

Abstract

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A Fuzzy Rule-Based Management System for Lifts

This paper addresses energy conservation in lifts used for vertical transportation, depending on an on-line prediction technique based on fuzzy logic. TraMc analysis may lead to the use of a large number of lifts in one building at the same time in a multiplex mode, which increases the energy consumed. The number of installed lifts depends on the service quality of the building and the total population. Recent methods proved that the energy consumption of lifts can be reduced by limiting the number of lifts in service without compromising the service quality. Photocells and screens are placed in front of each lift to count the number of people using the lift. Fuzzy logic is used to decide about switching ON/OFF the lifts, according to the total population and grade of service at a certain time. This is a useful method to optimize and control the energy used in lifts within a building management system.