

KILOVAC EV210 SERIES CONTACTOR 500+ AMPS, 1500 VDC

ENHANCED BREAK PERFORMANCE WITH THE SIMILAR PACKAGE SIZE AS OUR POPULAR EV200 CONTACTOR, FOR APPLICATIONS REQUIRING HIGHER HOT SWITCHING PERFORMANCE

Smaller Size, Higher Performance

TE Connectivity (TE)'s EV210 series high-voltage DC contactor is designed for control in new energy applications. The EV210 product line is an innovative and reliable solution for EV charging stations, solar inverters, battery energy storage systems, automated-guided vehicles (AGV) e-Forklifts and industrial applications. EV210 is hermetically sealed with high performance dielectric epoxy technology and enable high switching capability up to 1500 VDC. Additionally, the integrated PWM module minimize its size, making it a space-saving solution.



Product Features

- Intrinsically reliable, it operates in explosive/harsh environments with virtually no oxidation or contamination of coil or contacts during long periods of non-operation.
- With versatile coil/power connections, the EV210 is designed to be one of the smallest, lightest weight and cost effective sealed contactors in the industry with its current rating (500+ A carry, 1500 VDC)
- The EV210 features a built-in coil economizer — only 1.7 W hold power at 12 VDC and it limits back EMF to 0V
- Both normally open and normally closed versions of auxiliary contacts for easy monitoring of power contact position
- Hermetically sealed (>IP67)
- UL Recognized for the U.S. and Canada (File E208033)
- RoHS compliant



Applications

- EV DC Fast Charge Stations
- Battery Energy Storage Systems
- Alternate Energy
- Hybrid Electric Mobility Systems (HEMS) and eVTOL Charge Infrastructure
- CE Marked for EC Application
- AIAG QS9000 Designed, Built and Approved

Benefits

Capable

- Higher level of break cycles at 1500 V possible for customer required current levels

Robust

- Strong coil actuation system means higher operational performance and product stability

Efficient

- Auxiliary contacts options aids in better battery management in high voltage isolation applications

Standardization

- UL recognition and RoHS compliance aids in obtaining customer system certification and acceptance while meeting the global material compliance requirements

General Specifications

PHYSICAL DATA

Contacts	1 Form X (SPST-NO-DM)
Auxiliary Contacts	1 Form A (SPST-NO) / 1 Form B (SPST-NC)
Sealing	Hermetic
Weight, Nominal	.43 kg (.95 lb.)

ENVIRONMENTAL DATA

Shock, 11 ms 1/2 Sine, Peak, Operating	20 G
Sine Vibration, 20 G Peak	80-2000 Hz
Operating Temperature Range	-40°C to +85°C

ELECTRICAL DATA

Continuous (Carry) Current, Typical	500 A at 85°C (400 mcm conductors)
Rated Operating Voltage	12-1500 VDC
Contact Resistance, Typical (@ 200 A)	0.2 mΩ
Built-In Coil Economizer	1.7 W hold power @ 12 Vdc, limits back EMF to 0V
Auxiliary Contact Current, Maximum	2 A at 30 Vdc / 3 A at 125 VAC
Auxiliary Contact Current, Minimum	10 mA at 5 Vdc
Auxiliary Contact Resistance, Maximum	0.417 ohms at 30 Vdc / 0.150 ohms at 125 VAC
Mechanical Life	1 Million cycles
Dielectric Withstand Voltage	5375 Vdc
Insulation Resistance at 500 Vdc	100 Megohms

COIL DATA

Coil Operating Voltage (Valid Over Temperature Range)		
Coil Voltage, Nominal/Maximum	9-36 Vdc	24-48 Vdc
Pickup Voltage	≥9 Vdc	≥20 Vdc
Dropout Voltage	≤6 Vdc	≤15 Vdc
Inrush Current (Maximum) at 25°C	3.8 A	3.8 A
Holding Current (Average) at 25°C	0.13 A at 12 V 0.07 A at 24 V	0.25 A at 24 V 0.25 A at 48 V
Inrush Time (Maximum)	130 ms	130 ms
Main Contacts: Operate Time at 25°C (Maximum)	20 ms	20 ms
Main Contacts: Operate Bounce at 25°C (Maximum)	7 ms	7 ms
Main Contacts: Release Time at 25°C (Maximum)	6 ms	6 ms

STANDARDS

UL recognized for the U.S. and Canada (File E208033).
RoHS compliant

SPECIFICATIONS

CE marked for EC applications
AIAG QS9000 designed, built and approved

Part Numbering System

Typical Part Number

SERIES: EV210 = 500 Amp

CONTACT FORM

- A** Normally Open*
- H** Normally Open with NO Auxiliary Contacts
- G** Normally Open with NC Auxiliary Contacts

COIL VOLTAGE

- A** 9-36 Vdc
- X** 24-48 Vdc

WIRE LENGTHS

- A** 15.3 in (390 mm)

COIL TERMINATION

- N** None

MOUNTING

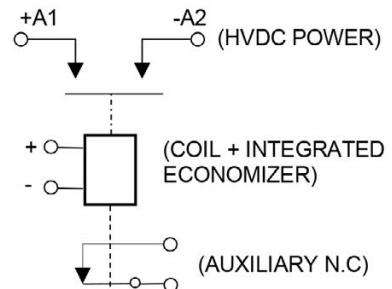
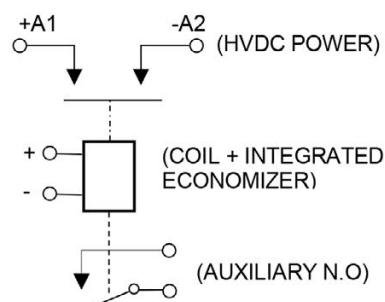
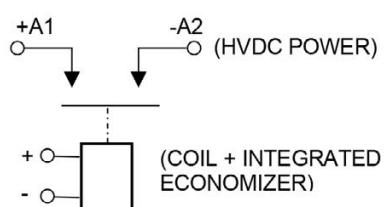
- A** Bottom Mount and Male 10 mm x M8 Terminals (Hardware Included for Power Terminals)
- B** Bottom Mount and Female 10 mm x M8 Terminals (Hardware Not Included)

*Contact TE Connectivity for this EV210 variant

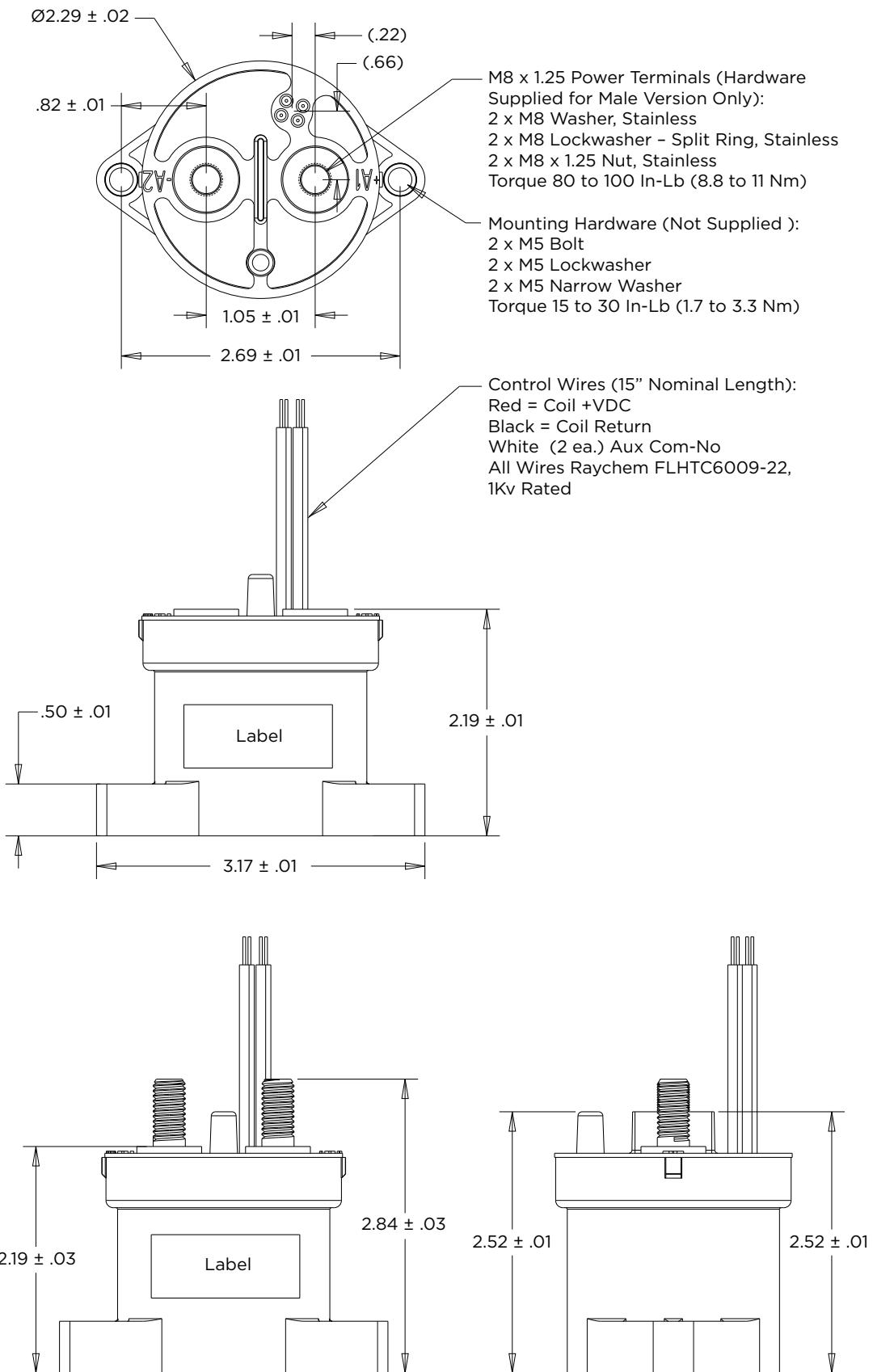
ORDERING INFORMATION

Description	Part Number	Description	Part Number
EV210GAANB 1500V 9-36 Vdc COIL NC AUX	1618416-5	EV210HXANB 1500V 24-48 Vdc COIL NO AUX	6-1618416-7
EV210HAANB 1500V 9-36 Vdc COIL NO AUX	1618416-6	EV210HXANA 1500V 24-48 Vdc COIL NO AUX	1-1618416-0
EV210GAANA 1500V 9-36 Vdc COIL NC AUX	9-1618415-8	EV210GXANB 1500V 24-48 Vdc COIL NC AUX	6-1618416-6
EV210GXANA 1500V 24-48 Vdc COIL NC AUX	1618416-9	EV210HAANA 1500V 9-36 Vdc COIL NO AUX	9-1618415-7

Schematic

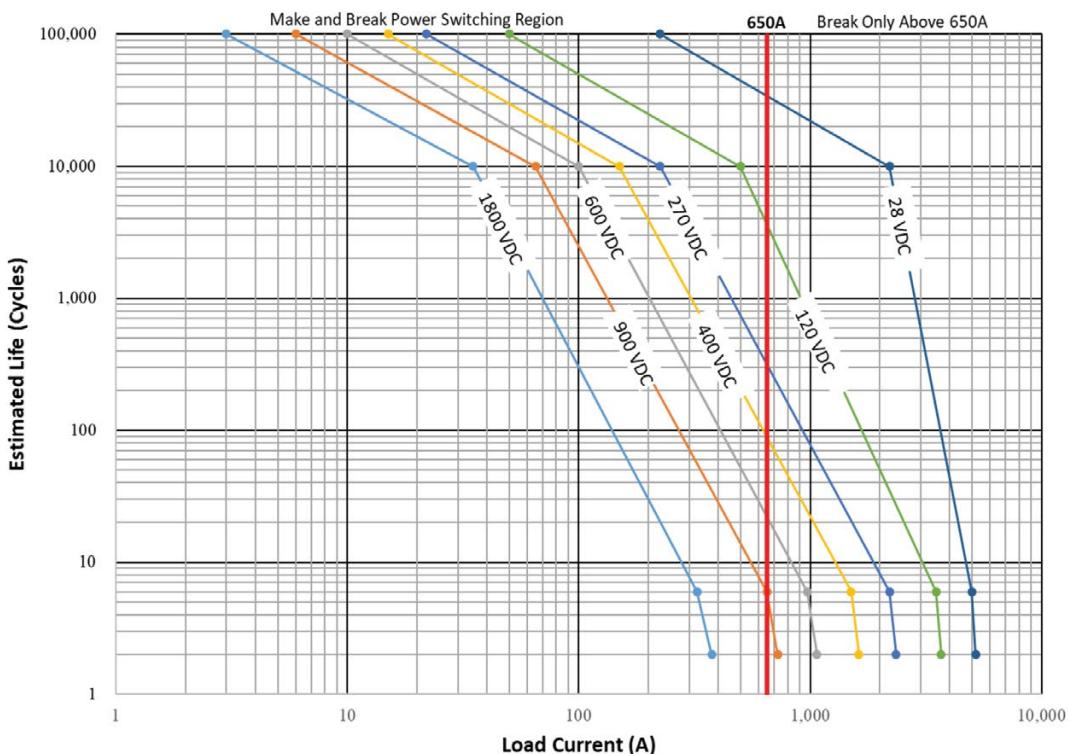


Drawing and Dimensions

Dimensions:
Inches

Graphical Data

ESTIMATED MAKE AND BREAK POWER SWITCHING RATINGS



Notes

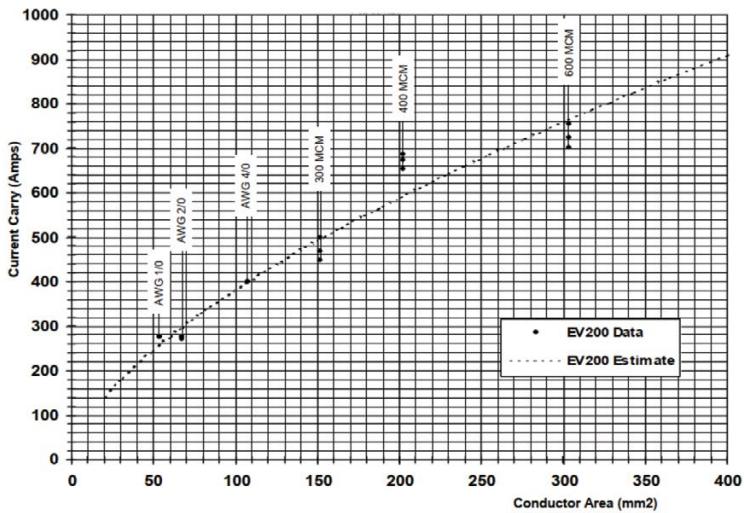
- 1) For resistive loads with 300 μ H maximum inductance. Consult factory for inductive loads.
- 2) Estimates based on extrapolated data. User is encouraged to confirm performance in application.
- 3) End of life when dielectric strength between terminals falls below 50 megohms at 500 VDC.
- 4) The maximum make current is 650 A to avoid contact welding.

ESTIMATED CURRENT CARRY VS CONDUCTOR SIZE

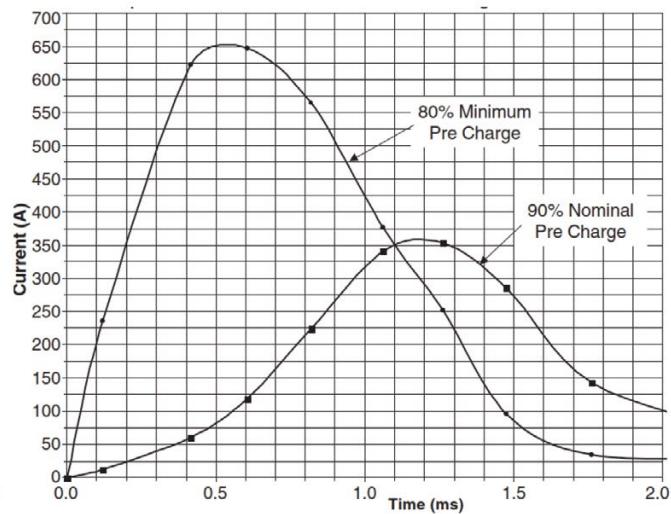
For EV210 Contactors @ +65°C Max Ambient

+65°C Terminal Temperature Rise

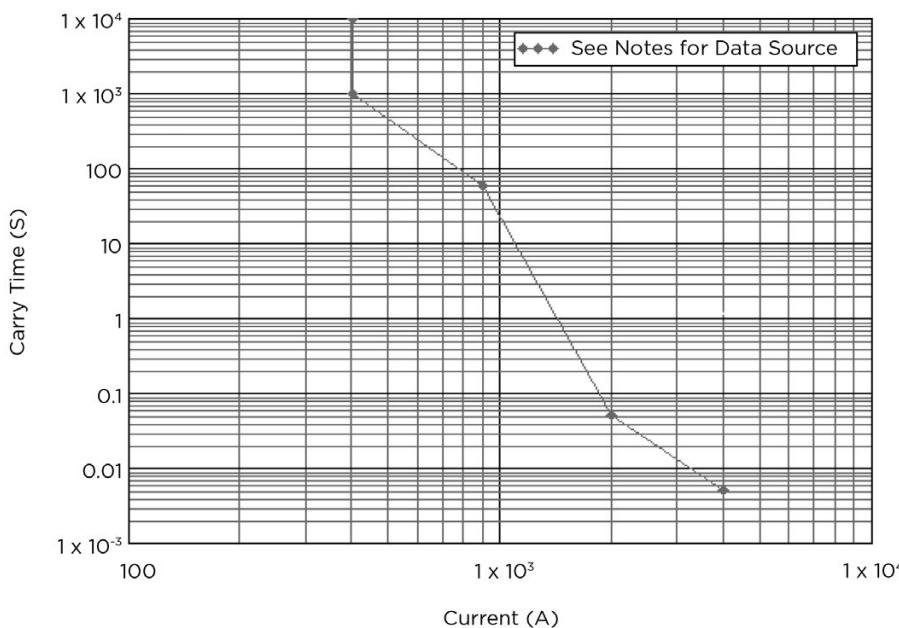
+150°C Maximum Terminal Temperature



EV210 CAPACITIVE MAKE TEST CURVES FOR PRE-CHARGED MOTOR CONTROLLER



EV210 CURRENT VS TIME



APPLICATION NOTES FOR REFERENCE

- Application Notes on Coil Power Economizing using PWM Circuits
Available on the TE Connectivity Website or Upon Request by Contacting the Factory.
- Application Notes for EV/LEV Contacts
Available on the TE Connectivity Website or Upon Request by Contacting the Factory.

REVISIONS

Revision	DCO	Approval and Date
A	16588	JS 09/28/2023
A1	16590	JS 11/15/2023
B	16625	JS 9/24/2025

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