

## Modular integrated transportable substation

Electrical engineering services and systems



## Lower costs, faster installations, aesthetically pleasing design, and a reliable, safe and secure system

Electrical equipment integrated into an easily transportable, modular, turnkey solution.

Eaton also offers the MITS in a mobile solution. The entire modular substation whatever the configuration can be mounted onto a trailer, making it a “ready to roll” electrical power distribution solution, with the capability to be quickly energized.



MITS can be readily transported to your project site and set in place with one crane lift, meaning quick, safe, and easy installation. Modular substations require minimal site work and field connections. Modular designs can be standardized and easily designed to accommodate future modifications.

The flexible, expandable design allows a variety of equipment configurations for various applications. Modules can even be connected together to form larger, more complex substations. Designs can also be standardized to easily accommodate future modifications.

**Confident installation, quick to energize**—Factory-assembled, wired, and tested to minimize on-site labor costs, quality issues, and time. This includes on-board protection, control, and automation devices.

**Small footprint**—The solution is engineered to use as little space as possible, yet completely meet your unique needs. The entire solution fits on a platform or trailer, making transportation and space requirements manageable.

**Reliable**—Utilizing shield-grounded medium voltage cable, the solution is less susceptible to environmental and critter damage than air insulated equivalent systems.

**Built to your specific needs**—Eaton’s turnkey solution provides design, product, installation and support for a MITS that is specific your needs; from simple 46kV to up to 138kV

**One-Stop Shop**—Full turnkey solution from design, to manufacture to installation with a proven leader

MITS can be configured for industrial, commercial, and utility applications.

**Industrial**—Oil & gas production and transmission sites, mining operations, manufacturing and assembly plants, petro-chemical plants, and drilling rigs.

**Commercial**—Campus-type or distributed facilities such as: general office campuses, higher education campuses, laboratory/research centers, data and telecommunication tower sites and facilities, health care complexes, correctional institutions, military facilities, gaming/entertainment facilities (casinos and theme parks), transportation facilities (airports, mass transit stations), “intelligent” highway service power, and harbor shore power.

**Utility**—Distribution substations, industrial power parks, rural/ agricultural service, and distributed generation sites, regulation stations, switching stations, and mobile equipment, including capacitor banks

# EATON

Powering Business Worldwide

After a hurricane left much of the upper East Coast devastated by rain, wind and rising tides, the residents of Rockaway Beach, New York got their power back on with the help of an Eaton modular integrated transportable substation, designed and installed specifically for this purpose.

### Modular substation pre-installation support

Eaton provides the following engineering services to support the initial design and protection:

- System conceptual and detailed electrical design
- Short-circuit, coordination, arc flash and load flow studies
- Unique installation planning with back-up power contingencies
- Site preparation including grounding studies, ground grid design, pad/pier design and construction
- Start-up and commissioning test plans to fully simulate all anticipated normal and emergency operating conditions

### Modular substation new construction support

Eaton provides turnkey installation and full support from start-up to completion:

- High side and low side connections
- Acceptance testing of individual MITS components:
  - Fluid testing, insulation and contact resistance testing
  - Transformer turns ratio testing and winding resistance
  - High potential testing, power factor (Doble) tests and IR scan
  - Verification of protection device settings
- Commissioning to ensure proper normal and emergency operations
- Testing of all transfer schemes, switching operations, remote operation via communications protocols, and customer specific operating parameters
- Synchronizing to utility grid and on-site generation
- Site supervision of handling, installation, connection and energizing
- Complete turnkey installation—Training on equipment operational modes, protection schemes and troubleshooting guides

**No matter what the circumstances are surrounding your next substation project, consider MITS as your solution.**

Savings	Eaton performs all of the design work, integrates components and constructs the skids resulting in significant cost and time savings.
Quick turnkey solution	Deploy your power systems quickly and get your facilities to work. Typical MITS can be ready in as little as 20 weeks after order release including design, construction and testing. Commissioning can be complete in a few hours or days.
Aesthetically pleasing	Clean, compact designs enhance our communities.
Improved safety	Designed for enhanced personnel safety, MITS incorporates dead front components whenever possible and tamperproof, locked enclosures within each assembly.
Small footprint	Integrating substation components into an extremely compact area—simplifying commissioning and reducing costs.
Transportability	Redefine power systems flexibility by taking your entire substation along for the move, drastically reducing costs.
Spill containment	Adhere to the EPA's Spill Prevention, Containment, and Control (SPCC) guidelines. Eaton can provide each MITS skid with integrated oil containment.
Environmentally friendly	Eliminate the need for hydrocarbon-based fluids, by using FR-3™ fluid in as many components as possible. Eaton solutions are sustainable by design.
Modularity	Accommodates for future power need expansion. Modularity allows the possibility of storing additional units as required for emergency outages or for quick retrofits.
Reliability	Incorporate the latest technologies in your power system to drive new levels of reliability and maintain quality control. Virtually impervious to most wildlife and weather related outages due to deadfront skidmount design.
Emergency power	Plan ahead for the next storm season with MITS as your backup substation.

Contact your Eaton representative or visit  
[www.eaton.com/MITS](http://www.eaton.com/MITS)  
 to learn more about the MITS solution.

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