

High Voltage
Automotive Contactors

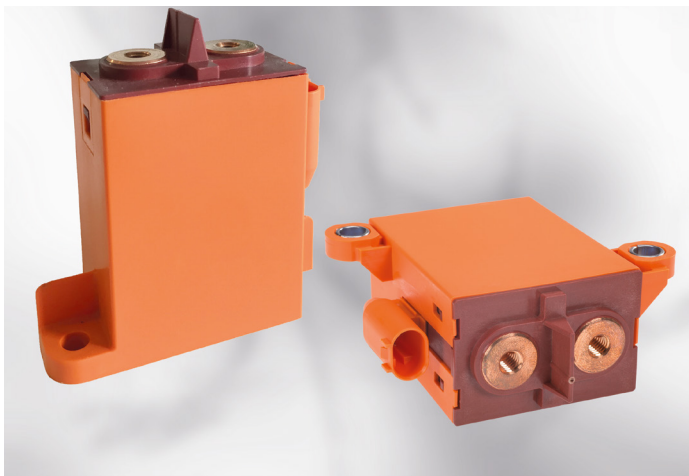
EVC 175 MAIN CONTACTOR



High Voltage Automotive Contactors

EVC 175 MAIN CONTACTOR

TE Connectivity's (TE's) **EVC 175 main contactor** for hybrid and electric vehicles expands our portfolio of contactors that are specifically designed for high voltage requirements in hybrid, full-electric and fuel cell vehicles, as well as in vehicle charging systems.



Based on the proven technology of TE's EVC 250 contactor, the EVC 175 contactor features a continuous current of 175 A and a short circuit capability of 5kA, meeting medium power performance requirements. This high voltage contactor does not require inert gas filling or hermetic sealing of the contact chamber, ensuring safe disconnection of overcurrents up to 1,500 A, even at altitudes of 5,500 meters above sea level.

The EVC 175 contactor is ideal for applications in tight mounting spaces, with overall dimensions of only 77.3 x 50.9 x 34.2 mm and different options for mounting flanges. In addition to the standard version with separate coils for pull-in and hold with an automatic internal switch, a second version with single coil for external economization is available.

The EVC 175 main contactor also fulfills IEC 60664 insulation requirements.

Product highlights

- Compact high voltage main contactor
- Voltage rating up to 450VDC
- Continuous current up to 175A at 85° C
- Short circuit carry currents up to 5kA

Typical applications

DC high voltage applications as main contactor in:

- Hybrid vehicles
- Full battery electric vehicles, fuel-cell cars
- DC battery charging systems

For more information, visit our website for High Voltage Automotive Contactors and Hybrid & Electric Mobility Solutions

te.com/automotive-contactors | te.com/hems

EVC 175 Main Contactor



Key Features

- Continuous current up to 175 A
- Suitable for voltage levels up to 500 VDC ¹⁾
- Short circuit carry capability 5,000 A
- Mounting in any direction
- Available with dual and single coil

Typical Applications

- DC high voltage high current applications
- Main contactors for hybrid, full battery electric vehicles and fuel cell cars
- Battery charging systems

Contact Data

Contact arrangement:

1 Form X (NO DM)

Rated voltage:

450 VDC ¹⁾

Limiting cont. current at 85 °C:

175 A

Limiting making / breaking current:

210 A / 10 A (>100,000 ops.)

Short term current rating:

500 A / 0.5 min; 1,500 A / 2s

Short circuit carry current:

5,000A / 20 ms

Operate / release time max.:

20 / 8 ms at 12 VDC (coil voltage)

Coil Data

Rated coil voltage / power: 12 VDC

Rated coil power (+23 °C):

3.0 W (single coil), 4.4 W (dual coil) ²⁾

Coil resistance (+23 °C):

5 Ω (single coil), 3 / 33 Ω (dual coil)

Coil Data

Ambient temperature:

-40 °C to +85 °C

Category and degree of protection:

dustproof, IP 50 (upright); IP54 ³⁾ (others)

Terminal type and mounting:

Connector (coil) / M6 bolts (load); screws

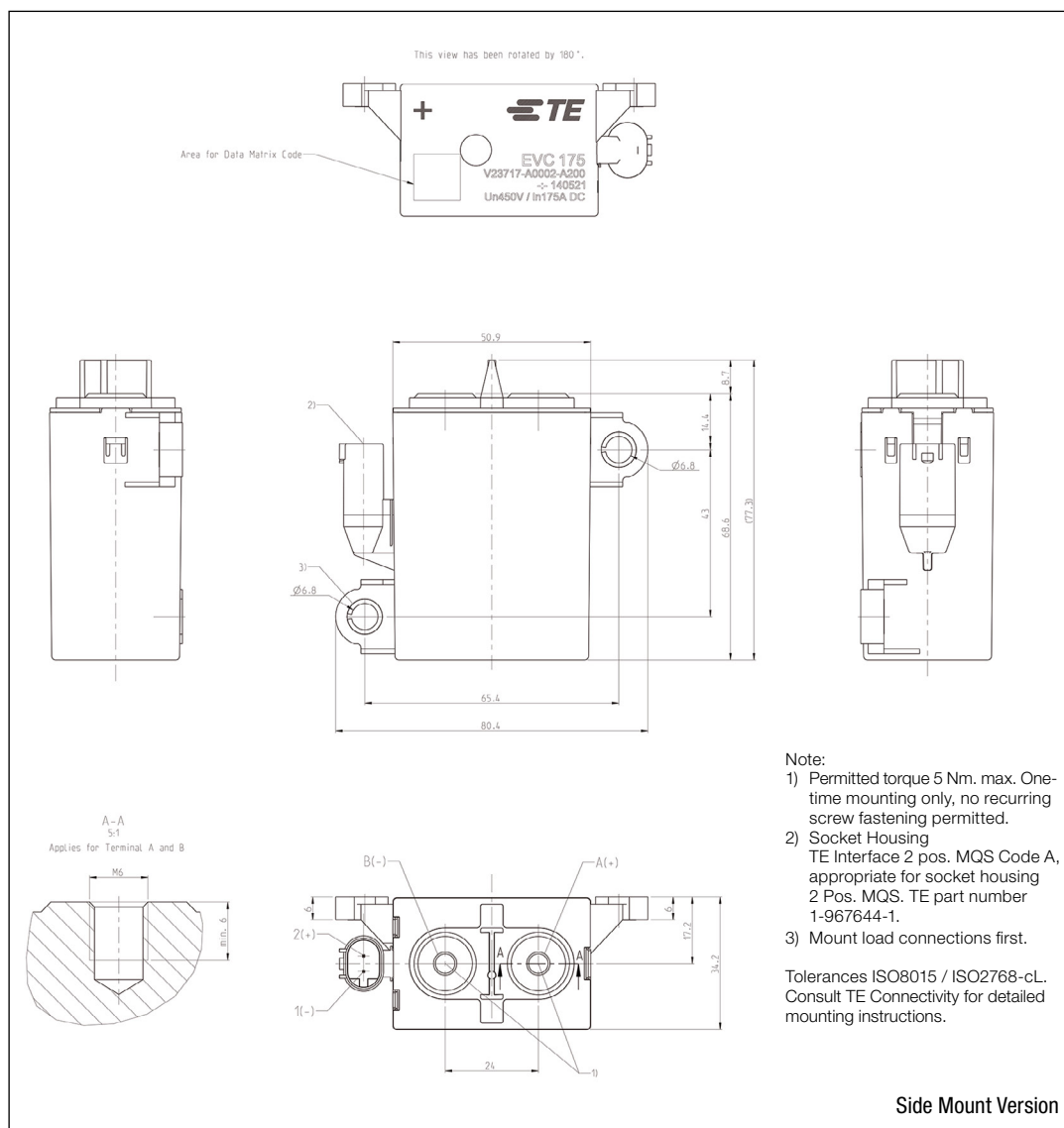
Dimensions LxWxH (approx.):

77.3 x 50.9 x 34.2 mm (3.0 x 2.0 x 1.3")

Weight (approx.):

295 g (10.4 oz)

EVC 175 Main Contactor



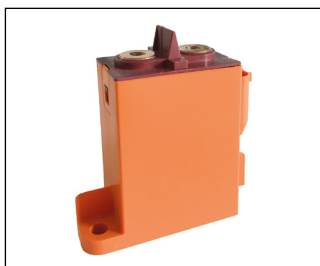
Ordering Information EVC 175 Main Contactor – Side Mount Version

Product Code	Arrangement	Coil (VDC)	Econo- mization	Coil Suppr.	Rated Voltage (VDC)	Terminal Type	Mounting	Resistance	Part Number
V23717-A0001-A200	1 form X (NO DM)	12	External economizer	External > 36 V	450	Connector/ Screws	Side	5 Ω Single coil	6-1904123-6
V23717-A0002-A200	1 form X (NO DM)	12	Internal economizer	Internal	450	Connector/ Screws	Side	3 / 33 Ω Dual coil	2-1904070-1

1) Consult TE Connectivity for higher voltages. For details please refer to datasheet.

2) Valid for 23°C coil temperature with active economization.

3) Protection class applicable for all mounting orientations except load terminals on top.



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20 / 8 ms at 12 VDC (coil voltage)

Rated coil voltage / power: 12 VDC

Rated coil power (+23 °C):
3.0 W (single coil), 4.4 W (dual coil) ²⁾

Coil resistance (+23 °C):
5 Ω (single coil), 3 / 33 Ω (dual coil)

Ambient temperature:
-40 °C to +85 °C

Category and degree of protection:
dustproof, IP 50 (upright); IP54 ³⁾
(others)

Terminal type and mounting:
Connector (coil) / M6 bolts (load);
screws

Dimensions LxWxH (approx.):
78.1 x 52.0 x 35.2 mm (3.1 x 2.0 x 1.4")

Weight (approx.):
295 g (10.4 oz)

Technical drawing of the Bottom Mount Version of the TE Connectivity MQS interface. The drawing includes a top view, a side view, a front view, and a detail view of the terminal. The top view shows a rectangular housing with two circular terminals on the left and two on the right. The side view shows the housing with a mounting flange on the right. The front view shows the housing with a mounting flange on the left. The detail view shows the terminal with dimensions: A-A, 5:1, M6, and min. 6. The drawing also includes a note: "This side is for marking".

Note:

- 1) Permitted Torque max. 5Nm.
One-time mounting only, no recurring screw fastening permitted.
- 2) Socket Housing
TE Interface 2 Pos. MQS Code A.
appropriate for Socket Housing 2 Pos. MQS.
TE part number 1-967644-1.
- 3) Mount load connections first.
Consult TE Connectivity for detailed mounting instructions.

Tolerances ISO8015 / ISO2768-cL.

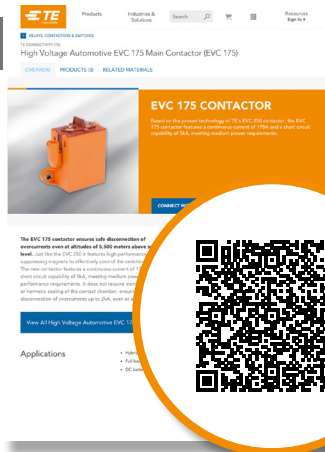
Bottom Mount Version

Product Code	Arrangement	Coil (VDC)	Econo- mization	Coil Suppr.	Rated Voltage (VDC)	Terminal Type	Mounting	Resistance	Part Number
V23717-B0002-A200	1 form X (NO DM)	12	Internal economizer	Internal	450	Connector/ Screws	Bottom	3 / 33 Ω Dual coil	8-1904133-1
V23717-B0001-A200	1 form X (NO DM)	12	External economizer	External >36 V	450	Connector/ Screws	Bottom	5 Ω Single coil	5-1904144-3

- 1) Consult TE Connectivity for higher voltages. For details please refer to datasheet.
- 2) Valid for 23°C coil temperature with active economization.
- 3) Protection class applicable for all mounting orientations except load terminals on top.

TE CONNECTIVITY ONLINE

[TE.com](http://www.te.com) offers an enhanced digital experience, with more than 250,000 parts profiled. The site has deep, rich product data and easier access to tools and services. Other offerings include improved search and navigation and knowledge and idea sharing.



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For detailed information please visit our EVC 175 Main Contactor product page:

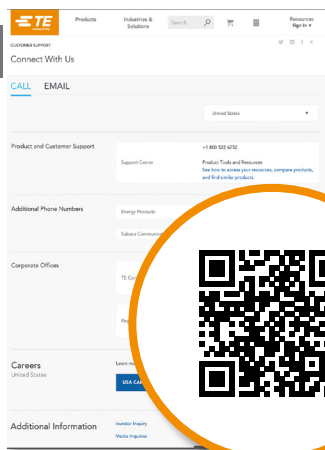
<http://www.te.com/usa-en/products/relays-contactors-switches/contactors/automotive-contactors/evc-175-main-contactor.html>



PRODUCT INFORMATION

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www.TE.com/support-center

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