

RFID 應用於消防水源之研究

A Study of RFID Applied to Fire Water Source

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摘要

火災令人聞之色變，使得受災戶飽受生命財產的威脅，因此消防搶救能力的進步與火災控制時間的縮短一直是先進國家汲汲營營追求的目標。消防水源的掌握，更是火災搶救的後盾。然而實際救災時，常因車輛、樹木、柏油遮蔽等因素找不到鄰近的消防栓，尤其對支援單位而言，找尋他轄區消防栓更是一大難題。依照目前消防機關對於消防栓之管理，僅將消防栓位置以地址方式做成清冊，並以背誦方式記憶，此作法已不符合科技化社會的需要，故本研究即嘗試將 RFID 之特性應用於地下式消防栓，以利消防水源勤務之精進。RFID 的特性正符合本研究所需之傳輸材質，實際使用時以 PDA 或 Tablet PC 連結 RFID 之探測器，當消防車或消防人員抵達救災現場，探測器即會感應到鄰近 Tag，並將 Tag 訊號同步連結至 PC，經 RFID 辨識軟體及後端處理後，救災人員可立即清楚知道消防栓位置及基本資料。

關鍵字：無線射頻辨識技術，消防水源

Abstract

Fire disasters are extremely frightening, and often cause victims to lose their lives or property overnight. Therefore, the advancement of fire rescue ability and the shortening of time needed to control fires have been the goals pursued by advanced nations. The control over fire rescue water resources is the backbone of fire rescue. In actual rescue, cars, trees, or concrete may hid the nearby hydrants. For the backup units, finding fire hydrants in other jurisdictions is an even greater problem. According to the current management of fire hydrants by current fire departments, which have only made a list of the hydrant locations by address, which are memorized by rote; this method is no longer sufficient for the needs of a technological society. Thus, this study attempts to apply the characteristics of RFID to underground hydrants, in an effort to enhance the work regarding fire-fighting water resources. The characteristics of RFID is a good transmission material for this study. And the tag information is regularly updated. In actual use, PDA or Tablet PC is used to connect to the sensors of RFID. When fire rescue vehicles or personnel arrive at the accident site, the sensors can sense the nearby tags, and simultaneously transmit the tag signals to the PC, which after recognition software and post-reception treatment by the RFID, rescue personnel can clearly know the location and basic data of the hydrants.

Keywords: RFID, Fire Water Source

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