
CONNECTED AIR MOTOR TESTING

Nischitha YK^{*1}, Nisarga MK^{*2}, Ashwin HM^{*3}

^{*1,2}Student, Department Of Master Of Computer Application, Maharaja Institute Of Technology Mysore, Mysore, Karnataka, India.

^{*3}Assistant Professor, Department Of Master Of Computer Application, Maharaja Institute Of Technology Mysore, Mysore, Karnataka, India.

ABSTRACT

The Air motor is used to compressed the air. and the specified sensors are connected to DAQ system it will take the sensor data and convert those data to the local system through USB cable. That data generated by the sensor by air motor with help of DAQ system and will be storing the data to the AWS DYNAMODB to write data to the DYAMODB database we need to serialize the data from DAQ system to the local system using the USB cable and by using the serialized cable port number we will be accessing and will be sending the data to the AWS DYNAMODB.

I. INTRODUCTION

Air motors generated by the compressed air. They perform the work at relatively high speed in the industrial and spark restricted applications in the industries. They adjust easily for speed and torque also can stop and also reverse it very quickly. They are used in more of the industrial applications and also noted for the profitable power delivery and straightforward maintenance also the safety in spark restricted applications.

The most important production specifications to be considered when we look at the air motor is such that it includes PSI which is the amount of force that an air motor can deliver or work in ,SCFM stands for Standard cubic feet per minute measures the flow rate under standard pressure and temperature conditions, FT LBS stands for the amount of rotational force that the motor develops, TEMP In F Temperature measured in Fahrenheit to check the temperature around the air motor and RPM is the revolutions per minute and it is used to find the rotations per minute.

By considering all these specified sensors to work with and these sensors are connected to DAQ system will take the sensor data and will convert those sensor data to the necessary values and the data is sent to the our local system through USB cable.

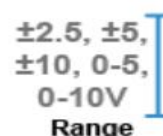
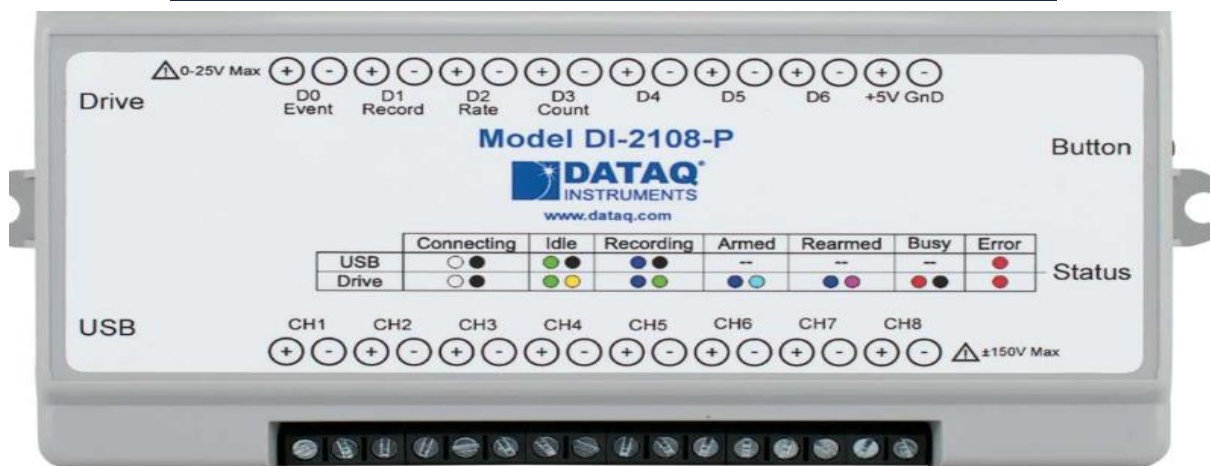
The data generated by the sensors by air motor with the help of DAQ system and will be storing the data to the AWS DYNAMODB database .So, in order to write data to the DYAMODB database we need to serialize the data from DAQ system to the local system using the USB cable and by using the serialized cable port number we will be accessing and will be sending the data to the AWS DYNAMODB. So, after pushing data to the AWS DYNAMODB, we will be creating a web interface where in that web interface will be having access to the DYNAMODB so there in the website we will be reading the data from the DYNAMODB.

II. PROPOSED THE WORK

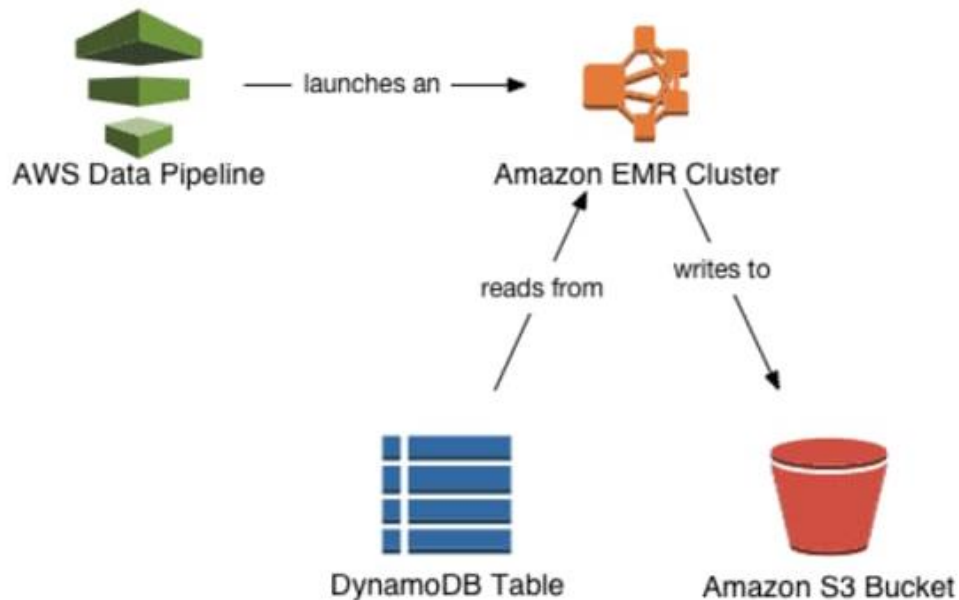
Proposed system is that we will be having a sensor data which is generated from the DAQ system and then we will be sending that data to the cloud that is AWS DYNAMODB and then we can access those data anywhere remotely for further use and to use that we will be creating a web interface and through that a required user can get in to that website and can access the sensor data that is stored in the cloud. By using DAQ system we can test the motors before implementing that, as we know that the motors need to work in certain range and also as we know that the cost of air motors is very high. So, we cannot discard the motors after implementing so in order to achieve these negatives we are using the sensors and there is a range for air motors to work and we are testing the sensors on that range and then will be considering the sensors data and then we will be implementing the air motor. So, from AWS Dynamo DB we are creating a pipeline to send that data to the s3 as we cannot directly access that the to make graph from Dynamo DB and so that we are using s3 bucket do store the data from AWS Dynamo DB and then we are making the data as data file

AWS S3:

Amazon Simple Storage Service is object storage service that provides industry leading adaptability, data accessibility, security and safety, and production. Customers who are of all proportions and the industries can use this Amazon S3 reserve and protect the any quantity of data for the range of the use case and such as schema-less data repository, websites and mobile apps also the backup of data and also restoring of the data, archive, enterprise applications in this, IOT devices, and also big data analytics using this. Amazon S3 gives administration attribute so we can optimize also order and also configure the access to our data to satisfies or meet our specific business also organizational and also compliance requirements.



Exporting Data from DynamoDB to Amazon S3



III. CONCLUSION

Connected air motor testing website has DAQ data where that will be stored in the Dynamo DB and in order to display the graph here we are using Dynamo DB data and we will take that to s3 and then we are going to connect the amazon s3 to fetch the data that came from Dynamo DB and that we are displaying the graph of all the attributes present in the Dynamo DB and that is display in the x-axis and y-axis as the time attribute is taken as x-axis and all other attributes which are sensors data are taken in the y-axis and the graph is displayed for all the data in single graph and also displayed to all the graphs of separately in the different graphs with respect to time. To conclude that the user can understand the trend of the data produced by sensors through DAQ data visually as a graph with respect to sequence of numbers.

IV. REFERENCES

- [1] <https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Introduction.html>
- [2] <https://aws.amazon.com/s3>
- [3] <https://boto3.amazonaws.com/v1/documentation/api/latest/reference/services/dynamodb.html>.