

Advancing Power Network Maintenance: The Development and Implementation of a Robotic Cable Splicing Machine

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Abstract : This paper presents the collaborative effort between ULC Technologies and Con Edison in developing a groundbreaking robotic cable splicing machine. The focus is on the machine's design, which integrates advanced robotics and automation to enhance safety and efficiency in power network maintenance. The paper details the operational steps of the machine, including cable grounding, cutting, and removal of different insulation layers, and discusses its novel technological approach. The significant benefits over traditional methods, such as improved worker safety and reduced outage times, are highlighted based on the field data collected during the validation phase of the project. The paper also explores the future potential and scalability of this technology, emphasizing its role in transforming the landscape of power network maintenance.

Keywords : cable splicing machine, power network maintenance, electric distribution, electric transmission, medium voltage cable

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