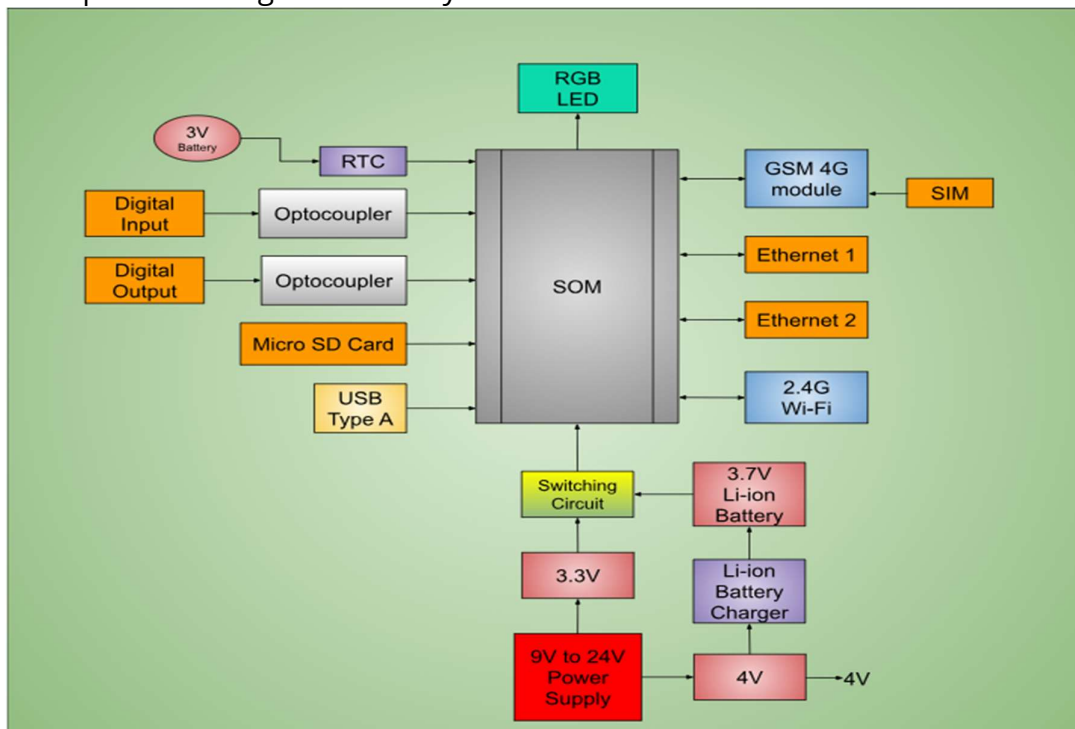


Low Cost IoT Gateway – A case study

An IoT gateway serves as a critical bridge between edge devices and cloud services in an Internet of Things ecosystem. It aggregates data from various sensors and interfaces, enabling seamless communication and control. By handling protocol conversion, data filtering, and edge processing, it reduces latency and improves overall system performance. Most gateways also feature local storage options, real-time clock support, and digital I/O for enhanced flexibility.

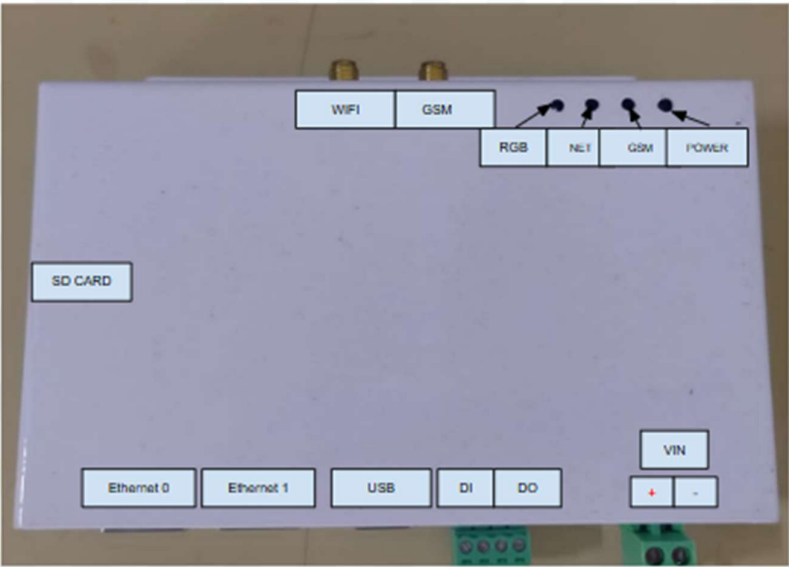
The Low Cost Data Logger is a compact and efficient IoT gateway designed by Aashaya Group of companies to seamlessly collect, process, and transmit sensor data in real-time.

A simple block diagram of the system is shown below.



It supports multiple interfaces including Ethernet, Wi-Fi, GSM, USB, UART, and SDIO, making it ideal for versatile connectivity in industrial and remote environments. Equipped with digital input/output via optocouplers, it ensures robust electrical isolation. The gateway features a web-based interface for easy parameter monitoring and configuration. Onboard RTC with battery backup, RGB status LEDs, and MicroSD support add to its reliability and usability. Designed for testing and development, this device helps users validate setups before field deployment. With its low power design and flexible voltage input, it offers a cost-effective solution for data acquisition and remote monitoring applications.

AASHAYA GROUP OF COMPANIES



Low Cost IoT Gateway

Web interface image is shown below

GPIO Control

Toggle LED Red

Toggle LED Green

Toggle LED Blue

Toggle GPIO 1

Toggle GPIO 0

GPIO Live Status

Start Logging

Stop Logging

Wi-Fi Setup

Wi-Fi SSID

Enter SSID

Wi-Fi Password

Enter Password

Set Wi-Fi

System and Hardware Clock

Current System Time: 11:40:07 am

Hardware Clock Time (hwclock): 2025-03-09 06:10:04.871831+00:00

Set Hardware Clock from Browser Time

Available Wi-Fi Networks (SSIDs)

Airtel_yam_9530

AASHAVA-2.4G

SVK-2.4G

Scan Wi-Fi Networks

IP Addresses

lo: 127.0.0.1/8

eth0: 192.168.1.62/24

eth1: 192.168.1.53/24

ppp0: 192.168.1.58

Connected USB Devices

Bus 002, Device 002: Imation Corp. ImationFlashDrive

Bus 001, Device 002: Realtek Semiconductor Corp. RTL8188EU 802.11n Wireless Network Adapter

List USB Devices

For any further queries, please contact us at 99010-23235