



# Kilovac EV600 High Voltage Contactor

Rugged 600 Amp Contactor Featuring Bi-Directional Power Switching and Increased Rupture Capability

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## RUGGED

- Designed for harsh environments

## VERSATILE BI-DIRECTIONAL POWER SWITCHING

- Not polarity sensitive
- Withstands higher current pulse without levitation

## RELIABLE

- Rated at 600 Amps
- Increased current interrupting capability
- Increased rupture and dielectric capability

## ENHANCED PERFORMANCE

- Dual coil electronic “cut-throat” economization increases low power holding capability
- Eliminates the possibility of noise caused by PWM

## Description

The EV600 high voltage contactor is designed for harsh environments offering higher continuous current carrying rating, and improved current interrupting capability over our existing EV200.

Key enhanced features include:

- Bi-directional power switching with increased rupture capability and dielectric life
- Dual coil economization that improves low power holding capability
- Form A auxiliary contact

## APPLICATIONS

- Power Distribution
- Motor Control Circuit Isolation
- Circuit Protection
- Alternative Energy
- Energy and Battery Storage

## MARKETS

- Military Ground Vehicles
- Commercial Ground Vehicles
- Test Equipment
- Charging Systems

**TE Components . . . TE Technology . . . TE Know-how . . .**

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## Performance Characteristics

### Electrical

Voltage Rating: Main Contacts (1)	Vdc	28-1000
Current Rating, Continuous: Main Contacts (2)	A	600A
Contact Resistance: Main Contacts (3)	mΩ	0.2 max @ 600A
	mV	110 max @ 600A
Aux Contacts:		mΩ 150 @ 1A
Hot Switching Performance, Resistive Load		
200A make/ break @ +/-400Vdc	cycles	4000
600A make/break @ +/-400Vdc	cycles	10
3000A carry/break @ +/- 400Vdc	cycles	2
Maximum pulse through closed contacts (4)	Amps	+/-4000
Mechanical Life (min)	cycles	100,000
Dielectric Withstand Voltage		
Terminal to Terminal		10kVdc
Terminals to Coil		3950Vdc
Insulation resistance		
Terminal to Terminal/Terminals to Coil		100MΩ min @ 500Vdc 50MΩ min @ 500Vdc end of life

- (1) Maximum Load Interrupt at 1000Vdc = 250Adc
- (2) Keep relay terminals below 150°C max continuous, 175°C max for two hours, and 200°C for 1 minute. 214 mm sq. conductor size recommended for 600A carry (2X 4/0 AWG). See derating curve for current vs. ambient temperature - operating ambient to +85°C allowed with current derating.
- (3) Stabilized reading. Contact resistance may exceed spec in the first 3 minutes of current carry.
- (4) 1ms rise time, 10ms pulse duration.
- (5) Minimum Load: 5V/5mA
- (6) Ambient conditions and conductor size affect rating.

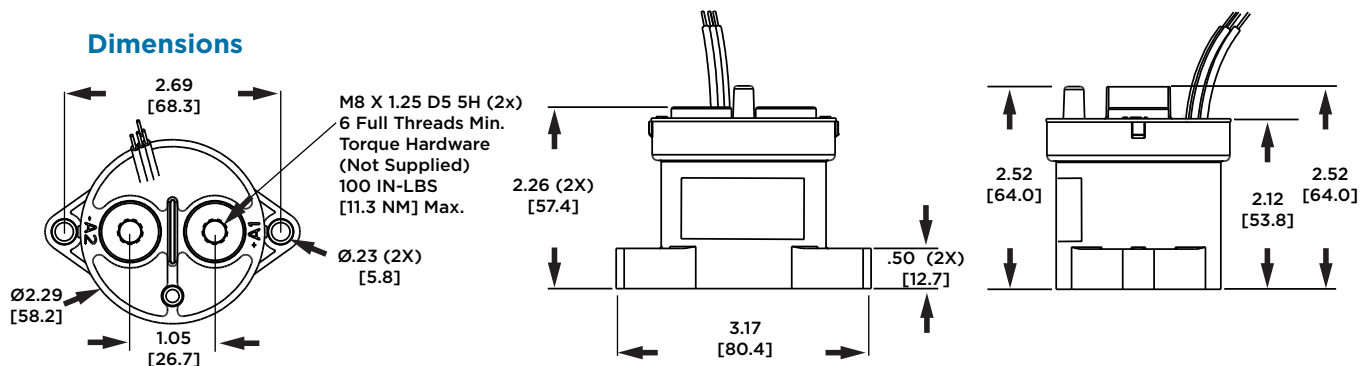
### Mechanical

Contact Arrangements: Main Contacts	SPST Form X	
Auxiliary Contacts (3A/125Vrms or 1A/30Vdc) (5)	SPST Form A	
Dimensions	In [mm]	See dimensions, below
Weight, Nominal	Kg	0.56

### Environmental

Shock, 11ms 1/2 sine (operating)	G <sub>peak</sub>	20
Sine Vibration, 20 G <sub>peak</sub>	Hz	55-2000
Operating/Storage Temperature Range (6)	°C	-55 to +85
Operating Altitude (max)	ft	70,000

### Dimensions



TE Part No.	Description
4-1618413-9	EV600 High Voltage Contactor, 24 Volt Coil
5-1618413-0	EV600 High Voltage Contactor, 12 Volt Coil

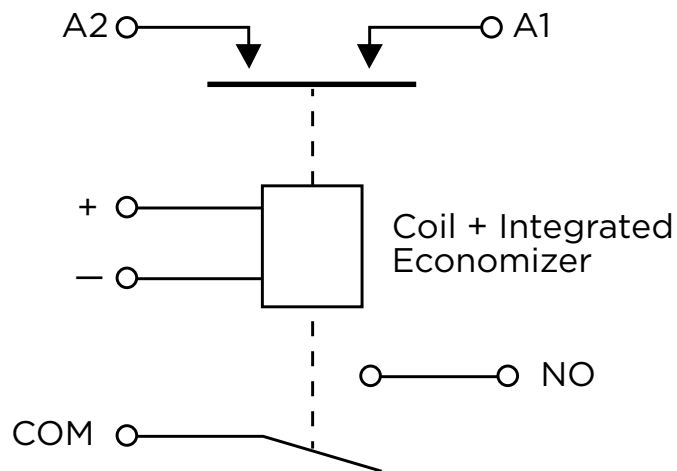


## Coil Data

### Coil Data @ 20C (Internal Two-Coil Economizer)

		12V Coil	24/28V Coil
Coil Voltage Range	Vdc	9-14	18-28
Nominal Pickup Current	A	5.5	4.5
Nominal Holding Current	A	0.25	0.30
Pickup Voltage	Vdc	≥ 9	≥ 16
Dropout Voltage	Vdc	≤ 3.5	≤ 10
Pickup Pulse (max)	ms	50	50
Coil Resistance +/-5%	Ω	2.0 Pickup/43 Hold	5.7 Pickup/104 Hold
Coil Holding Power	W	3.2	5.3
Main Contacts:		20	20
	Operate Time (max)	ms	
	Operate Bounce (max)	ms	3
	Release Time	ms	5

### Schematic



### EV600 (Electronic Cut-Throat Economizer)

Coil Wire: 22 AWG, Red = +, Black = Return

Auxiliary: 22 AWG;

White = NO

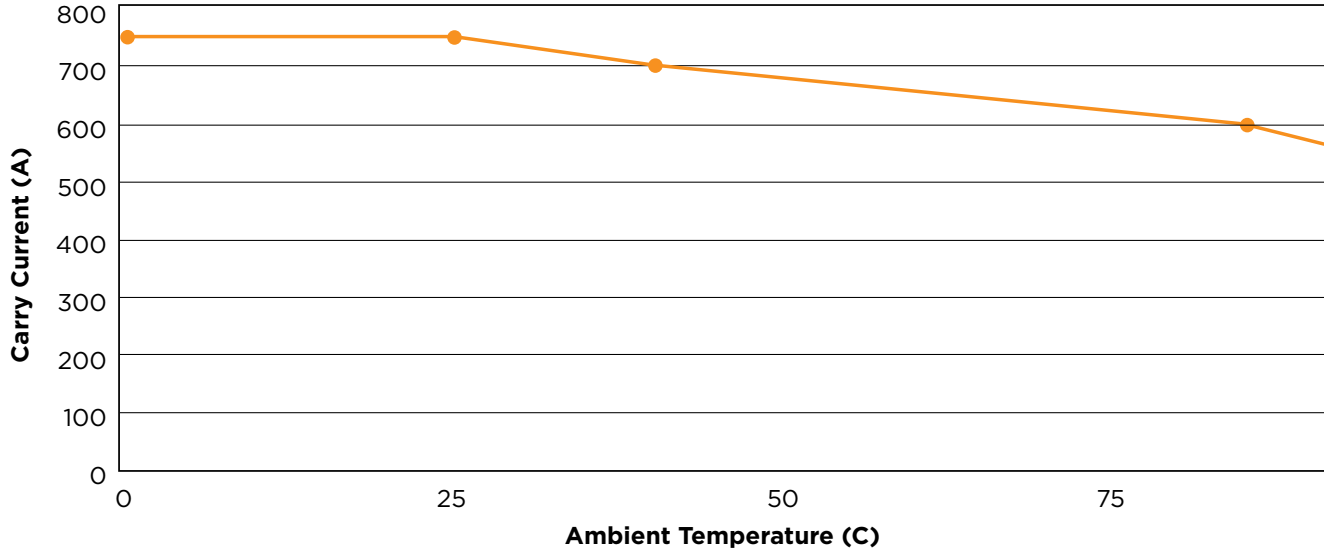
White = COM

All wires Raychem FLHTC6009-22, 1kV rated

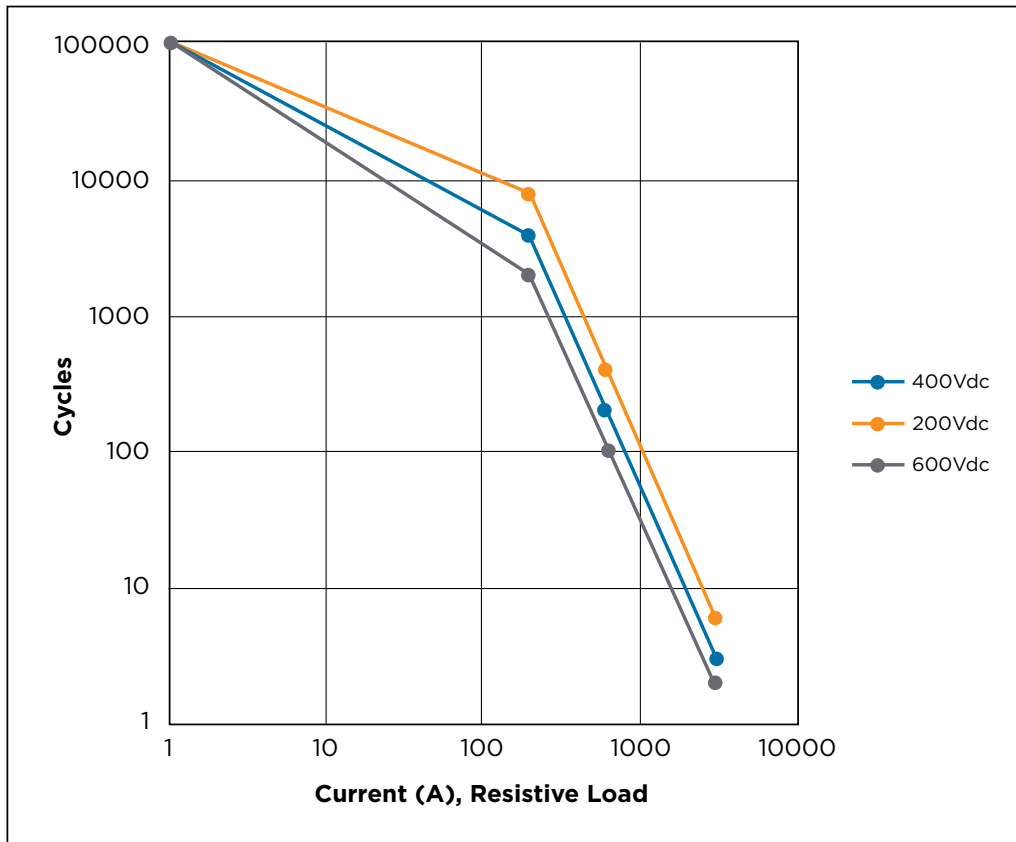


**Continuous Current vs. Ambient Temperature - EV600**

2x 4/0 AWG [214 mm<sup>2</sup>] conductor  
 Max Terminal Temperature <170C  
 Contacts Closing into > 10Adc



Continuous Current vs. Temperature



Estimated Load Switching Life vs. Voltage and Current (Break-Only >650A)

## LET'S CONNECT

We make it easy to connect with our experts and are ready to provide all the support you need. Just call your local support number or visit [te.com](http://te.com) to chat with a Product Information Specialist.

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Consult TE for the latest dimensions and design specifications.

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