FIREFLY: SMART LED DISPLAY SYSTEM

A smart LED system is a display system with some advanced features that makes it more attractive and user friendly for the modern day users. It can be used across various business areas like fuel filling stations, fast food outlets, hospitals, hotels, banks, railways, educational institutions, automobile sector, and public information systems.

DISPLAY MODULE

- **Display Type** : 7-Segment LED Display, total 5(five) digits.
- **LED Type** : Super Bright Red/White/Other color SMD LED
- **Luminous Intensity:** 7000 mcd(min)
- **Viewing Angle** : 120^{o}
- **Peak Wavelength**: 632 nm.
- **Operating Temperature**: -40 to +100 degree Celsius.
- **LED Diameter**: - 5mm.
- **Number of LEDs per display per product**:- 427(2 rows of 8+6) i.e 14*7 per digit, (14*7*4) + 7(decimal)+ 28 (half digit).
- **Character Height**:- 148 mm.
- **Character Width**:- 80mm.

How beneficial is it?

- To display the numerical information of any product or service.
- This is the very easy method to attract customers walk in.
- Easy to manage customer giving them real time information.
- Reduce manpower to interact customers.
- Can reach larger audience with accurate information in less cost.

WORKING OVERVIEW

- The signal is given by using keypad to MCU.
- The signal is processed in MCU and then it is sent to transmitter.
- The data is transmitted to receiver section via wireless transmitter.
- The power supply is given by a 9v battery source. This is connected to remote controller.
- 9v is step-down to 5v supply for MCU and wireless Transmitter.
- 12v socket is provided to provide supply from adapter.

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- **PCB board**:- Dual Sided SMD PCB. Each Product Line with LED display has individual separate PCB control Card and associated circuitry to receive the relay signal for rate- updating through remote.
- **R.F module**:- XBee/CC2500/CC1100/others(All display have individual R.F module.)
- **Power supply**:- AC 140V ~ 300V. Continuous 550V ac for 15 mins.50 Hz +/-10%, Surge Protection 6KV.
- **Event Logging**
  a. Previous 1000 event-rate change with new rate, old rate, date and time.
  b. Cumulative power on hours recording.
  c. Previous 1000 event logging of power on and off with date and time.
  d. Memorized data must be saving 40 years without any power.
  e. Data does not changes
- **Width of the Cabinet** :- 520 mm.
- **Height of the Cabinet** : -230 mm.
- **Display Cabinet(front)** : -2.5 mm Acrylic(transparent red/white/other colours).
- **Display Window Size** :- 465x172mm
- **Character Height**:- 148 mm.
- **Character Width**:- 80mm.
- **Size of Digits**:- Same for all the digits.

REMOTE MODULE

- **Hand held unit** : User friendly, light weight, password Protector.
- **Radio Frequency**: Will use XBee or CC2500
- **LCD** : GLCD
- **Keyboard**: 10 digits keys, 5 function keys, 1 power key.
- **Addressing Capacity**: 26(From single remote we can communicate with 26 rows of display modules).
- **Switching off mechanism**: Push to ON/ Push to OFF.
- **Life of the keys**: 10000 operation
- **Supply Dry cells**: 9v (Will use 2*1.5V, AAA size in prod. Unit)
- **Error codes**: Yes
- **USB for download data**: Download data to and from display unit. It must also support to view all available information with display.