

# A first-class market-focused solution



The HVAC panel combines the vast experience of the enclosed control product line with Division 15 specification requirements to create a first-class market-focused solution. For both the OEM and the end user, the HVAC panel (ECH) is ideal for air handling equipment (circulation, exhaust and heating fans) and can be used in chiller and compressor applications.

Eaton has long been a major player in the HVAC and chiller industries with a large installed base of custom motor control panels.

### Market applications

Division 15 is designated as the mechanical section of the Construction Design Standards specification, whereas Division 16 typically includes the electrical specifications for distribution and lighting equipment.

While enclosed control products are often specified in Division 16, motor controllers for HVAC equipment are typically located in Division 15. Here one will find opportunities for the enclosed HVAC panel, as well as other electrical distribution products.

### Air handling equipment

There are two basic types of air handling equipment fans—axial and centrifugal. Example applications include supply fans, circulating fans, exhaust fans, heating fans, air conditioning fans and greenhouse ventilation fans. Although there is a wide range of applications, almost all are run by electric motors.

These motors are typically 25 hp or smaller and are controlled by across-the-line starters. Each starter commonly requires a disconnect means and is typically a single motor starter enclosure application.

Air handling applications typically require a single motor controller panel that mounts directly to or near the air handling equipment. In many cases, this equipment is located in very small areas, often mounted in crawl spaces. The ECH product is extremely compact and allows for ease of installation for such applications.

### Other applications

Chillers are a means of heat exchange between the inside and the outside of a building. The two primary functions of a chiller are to cool air in a building and provide dehumidification. There are three basic components to a chiller: the condenser, the evaporator and the compressor. The condenser removes heat from the building, the evaporator absorbs heat from the building air, and the compressor circulates Freon throughout the system.

Cooling towers are typically located on the outside of a building. While a majority of cooling tower applications use power control panels with multiple motor loads and additional logic control—which is beyond the capabilities of the ECH HVAC panel—there may be simple single motor applications in which this product provides value. Their primary task is to remove heat from the condenser water (from the chiller). Water is released from the top of the tower in a fine spray. Electric fans inside the tower blow air through the spray in order to cool it. The water is then collected and circulated back to the chiller condenser where it can be heated again. Similar to air handling equipment, the majority of cooling towers are run by electric motors.



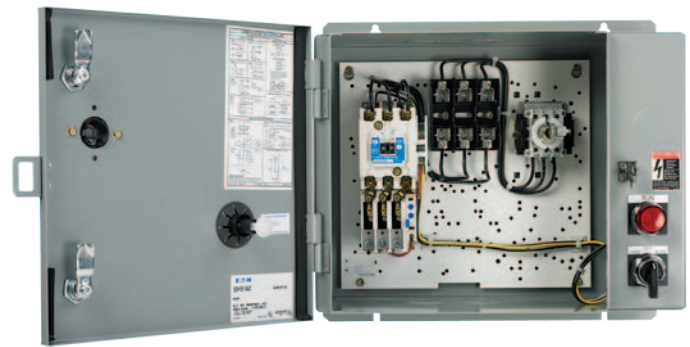
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## Features

The HVAC control panel is a combination motor starter designed to meet the requirements of Division 15 specifications and has many features that meet the unique needs of the HVAC market.

- The compact design not only reduces footprint but also allows much easier installation. The highly competitive HVAC industry values a product that can be installed quickly and easily
- Type 1, 12 and 3R rated enclosures are made from robust 14-gauge steel and use the rotary handle mechanism. Box 7 (approximately 16 x 14 inches [406.4 x 355.6 mm]) is used as standard. These enclosures accommodate room for a CPT, disconnect and starter in a compact, practical design
- The Eaton rotary handle mechanism is a through-the-door disconnect with a solid feel position indication and globally recognized I/ON, O/OFF, Reset and Trip visual markings
  - Same switch design is used for HMCP/E and fused products
  - The handle can be locked in the OFF position for safety
  - An integral door interlock prevents the door from being opened in the ON position

- Freedom™ Series NEMA® rated starters, Sizes 0–3, are available. It is estimated that over 90% of the HVAC motors are Size 2 and smaller
    - Freedom Series NEMA starters are extremely rugged products. Their long electrical/mechanical life is extended through easy maintainability. They are made with high-strength, impact and temperature-resistant insulating materials
  - Bimetallic overloads are provided as standard. Available in Class 20 as standard, the interchangeable heater packs allow customers to use various heater styles
  - A solid-state overload (SSOL) option is available. The Eaton SSOL provides one of the widest ranges of protection with a high level of accuracy without the need for overload heater packs
- Multiple combination designs are available, including:
    - Fusible and non-fusible version using rotary disconnect switches. The fusible design includes a separately mounted fuse block. This creates flexibility for the installers and maintenance technicians
    - MCP design uses the compact HMCP motor circuit protector
    - Rugged 30 mm 10250T pilot devices are used as standard. Typical options are HOA and red RUN pilot light options for easy local or remote operation of the panel and visible indication of power
  - A control power transformer (CPT) is an available option providing power for the pilot devices and other control components or allowing the customer to supply their own control power connections. It is available in all of the standard primary and secondary voltages, and includes one primary and two secondary fuses



**HVAC Enclosed Control Panel—Open**

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Printed in USA  
Publication No. PA03301001E / Z13344  
February 2013

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