

Ampgard

Eaton has been an industry leader for more than 40 years, providing ULT 347 certified medium-voltage control. When it comes to controlling and protecting medium-voltage motors, the AmpgardE family is the premier high-performance choice.

Contactors

400 A vacuum contactor

- Ampgard vacuum contactors provide the highest interrupting ratings in the industry, with field-selectable control voltage and dropout time
- Long life 300,000 electrical operations
- Available with bolted or finger-and-stab connection to 400A, finger-and-stab only at 800 A



Fuses

Bolted and clip-in main fuse

- Current limiting to minimize the effects of high fault currents
- Sized to ensure repeated motor starts without fatigue
- Available as bolted or clip-in up to 400A, bolted only at 800A
- Blown fuse indicator standard.



Isolation switches

400 A vacuum contactor

- Long life isolation switch rated for 10,000 operations, simplifies lock-out/tag-out while minimizing maintenance
- Mechanical interlocks to prevent operation of isolation switch with main contactor closed
- Mechanical interlocks to prevent access to medium-voltage compartment until isolation switch is open
- Visible verification of isolation switch operation through viewing window
- Optional remote operator for connection/disconnection from power bus while personnel is outside the arc flash zone.



15 kV standard MVC



7.2 kV standard MVC

Starters

All major starter components are manufactured by Eaton, providing increased reliability and equipment support.

- Vacuum contactors
- Isolation switches
- Power fuses
- Control power transformers
- Potential transformers
- Full voltage
- Reduced voltage reactor

- Reduced voltage auto-transformer
- Reduced voltage solid-state
- Two-speed, two-winding
- Two-speed, one-winding

With a wide selection of starter types at voltages from 2.3 kV to 13.8 kV and ratings up to 8000 hp, Eaton is equipped to provide an Ampgard starter specifically designed for your critical application.



Reduced-voltage solid-state starter



Full-voltage starter

Ampgard - Medium Voltage Motor Control

Arc flash solutions

Arc-resistant Ampgard AR

Arc-resistant Ampgard ARE is available for applications requiring increased operator protection. Extensively tested to IEEE C37.20.7 requirements for Type 2B accessibility, Ampgard AR incorporates the key features of traditional models, plus:

- Rear arc chamber, roof flaps and plenum to allow arc gasses to flow away from the operator
- Strengthened front doors and latches to ensure doors remain closed
- Insulated main bus minimizes risk of bus fault
- Low-voltage control compartment verified to meet arc-resistant requirements (Type 2B)

Ampgard AR arc-resistant can be close-coupled with the following, for a coordinated, tested, arc-resistant customer solution:

- ArcGardE arc-resistant metal-clad switchgear
- Arc-resistant metal-enclosed medium-voltage switches
- SC9000E EP arc-resistant medium-voltage drive

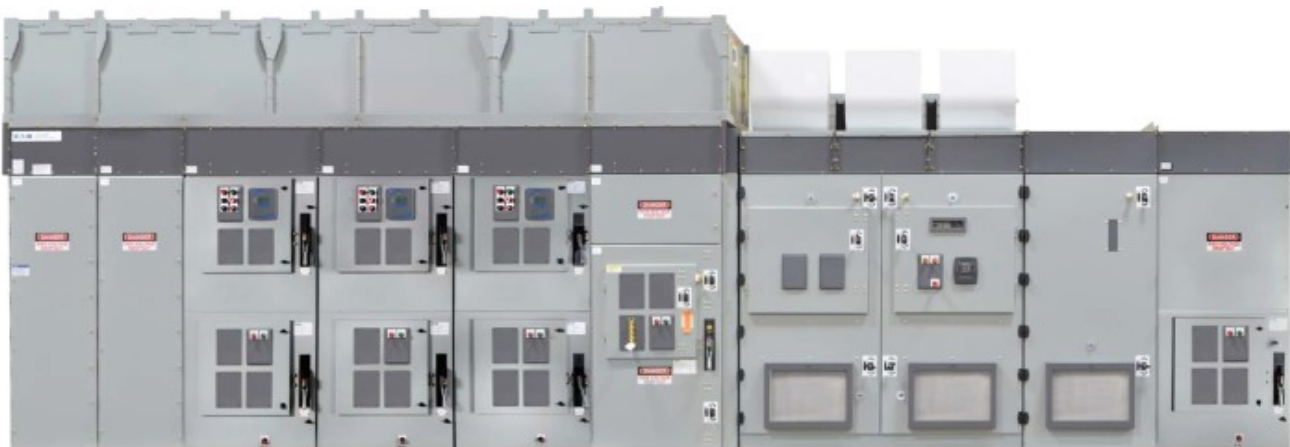
Arc-resistant Ampgard AR

The Ampgard remote operator enables users to open or close the starter's isolation switch through the use of a pushbutton station operated up to 30 feet from the starter, allowing the user to remain out of the starter arc flash zone.

- The remote operator is easily attached to the front of an Ampgard starter when the isolation switch needs to be opened or closed
- 120Vac is required for operation
- All starter mechanical interlocks remain operational during use



Ampgard remote operator



Ampgard AR arc-resistant close-coupled with SC9000 EP arc-resistant drive

Enclosures

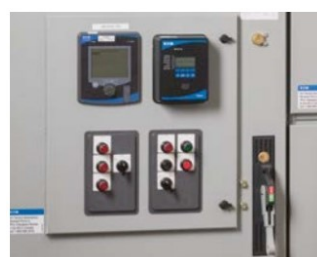


Ampgard motor control solutions are all seismic certified and available in an enclosure type for nearly every operating environment:

- NEMAT 1—general purpose
- NEMA 1G—general purpose with gasketed doors
- NEMA 12—dust-tight
- NEMA 3R—outdoor (non-walk-in)

Protective relays

E-series relays for traditional applications



Protection Relay can be provided as per client request, as follows:

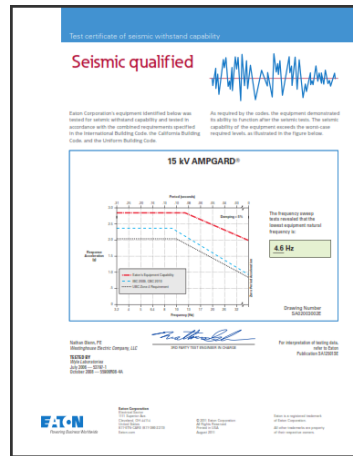
- Eaton
- Multilin
- SEL
- PNC
- As requested by client

Ampgard - Medium Voltage Motor Control

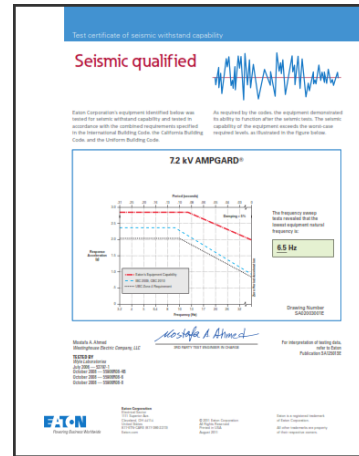
Certificate



Certificate of Compliance by CSA



15KV Ampgard Test Certificate by Seismic



7.2KV Ampgard Test Certificate by Seismic

Success Story

NO	Project Name	Customer	Market Application
1	Penggantian Substation 63 - Pertamina RU IV Cilacap	PT. Timas Suplindo	Oil & Gas
2	Gas Booster Compressor, Kakap Natuna Star Energy	PT. Timas Suplindo	Oil & Gas
3	CNG Gresik	PT. PLN	Oil & Gas
4	Revitalisasi Terminal, LNG Arun	PT. Schneider Electric	Oil & Gas
5	Sipc Complex At Jubil, Saudia Arabia (Overseas Market)	Woojin Mechanical and Electrical	Oil & Gas
6	CINTA P	PT. Pertamina Hulu Energi Oses	Oil & Gas
7	Pemasangan MCC 3,45KV Motor 91K402AM Area SRU	PT. Pertamina RU IV Cilacap	Oil & Gas
8	Pertamina Cilacap 50 SS1	PT. Pertamina RU IV Cilacap	Oil & Gas
9	PLTU 1X60MW, Merak Energy Indonesia	POSCO ENGINEERING	Utility
10	Tarahan PLN Batam	PT. Enirgitama Solusindo Lestari	Utility
11	PLTU Sintang Kalimantan Barat	PT. Inako Persada	Utility
12	NPK Pusri	PT. Timas Suplindo	Industrial
13	Instalasi Pengelolaan Air Limbah (IPAL)	PT. Pertamina Up IV Cilacap	Oil & Gas
14	Mudi Sokowati— Flare Gas Utilization Tuban	PT. Gasuma Federal Indonesia	Utility
15	Debottlenecking Project	PT. PATRA SK	Oil & Gas
16	Linde Project (MVC 3.3KV)	PT. Linde Indonesia	Oil & Gas