ADVANCED POWER TECHNOLOGIES

Virtual Remote Switchgear SCADA System

APTView
02 Microgrid, Paralleling, Transfer Control Systems
Solutions Brochure

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SAFE SMART SERVICEABLE SWITCHGEAR & ENGINEERED POWER SYSTEM SOLUTIONS

MADE IN THE USA

ALN: 559 Rev. 02

Remote Switch Control & APTView

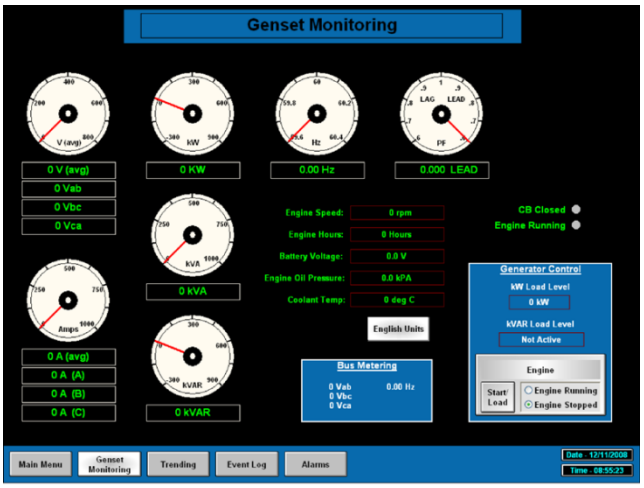

Figure 1: APTView Genset Monitoring and Control

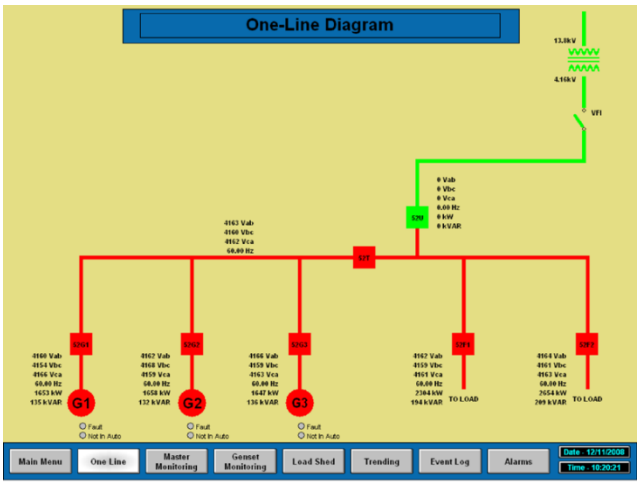

Figure 2: APTView System One-line Diagram

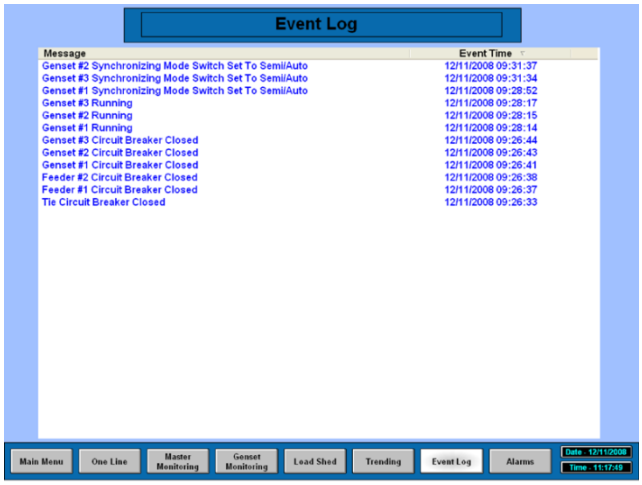

Figure 3: APTView Alarm & Event Log

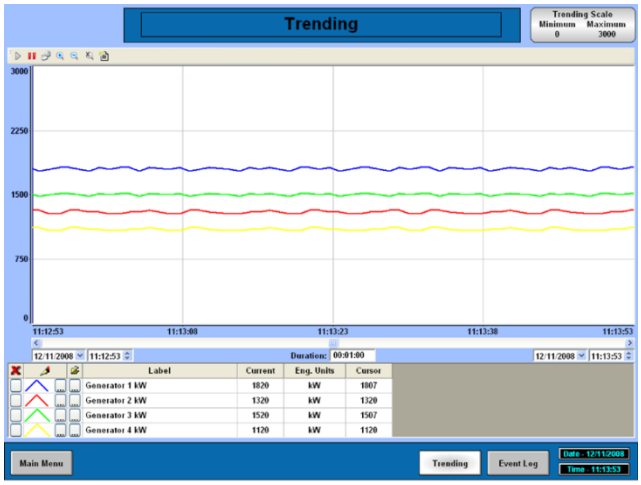

Figure 4: APTView Trending Graph

What is Virtual Switchgear Control & APTView?

- The concept of remote/virtual switchgear control makes safety the top priority.
- It isolates switchgear operator personnel from the live components of a switchgear and allows for the control of operation from a remote location or an isolated master control station.
- By eliminating the need for an operator to be anywhere near live or potentially live equipment, operators can have the peace of mind that they are utilizing the safest means of operating circuit breakers possible.

- APTView is APT's own Supervisory Control and Data Acquisition (SCADA) system.
- It utilizes Human Machine Interface (HMI) systems to monitor and control both APT and 3rd party equipment via personal computers or your favorite web or network-connected mobile device.
- Emails can be sent in order to notify the user of any occurring alarm or event.
- All system alarms and events are logged and date/time stamped.
- Equipment operating parameters are periodically stored for future record/retrieval.

Industrial Computer System

Figure 5: 20” Touchscreen Human Machine Interface Screen

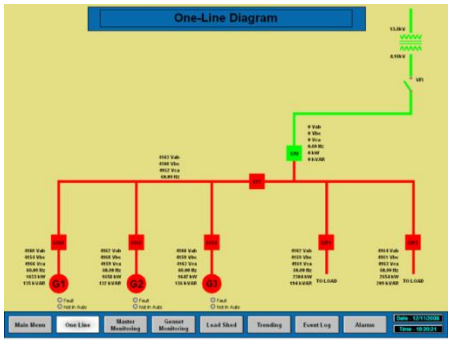

Figure 6: APTView Genset Monitoring and Control (Top)
System One-line Diagram (Bottom) Sample Screens

Interlocking, Monitoring, and Options

- Human Machine Interface (HMI):
  - 20” LCD (Active matrix TFT) Touch Display
  - Native resolution of 1920 x 1080
  - Wide angle aspect ratio 16:9
  - Viewing angle of 178°(h) x 178°(w)
  - Horizontal Scan Rate 30 - 82 kHz
  - Vertical Scan Rate 50 - 75 Hz
  - Contrast 3000:1
  - Number of colors 16.7 million
  - 10 touch projected capacitive (PCAP) with Thru-glass capabilities that pass UL-60950 & IK-07 Impact testing
  - Display port and VGA video interfaces
  - Operating Temperature:
    - 0°C to 40°C (32°F to 104°F)
  - Operating Humidity (non-condensing):
    - 20% to 80%

- Industrial Personal Computer
  - Choice of Operating system:
    - Windows 7
    - Windows10
  - Intel Celeron Quad Core Processor
  - Minimum 8GB of RAM
  - Minimum 128GB Solid State Drive (SSD)
  - Dual LAN Ports (10/100/1000)
  - Wireless 802.11 b/g/n
  - Onboard video connections VGA & HDMI
  - 4 Serial communications ports
  - 1 USB 3.0 port
  - 3 USB 2.0 ports

Application Example & Drawing

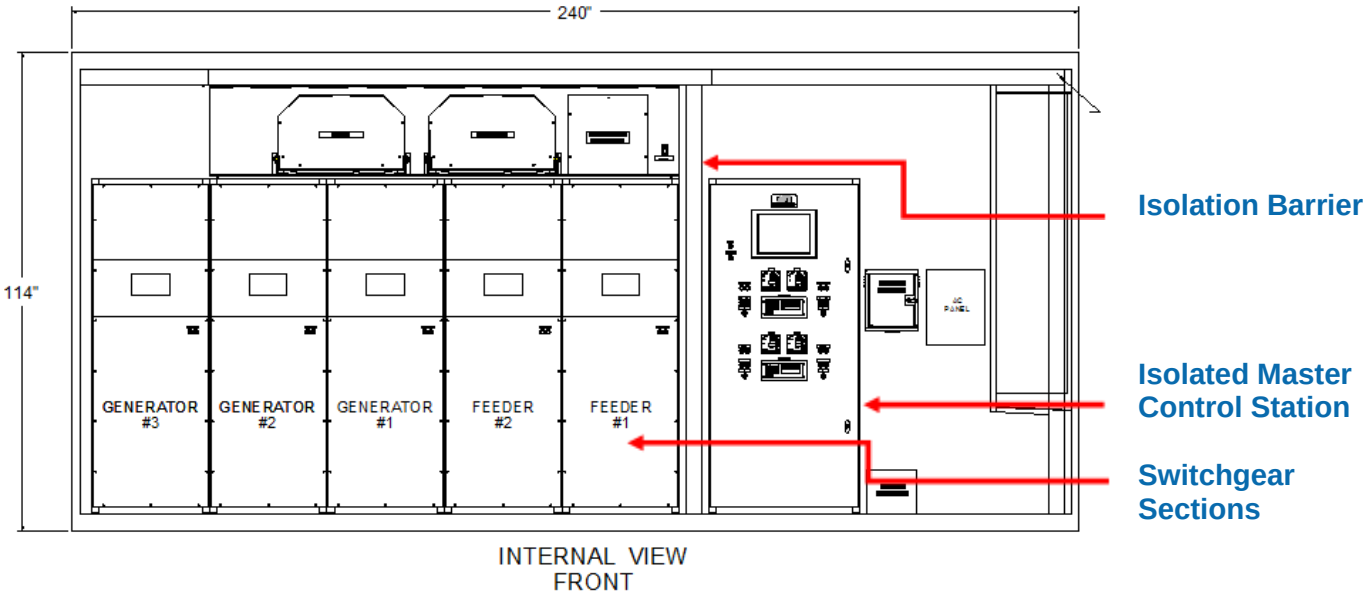

Figure 7: Medium Voltage Front Access Switchgear, Isolated from Local and Remote Operator Control Stations gives unprecedented safety and security to Switchgear Operators in the sheltered isle environment

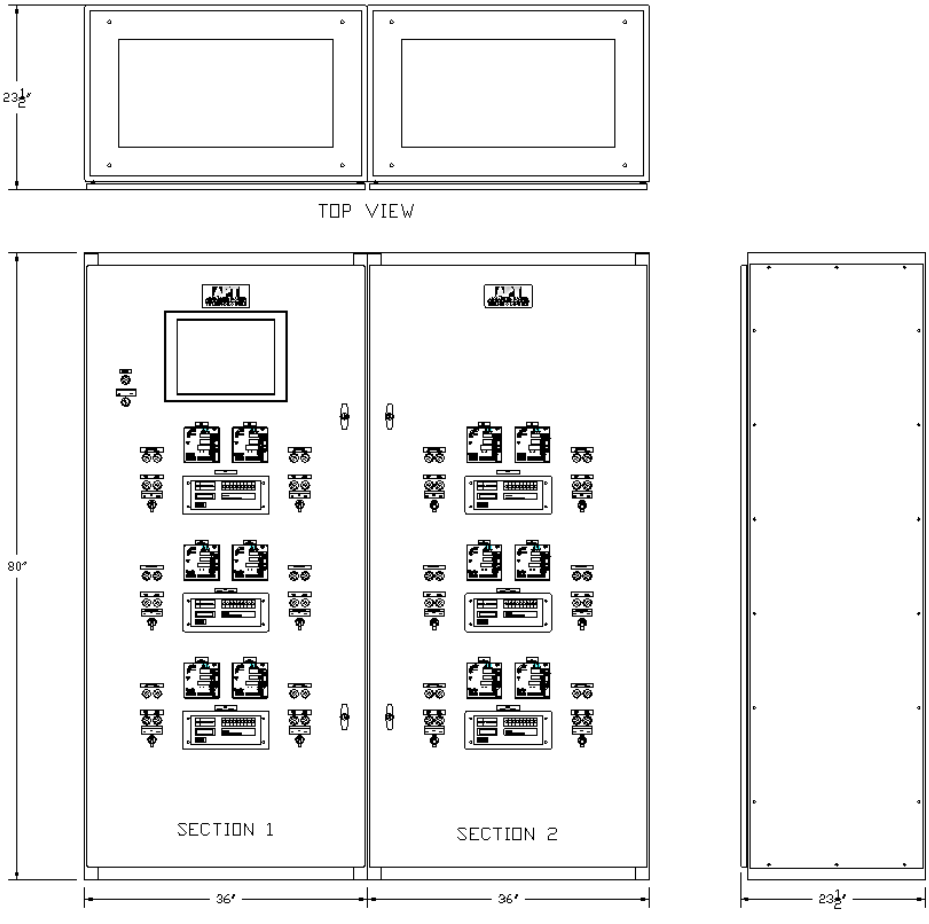

Figure 8: Isolated Remote Operator Master Control Station Sample Dimensions

About Advanced Power Technologies



Advanced Power Technologies (APT) is on the cutting edge of the latest engineered power system smart technologies, as it relates to microgrid & storage management, renewable & conventional energy source deployment, demand peak shaving, and facility back-up and co-generation power systems. Located in the central United States and headquartered in Lafayette, Indiana with solutions development engineers around the country, APT provides domestic and international products and services to industry leading companies from around the world. APT engineers have decades of power system experience from working with some of the largest companies in industry. Over the last two decades, we have produced successful solutions for hundreds of large-scale electric power projects involving utility/generator paralleling, transfer, peak shaving, and distribution. We pride ourselves in providing electrical power systems that are engineered and custom built, utilizing state-of-the-art technologies to fit our customer's exact needs. The core of our business is low & medium voltage engineered power systems for a wide range of indoor & outdoor applications, such as:

- Utility(ies) and Generator(s) Paralleling/Transfer/Peak Shaving/Distribution Switchgear
- Microgrids, Microgrid Master Control Panels, SCADA systems
- Containerized Battery Energy Storage Systems (BESS)
- Photovoltaic (PV) Solar Power Collection/Distribution & Renewable Energy Storage Systems
- Low & High Resistance Grounding Systems, Grounding Systems for Photovoltaic Effective Grounding
- High Efficiency Combined Heat and Power Switchgear & Control Systems (CHP, Co-generation)
- Outdoor Walk-In Electrical Houses (E-Houses) & Skid-Mounted Switchgear
- Motor Control Centers & Motor Control Switchgear
- Automatic & Manual Load Transfer Switchgear
- Bypass/Isolation & Power Distribution Circuit Breaker Switchboards
- Generator/Loadbank Quick Connection Switchgear, Switchboards, & Tap Boxes
- Industrial Control Panels

Please see our product webpages on www.apt-power.com for product brochures and relevant information. Actual products may look different from images shown on the website and in brochures, based on actual specifications.
APT cares and understands that each power system is different. We will evaluate various solutions in order to develop the best solution for a site. APT focuses on our ability to a combine several traditional pieces of equipment/functionality into as little of a footprint possible. This saves on space, the cost of equipment, cost of installation, and accomplishes the most optimal/state-of-the-art design your facilities. APT's desires to foster and grow a culture of continued open communication with each customer. Let APT be your source to provide fully engineered power system equipment solutions for the full customer facility on time, on or under budget, and in the smallest footprint possible. We are always available to assist customers and engineers representing customers in the development of complex power solutions for all facility types.