

Multiplexed Vehicle Electrical Center (mVEC)



The multiplexed Vehicle Electrical Center (mVEC) offers economical CAN network oversight for high-power circuits in vehicle power distribution. Manufactured as a hardened and weathertight module, the mVEC is rated at 200A. The mVEC may be configured to provide various OEM circuit protection and switching functions, using industry standard fuses, relays and breakers, with the status and control of each circuit accessible through J1939 CAN messages. The mVEC is based on proven and patented technology and is suited for the most demanding transportation vehicle applications.

High power

The mVEC uses patented Bussmann VEC “power grid” technology, ideal for high-current circuits and Sure Power networking electronics. Each mVEC is rated at 200A, with individual outputs rated up to 30A, and a maximum of 32 outputs possible with the mVEC. 12V and 24V systems are supported.

Flexible

The mVEC is offered in various standard and customized versions, with custom versions being configured to OEM wiring requirements. The two standard mVEC configurations include the 8-relay 31M-000-2 and the 12-relay 31M-300-0. The mVEC accepts relays, fuses, circuit breakers, resistors, diodes, etc., based on the industry standard 2.8 mm footprint.

Rugged

Waterproof to high-pressure spray (IP66), the mVEC is designed and manufactured with robust features such as a heavy-duty housing, silicon gaskets, Gore vent, and protected conformally coated electronics, features that allow the mVEC to operate in demanding vehicle environments found in construction, agriculture, heavy truck, bus, RV, marine and specialty vehicle markets.

Basic features

The mVEC is a power distribution node on a J1939 network, controlling relays based on information from the central vehicle controller. The mVEC will also return power distribution status information like relay state, failed relay, missing component or blown fuse. Bussmann offers the mVEC in custom configurations with options in 12V or 24V components, number of relays, fuses, circuit breakers and labeling.

Specifications

Capacity

- 200A maximum rating
- 30A per output pin
- Maximum of 12 relays and/or 32 fuses, or various combinations thereof (unique design configurations may be required)

Materials

- Housing and connector cavities: 94V-0 rated thermoplastic
- Internal power grid: tin-plated copper
- CAN circuit board: conformally coated

Operating temperature ratings

-40°C to 85°C

Ingress protection

IP66 compliant

Foot torque rating

- 60 in-lbs without compression limiters
- 200 to 300 in-lbs with compression limiters

Connections

Output: Standard Bussmann VEC connectors

- 8-way, colored/keyed, sealed connectors
- 30A maximum per terminal
- Accepts Packard Metri-Pack 280 Series terminals (tanged/tangless)

Input

- Studded input option: Supports two M8 input power studs for DC power into the VEC power grid (100A maximum per stud)
- Connectorized: Accepts up to two Cooper Bussmann 32004 VEC connectors (two terminal, colored/keyed, sealed connectors)
- 60A maximum per terminal, providing power to the VEC Power Grid; uses Packard 800 series terminals

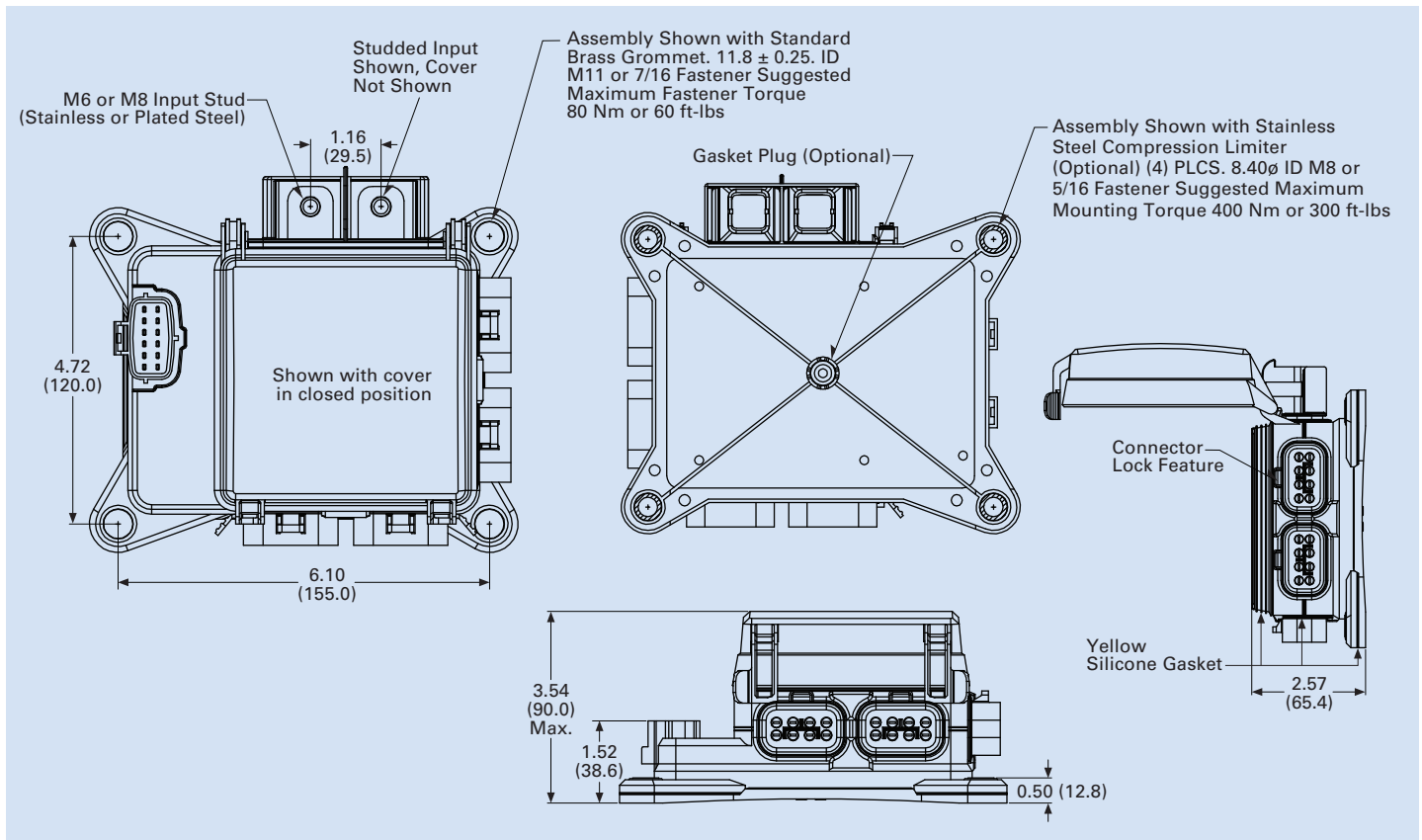
CAN

- Uses AMP SSC 12-position sealed connector
- CAN connector provides CAN signaling, power, ground, addressing, auxiliary relay control and reserve connections to mVEC "smart" layer

Options

1. Mounting: Compression limiters on mounting feet
2. Labeling to customer specifications
3. Stuffed (with/without components, including, but not limited to, fuses, relays, diodes, circuit breakers, fuse puller)
4. Customized circuit layouts, standard and custom CAN messages
5. Cover marking: Laser etching inside, outside or both

Dimensions in Inches (mm)



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