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| **Abstract:** |  |
| This paper illustrates the design of an alternative current measuring method which can be used for the protection of electrical machines, especially generators and motors, used in oil and gas industry. A comparison is made between the use of Hall effect sensors and current transformers for fault current detection. Also, different wireless communication methods that can be used in accordance with Hall effect sensors for detecting faulty conditions are discussed. Three case studies are presented: first, a simple ANACOM kit is used to send and receive amplitude modulated (AM) signal. Next, a test circuit is constructed that transmits and receives Frequency Modulated (FM) signal. Improvements are observed in terms of range and reliability. Finally, a digital transmission and reception test circuit is built and it is observed to provide the best results in comparison to the other two arrangements. | |