

**SIEMENS**

# Retrofit Guide

Low & Medium Voltage Electrical Distribution Equipment



# Rely on Siemens For Your Total Retrofitting Needs

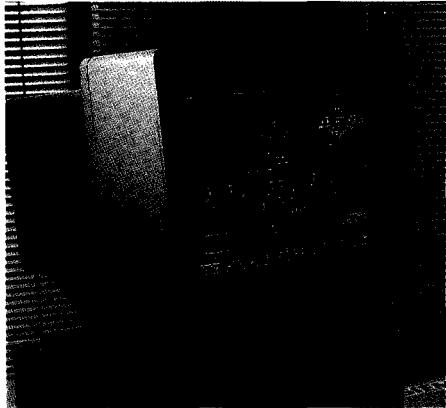
Whether it's Westinghouse®, GE® or any other manufacturer—one breaker or hundreds—the Siemens retrofit program is the most economical way to upgrade your outdated or worn-out electrical distribution equipment. Plus, at the same time, move up to the quality, reliability and superior level of service that only Siemens provides.

## A Complete Line of Retrofit Products

From switchgear to monitoring systems, Siemens Energy & Automation is one of the world's leading developers and manufacturers of electrical distribution equipment—and one of the world's largest producers of high-quality vacuum interrupters.

Unlike other manufacturers, Siemens offers an expansive array of electrical distribution products specially designed for upgrade applications, including:

- Tripping Systems for Low Voltage Circuit Breakers
- Medium Voltage Vacuum Circuit Breakers
- Medium Voltage Controls
- Access™—Electrical Distribution Monitoring and Control System



*ACCESS gives you unparalleled control over your entire electrical distribution system from a single host PC.*



Siemens SCOR,  
Static Trip III™ 4700  
and SAMMS  
(from l. to r.).



## **On-Site Evaluations**

With Siemens, retrofitting is more than a sideline; it's a specialty. And it includes a comprehensive program of products and services designed to meet all of your retrofitting needs.

For help in determining the Siemens retrofit components and systems your project requires, Siemens provides its customers with an on-site evaluation service.

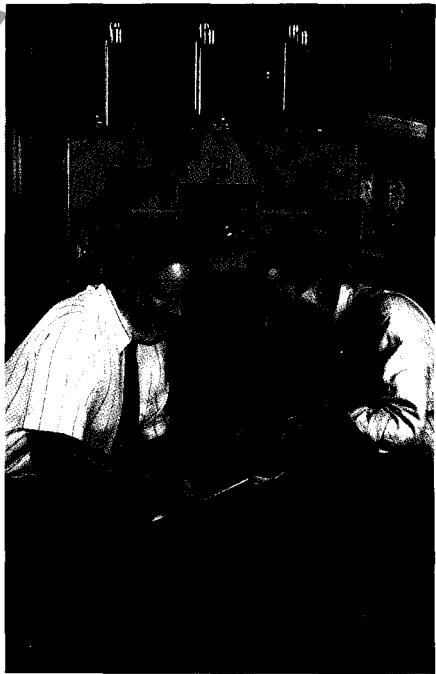
Before a retrofitting project begins, you can request that a Siemens retrofit product specialist make a complete "walk-through" evaluation of your facility, and then develop a retrofit proposal tailored to your particular needs, budget, and timetable.\*

## **Backed By a Full Product Warranty**

Retrofit or otherwise, Siemens offers you the most advanced switchgear, vacuum interrupter and electronic control technology available today. And to ensure

its reliable performance, your Siemens product upgrade is supported by Siemens' responsive and professional customer service, and backed by Siemens' 1 year warranty with extended warranties available.

The Siemens retrofit program—your high-quality alternative to the high cost of replacement equipment.

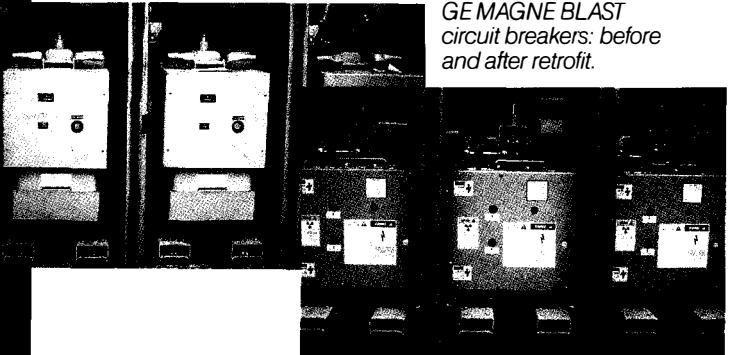


*GE MAGNE BLAST™ circuit breaker being replaced with a modern, retrofit model.*



A dedicated Siemens retrofit specialist oversees every aspect of your project.

*GE MAGNE BLAST circuit breakers: before and after retrofit.*



# Medium Voltage Retrofitting Capabilities

## Siemens Offers You More

Siemens offers you a full line of medium voltage replacement breakers for upgrade applications—more than any other major manufacturer, in fact. Not only can Siemens replace most Westinghouse and GE MAGNE BLAST™ circuit breakers, but we are one of the few major manufacturers capable of retrofitting the full line of 5kV-38kV circuit breakers.

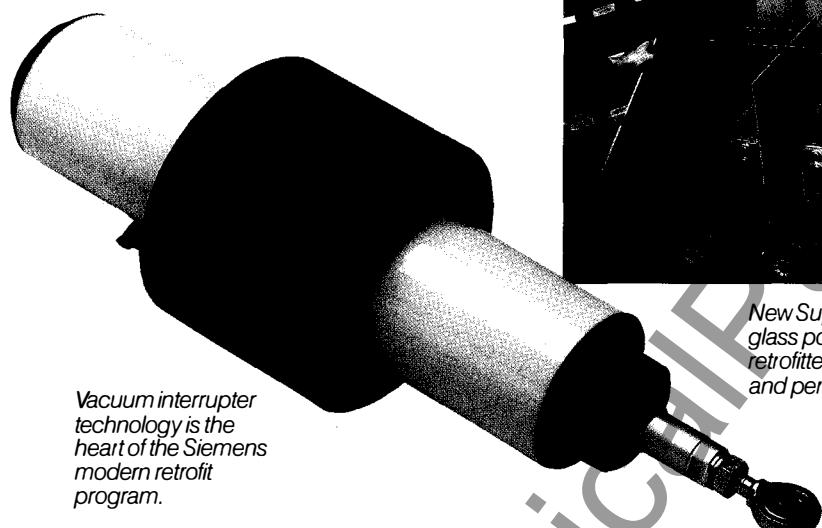
## True Interchangeability

A Siemens upgrade normally involves replacing the entire circuit breaker in the existing truck, avoiding the need to modify your switchgear housing or cell. This important advantage gives you the flexibility to interchange an original circuit breaker or a Siemens retrofit circuit breaker in the same cell whenever you choose.

## Field-Proven Performance

With a Siemens retrofit, your old, outdated medium voltage switchgear is upgraded by replacing the existing breaker with the rugged and dependable Siemens 3AF stored energy operator and vacuum interrupters.

The 3AF design utilizes some of the most advanced vacuum interrupter technology available today, and has been proven reliable in over 30,000 installations—from manufacturing and industrial processing plants to utilities, hospitals, and more.



Vacuum interrupter technology is the heart of the Siemens modern retrofit program.

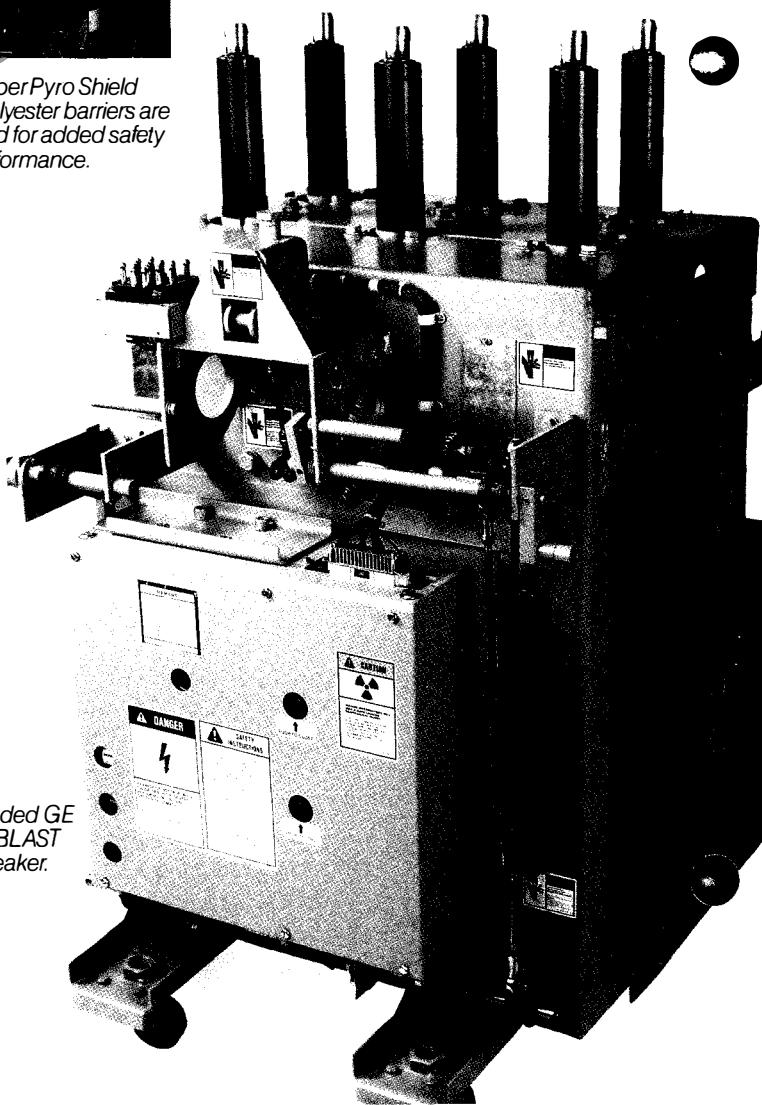
Experienced Siemens technicians inspect and upgrade the switchgear structure, control equipment, and wiring on-site.



An upgraded GE MAGNE BLAST circuit breaker.



New SuperPyro Shield glass polyester barriers are retrofitted for added safety and performance.



Engineered for long service and maintenance free, the 3AF vacuum interrupter can withstand 30,000 mechanical operations and up to 100 full current interruptions.

### **8-Step Replacement Procedure**

When Siemens upgrades your medium voltage switchgear, you get a lot more than just a new breaker. You get a complete 8-step overhaul of the entire mechanism performed by qualified Siemens technicians.



First, Siemens carefully removes the old breaker from its cell. In its place, Siemens installs a new 3AF vacuum interrupter circuit breaker as well as a new safety interlock system that prevents the insertion or withdrawal of the breaker unless the breaker is open.

Next, Siemens replaces all circuit breaker buswork from the operator to the primary disconnects. This is followed by an application of new heat-shrink insulation as required for the application.

Siemens also replaces your old phase barriers with Super Pyro Shield (SPS) glass polyester barriers. They then test the new circuit breaker in the cubicle to ensure that it meets all applicable safety and performance standards.

### **Full ANSI Testing**

All Siemens circuit breaker designs are ANSI certified and Siemens can also test your retrofit circuit breakers to ANSI testing standards. In addition, Siemens subjects the new breaker designs to impulse tests and heat runs to make sure that there are no dielectric failures during operation.

Westinghouse is a registered trademark of Westinghouse Electric Corporation. GE is a registered trademark and "MAGNE BLAST" is a trademark of General Electric Company.

*...then a 3AF operator and vacuum interrupters are mounted on the truck.*



# Low Voltage and Other Retrofitting Capabilities

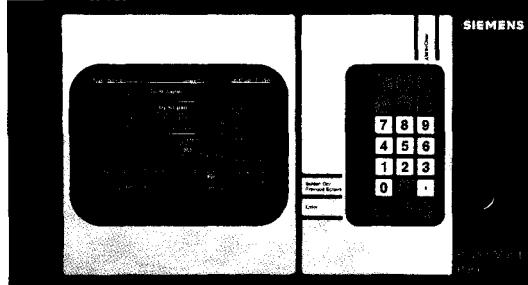
## Upgrading Your Low Voltage Circuit Breaker Protection

Siemens offers a low voltage overcurrent protection retrofit package designed to fit most low voltage circuit breakers on the market today.

The heart of each kit is the Static Trip III™ system—an advanced microprocessor-based tripping system that provides accurate and reliable circuit protection, precise RMS current sensing, and sophisticated trip coordination for your low voltage equipment.

The Static Trip III device is easy to install, and features RMS sensing for true current measurement, thermal memory, 1200A maximum ground fault pickup, and LED readout.

Siemens low voltage retrofit package also includes actuator, current transformers (CT), and universal mounting bracket.



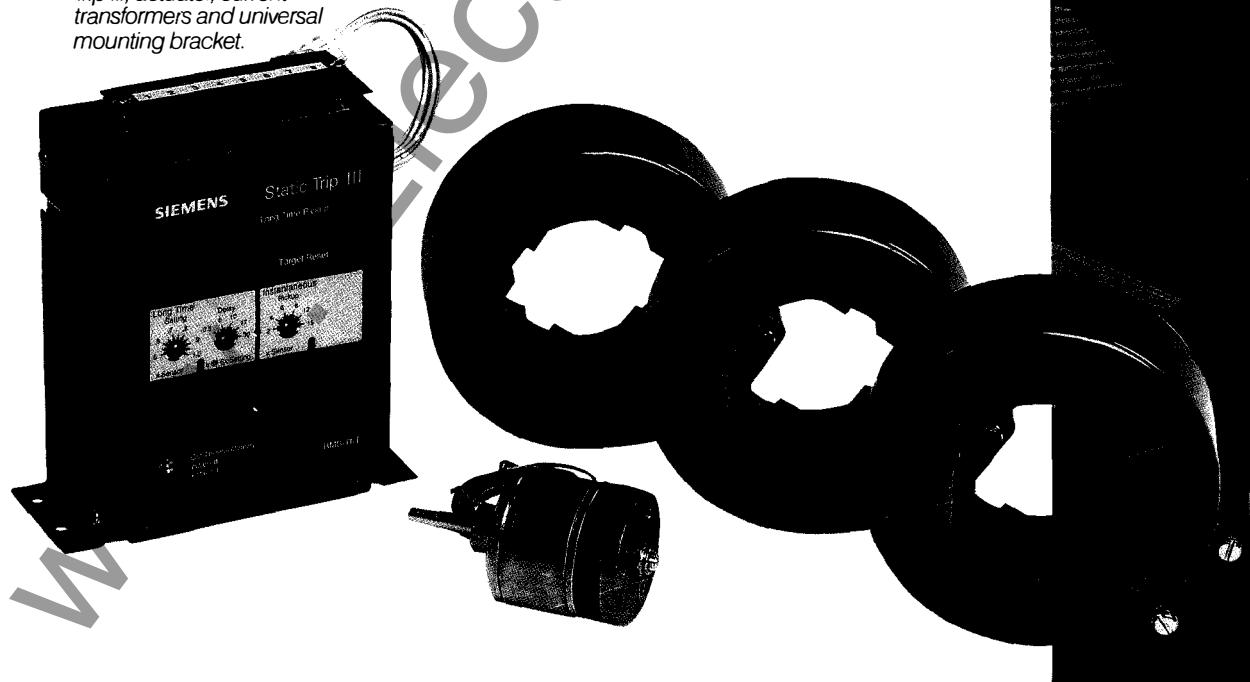
*The Siemens low voltage retrofit kit includes a Static Trip III, actuator, current transformers and universal mounting bracket.*

*The SAMMS unit is a microprocessor-based software configurable motor controller and protection relay.*

## Adding A New Dimension of Control and Protection

Siemens ACCESS system—a combination of software, industry-standard hardware, and communications technology—is the most effective way to centrally monitor, manage, and protect your entire electrical distribution system.

ACCESS components can be installed on any or all of the medium and low voltage switchgear in your facility—regardless of manufacturer. And because the ACCESS system is totally modular, it allows you the flexibility to start with as many or as few



components as your needs and budget require, and add more at a later time.

ACCESS system components include:

- Static Trip III™ (CP and CPX) & Sensitrip® III \*\* - microprocessor-based tripping systems
- 4700—comprehensive electronic metering package
- SCOR—overcurrent protective relay
- SAMMS—microprocessor-based motor controller
- Power Monitor and Local Area Display Unit—graphic and alphanumeric display units that provide "early warning" of

alarm conditions and communicate data from field devices to host PC.

- Host PC—industrial grade IBM personal computer and software to monitor and manage your entire facility.

### Upgrading Medium Voltage Controls

Now there's an easy and economical way to add Siemens superior vacuum technology to existing Allis-Chalmers, Siemens, and Siemens-Allis medium voltage motor controls. All it takes is the Siemens retrofit kit.

Each medium voltage control kit contains:

- Siemens Vacuum Controller and Cell
- Pre-Wired Door
- Complete Instrument Panel

For more information on all the Siemens' retrofitting capabilities as well as assistance

in selecting the correct retrofit products and/or kit for your application, please contact the Siemens Energy & Automation sales office nearest you.

### Siemens Energy & Automation

Technology that serves the customer.



SCOR provides accurate overcurrent, short circuit and ground fault protection.

*The ACCESS Host PC gives you the data you need to monitor the performance of your entire electric distribution system.*

Medium voltage control retrofit kits upgrade and extend the life of medium voltage controllers.



## Siemens Energy & Automation Sales Offices

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