

Wireless access to pole mounted RTUs



Case Study Industrial Automation: Schneider Electric – RTU

Schneider Electric is a worldwide supplier of products and services for Power and Control. Schneider Electric UK has developed a Bluetooth management system for operators to simplify and manage pole mounted RTUs used in the distribution of electrical energy.

KEY COMPONENTS OF THE SYSTEM

- Nu-Lec RL27 pole mounted switches fitted with Talus RTUs incorporating connectBlue Bluetooth modules
- User PC; fitted with a PCMCIA Bluetooth card
- Schneider Electric RTU software; providing diagnostic, configuration and re-programming of the pole-top units

OLD METHOD WAS SLOW AND HAD SAFETY ISSUES

Prior to the Bluetooth solution, the operator would shut down the power line and then climb up the pole to connect a configuration PC. Now, the operator wirelessly connects a PC supporting Bluetooth technology to the RTU, which integrates a Bluetooth Serial Port Module from connectBlue. The operator can make software upgrades, re-configure the RTUs, and make diagnoses of the distribution of electrical energy on site using his/her PC from a distance up to 100 meters.

Operation of an 11kV electrical distribution network is potentially lethal to utility personnel. To minimize this risk, the utility personnel decided to place the switch control cabinets above the no-climb-guard and deploy wireless communication to control the RTUs. The Bluetooth solution provides a galvanic isolation between the PC and the RTU which increases the personal safety for the operator. Instead of reconfiguring the 11kV network, creating an outage

and taking customers off supply, utility engineers can now safely maintain the RTU with a wireless connection from a configuration PC.

INCREASED EFFICIENCY AND WIRELESS SECURITY

Maintenance efficiency is also improved as there is no need to climb the poles and thus the work time will decrease. The risk for not having the correct cables or a defective cable is removed as Bluetooth technology provides a cable free connection to the RTU.

The Bluetooth modems have been configured as non-discoverable which means that the RL27 switches are protected from wireless hacking through a 48-bit software encryption key, managed by the Schneider Electric Ltd software utility.

KEY BENEFITS

- Decreased downtime during RTU maintenance
- Increased personal safety thanks to the galvanic isolation between the PC and the RTU
- Increased maintenance efficiency and no cable-break issues
- Security features of wireless connection

ABOUT CONNECTBLUE

connectBlue™ is a leading provider of robust Industrial and Medical wireless solutions, designed and tested for the most demanding applications and environments. Based on Bluetooth technology, Wireless LAN (WLAN) and IEEE 802.15.4/ ZigBee, connectBlue provides ready-to-use products and modules as well as custom design solutions. connectBlue has its head office in Sweden and local offices in Germany and USA. For more information, visit www.connectblue.com

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