

## Introduction

Power Distribution Automation is an important part of today's Smart Grid. Integration and interoperability are essential for grid operational efficiency and system reliability. Smart Grid technologies around the world are helping to reduce power outages & identify the root causes of blackouts and brownouts; improving restoration times and cutting operational costs.

# **System Requirements**

- A wide range of operating temperatures built to withstand water & dust ingress while providing increased EMC/EMI protection
- A complete system of Layer 2 and Layer 3 Industrial Ethernet Network devices
- Fast network recovery linked to device failure and fault isolation
- Cyber Security protection
- Serial connectivity for legacy devices
- Easy network expansion without disconnecting existing network devices
- Integrated network management software for quick and efficient maintenance

# Why Kyland

- A complete offering of industrial network solutions including Layer 2 & Layer 3 switches fully integrated with Gateway and FTU options
- DRP with fast recovery times within 20ms for redundancy. VLAN based DRP support to construct multiple redundant networks with variable uplinks
- DHP protocol with flexible redundant chain schemes for network extension
- Network security features: SSH, SSL, SNMP v3, IEEE802.3x, TACAS+, Radius and ACL
- Ethernet ports and serial ports RS232/RS485, 110VDC & 220VAC power options

- KYVISION® network management software to manage large networks for easy troubleshooting and visualization
- Industrial operating temperatures (-40°C to + 85°C), IP40, conformal coating available EMC level 4
- DG-P8/16 supports multiple protocol conversion (IEC61850/DNP, Modbus 3.0, IEC60870-5-101/104)
- DG-P8/16 integrated with large storage capacity
- DG-D60 suitable for all types of pole mounted breakers and ring network topologies
- DG-D60 support for IEC60870-5-101 and DNP3.0
- DG-D60 remotely maintained and configured by GPRS fiber optic and wireless communication

# **Recommended Products**



## SICOM3028GPT

Layer 2/3 modular switch up to 28 gigabit ports or 4G+24 fiber or copper ports, 1U Support OSPF/RIP/VRRP Security features supported EMC level 4, IP40



#### SICOM3024

Layer 2 24+4G ports managed rack mounted switch IEC61850-3 and IEEE1613 Support port based/VLAN based DRP, DHP



### SICOM3216

Layer 2 16+2G ports managed DIN-Rail switch IEC61850-3 Support port based/VLAN based DRP, DHP



#### SICOM3009A

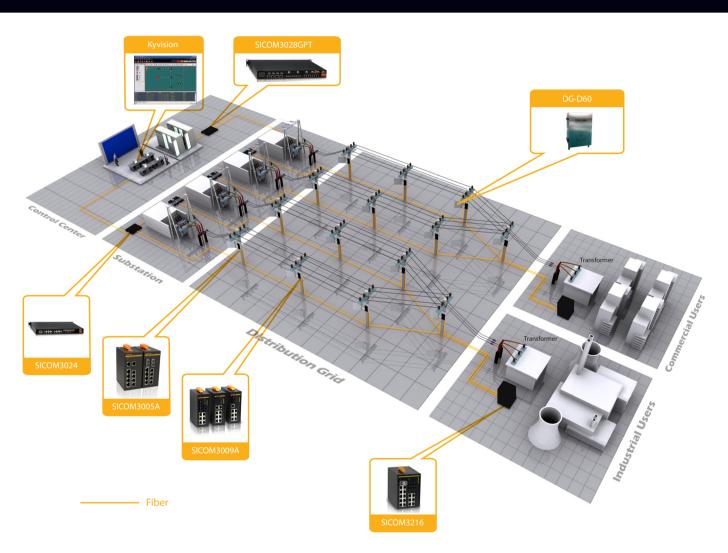
Layer 2.9 ports managed DIN-Rail switch As low as 5.5 watts full load power consumption Support port based/VLAN based DRP, DHP EMC level 4, IP40 protection class, one-key recovery



#### SICOM3005A

Layer 2 6 ports managed Din-Rail Serial Device Server Integrated Ethernet Switch Support port based/VI.AN based DRP, DHP Integrated Ethernet switch with 4 RS232/RS422/RS485 ports EMC level 4, IP40 protection class

# **Power Distribution Automation Solutions**



# DG-P8/16



Industrial grade communication protocol converter

Supports IEEE1588 time sync

Supports IRIG-B, PPX, NTP time sync, generates IRIG-B output signal

Supports embedded Linux, VxWorks, QNX, MontaVista
Different data communication paths for various communication protocols

Supports communication protocols

DNP3.0/DP13.0 over LAN(server & client), Modbus(RTU/ASCII)/Modbus over TCP/IP(server&client), ABB® Spabus, AREVA Courier, GE Mutilin, SEL® Fast-meter, IEC60870-5-101/102/103/104 (server & client), CDT(server & client), SC1801, ABB/Siemens/Mitsubishi/Toshiba PLC



Suitable for all types of pole-mounted breakers, load switches, isolating breakers and ring-network

interconnection switch applications Supports IEC61870-5-101/104 and DNP3.0. Local remote control operations with D60-RC Engineer

Configuration with FTU and D60-WPE

Intelligent DC power supplies dual circuits and solar, battery activation, remote measurement and life span monitoring