

# Remote Fault Monitoring of Substation Primary Equipment Using Embedded Technology

Mr. Prathamesh Rajendra Patil<sup>1</sup>, Mr. Prakashkumar Lalanprasad Sah<sup>2</sup>,

Miss. Rucha Bajrang Joshi<sup>3</sup>, Mr. Pranav Sanjay Bhosale<sup>4</sup>

UG Students, Department of Electrical Engineering<sup>1,2,3,4</sup>

Annasaheb Dange College of Engineering and Technology, Ashta, Sangli, Maharashtra, India

**Abstract:** *We know that due to huge demand of electricity the size and complexity of distribution network has grown & because of that automation of substation becomes very important to increase its efficiency as well as to improve the quality of power being delivered at users end. So, our prototype will monitor the real time parameters like voltage, temperature, current, power of substation with Micro-controller unit & if any faults occur in distribution transformer it will gives indication during fault condition and immediately relay operates. The data of measured parameters will be available on smartphone/ desktop. This allows us to save time and money at the substation by reducing labour cost. Also, the functioning effectiveness, efficiency and power quality will undoubtedly improve with this approach.*

**Keywords:** Substation, Automation, Micro-controller, Embedded Technology, Monitoring, Relay.

## REFERENCES

- [1]. Amit Sachan, "Microcontroller based substation monitoring and control system with GSM modem" ISSN: 2278-1676 Volume 1, Issue 6 (July-Aug. 2012), PP 13-21
- [2]. M. Kezunovic, Y. Guan, M.Ghavami, "New concept and solution for monitoring and control system for the 21 st century substation" (IEEE)
- [3]. Rohit R. Pawar, Priyanka A.Wagh, Dr. S.B.Deosarkar. "Distribution Transformer Monitoring System Using Internet of Things (IoT)" 2017 International Conference on Computational Intelligence in Data Science (ICCIDS).
- [4]. Dr.P.B.Pankajavalli, Mr.G.S.Karthick, Mr.M.Sridhar, Mr.A.Muniyappan, "A System for Monitoring the Electricity Sub- Station using Internet of Things", International Journal of Advance Research in Science & Engineering.
- [5]. Mr. S. S. Ghodhade, Dhiraj D. Patil, Ajay kumar, S. Pujari, Sachin S. Ayarekar, Prakash B. Bandgar, Ashwini S. Waghmare, "Substation Monitoring and Control System", International Journal of Scientific Research and Review.
- [6]. ESP8266 datasheet
- [7]. ACS712 datasheet
- [8]. LM7805 datasheet