

Pre-fabricated E-houses

Standardized to customized:
Solutions that tackle today's challenges



An E-house* is a modular enclosure housing switchgear, variable speed drives, control systems and substation-related equipment. The flexibility of design means an E-house can be adopted for a wide variety of applications.

*Also referred to as a powerhouse, containerized e-room, switch-room or mobile substation.

What's inside an E-house?

The E-house is a pre-fabricated electrical room that is pre-commissioned as a standardized or customized unit, depending on the specific application. It is a subsystem within a plant's electrification infrastructure, comprising different products, all electrically and mechanically inter-dependent.

Electrical equipment such as switchgears, transformers, variable speed drives and distribution boards are installed within the E-house prior to shipment. This ensures that on-site assembly work can be carried out without delays caused by harsh weather conditions, industrial disputes or other unexpected events. Its compact design ensures ease of transport to the end-user location.

All E-houses are constructed in a clean factory environment with ready access to specific tools, cranes, installation material and testing devices and procedures.

Why choose an E-house from ABB?

ABB has been serving the world's mining, aluminum and cement communities with electrical systems and solutions for over 60 years. Its broad domain knowledge extends from mechanical and electrical applications through to project management. This helps provide a customized solution according to global standards and in compliance with your project and country specific requirements.

Typical E-house equipment

- Gas-insulated HV switchgear
- AIS/GIS MV switchgear
- SCADA, protection, control and metering
- Power distribution transformers
- Power factor correction and harmonic filters
- MCCs, LV switchgears and main lighting distribution
- MV/LV variable speed drives and converter panels
- Control system controller panels
- I/O panels
- Diesel generating sets
- UPS and DC power supplies
- Fire detection, protection and extinguishing system
- HVAC (heating, ventilation, air conditioning), ventilation (overpressure) units
- Internal and external lighting

Less risk, lower costs, optimized time schedule

As simple as plug and play



What are the benefits of an E-house?

- As it is properly ventilated and cooled, over-pressurised and tight with no water and less dust ingress, the E-house is a good environment for switchgears while also ensuring a longer lifetime for electrical equipment.
- Construction schedules are unaffected as the E-house is delivered to site pre-fabricated and pre-commissioned.
- The little commissioning that is needed on site reduces cost and start-up time when compared to traditional installation methods.
- The need for site infrastructure, accommodation, specialists and travel are significantly reduced.
- Civil work, site labor and transportation costs are reduced compared with a conventional concrete building.
- Depending on scope of supply and engineering content, all energy distribution, control system and auxiliaries are interfaced, integrated and coordinated.
- Modules sized and configured to suit ABB's more compact equipment and technology.
- A single point of contact is provided.
- Packaging more equipment under one contract reduces coordination, integration issues, procurement and project management cost. Overall project risks are mitigated.
- Shipping costs are reduced.
- Integration costs for the design and engineering associated with control interface are reduced.

ABB Ability™ MineOptimize

If you are considering an E-house for your next project, you are strongly advised to consult ABB long before the project design commences. ABB Ability MineOptimize is a process that analyses your entire electrical and mechanical needs and leads to an E-house design that is totally optimized. It can result in lower design, build and operating costs. For instance, the electrical infrastructure of an E-house is often designed independently of surrounding equipment. This leads to inefficiencies with space, cabling and cooling, as well as being expensive. Optimization at the design stage brings significant savings in both space and capital costs.

ABB Ability MineOptimize is a combination of domain knowledge, leading edge digital technology and vast global and local engineering competence – all under one roof. When considering an E-house project you can rest assured that with over a century of knowledge and know-how of electrification and process control in mines, choosing ABB will be the right decision.

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