

APTView Virtual Switchgear *Isolated Switchgear Control Panel* *SCADA System*

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Product Brochure

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Remote Switchgear Control & APT View

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 the 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.



Figure 1: APTView Genset Monitoring and Control

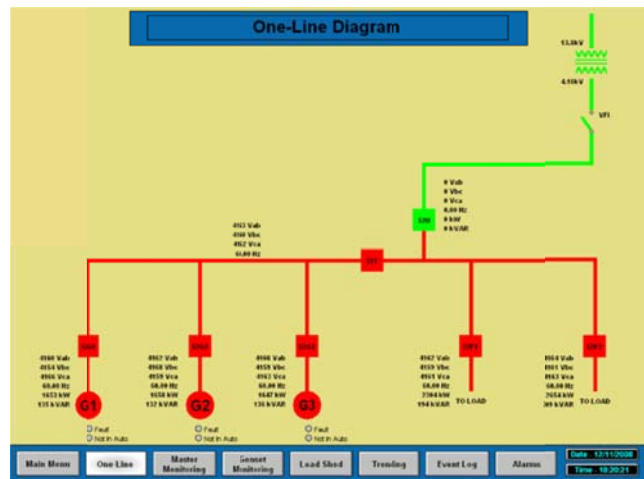


Figure 2: APTView System One-line Diagram

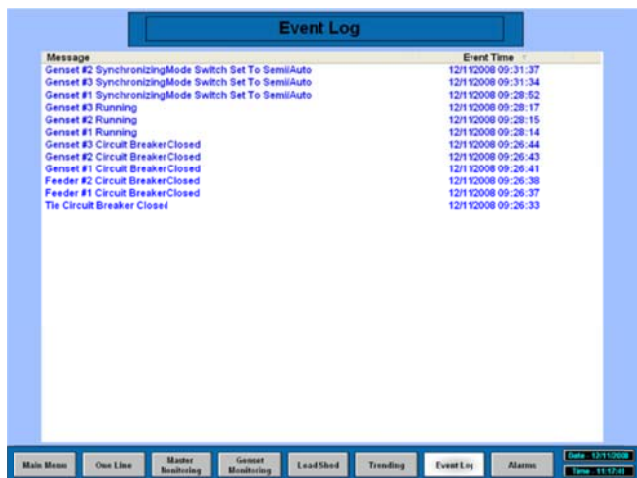


Figure 3: APT View Alarm & Event Logging



Figure 4: APTView Trending Graph

Isolated Master Control Station

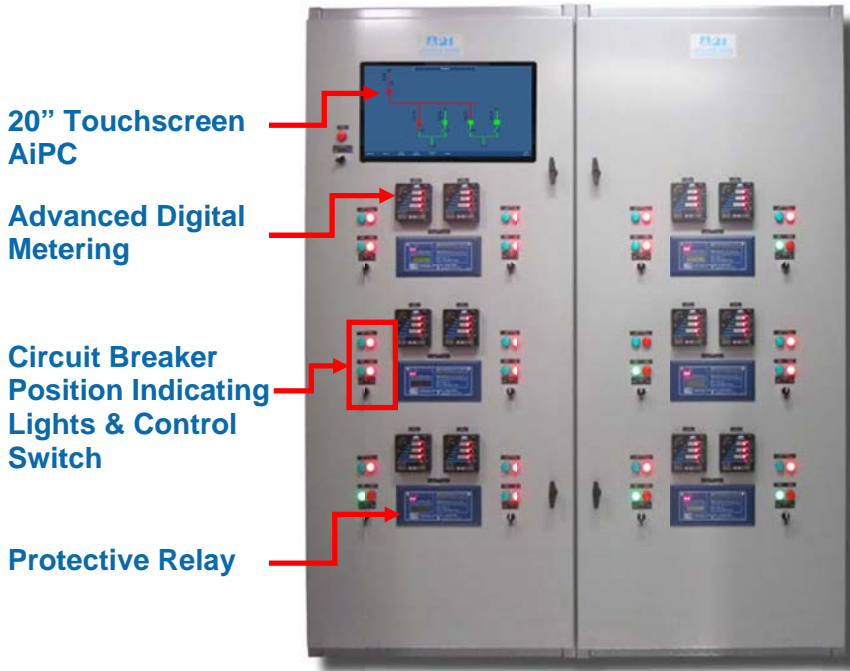


Figure 5: Isolated Local Operator Station



Figure 6: Secure Remote Access to Operator Station allows users to access the "Virtual Switchgear"

Isolated Remote Operator Control Station Includes:

- Human Machine Interface (HMI):
 - Advanced Industrial Personal Computer (AiPC)
 - 20" Color Touchscreen
 - Windows 7 or Windows 10 operating system
 - Provides graphical interface
- APT View Virtual Switchgear
 - Local & Remote SCADA Access
 - Graphical displays:
 - System One line diagram with color coded real time position of every circuit breaker
 - Detailed electrical information
 - Load transfer and Generator loading controls
 - Alarm annunciation
 - Storage of all the monitored data every minute with date and time stamp
 - Events log with date and time stamp
 - Remote monitoring and remote control software
 - Capability of remote system troubleshooting
- Uninterruptable Power Supply keeps unit powered during unplanned outages
- Each main, feeder or generator circuit breaker electrical data:
 - Line to line voltages: V_{ab} , V_{bc} , V_{ca}
 - Generator frequency, Hz
 - Phase currents: I_a , I_b , I_c
 - 3 \emptyset power: kW, PF, kVAR, kVA
 - 3 \emptyset energy: kWh import, kWh export, kVARh import, kVARh export
 - Harmonics
- Main bus electrical data:
 - Line to line voltages: V_{ab} , V_{bc} , V_{ca}
 - Bus frequency, Hz
- System Status Information (alarm and events log) :
 - All circuit breakers and switches position
 - Circuit breaker control switch in Trip position
 - Every protective trip
- SCADA control:
 - Opening and closing of every circuit breaker, Generators Start/load, Stop/unload

Application Example & Drawing

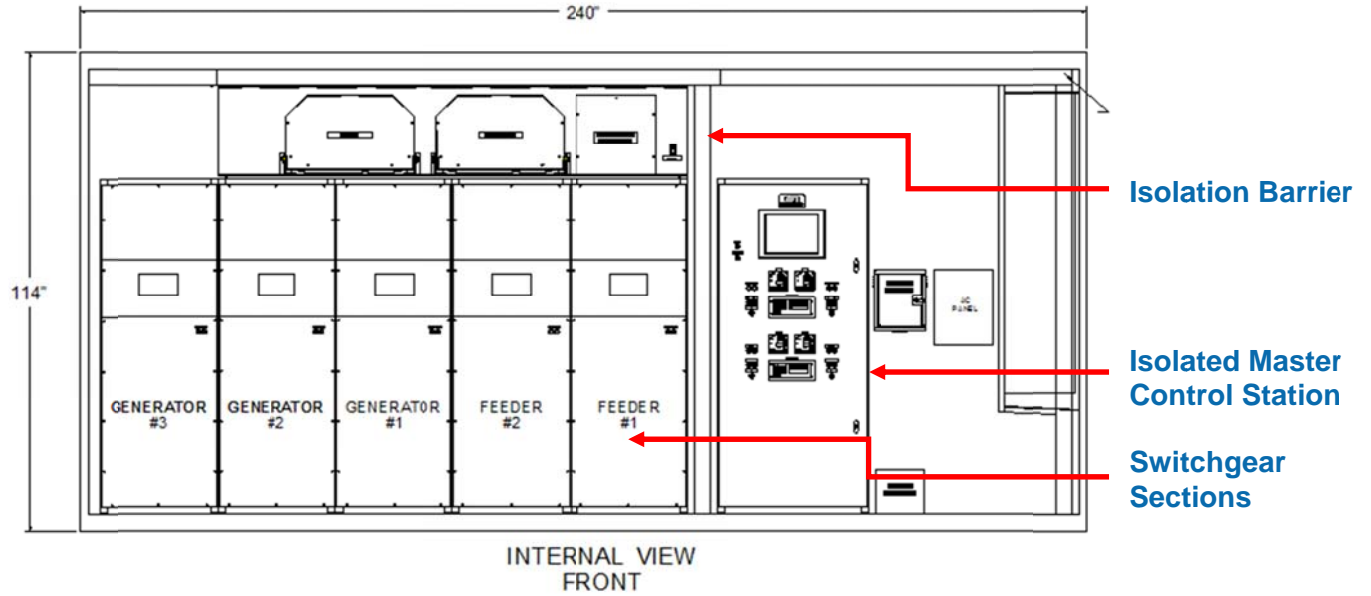


Figure 7: Medium Voltage Front Access Switchgear, Isolated from Local and Remote Operator Control Stations gives unprecedented safety and security to Switchgear Operators in the sheltered isle environment

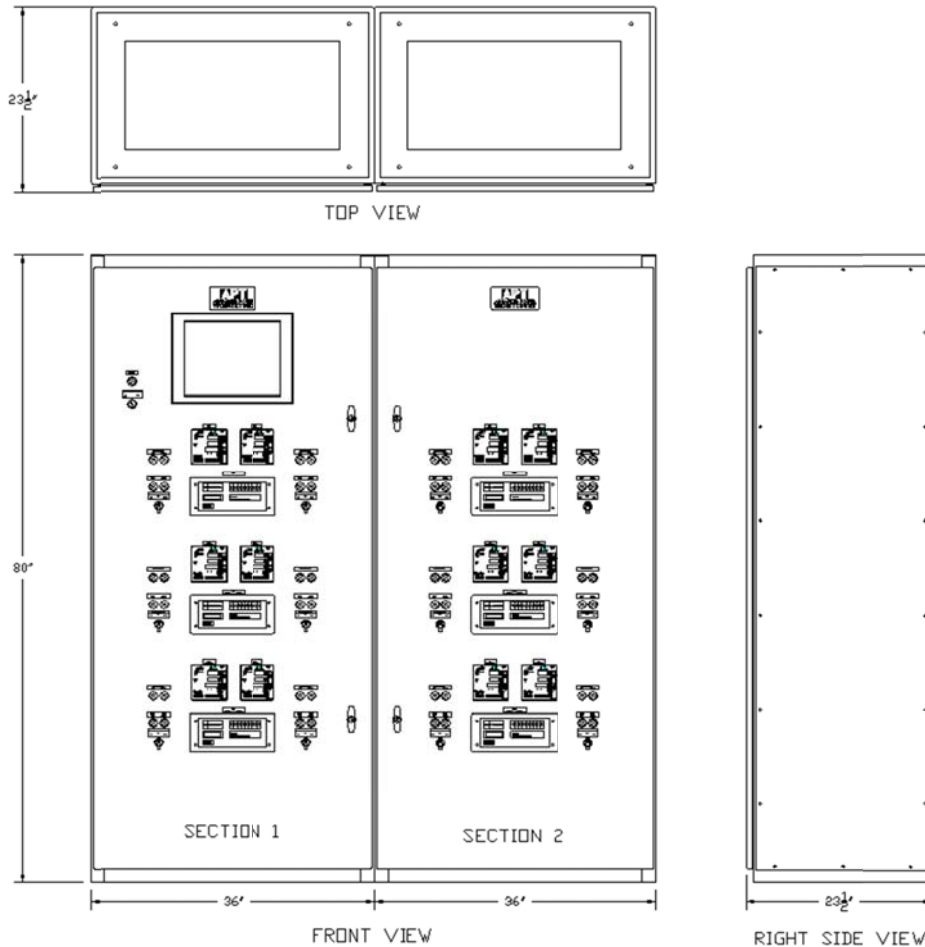


Figure 8: Isolated Remote Operator Master Control Station Sample Dimensions