

研发、设计、测试

智能交通信号机的设计及其实现

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收稿日期 2009-2-17 修回日期 2009-4-3 网络版发布日期 2010-4-21 接受日期

摘要 针对我国混合交通流的特点, 利用AVR128单片机设计了一种智能交通信号机, 给出了信号机各模块的硬件设计方案和软件设计流程图。该信号机采用模块化设计思想, 具有硬件自检和软件抗干扰功能, 可实现单点自适应控制和区域协调控制等多种控制方式。实际使用表明, 该信号机具有较强的稳定性和通用性, 可有效适应我国的混合流交通状况。

关键词 [交通信号机](#) [模块化设计](#) [AVR128](#) [交通控制](#)

分类号 [U491](#)

Design and realization of intelligent traffic signal control machine

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Abstract

According to the characteristics of mixed traffic flow of China, a new design method of an intelligent traffic signal control machine using AVR128 is introduced. The paper provides the hardware scheme of every module and software strategy. The traffic signal control machine adopting module design method has the functions of hardware self-diagnosis and software anti-interference, which can implement multiple control modes including adaptive traffic control of one intersection and urban traffic area-wide cooperation control. The practice shows that the traffic signal control machine has strong stability and generality, it is effectively adaptive to the mixed traffic flow of China.

Key words [traffic signal control machine](#) [module design method](#) [AVR128](#) [traffic control](#)

DOI: 10.3778/j.issn.1002-8331.2010.12.018

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