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Sm@rtGear™ Power Distribution Solutions

Type WL Low Voltage Switchgear

usa.siemens.com/switchgear

The next evolutionary step for low voltage metal-enclosed switchgear

What is Smart LVS? It is **pre-configured** and **pre-programmed** low voltage switchgear with the ability to integrally support out-of-the-box remote monitoring, configuration and control of embedded intelligent devices through two way real-time communication between the user and the apparatus. The two way real-time communication is achieved by using a single interface point (HMI) that provides an easy to use gateway to the embedded intelligent devices.

The HMI GUI (graphical user interface) provides a consistent look and feel that provides seamless access and control of the intelligent devices. The power of the intelligent devices remains but the interface inconsistencies are eliminated. Users don't have to worry about reading or remembering

different user manuals that are normally required to utilize the different intelligent devices.

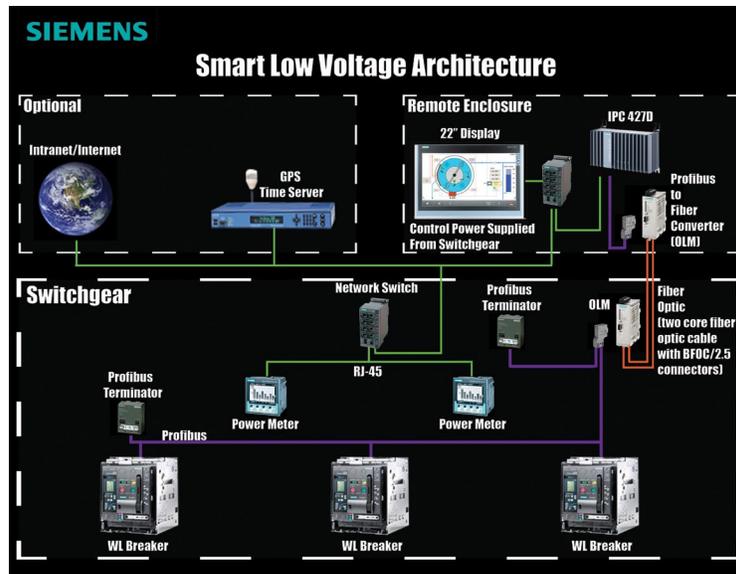
Intelligent (smart) devices, such as electronic circuit breakers, relays, meters, etc., have existed for over 30 years. These smart devices are self monitoring, configurable and communicating, but individually they are only islands of intelligence.

Historically, consolidated remote monitoring, configuration and control of all embedded intelligent devices has only been available with the inclusion of expensive upstream PMCS (power monitoring control system), PCS (process control system), DCS (distributed control system) or SCADA (supervisory control and data acquisition). With the advent of Smart LVS, consolidated remote control monitoring, configuration and control become standard features that are integral to the low voltage switchgear.

Customer Benefits

- Enhanced arc flash safety
- Enables remote monitoring, configuration and control
- Gets personnel outside the arc flash hazard boundary when performing normal breaker operations (open/close, racking and Dynamic Arc Sentry activation)
- Significantly reduces internal and external control wiring for increased product reliability and decreased installation labor
- Faster commissioning and startup
- Usage-based preventative and predictive maintenance information
- Configurable, self-monitoring apparatus that is easier to design, specify, commission and operate

Smart LVS Architecture



Smart LVS Standard Features

- Siemens IPC427D CPU with all pre-programmed software required to monitor, configure and control embedded intelligent devices and structural monitoring devices
- 22" HMI pre-configured and pre-programmed with application specific graphical user interface (application specific elevation drawing and/or one-line home page)
- Communication backbone linking embedded intelligent devices, CPU and HMI
- ETU776 trip unit in all breakers with Dynamic Arc Sentry (DAS) that supports arc flash incident energy reduction
- Protective relaying and alarm functions in all breakers
- Power metering function in all breakers
- Electrically operated breakers with spring charge motor, shunt trip and remote closing coil

Smart LVS Optional Features

- S7-400 hot swappable redundant PLC
- Environmental monitoring (ambient temperature, humidity, smoke, water)
- Bus bar temperature monitoring
- Power cable temperature monitoring
- Autothrowover
- Zone differential relaying
- Load shedding
- Open breaker door monitoring and alarm
- Control power monitoring
- Breaker trip coil monitoring
- Strip heater monitoring
- Remote breaker racking device
- Enhanced historical event logging
- High resistance grounding

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