

Abstract

Hamdy A. Ashour

Automatic transfer switch (ATS) using programmable logic controller (PLC)

In the industrial engineering education curriculum, advanced manufacturing technology is so important to provide the students with effective industrial instructions and enrich their practical skills through the continuous development of laboratory industrial resources. Hence, the author has developed an automatic transfer switch (ATS) based on a programmable logic controller (PLC) in the laboratory of the Arab Academy for Science & Technology (AAST) as an industrial case study for the students through the course of industrial automated systems. General concepts and practical considerations of the ATS have been discussed. Steps of designing and implementing the proposed setup, including system requirements, sensors, actuators, hardware configuration, software programming and experimental tests, are demonstrated. The proposed setup has been found so effective not only in increasing students industrial knowledge and skills but also can be used as a stand-alone system in commercial and industrial practical fields.