



PRODUCT SPECIFICATION

Product Line: **EVSE**

Product #: **3703** Version #: **002**

Intelligent Power Controller EVSE Wall/Single Pole/Dual Pole Mount

The model 3703 Mark 2 electric vehicle charger provides 208 - 240V AC up to 40A. Designed as per the SAE J1772 requirements to meet or exceed all safety codes specified by UL and NEC, the unit is engineered for either exterior curbside pole mounting (single or dual) or wall mounting, while meeting or exceeding all NEMA 3R specifications. In addition, a power disconnect switch is installed to easily remove input power to the charger for any maintenance or cycle testing. The charger allows the user to conveniently wrap the 20-foot cable onto the storage hook and insert the J1772 connector into a holster when not in use.



Modular in design, the charger can be configured for simple ON/OFF control, or for more demanding requirements of credit/debit and ID card processing through the addition of an optional Payment Module. Serial or Zigbee connections are available for facilitating communication between the 3703 and Payment Module. A serial connection can be established between one or more 3703s and a Payment Module. A single serial Payment Module can support from one to eight 3703s, depending upon its configuration. ZigBee networks, allowing wireless connections, are secured by 128-bit symmetric encryption keys, so security is assured. A single ZigBee Payment or Gateway Module can support up to 32 remote 3703s.

Description: The Model 3703 is a 9.6 kW wall- or pole-mounted EVSE charger with a manual cable wrap, capable of providing up to 40A at 208-240VAC, single phase, 50/60 Hz. It is also available in a 7.2 kW version, capable of providing up to 30A at 208-240VAC, single phase, 50/60 Hz. It is configurable as a single wall mount, or a single or dual pole mount. This unit complies with the SAE J1772 specifications for supplying electrical power to a J1772-compatible vehicle. The Model 3703 allows the user to conveniently wrap the 20-foot cable onto the storage hook and insert the connector into a holster when not in use.

In addition, a Control Module Power Share cable can be installed to allow two 3703 chargers mounted on a pole to operate off a single service panel breaker. For 9.6 kW, if a 50A breaker is installed, both chargers can be used to provide 20A to the vehicles (or the full 40A when only one charger is being used). If a 60A breaker is installed, both chargers can be used to provide 24A to the vehicles (or the full 40A when only one charger is being used). For 7.2 kW, if a 40A breaker is installed, both chargers can be used to provide 16A to the vehicles (or the full 30A when only one charger is being used). If a 50A breaker is installed, both chargers can be used to provide 20A to the vehicles (or the full 30A when only one charger is being used).

Data Router: The Data Router in the charger can be supplied with a basic ON/OFF keyboard for either free use or use in conjunction with an optional Payment Module. The charger can also be equipped with a Data Router with an RFID card activation, and a *Handbook 44*-compliant display module to display Kilowatts (kW) used and the associated cost. The *Handbook 44*-compliant Data Router displays the data collected by an EUMD Module (End-User Measurement Device), which is an internal revenue-grade meter that measures power dispersed to the vehicle during a session with 1% or better accuracy. The EUMD can also be installed and used by itself to send power measurements back to the host.

The 3703 also includes a Random Start feature. In the event of a deep voltage sag or momentary power outage, it delays its restart for a random time period of between two to five minutes after the service has been restored. Once the charger restarts, it *ramps up* to the required maximum power at a rate of 1A/second. This prevents power surges when restoring power to multiple chargers.

Power Management: The charger provides up to 9.6 kW (208/240 VAC @ 40A) to the electric vehicle when activated. It is also available at 7.2 kW (208/240 VAC @ 30A). Power is continually monitored and the charger disconnects power to the vehicle if the voltage deviates from the acceptable range, or if the load current exceeds the maximum level. Three re-closures are attempted to prevent nuisance service breaker trips. The charger can also receive *Load Shed* commands via host communication networks, signaling it to reduce power by either percent of total or to designated current levels, including simulated Level 1 (7A).

Safety: The charger is equipped with a Ground Fault Circuit Interrupter (GFCI). The GFCI circuit is tested at the beginning of each charge cycle. If a ground fault occurs during the charge cycle, power is removed from the vehicle, and three re-closures are attempted to see if the ground fault clears. If not, the user sees a message indicating charging is not taking place. A message of the event is also sent to the host network.

The charger is also equipped with a Plug-Out Detection circuit that identifies when the connector is removed from the vehicle. This allows the charger to immediately remove power from the electric vehicle. A message of the event is sent to the host network.

The 3703 also includes a power disconnect switch for quickly removing input power to the charger for any maintenance work or cycle testing.

Label Description: **Intelligent Power Controller EVSE**

Product Code: **3703-002**

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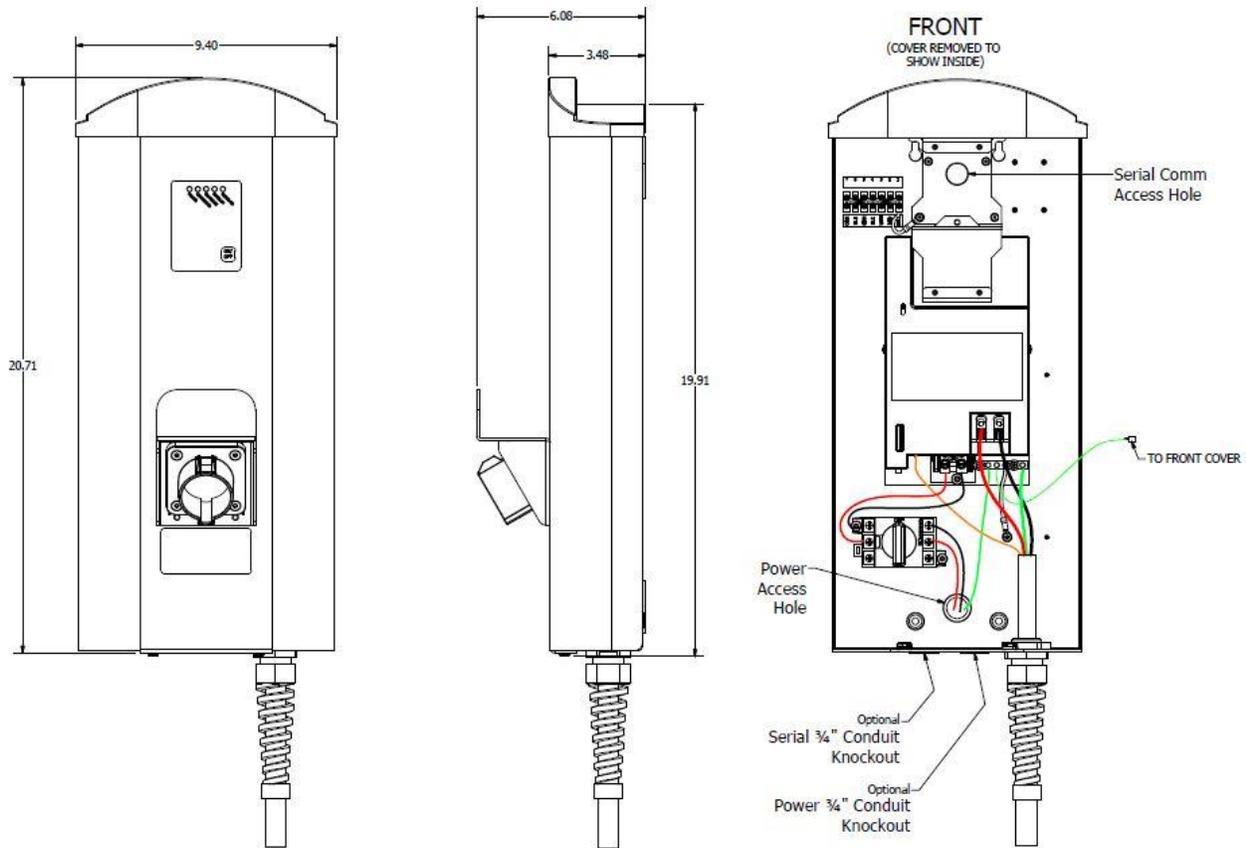
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3703-xxx Mechanical Drawing:



Specifications

Electrical Input:

Power Input: 9.6 kW (or 7.2 kW)
Voltage Input: 208-240 VAC 50/60Hz
Current Input: 40A (or 30A)
Breaker: 2 pole 50A (or 40A) breaker **Non-GFCI** on a dedicated circuit (1 breaker for a single pole/wall; 2 breakers for a dual, each supporting an EVSE)
Stand By Power: Less than 6W typical (without communication operating)

Electrical Output:

Power Output: 9.6 kW (or 7.2 kW)
Voltage Output: 208-240 VAC
Current Output: 40A (or 30A)
Charging Connector: SAE J1772 EV Connector on a 19' cable

Safety:

Compliance: IEC/UL/CSA C22.2 NO. 61010-1, UL2594, UL2231-1&2, NEC Article 625, SAE J1772
EMC Compliance: FCC Part 15 Class A, Canadian ICES-003
Surge Protection: 6KV @ 3000A
Ground Fault: Internal 20 MA CCID with auto re-closure (three attempts)
Ground Wire Detection: Continuous Monitoring
Over Current Protection: 32A for 1 min. with auto-reset when disconnected
Plug Out Detection: Power terminates as per SAE J1772

Functional Interfaces:

Local Area Network: ZigBee mesh protocol@ 2.4Ghz ISM (Serial, hard wired also available)
FCC ID: MCQ-PROS2B, IC: 1846A-PRO S2B

Environmental:

Enclosure: NEMA 3R
Vandal Proof: Cable is secured to the enclosure
Operating Temp: -22°F to 122° F (-30° C to 50° C)
Operating Humidity: Up to 95% non-condensing
Wind Loading: Up to 160 MPH

General:

Weight: 14.8 lbs.
Dimensions: 20.71 in (h) x 9.40 in (w) x 6.06 in (d) (Excluding Pole)