

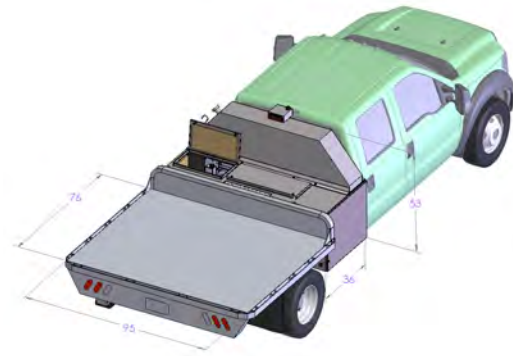


# MOBILE GENERATION (MG)

Introducing CoolTech's under-chassis integrated Mobile Generation (MG) system.

## Mobile Generation

The Level II or III/CHAdeMO mobile electric vehicle battery charging solution allows electric vehicles to be recharged anytime, anywhere — all in an efficient and environmentally friendly manner. The MG system utilizes the vehicle's engine as the prime mover for driving the generator. It offers a significant weight savings (3,500-lb weight savings for MG80) plus the ability to tow a trailer. Not needing to tow a trailer behind the generator results in up to a 50% mileage improvement. In addition, any alternative fuel investment (e.g., CNG) made for the vehicle is now leveraged to power generation as well.



## BENEFITS

- Provides confidence and peace of mind
- Ideal for providing a partial charge to allow stranded electric vehicles to get to a charging station
- Installing a Level II or Level III charger on a vehicle qualifies for rebate programs in several states in the U.S.
- CoolTech's solutions are part of a larger picture that helps contribute to a greener environment for everyone.

## Ratings

The MG system is available in the following ratings:

	MG30	MG55	MG80
Standby Power Ratings (kVA)	30	53	80
Prime Power Ratings (kVA)	25	50	75

## Fittings

The MG kit can retrofit all Class 3 through Class 7 chassis cab trucks:

- All truck brands, new and used
- Diesel or gasoline engines
- Automatic or manual transmissions
- Two- or four-wheel drive
- All cab-to-axle lengths of 60" and longer, regular cab through crew cab

**Technical features****(common to all MG models):**

- Generator type: brushless alternator, synchronous salient 4-pole
- Insulation: Class H
- Stator: 12-wire, 2/3 pitch (low third harmonic)
- Generator excitation is provided through the digital voltage regulator by both voltage and current source windings in the generator. This dual-source excitation system helps the generator recover voltage during applications of large loads to the generator as additional excitation is provided from the current source winding during a heavy-load application.
- Voltage selection: via the 3-position automated rotary switch
  - 3-phase voltages: 208, 220, 240, 416, 440, 480
  - 1-phase voltage: 120, 139, 208, 220, 240, 277
  - Single-phase receptacles are powered in all main voltage configurations
- Voltage regulation:  $\pm 0.5\%$
- Current transformer protected
- Digitally adjustable voltage
- Circuit breakers for single-phase receptacles
- Single-phase receptacles are powered during all main voltage configurations.
- Total harmonic distortion:  $< 5\%$
- Power factor: 0.8
- Generator driven through the vehicle's transmission. At low loads, can be at low speeds and not at 1,800 rpm.
- Full-feature generator panel, just like a tow-behind generator. However, it has a superior user interface via a touchscreen Human Machine Interface (HMI).

**MG SYSTEM SPECIFICATIONS**

Model	MG30	MG55	MG80
<b>Output:</b>			
3-Phase: Standby (kVA/kW) — 60 Hz	30/24	53/42.4	79.5/63
3-Phase: Prime (kVA/kW) — 60 Hz	28/22.4	50/40	75/60
1-Phase: Standby (kVA/kW) — 60 Hz	18.5/14.8	33.1/26.5	47.7/38.2
1-Phase: Prime (kVA/kW) — 60 Hz	17.5/14	31.3/25	45/36
<b>Size and Weight:</b>			
Weight (lb)	887	1005	1076
Bed Space (occupied)	—	—	—
<b>Fuel Consumption and Run Time:</b>			
Fuel Consumption (gph) — @ Standby	2.4–2.9	4.3–5.2	6.3–7.5
Total Fuel Capacity (gallons)	110	140	170
Approximate Run Time @ Standby	41.5	29.5	24.6
<b>AC Distribution</b>			
Main Breaker Rating (Amp)	90	160	225
120 V — 20-Amp Duplex	2	2	2
240 V — 30-Amp Twist Lock	3	—	—
240 V — 50-Amp Twist Lock	—	3	3

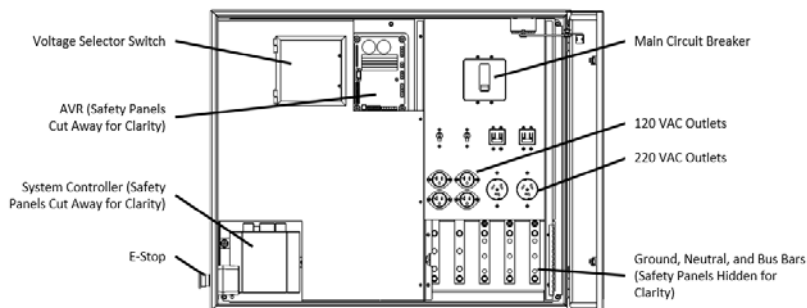
## Control System

- Fully integrated control system with a 32-bit microprocessor
- Integration with vehicle via the CAN bus
- The digital voltage regulator interfaces with the vehicle CAN bus to provide both in-cab and out-of-cab viewing of the generator operating parameters and vehicle operating parameters
- Vehicle operating parameters displayed include engine speed, engine temperature and transmission status
- Generator operating parameters displayed include line voltage, phase current, real power, reactive power and load power factor

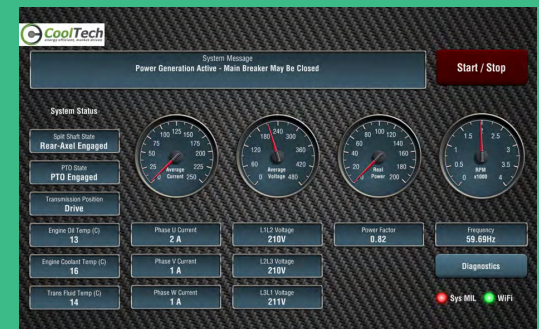
## Generator Panel

The Cool Tech under-chassis integrated Mobile Power generation system has a full-feature generator panel, just like a tow-behind generator. However, it also has a superior user interface via a touchscreen HMI. Control features include the HMI, USB port, system reset button and main breaker, which are conveniently located for the user.

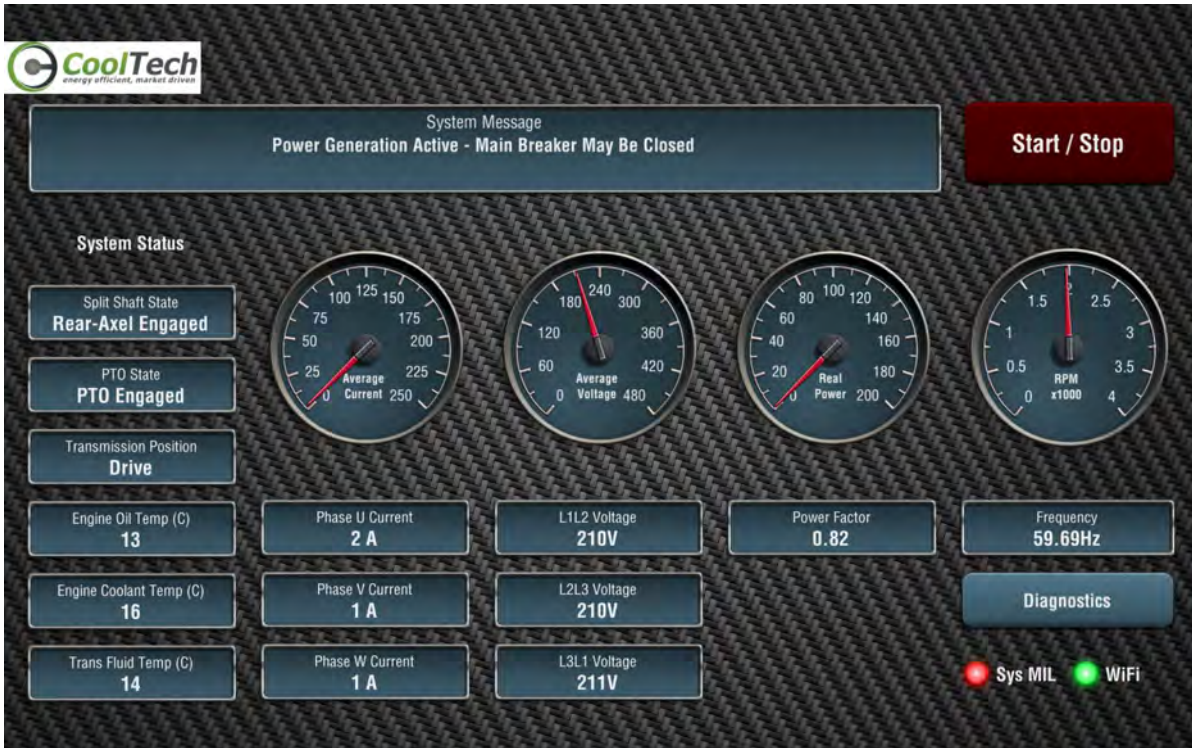
All users are protected from exposure to high voltage by a dead-front safety panel. Generator-output connection lugs are provided for connecting heavy-duty cables. The panel door is lockable and interlocked to prevent entry to the panel when the system is energized. A separate compartment is provided for standard 120 VAC, and 240 VAC NEMA receptacles are provided for quick connection of cables and tools.



## USER INTERFACE



- Dual 7-inch color displays with intuitive touchscreen interface (one in cab and one in the generator panel)
- Displays are mounted in the vehicle cab and in the external generator panel for true ease of use
- Ruggedized IP-67 enclosures
- Convenient display of both generator and vehicle information
- CAN bus communication controls voltage regulator settings and control of the 3-position automated rotary switch
- Multilevel password protection for operators, fleet managers and expert users
- Software control allows the user to engage the system from the cab
- Integrated safety checks to prevent dangerous operation
- User-adjustable brightness and display timeout
- Firmware updatable



### Telematics — Remote Control and Monitoring

- Fleet management
- Vehicle tracking
- System diagnostics with push alerts to any computer and mobile device
- Remote monitoring via the same user interface implemented on the onboard display
- Fuel management (monitoring fuel consumption and refill schedule)
- Automated refill notifications
- Motor pool/daily rental
- Energy metering for accurate billing/cost monitoring
- Maintenance scheduling and tracking
- Automated maintenance notifications
- Data logging and analysis for fleet use optimization
- Geofencing
- Remote system disable to prevent unauthorized use
- Recover stolen vehicles

#### Find out more.

CoolTech has a better answer in mobile power. A game-changing answer. Contact us today for more information.

**ENERGY EFFICIENT.  
MARKET DRIVEN.**