

# SIERS integrated electric-racking system

Siemens integrated electric-racking system (SIERS) provides additional personnel protection against arc-flash exposure for operators by providing a means of remotely racking the drawout circuit breaker for Siemens types GM-SG non-arc-resistant 5 kV-15 kV, GM-SG-AR arc-resistant 5 kV-15 kV, or GM38 non-arc-resistant 38 kV switchgear.

Type SIERS delivers a safe, easy-to-use, cost-effective, reliable and flexible way to remotely rack a drawout circuit breaker while standing outside of the arc-flash zone. This reduces the need for personal protective equipment (PPE) per the NFPA-70E® standard.

#### Safety:

- Maintain all of the safety interlocks as required by IEEE Std. C37.20.2
- If interference is experienced while racking, the circuit breaker will attempt to return to the DISCONNECTED position
- The control pendant (hand-held controller) provides clear light-emitting diode indication of the location of the circuit breaker in the CONNECTED, DISCONNECTED, and TEST positions

- When plugged into a specific circuit breaker compartment, the control pendant will override any electronic control system (HMI, SCADA or similar).

#### Easy to use and operate:

- User-friendly control pendant with easy to read display and controls
- Provisions for energizing the SIERS with an external 120 Vac power supply with an extension cord (optional)
- High-torque, fixed-mounted motor in the circuit breaker compartment provides smooth and efficient movement of the circuit breaker from CONNECTED position to the TEST position, or to the DISCONNECT position.

#### Reliable:

- Logic to sense interference issue during racking
- Operation is smooth and consistent
- Control pendant is industrial class
- Factory installed and tested as a complete racking system.

#### Flexible:

- Powered from a control power transformer located in the switchgear at 120 Vac, or by an external supply (either 120 Vac or 125 Vdc)
- Controls can be integrated into the switchgear secondary control circuits interface with the protection relay to provide interface with SCADA systems, local HMI or discrete wiring
- Available as a field retrofit for existing Siemens types GM-SG, GM-SG-AR and GM38 switchgear.

#### Control options:

- Type SIERS device is available in three configurations: basic version, local HMI version (Smart-Gear® power distribution solution), and custom version, e.g., SCADA or other systems.

Type	Configuration	Description
Basic	1	Each circuit breaker cell is equipped with an integrated, electric-racking system, which includes a fixed-mounted, high-torque motor and logic control module, control-pendant connector powered by control power in the switchgear or an external supply (either 120 Vac or 125 Vdc) when necessary. Typically, one control pendant is supplied per lineup. <ul style="list-style-type: none"> <li>Type SIERS integrated, electric-racking system - one per circuit breaker cell</li> <li>Control pendant – one per lineup.</li> </ul>
Local HMI	2	Basic type plus local HMI panel PC interface with GM-SG, GM-SG-AR or GM38 lineup(s) in the electrical room: <ul style="list-style-type: none"> <li>Panel PC display HMI with easy-to-use graphic interface.</li> </ul>
Remote SCADA	3	Basic type plus custom interface with SCADA or other system: <ul style="list-style-type: none"> <li>Local HMI (optional).</li> </ul>

**Configurations:**

**Configuration 1: Basic type**



Control pendant with plug-in control cord connection to switchgear

Racking system



**Configuration 2: Local HMI type**



Communication connection



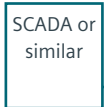
I/O contacts between SIERS controller and relay

Racking system



Control pendant with plug-in control cord connection to switchgear

**Configuration 3: Remote SCADA type**



Communication connection



I/O contacts between SIERS controller and relay

Racking system



Control pendant with plug-in control cord connection to switchgear

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