COORDINATES DISPLAY DEVICE EQUIPPED WITH MICROCONTROLLER AT89S8253

BY

PETRUŢ DUMA and LUMINIŢA SCRIPCARIU

Abstract. The structure of a coordinates display device is described, which consists of an application system equipped with microcontroller AT89S8253 and two alphanumeric display circuits HDSP2112. This structure is used to display coordinates as a part of a system for assisting artillery firing of projectiles. The command messages received from the system by frames are analysed and interpreted through software in order to display coordinates, information or error messages as well as for testing and checking.

Key Words: Coordinates Display; Application System; Microcontroller; Alpha-numeric Display; Serial Asynchronous Message.

EXTENDED FUZZY LOGIC THEORY (TYPE-2 FUZZY SETS) IN AUTONOMOUS ROBOT NAVIGATION

BY

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Abstract. A new fuzzy logic based control for mobile robot navigation is proposed, using the extended fuzzy theory (type-2 theory) for building intelligent systems.

In this work we are extend the use of fuzzy logic to systems with higher degree of uncertainty, so we can use the advantages of fuzzy logic in almost every real world applications.

Basically extended fuzzy logic set is a fuzzy logic set in which we have some uncertainty about membership function, so we can said that extended fuzzy logic is a generalization of conventional fuzzy logic, because uncertainty is present also in membership function, not only in linguistic variable definition. In this paper we also explain the basic concept of extended fuzzy reasoning in comparison to classic fuzzy systems. Combining extended fuzzy logic with other Soft Computing techniques (in our case feed-forward neural network) we can build powerfull systems that can use the advantages of both techniques.

Key Words: Fuzzy Logic; Type-2 Fuzzy Logic; Mobile Robot Navigation.

A PROBABILISTIC MODEL FOR CIRCUIT BREAKER ADEQUABILITY

BY

CIPRIAN NEMEŞ

Abstract. In electrical power systems, the communication equipments are very important, especially the circuit breakers which have the role to set up and to break the nominal power current of work and the short-circuit currents, deliberately and automatically, depending on the working conditions. In the present paper a method to determine the permitted average number of communications between two revisions is proposed, based on the influence of the interrupted current value, on the used speed of the switcher, exactly on the diminution speed of the admitted number of communications.

Key Words: Short-Circuit Current; Admitted Number of Commutations; Switchers.