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基于ARM的海水总有机碳含量现场分析仪的硬件设计

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摘要:

针对海洋生态调查对海水总有机碳含量(TOC)的要求, 研制了一种基于化学发光法检测海水 TOC值的现场分析仪。该仪器硬件基于SOC技术, 采用ARM架构S3C2440微处理器, 嵌入Windows CE操作系统。经过多次海试测量验证, 该分析仪在保证测量精度的前提下, 提高了测量速度, 具有很好的现场应用性。

关键词: TOC现场分析仪 ARM架构 Windows CE嵌入式操作系统 光电倍增管

Hardware design of ARM architecture based TOC online seawater analyzer

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Abstract:

We developed a chemiluminescence based total organic carbon (TOC) online seawater analyzer for the requirement of ocean ecological investigation to TOC. This instrument is based on SOC technology, and includes an ARM instruction set based microprocessor S3C2440 and an embedded Windows CE operating system. A vast number of online tests show that this analyzer can guarantee not only measurement precision but also higher measurement speed, so it has better application potency.

Keywords: TOC online analyzer ARM architecture Windows CE Embedded OS PMT

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