

Research on the Power Information Collector of Optical Fibre Based On EPON Technology

Yannian Wu, Yinggang Zheng, Xiaohui Song, Zhibing Zang, Yongbo Liu

Beijing R&D department of Gridcom Co.,Ltd China

wuyannian@sgepri.sgcc.com.cn , zhengyinggang@sgepri.sgcc.com.cn , songxiaohui@sgepri.sgcc.com.cn ,
zangzhibin@sgepri.sgcc.com.cn

Abstract—EPON (Ethernet Passive Optical Network) technology is a new kind of Fibre optical broadband access network technology. The EPON system mainly includes OLT, ONU and ODN. It inherited the low cost of Ethernet and the high bandwidth of light network, so it has Broad prospects of application in the Residential electricity information collection field. Based on above, this paper combines the characteristics of EPON technology and the requirement of information collection system in the Residential electricity, developed the design and application methods of Optical Fibre collection terminal equipment for the power consumption data acquisition system based on EPON technology, which is an important application part of EPON system. This paper mainly studies the hardware and software design of Optical Fibre collector, and its application solutions in the Lain Xiang Community in Beijing.

Keyword—EPON, ONU, Optical Fibre Collector, eCos, Smart Community



Yannian Wu He was born in Liaoning Province, China. He received his M.Sc. degree in 2006 and major in Communication and Information System from Beijing University of posts and telecommunications. Since October 2009, he was an Electrical Engineer at company of China Gridcom in the Department of Beijing Research Center. His current research interests include Modeling and control of power electronics systems, Optical fiber communication systems, Analysis and Control of Dynamic Systems, robust and adaptive controls, and Power and Control Systems technology.



Yinggang Zheng He was born in Shandong Province, China. He received the B.Sc. degree in 2001 and major in computer science technology and application. Since October 2009, he was an Electrical Engineer at company of China Gridcom in the Department of Beijing Research Center. His current research interests include process modeling, system identification, adaptive control, self-tuning control, optical fiber sensing technology and power information collecting technology.