

E-NVOLTZ

E-MCS



E-MCS SERIES

MOBILE EV CHARGING STATION

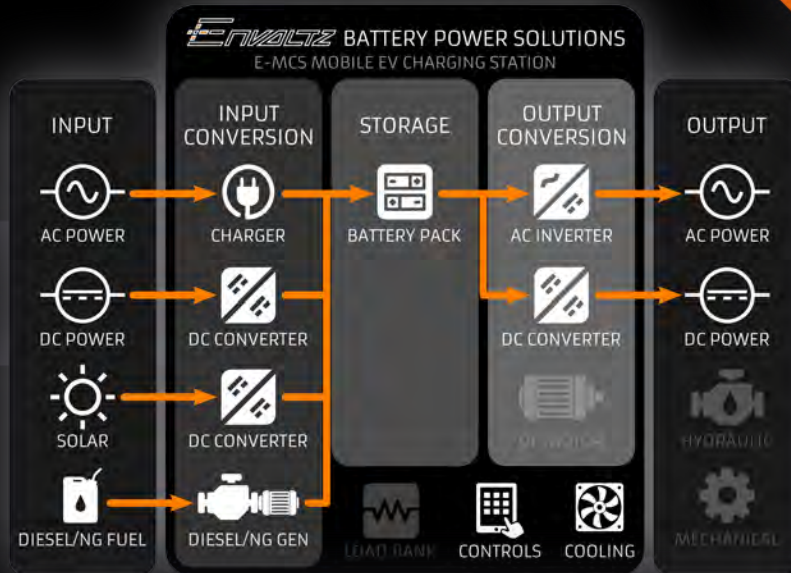
E-MCS CHARGING STATION

E-MCS OVERVIEW

THE E-MCS MOBILE EV CHARGING STATION IS AN AGILE CHARGING SOLUTION FOR COMMERCIAL AND CONSUMER ELECTRIC VEHICLES. EQUIPPED WITH DC FAST CHARGING, AUXILIARY AC/DC POWER, AND COMPRESSED AIR, THE E-MCS IS A COMPREHENSIVE EV SUPPORT TRAILER. FOR MAXIMUM DEPLOYMENT VERSATILITY, THE E-MCS IS EQUIPPED WITH MULTIPLE ON-BOARD POWER INPUT OPTIONS TO RECHARGE THE ENVOLTZ ADVANCED LITHIUM BATTERY PACK.



E-MCS POWER FLOW



THE E-MCS ACCEPTS VARIOUS POWER INPUTS FOR RECHARGING: GRID POWER, SOLAR, DIESEL/CNG DC GENERATOR. MULTIPLE E-MCS CAN DC LINK TO A CREATE DC MICROGRID, FOR INCREASED CAPACITY AND LOAD SHARING. FOR POWER STORAGE, ENVOLTZ ADVANCED LiFePO4 BATTERY PACKS ARE UTILIZED. BATTERY CAPACITY CAN BE COST-EFFECTIVELY SCALED TO MEET POWER REQUIREMENTS. THE E-MCS BOASTS UP TO (4) DC FAST CHARGERS - THE LATEST TECHNOLOGY IN EV CHARGING. ADDITIONAL OUTPUTS OF AC/DC POWER AND COMPRESSED AIR PROVIDED FOR AUXILIARY EV SUPPORT.

E-MCS ADVANTAGES



DC FAST CHARGING
(4) 60kW DC FAST CHARGING PORTS FOR RAPID EV CHARGING



MOBILE DEPLOYMENT
REPLACES REQUIREMENT FOR COSTLY STATIC INFRASTRUCTURE



HYBRID INPUT POWER
ON-BOARD SELF-CHARGING OPTIONS FOR REMOTE DEPLOYMENT



ALL-SEASON OPERATION
COMPONENTS TEMP CONTROLLED FOR WIDE RANGE OF AMBIENT CONDITIONS

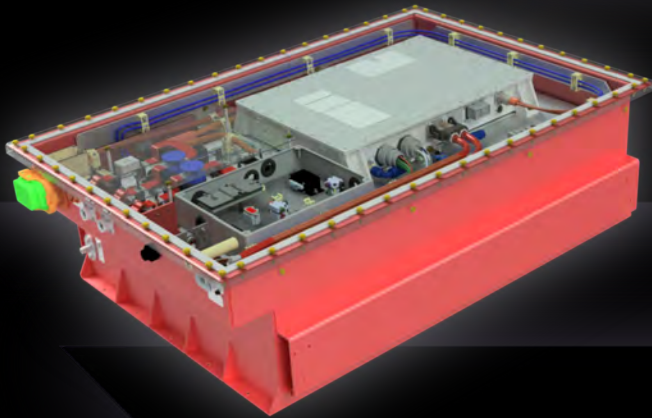


MINIMAL EMISSIONS
HYBRID DIESEL DC GENERATOR ONLY OPERATES WHEN NEEDED



QUIET OPERATION
"SILENT PACK" DIESEL ENGINE 60% QUIETER THAN STANDARD ENGINE

E-MCS FEATURES



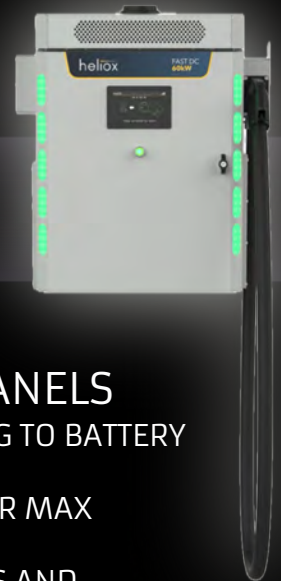
LID REMOVED TO SHOW INTERNAL PACK COMPONENTS

ENVOLTZ LITHIUM BATTERY PACKS

- LiFePO4 PRISMATIC BATTERY CELLS FOR STABLE CHARGE/DISCHARGE AND ENERGY STORAGE
- ENERGY (kWh) CAPACITIES BASED ON MODEL/REQUIREMENTS AND ALLOWABLE TRAILER WEIGHT
- OPERATION IN EXTREME TEMPERATURES: LIQUID COOLED/ELECTRIC HEATING KEEPS CELLS IN IDEAL TEMP RANGE
- TEMP SENSORS CONSTANTLY MONITOR CELL TEMPS
- E-STOP, DISCONNECTS, FUSING, AND SHUNTS FOR SAFE PROTECTION OF THE BATTERY PACK AND USERS
- 10 YEAR/3,000 CYCLE MINIMUM CELL LIFE EXPECTANCY

DC FAST CHARGING (HELIOX OR PREFERRED CHARGING EVSE BRAND)

- E-MCS UTILIZES UP TO (4) 60kW HELIOX DC FAST CHARGERS
- 150A CONTINUOUS CURRENT RATING FOR FULL 60kW OUTPUT ACROSS ALL VEHICLE TYPES
- NEMA 3R RATED ENCLOSURE FOR SAFE OPERATION OUTDOORS
- 95% EFFICIENCY IN POWER CONVERSION TO UTILIZE THE MOST OUT OF THE ENVOLTZ BATTERY PACK
- HIGH-VISIBILITY LED STATUS LIGHTS AND LCD SCREEN

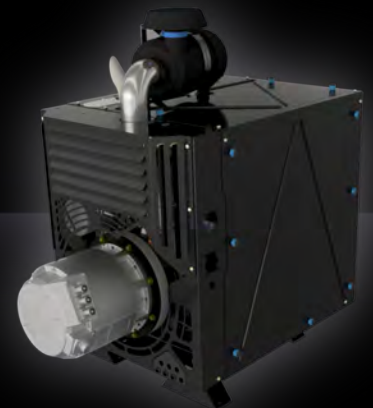


ROOF MOUNTED SOLAR PANELS

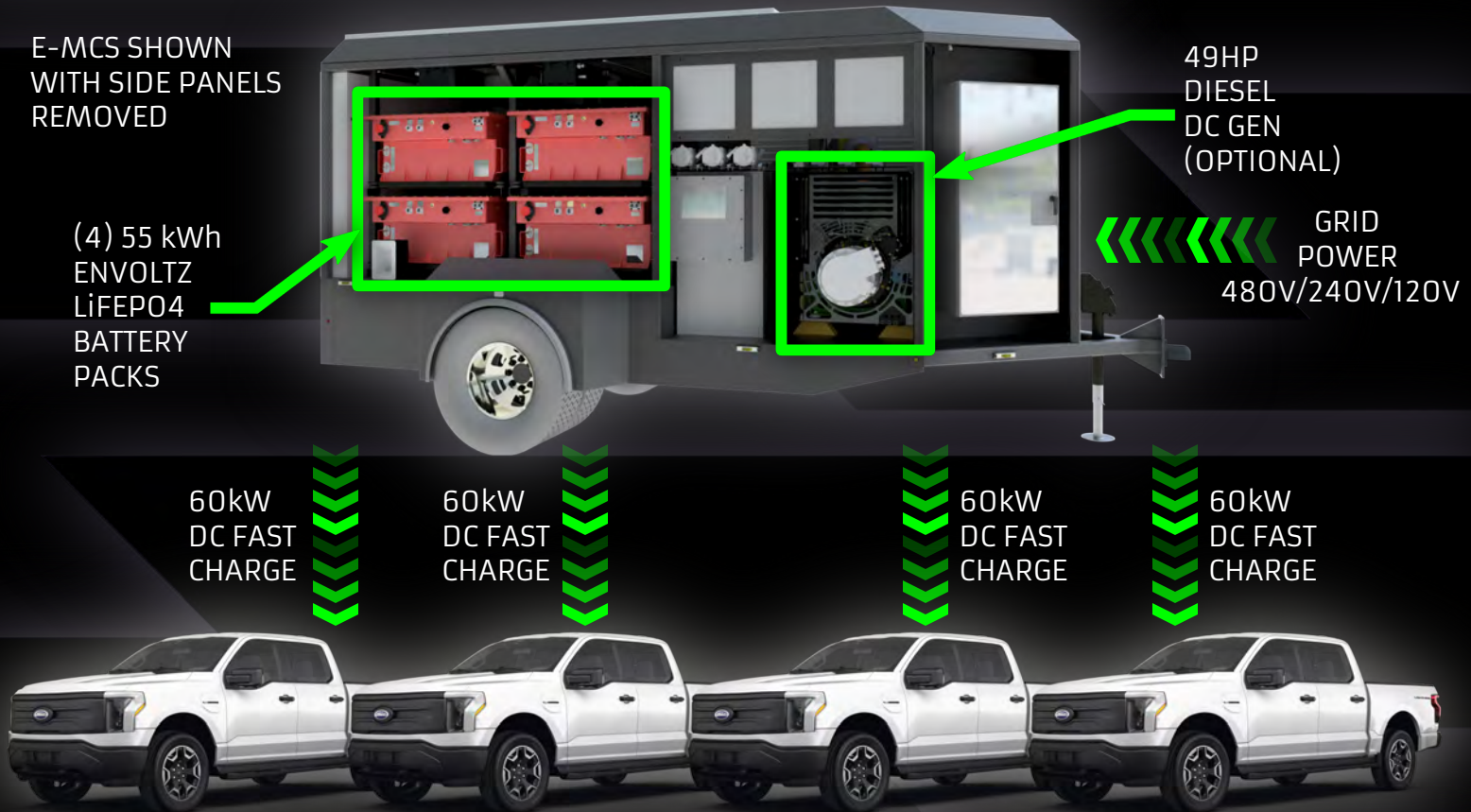
- PROVIDES SUPPLEMENTAL CHARGING TO BATTERY PACKS
- HIGH SOLAR MODULE EFFICIENCY FOR MAX SUNLIGHT TO ENERGY CONVERSION
- OPERATION IN EXTREME CONDITIONS AND TEMPERATURES
- DURABLE WITH RIGOROUS TESTING FOR ALL-SEASON CONDITIONS
- LOW ANNUAL DEGRADATION RATE FOR LONG TERM LIFE AND CONSISTENT POWER PRODUCTION

DIESEL/CNG DC GENERATOR OPTION

- HATZ "SILENT PACK" 49HP TIER 4F DIESEL ENGINE COUPLED WITH A CUTTING EDGE DC MOTOR
- DC POWER GENERATED RECHARGES THE ENVOLTZ BATTERY PACKS
- "SILENT PACK" ENGINE 60% QUIETER THAN STANDARD ENGINE
- DC GEN MOTOR IS LIQUID COOLED TO REGULATE TEMPERATURE FOR OPERATION IN WIDE RANGE OF AMBIENT TEMPERATURES
- DC GEN OPERATION CONTROLLED AND OPTIMIZED BY SYSTEM TO ONLY CONSUME FUEL WHEN ADDITIONAL POWER IS NEEDED
- COMPRESSED NATURAL GAS (CNG) ENGINE OPTION AVAILABLE



E-MCS PERFORMANCE



E-MCS SHOWN
WITH SIDE PANELS
REMOVED

49HP
DIESEL
DC GEN
(OPTIONAL)

(4) 55 kWh
ENVOLTZ
LiFePO4
BATTERY
PACKS

GRID
POWER
480V/240V/120V

60kW
DC FAST
CHARGE

60kW
DC FAST
CHARGE

60kW
DC FAST
CHARGE

60kW
DC FAST
CHARGE

THE FOLLOWING DATA IS CALCULATED BASED ON THE 2024 FORD F-150 LIGHTNING WITH STANDARD-RANGE 98kWh BATTERY PACK WITH THE STANDARD E-MCS CONFIGURATION WITH (4) 55kWh PACKS. PERFORMANCE DATA WILL CHANGE BASED ON EV BATTERY CAPACITY.

BATTERY CAPACITY: (4) F-150 LIGHTNINGS

CHARGE (4) F-150 LIGHTNINGS FROM 30% SOC TO 80% IN A SINGLE E-MCS CHARGE

EV CHARGING SPEED: <1 HOUR

CHARGE (4) F-150 LIGHTNINGS FROM 30% SOC TO 80% IN 49 MINUTES

E-MCS NIGHTLY GRID RECHARGING: <10 HOURS

RECHARGE THE E-MCS IN 10 HOURS WITH STANDARD 22kW INPUT POWER OPTION
RATE CAN BE REDUCED TO 2.5 HOURS WITH ADDITIONAL GRID CHARGING OPTIONS

E-MCS DIESEL DC GEN RECHARGING: 6 HOURS

RECHARGE THE E-MCS IN 6 HOURS WITH THE DIESEL DC GENERATOR OPTION

E-MCS GRID + DIESEL DC GEN RECHARGING: 4 HOURS

RECHARGE THE E-MCS IN UNDER 4 HOURS WITH THE DIESEL DC GENERATOR OPTION AND SHORE POWER
CONNECTED AT THE STANDARD 22kW INPUT OPTION (LESS WITH ADDITIONAL SHORE CHARGING OPTION)

SIMULTANEOUS EV CHARGING + E-MCS RECHARGING: 50%

E-MCS RECHARGE TIME REDUCED WHILE SIMULTANEOUSLY RECHARGING E-MCS WHILE CHARGING EV'S

E-MCS SERIES SPECIFICATIONS



SPECIFICATION	W/O DC GEN	W/DC GEN
MODEL NUMBER	EMCS220	EMCS220G
DC GENERATOR	N/A	49HP DIESEL TIER4F SILENT PACK W/DC MOTOR COUPLED
TRAILER LENGTH	13.5 FT	16 FT
TRAILER WIDTH	7 FT	7 FT
TRAILER HEIGHT	8 FT	8 FT
TRAILER WEIGHT	8,700 LBS	9,900 LBS
BATTERY PACK(S)	(4) ENVOLTZ 55 kWh LIQUID COOLED LiFePO4 PACKS,	
CHARGING OUTPUTS	(4) HELIOX 60KW DC FAST CHARGERS WITH CCS-1 PORT	
CHARGE CORD LENGTH	25 FT	
OUTPUT VOLTAGE	200V-1000V	
DATA LOGGING	ON-BOARD, CELLULAR OR STARLINK OPTIONS AVAILABLE	

THE MODELS SHOWN ABOVE ARE "STANDARD" ITERATIONS OF THE E-MCS. THERE ARE MANY OPTIONS AVAILABLE INCLUDING EXTENDED BATTERY CAPACITY, ADDITIONAL SHORE CHARGING, AUXILIARY INPUTS/OUTPUTS, CONFIGURATION, ETC.

ENVOLTZ PRIDES ITSELF ON BEING A TURNKEY SOLUTION PROVIDER, CONTROLLING EVERY ASPECT FROM 3D DESIGN, FABRICATION, BATTERY PACK ASSEMBLY, WIRING, PROGRAMMING, AND TESTING ALL IN HOUSE.

THE BEST PATH TO A SUCCESSFUL IMPLEMENTATION IS TO CONTACT ENVOLTZ TO REVIEW YOUR APPLICATION. ENVOLTZ'S MULTI-DISCIPLINE TEAM CAN PROVIDE THE MOST APPROPRIATE SOLUTION WITH SEAMLESS INTEGRATION.