolated intersections or part of a coordinated signal control system in pre-timed or vehicle actuated mode of operation or local level control of an Adaptive Traffic Control System (ATCS). CUTE is the latest edition of C-DAC traffic signal controllers after the UTCS and WiTraC. CUTE supports distributed time synchronization using GPS enabled RTC and Server based time update. CUTE supports monitoring and management of signal plans from the Traffic Control and Command Centre over various medium of communication network. CUTE is highly power efficient for solar power compatibility. CUTE is designed for pole mounting as well as pedestal mounting.

CUTE Controller

SPECIFICATIONS

Model	CUTE (CDAC Urban Traffic control Equipment)
Design	Modular
CPU	32 bit
Memory	Internal Memory: Flash (512K), RAM (128K) External Memory: EEPROM (1MB)
Real Time Clock Selection	Onboard RTC with 10Year Battery Backup
RTC update	GPS Enabled / ATCS Server Time
Time resolution	100mSec
Output switching	Solid state, 24VDC 5A
Signal Lamp output	16 to 64 Scalable in group of 16
Police Control Panel	Lamp OFF, Forced Flash, Manual selection and Advance, 4 Hurry-calls
Vehicle / Pedestrian Demand Actuation	16 inputs
Signal Switching	Armoured Cable
ATCS Interface	10/100Mbps RJ45 Ethernet port
Programming Facility	Using PC Software tool
Firmware update	USB /RS232
Status monitoring & data logging	RS232 / Ethernet
Input /Output Isolation	Optical
Signal Plan configuration	Laptop PC / Remote Server
ATC Compatibility	CoSiCoSt

OPERATING MODES

- Pre – timed (TOD facility)
- Vehicle Actuated
  - Variable Cycle length
  - Constant Cycle length
  - Semi-actuated
  - Stage Skipping
- ATCS
- Combination of different modes
- Lamps off
- Flashing
  - Amber
  - Red
  - User defined
- Manual Advance
- Hurry Call
- Transit Signal Priority (TSP) for BRTS
- Cable less Synchronisation
  - Pre timed
  - Vehicle Actuated

OPERATING PARAMETERS

- 32 – Phases
- 32 – Stages
- 24 – Cycle Plan
- 20 – Day Plan
- 04 – Week Plan
- 20 – Special Day Plan
- 04 - Season Plans

Programmable Parameters

- Conflict Plan
- Start Amber
- Red Extension
- Stage skipping
- Lamp dimming
- Hurry call
- Threshold Gap

Cycle Transitions

- 32 cycle transitions per day in Pre – timed mode
- Unlimited cycle transitions per day in VA mode

EVENT LOGS

- Request based & instantaneous logging up to 1000 events

Type of events

- Power On/OFF
- Mode Change
- Time update
- Plan commit
- Lamp status
- RTC status
- Vehicle detector status

ENVIRONMENT

Operating Voltage	24 V DC +/- 10%
Temperature	0°C to 55° C
Relative Humidity	95% RH Non- condensing at 40 °C
Controller mounting	Pedestal

POWER SAVING FEATURES

- PWM based power saving

REMOTE ADMINISTRATION

- Lamp OFF
- Forced Flash
- Hurry Call
- Real- time Clock (RTC) update
- Signal Time update
- Signal Plan download
- Signal Plan up load

PROGRAMMABLE TIMINGS

Stage Time	10 – 255 Sec
Start-up Flash	3 – 10 Sec
Start up All RED	3 – 10 Sec
AMBER time	2 – 10 Sec
Min. GREEN time	2 – 10 Sec
Max. GREEN time	5 – 99 Sec
Pedestrian WALK time	1 – 50 Sec
Pedestrian FLASH time	1 – 10 Sec
Offset	0 – 255 Sec
Gap time	1 – 10 Sec
All RED time	1 – 10 Sec
Max Load per output Line	120 Watts

SAFETY FEATURES

- Inter/Intra Group Conflict Monitoring
- Auto shut down on power fluctuation beyond limits and Auto Start up on restoration

SELF DIAGNOSTIC

- Hardware/Software Watchdog
- System Failure Detection
- RTC checks
- Protected Access to Critical Timing
- Program Data Checks

SIGNAL SEQUENCE

- Straight through
  RED – GREEN – AMBER - RED
- Filter Green
  RED – GREEN - GREEN FLASH - RED
- Indicative Green
  RED - GREEN FLASH - RED
- Pedestrian
  RED – GREEN - RED FLASH / GREEN FLASH - RED

CERTIFICATION

- IEC- 60068 (ERTL)

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