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Underground Cable Fault Distance Conveyed Over GSM

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Abstract: The main goal of this paper is to identify cable faults and show these faults in Liquid Cristal Display [LCD] and mobile using Arduino and Global System for Mobile Communications [GSM] which is occurring in underground cable. On the feeder side, when a direct current voltage is applied, the current estimates are further changed to address the problem areas of the cable. Therefore, in the event of a short circuit problem (such as an L-G or L-L problem), an Analog-to-Digital Converter [ADC] made by Arduino will adjust the estimated rated voltage through a resistor. This value is prepared by arduino, and the shortage is well determined by the base station. This value is transmitted to the LCD connected to the arduino board and displays the exact area several kilometers away from all base stations in three phases. The task consists of many resistors that communicate the length of the cable. Faults switches induced in every kilometer to calculate exact location of faults.

Keywords: Arduin, Faults Detection, Underground Cable, Liquid Cristal Display, Global System for Mobile Communications

REFERENCES

- [1]. T. Nandhini1, J. Shalini2, T. Sai Sangeeetha3, D. Gnanaprakasam4 Student1, 2. Nikhil Kumar Sain, Rajesh Kajla, Mr. Vikas Kumar "A New Approach to Underground Cable Fault Distance Conveyed Over GSM ", IEEE Journal on Power Delivery e-ISSN: 2278-1676,p-ISSN: 2320-3331 Volume 11, Issue 2 Ver. III (2016).
- [2]. Prof. Arjun Nichal, Mr. Sudarshan Bhosale, Mr. Vaibhav Shirsavade, Mr. Yogesh Jadhav Assistant Professor, "IOT Based Underground Wire Fault Detection Technique" Electronics & Telecommunication Department, AITRC, Vita, India 1 Student (2016).
- [3]. Sahana S ,2Harish Kumar B M, 3Anu S M 4 Vani H V, 5Sudha T, 6Prashanth Kumar H K 1,2,3 U. G Student, 4,5,6 Associate Professor, "Analysis of fault detection and its location using microcontroller for underground cables" Department of EEE, SJMIT, Chitradurga, Karnataka, INDIA.
- [4]. Raj Kamal Kakoti2 Assistant Professor, "Underground Cable Fault Locator Manish Paul1", Electrical Engineering Dept, Girijananda Chowdhury Institute of Management and Technology, Guwahati, Assam, India1,
- [5]. T. Kawai, N. Takinami, T. Chino, K. Amano, K. Watanabe, Y. Nakamura and N. Shiseki, "A New Approach to Cable Fault Location Using Fiber Optic Technology", IEEE Transaction on Power Delivery, vol. 10, no. 1, pp. 85-91, 1995.
- [6]. M.-S. Choi, S.-J. Lee, D.-S. Lee and B.-G. Jin, "A new fault location algorithm using direct circuit analysis for distribution systems", IEEE Trans. Power Del., vol. 19, no. 1, pp. 35-41, 2004
- [7]. Underground Cable Faylts Roshani Shingrut, Shubham Shelar, Dakshata Mokal, Shekar Mhatre, Dr. Sharvari Sane. Engineering, Geology 2020
- [8]. M.-S. Choi, D.-S. Lee, and X. Yang, "A line to ground fault location algorithm for underground cable system," KIEE Trans. Power Eng., pp. 267–273, Jun. 2005
- [9]. B. Kasztenny, I. Voloh, C.G. Jones, and G. Baroudi, "Detection of Incipient Faults in Underground Medium Voltage Cables," 61st Annual Conference for Protective Relay Engineers, pp. 349-366, April 1-3, 2008.
- [10]. M. J. Mousavi and K. L. Butler-Purry, "A novel condition assessment system for underground distribution applications", IEEE Trans. Power Syst., vol. 24, no. 3, pp. 1115-1125, 2009
- [11]. Tarlochan S. Sidhu, Zhihan Xu, "Detection of Incipient Faults in Distribution Underground Cables", IEEE Transactions on Power Delivery, Vol. 25, NO. 3, JULY 2010.
- [12]. Md. Fakhrul Islam, Amanullah M T Oo, Salahuddin. A. Azad1, "Locating Underground Cable Faults: A Review

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