



Kilovac EV600 High Voltage Contactor

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

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



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.

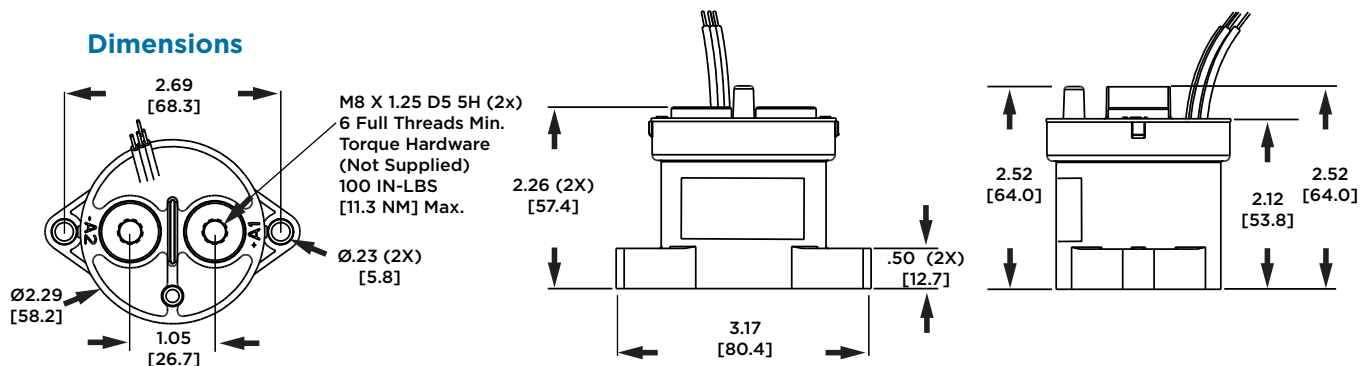
Mechanical

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 _{peak}	20
Sine Vibration, 20 G _{peak}	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

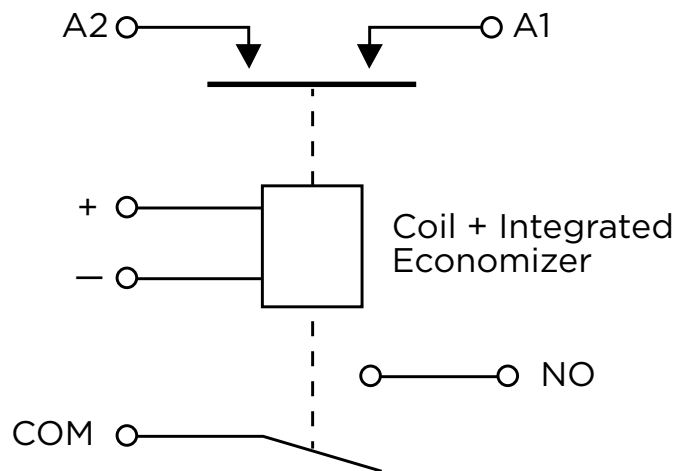


Coil Data

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	75	75
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



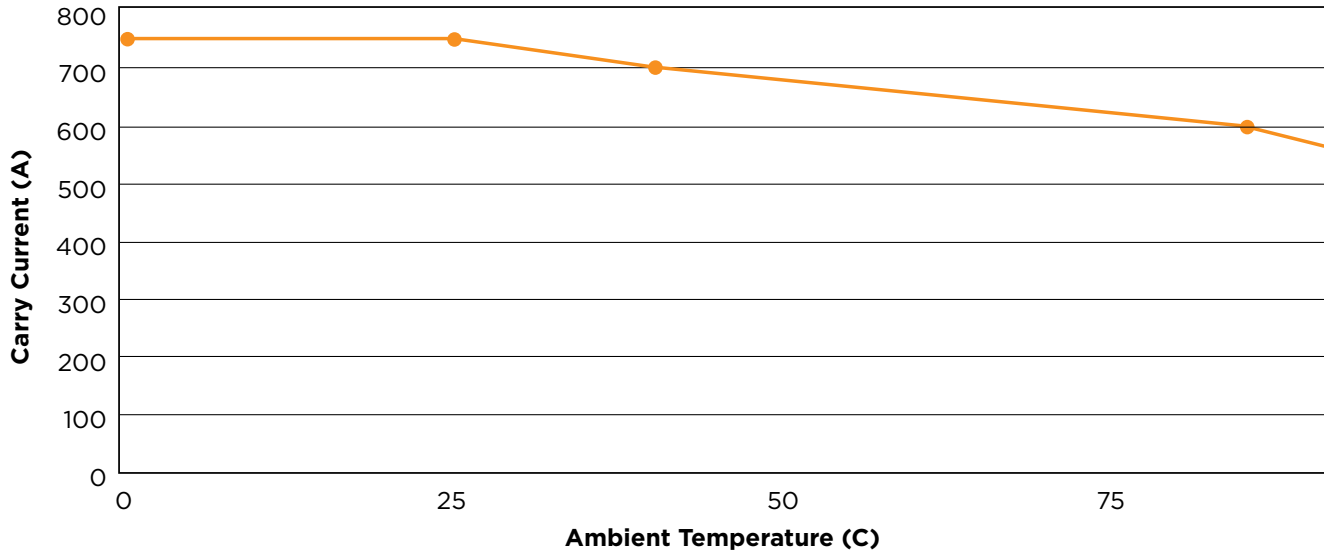
EV600 (Electronic Cut-Throat Economizer)

Coil Wire: 22 AWG, Red = +, Black = Return
 Auxiliary: 22 AWG;
 White = NO
 White = COM
 All wires Raychem FLHTC6009-22, 1kV rated

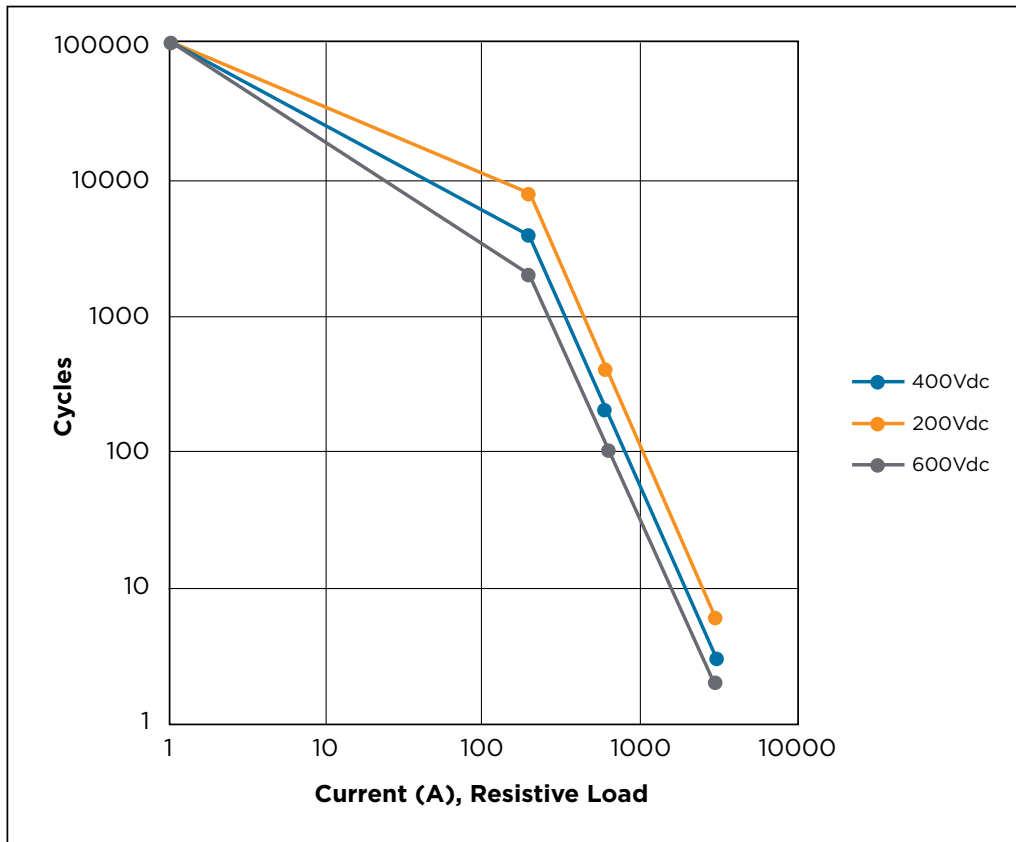


Continuous Current vs. Ambient Temperature - EV600

2x 4/0 AWG [214 mm²] conductor
 Max Terminal Temperature <170C
 Contacts Closing into > 10Adc



Continuous Current vs. Temperature



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

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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 to chat with a Product Information Specialist.

Technical Support

te.com/support-center

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te.com/kilovac-ev600

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Consult TE for the latest dimensions and design specifications.

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